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FAR EASTERN SURVEY REPORT

By
Lieut. Colonel Warren J. Clear, GSC.

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By *John R. Pugh*
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In July 1941, I was directed by the Assistant Chief of Staff, G-2, War Department, to proceed to Singapore and investigate and report on the advisability and practicability of establishing a system of secret intelligence in the Far East. A report in compliance with the directive has already been submitted. This is a supplemental report covering observations, extraneous to the directive, subsequent to December 7, 1941.

**WARREN J. CLEAR,
Lieutenant Colonel, G. S. C.**

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NOTE.—This report has been prepared from memory. Complete, documented report, including photographs, maps, map-overlays, copies of Japanese military orders, pamphlets and books, was brought out of Corregidor Feb. 5th to Java by submarine but burnt when Japanese bombers destroyed the plane in which Brigadier General Patrick J. Hurley and I flew to Port Darwin, March 19, 1942.

CHAPTER I

THE JAPANESE ARMY IN THE CURRENT WAR

The Army is Japan.

The Gai Musho (Foreign Office) is used, and has been used for the past 20 years particularly, to mask the designs and moves of the Army.

The Japanese Army realizes that science has been marching and that space has shrunk.

The Japanese have made space and time fight on their side.

The Japanese Army of 1938 is out of date compared with the Japanese Army of 1942.

The thoroughness of Japanese preparations—moral, physical and material—and the deep studies of the Japanese General Staff who recognized that new tactical and strategical conditions must be met by utilizing the developments of modern science that created them—were positive factors contributing to the extraordinary successes gained by Japanese arms in the field.

The Japanese Army occupies a unique position in its country—a position not attainable by any other Army in the world.

It has inherited the status and privileges of the warrior class, the Samurai, and, since the Manchurian Incident of 1931, has resumed its traditional role as leader of the nation.

In Manchuria the Army (designated the Kwantung Army), is virtually independent and supreme and its Commander-In-Chief concurrently holds the office of Ambassador to Manchukuo.

In Japan the Army, particularly since the imposition of economic sanctions against Japan by the Allied Nations, has reduced civil government to a subordinate role and dominates all politics.

Its political power is increasing with its conquests.

The Japanese Army now comprises 95 divisions.

There are 4 million available trained reserves between the ages of 17 and 40.

There are an additional 5 million available between the same ages who have not received training.

All combatant officers are on a general list established by abolishing titular distinctions and insignia indicating arms of the service. The general list includes officers of the Army Air Corps.

Under this system officers are freely transferred from one arm to another and instead of being designated a "Major of Cavalry," or

“Major of Infantry,” an officer is referred to simply as an “Army Major.”

One of the presumed reasons for the new “general list” is the contemplated expansion of the tank and air corps, plus a large re-armament program, and the “general list” makes the shifting of large numbers of officers less noticeable.

The Japanese General Staff is wholly responsible for the marvellously organized and highly efficient Army of today.

The General Staff has, for 10 years, used China as a training-ground for men and a testing-ground for material.

The Japanese General Staff leaves the Army “severely alone”—“does nothing,” as the Army puts it.

It deals largely in the intangible called “thought.” Its metier is to plot, plan, reflect, coordinate, suggest, weigh, observe. It conjectures what the enemy *may* do and what Japanese generals *should* do to meet him.

Policy in war and the elucidation of all pending military problems is its special function.

It has made the 1942 Japanese Army the great striking force it is.

CHAPTER II

JAPANESE PROPAGANDA PREPARATION FOR THE WAR

Observations of conditions in India, Burma, Thailand, Indo-China, British Malaya, the Netherlands East Indies (including the Celebes and Moluccas) showed the native races inhabiting those countries to be badly disaffected.

The military and naval reverses suffered by Great Britain during 2 years of war had seriously damaged British prestige throughout the Orient.

Over 200,000 paid and schooled professional Japanese agitators were, until December 1941, at work in all these countries, with apparently telling effect.

This far-flung propaganda network, working with fanatical intensity and purpose, was, until the outbreak of war, the largest, best-trained and most effective organization ever conceived and conducted for such purposes.

In August 1941, the scope and intensity of its activities were increased by Capt. Fritz Wiedemann (former Nazi consul-general in San Francisco) assuming directional control.

During the months of September, October, and November, 1941, he had it delivering hammer blows at the foundations of British Empire in the Far East.

He suspended all propaganda activities of the organization along cultural, educational, and political lines and directed its full force and effectiveness to one objective—the focussing of the attention of 600 million native peoples on their own physical suffering and the cause of it.

It was a master stroke. In 3 months he secured more devastating results than the Japanese had been able to achieve in 10 years with the same machinery.

When the Allied Nations instituted economic sanctions against Japan, one of the immediate results was to deprive the teeming low-income races of the Far East of the cheap Japanese cotton goods with which they clothed themselves, as well as the cheap sneakers, shoes, canned goods, and other Japanese products.

When any men, more especially primitive peoples, are deprived of the essentials of living, a resentment is aroused that increases in geometrical proportions to their sufferings and want.

The Japanese propaganda machine, under Wiedemann's astute direction, directed the full fury of the unreasoning resentment of hundreds of millions of subject natives against the United States as the author of their woes. Great Britain was no less a villain to these people who want only revenge and relief, even if it is the Japanese Army that gets both for them.

Wiedemann mobilized against British imperialism all in the Orient who are cold, wet, and hungry—and all of their millions are cold, wet, or hungry at sometime or other. To Japan the value of Wiedemann's propaganda genius can be measured in terms of naval squadrons and army corps.

Coincident with intensified Japanese propaganda in Indo-China and Thailand was an economic penetration of those two countries. In late September 1941, Japan induced the Thailand Government to grant her a credit of 30,000,000 ticals.

One week later she bought 12 million ticals worth of rice from Thailand, using the Thailanders' cash to do it.

When Japanese troops first entered British Malaya they gave 100 Singapore dollars, in Japanese scrip, to individual natives. The same device (100 guilders, printed in Japan) was used in Borneo and other islands of the Netherlands East Indies.

In addition, natives were told that the homes and property of the British and Dutch were theirs and they were invited to move in and take them over or else to loot them of furniture and other valuables that the Japanese themselves did not want.

The Japanese Fifth Column in British Malaya and the Philippines achieved amazing results. Servants, bus-boys, chauffeurs, and waiters were "planted" in hotels, clubs, military and naval officers' quarters, and private homes.

In Manila a considerable number of Chinese, including Chinese consular officials, appear to have been in the pay of the Japanese. When this charge was first brought to the attention of G-2 Philippine Department it was discounted but an investigation, instituted just prior to hostilities, confirmed it.

American Army and Navy officers were particularly indiscreet.

CHAPTER III

THE DIALECTICAL ASPECTS OF JAPANESE PREPARATIONS FOR WAR

The Japanese Army has been trained and instructed not only to carry out a preconceived plan of campaign, but to execute a series of related actions.

The training of its leadership has also been concentrated on developing, in officers of all grades, an instinct for taking maximum advantage of changes not only in tactical and strategical situations, but of changes in the psychological and political attitudes of whole peoples as well.

Moreover, the Japanese Army's psychological preparation of the Japanese people for the present struggle carefully avoided the Nazis' initial error of holding up before the eyes of the German people the glittering prospects of a short and "soft" war.

Nor have they based their plans and operations, in the psychological sphere, on a conditioning of the home-front alone.

Even on the home-front they did not place their reliance on the old tried and true formula of intense national patriotism alone, although they knew they were in command of a people brave by tradition and made trebly brave by patriotism and religion.

In other words, they did not, and do not, place their reliance on national sentiment alone. Japanese Army documents exist that point out the difficulty of sustaining the national morale and national effort *in a long war* by appeals to nationalistic patriotism alone.

These pamphlets emphasize how important it is to give the officers and men in the Army itself the vision of specific rewards and the promise that they will come back to a Japan in which their future is assured without fear of unemployment or want.

One of the booklets points out the lesson of the Punic Wars, when the hardy peasants of Italy, men who owned their little acres as do the peasants of Japan, were conscripted for 17 years to fight Rome's battles.

These men marched and fought and died—and when they won they sent their booty, largely in the form of captives, back to Rome.

These thousands of captives, once arrived in Italy, became slaves, and when the legionnaires returned to Rome and were demobilized they

found agricultural combines (Latifundia) working whole groups of farms with slave labor that their (the soldiers') sacrifices had provided for the politicians.

They could not compete; their only recourse was to straggle into Rome to get the daily dole of corn.

The Japanese pamphlets also point out how the British armies went into Germany after the First World War and history repeated itself. The British didn't ship hordes of German captives back to England to work in the Wales coal mines but they compelled the Germans to dig their own coal in Germany and turn it over, without charge, to the French.

The French, in turn, receiving the coal without cost, sold it to bordering countries at a price which made it impossible for British coal mines to compete with. British ex-soldiers by the thousands lost their jobs in the coal mines.

They had saved England and lost their own livelihood.

This, say the pamphlets, with apparent sincerity, must never happen to the Japanese soldier, who returns from the wars today.

All Japanese propaganda, on all psychological fronts, carefully conceals the predatory aims of Japanese Imperialism.

The "Co-Prosperity Sphere," the "New Order in Asia," is offered to all Asiatic peoples as the vision of a new world.

The success of this propaganda is beyond question. It is enlisting the active support of the disaffected Asiatic peoples that make the bulk of the British Empire in the Far East.

It has endowed the Japanese forces with the conviction that they are fighting for not only national but personal material rewards and that every man will go back to a new Japan in which the ex-serviceman and his family will be guaranteed freedom from want or unemployment.

The particulars of these guarantees to the individual soldier are plausible and persuasive and are already being formulated into law.

CHAPTER IV

JAPANESE STAFF, TRAINING AND TACTICS

The Japanese favor unusually large army, divisional and brigade staffs.

Their staff work is good but no better than that of our (U. S.) army.

The Chief of Staff of the larger units is usually the actual commander making the vital decisions.

Japanese ability and skill in the realm of major tactics cannot be disputed. The present conflict has provided numerous examples of large-scale operations, boldly conceived and planned, and carried through to a successful conclusion in the face of adverse weather conditions, great natural obstacles, and often determined enemy opposition. The Japanese army has been campaigning for ten years on the Asiatic mainland and has imbibed valuable lessons and practical staff experience in supply, movements, staff control, and co-ordination of all arms.

Contrary to widely circulated reports the Japanese Command does not expend infantry carelessly or callously. It recognizes the great fire effect of modern automatic weapons. The Japanese infantry are instructed to call on artillery, tanks, toxic smoke, and aircraft to soften up the opposition and pave the way for the final assault. And they are not encouraged to get themselves needlessly killed if tanks, planes, and artillery can do the hard work for them. When sacrifice is necessary, however, the Command can call on the troops to fight to the last man and the last round or to attack repeatedly in the face of heavy losses, and in the defensive, positions are held to the last extremity.

The principles governing the organization of defensive positions closely resemble our own. Positions are sited in considerable depth and consist of a number of strong points, each capable of all-round defense. Dummy positions are interspersed.

Particular training is given in all forms of night operations. Special emphasis is given to the advantages to be gained by night marches and advances as means of obtaining surprise and avoiding casualties.

Simplicity is the underlying principle of Japanese organization.

Aircraft is employed for strategical and tactical reconnaissance, cavalry for protection.

In practically all their major operations the Japanese have attained their tactical objectives by the envelopment.

The tactical and technical efficiency of the Japanese field artillery is below our standards. On the Bataan peninsula Gen. E. P. King's artillery destroyed Japanese batteries whenever they opened up on our positions. Forty Japanese guns were knocked out in 3 days by our artillery.

Japanese engineers and pioneer troops excel in their ability to restore broken road, bridge and rail communications. Demolitions designed to hold their forces up for days in Luzon and Malaya were solved in a few hours.

Japanese forces possess the great advantage of being less dependent on lines of communication than British or American troops. They retain greater freedom of movement.

The Japanese are proficient in landing operations and after effecting a landing move inland at great speed, self-contained for several days.

The advance is pushed rapidly, using roads until opposition is encountered. Then direct frontal attack is avoided and small parties carry out attacks on flanks and rear by outflanking movements through jungle, river and sea.

The Japanese army is instructed to look upon water and woods as *means*, not *obstacles*.

In Malaya and Luzon jungles our forces often did not prepare sufficient fields of fire with adequate view, and the Japanese made the most of this neglect.

They also used trees to great advantage, for snipers and observation, whole parties sometimes being thus concealed in a clump of woods or jungle.

The Japanese were far more aware than we or the British that good gun positions are rare in jungle or densely wooded country and that the search for them involves long, detailed and delaying reconnaissance.

They realized that in order to get guns off the roads it was invariably necessary to transport, or construct on the ground, portable ramps with which to bridge ditches and soft ground. The preparation of gun positions also entailed the building of gun platforms on soft ground.

(These handicaps to the use of field artillery also hold true in northern Australia and other large areas of that country.)

The Japanese, therefore, used 90-mm. trench mortars whenever possible instead of field artillery.

Early in the campaign on Luzon it became apparent that communications would be inadequate and unreliable due to insufficient equipment, lack of personnel, and inadequate maintenance of supplies. Radio sets deteriorated rapidly.

Lines laid along roads were constantly broken by enemy fire and bombing directed against roads.

CHAPTER V

REASONS FOR LOSS OF PHILIPPINES

The reverses, and losses of territory suffered by the United States in the Philippines area, cannot be attributed to faulty military or naval strategical conceptions or failures in the field.

Lack, for 40 years, of a continuing, consistent foreign policy in the Pacific, and a refusal, in the interests of political expediency, to consider and support the recommendations and requests of responsible military and naval authority, are the large factors in our defeats to date.

Beyond these determining causes of our present predicament looms the undeniable fact that our acceptance of a considerable degree of responsibility for the Philippines without a definite politico-military-naval plan and full preparation for their defense, constituted a fatal weakness in American strategy.

Although these islands lie within easy striking distance of Japan (1,600 miles), the China Coast (700 miles), and Formosa (500 miles), they are 6,600 miles from San Francisco. Their reinforcement from the east was, therefore, practically impossible without the provision of a string of powerfully fortified fuelling bases.

Even with the assistance of such bases an American fleet would be strategically imperilled if and when it undertook to engage the Japanese fleet in Japanese home waters and at the end of a long line of communications.

If the stepping-stones across the ocean to the Philippines were not adequately armed and garrisoned, neither were the Islands themselves; nor was any alternative plan for their protection evolved or decided upon.

They were held by about 5,000 American troops whose chief responsibility was to organize and train an army of Filipinos that would attain a presumed strength of 400,000 on the date the Islands achieved complete independence in 1946. By December 1941, less than 150,000 Filipino trainees had been inducted into service.

The lack of military strength in the Philippines meant that the United States had no striking power beyond the triangle on which the Pacific Fleet is based—Dutch Harbor (Aleutian Islands), Balboa (Panama), and Pearl Harbor (Hawaiian Islands).

This is all the more true since the fall of Manila.

CHAPTER VI

THE LOSS OF BRITISH MALAYA

The loss of Malaya can be attributed primarily to British lack of preparation for defense of the Peninsula and Singapore.

The people of the British Empire, and the Government, refused successive military commanders at Singapore the funds and other means that would have put the Peninsula and the Island in a defensible condition.

The failure to supply the means had, of course, evil repercussions, strategically and tactically.

From the moment the campaign began the military leadership was hampered and bedeviled by lack of troops and equipment with which to meet successive situations.

They were repeatedly compelled to take desperate risks in the distribution of their forces by making dangerous reductions in one area in order to concentrate elsewhere forces of minimum strength to meet a critical emergency.

Three divisions had to meet a situation that demanded forces totalling nine. Twelve divisions should have been allotted to this bastion of empire in the Far East.

The heart of the British Empire, Australia, Borneo, British Malaya, Burma, Ceylon, India, and the wealth of the Indies, depended, for protection, on the shield of Singapore.

Military leadership was not entirely blameless.

The necessary number of airfields were not prepared on the Peninsula.

After the Japanese destroyed three airports on the Peninsula it was impossible to bring fighter plane protection north to the troops at the front.

When the question as to why their lines broke was put to over 200 enlisted survivors of the campaign the invariable reply was: "The R. A. F. did not protect us from the dive-bombers."

The air strength was inadequate at the opening of the campaign. Out of a total of 250 planes less than 150 were first-line combat planes. Three days after the initial Japanese attack the British had less than 80 serviceable planes at their disposal.

The American fighter-planes in Malaya (Brewster-Bufferaloes) could not compete with the Japanese fighter-planes, particularly as regards maneuverability.

(“The fighter-plane of high maneuverability is to be preferred to the better-armored, slightly faster plane that is less maneuverable in combat,” is the consensus of opinion of British and American pilots consulted in Far East.)

The Fifth Column and its activities entered largely into reasons for the fall of Malaya.

The Fifth Column, mainly composed of disaffected Tamil Indians and Malays, gave the following assistance to the Japanese forces:

(a) furnished Japanese military with information concerning British defensive positions and troop dispositions.

(b) procured bancas and other small boats for Japanese infiltration parties slipping down the west coast of Malaya.

(c) furnished food to small Japanese units landing behind British lines after Japanese rations were consumed.

(d) cut telephone and telegraph lines.

(e) frequent failure of air-raid warning system was due to treachery.

(f) guided Japanese night-landing parties by flares, automobile lights, torches, and flashlight signalling.

(g) spread rumors among Indian troops.

(h) guided Japanese through the jungle.

(k) maintained Fifth Column radio transmitter in Singapore throughout campaign.

The Civil Government of British Malaya did not render expected and reasonable assistance to the armed forces. It did not maintain public utilities, particularly railroads, in good condition.

Adequate facilities were not prepared for evacuees from cities.

Fire-fighting defenses were not maintained even prior to heavy bombings.

Dock labor was not properly cared for or controlled.

Civil Government did not assist in preparation of emergency defenses which became necessary as troops withdrew down the Peninsula toward Singapore.

Military leadership also persisted in the fatal policy of adhering to the linear defense.

The Japanese infiltrated through the British lines at night and fired into the lines from the rear before dawn. The lines often broke.

Instead of instructing isolated units to form strong-points of all-round defense the British invariably tried to withdraw entire sections of the line and re-establish it to the south.

The withdrawal, rather than the fight, was accepted by the whole chain of command, with the exception of some of the old British regiments of the line such as the Argylls, the Manchesters, and East Surreys.

The old “spit and polish” regiments upheld the highest traditions of British infantry.

The Argylls went into action early in the campaign with 850 men and came out with 79 men and one officer.

On the other hand an Australian brigade lost only 167 men killed during the whole campaign.

The Australians did not make a creditable showing.

The Indian troops, with the exception of the Jurkhas, were disaffected, including the Sikhs who threatened to mutiny before and during the campaign.

The British lacked tactical mobility.

British forces in Malaya were over mechanized and overtrucked. They were mentally and physically road-bound.

They were particularly vulnerable to Japanese infiltration tactics because of inadequate road-net.

It must be repeated here that the campaigns in the Far East have thoroughly discredited the linear and static defense.

Companies, battalions, regiments, and divisions *in line* is what the enemy's dive-bombers and mechanized units want to find.

They know that at some point in the line there will not be strength enough of antiaircraft artillery and antitank guns to defeat the attempt to penetrate.

In modern war the defense cannot hope to achieve a line proof against penetration everywhere and at the same time expect immediate assistance by adequate reserves.

The attacker possesses the great advantage of selecting his own point of penetration of a line, the point where he seeks a decision or break-through, and he can launch his surprise there. He will usually find that the defender committed to linear defense dispositions will not have adequate reserves on hand to meet the surprise.

The successful defense of the Bataan peninsula was not accomplished by infantry in pill-boxes, trenches, and troops waiting in a static role. Successive enemy attempts to turn defense flanks were smashed by small, highly mobile detachments of half-track 75's and antitank guns. Bataan succumbed to dysentery, malaria, and weakness induced by inadequate rations, not to Japanese attack.

British resistance *on the Island of Singapore* (where 80,000 British forces surrendered to 20,000 Japanese), was ineffectual because the chain of command had been destroyed. Squads had lost their corporals, platoons their sergeants, companies their captains, and battalions and regiments their C.O.'s. Only a disorganized mass of human beings confronted the Japanese.

CHAPTER VII

SOME MILITARY REASONS FOR JAPANESE SUCCESSSES

The Japanese operations in Malaya, Netherlands East Indies and Luzon were characterized by a high degree of mobility, great speed, and reliance on infantry weapons such as the tommy gun, machine gun, and trench mortar.

Japanese troops were not burdened by impedimenta. They carried simple, compact rations; light, small-caliber arms and ammunition; light clothing, and employed a minimum of transportation.

In many instances the means of transportation of units as large as a company consisted of natives impressed into service as carriers, or Fifth Columnists who had been counted on for such assistance.

The Japanese infantry infiltrated, by individuals and small groups, and fought behind the British lines for as long as a week without recourse to food or ammunition supply trains.

The Japanese soldier showed marked ability to live off the country. In some instances individuals and small infiltration units killed and cooked dogs, goats, and other small animals to supplement their emergency rations.

Each soldier carried on his person sufficient food to sustain him for 5 days in the field.

This food supply included:

- (a) one-half pound hard candy
- (b) one can of coffee
- (c) package of concentrated food
- (d) vitamin pills
- (e) package of hardtack
- (f) 5-inch sack of rice
- (g) water-purifying agent (chlorine)
- (h) quinine
- (i) laxative and digestive pills

The Japanese soldier also carries a miniature listerbag, shaped like a three-fingered glove, for water-purification purposes.

In landings on Malaya and Luzon the Japanese employed newly designed (1938) and specially constructed carriers for landing craft and assault boats.

The sides of these carriers rolled, or slid, away and allowed landing-craft, berthed on rollers, to be rolled into the sea with full loads of men and equipment on board.

Several types of landing-craft were employed, most of them featured by double-keels (for stability and strength), and armored, dropable bows which permitted field guns and small tanks to be run off the boats onto the beach.

The armored fronts of these boats would stop 50-caliber bullets but 30-caliber fire would penetrate the sides.

(Following three attempts to land troops on Bataan in these landing-barges, I saw four Japanese landing-boats, filled with dead Japanese, riddled by .50 calibre fire from two of our P. T. (patrol-torpedo) boats. This fire had passed through both sides of the landing-craft.)

In Malaya the British anchored the flanks of successive lines of resistance on supposedly impassable swamps, morasses, and other natural obstacles to enemy advance. These swampy areas were usually impenetrable by boat and too deep to ford.

The Japanese infantry negotiated them by furnishing each man with an inflatable belt and sometimes, in addition, canvas paddles strapped to the calves of the legs.

The Japanese, following the razing and occupation of Penang, slipped down the west coast of Malaya, by night, in bancas and other small craft. They abandoned the boats and made their way through swamps and jungle growth that the British deemed impassable.

By boat, and by infiltration, they made their way behind the British lines.

The Japanese are also equipped with craft for river operations including pontoons propelled by outboard motors and hydroplane type boats with a speed of at least 12 knots.

The variety and suitability of the Japanese landing equipment and the thoroughness of their preparations, including air and water reconnaissance, detailed administrative arrangements, preservation of secrecy, avoidance of strong enemy concentrations, and the striking at weak points which their well-organized intelligence system enables them to discover accurately, are some of the reasons for the ease and rapidity with which they have gained many objectives to date at comparatively small cost.

The distances from front to rear between the British echelons facilitated the infiltration and cutting-off tactics used so effectively by the Japanese.

The Japanese found the British over-mechanized and over-trucked (in jungle country) and they made the British pay to the full for their deficient tactical mobility.

The British comparatively cumbersome system of movement and supply necessitated keeping to the roads with long transport columns that were particularly vulnerable to attack from the air and ambush by small enemy outflanking parties.

The Japanese quickly discovered that bluff is far more economical than force. Infiltrating parties were instructed to use every possible device to make their presence known, once they had reached points behind the British lines. By bursts of M. G. fire, flares, rattles, and various stratagems they shook the confidence of Indian and Malay troops, and in some cases that of the Australians and British themselves. Particularly did they panic the freshly inducted divisions of the "MacArthur Army" in the Philippines.

Unexpectedly confronted by such attacks from their rear, and not having received specific instruction in methods to meet them, the troops believed they were being cut off by large enemy forces instead of merely being harassed by small, lightly equipped raiders.

British and American antitank defense was not sufficiently deep. A. T. defense must be in depth or it is too easily penetrated. If sufficiently deep it is very difficult to overcome and tanks are compelled to pay too high a price for forward movement.

CHAPTER VIII

THE JAPANESE ARMY IN THE PURSUIT

The Japanese Army exploits to the full the new mobility inherent in the employment on a large scale of air power and mechanized and motorized forces.

Pursuit, as carried out by the Japanese Army, is immediate and unremitting. It follows so closely the break-through that its essential ingredients are speed and mobility rather than power. Power is not needed if the retreating defender is not given opportunity to regain the privilege of strong, controlled resistance.

The use of captured enemy matériel is an important element in the continuity of the Japanese pursuit.

The Japanese Army conducts classes in the study of various enemy weapons, particularly field artillery and army artillery, in which officers and ordnance repair personnel are instructed in the repair of partially disabled enemy guns.

Enemy field guns, abandoned hurriedly, or because of lack of ammunition, are picked up and trucked or towed forward with the pursuit until dumps of appropriate ammunition are reached, then being brought into action. Instances are related by officers of where the Japanese used captured guns from which the breech blocks had previously been removed. They had either found the blocks or had brought other similar blocks along with them.

The Japanese infantry often discard their own rifles in the pursuit, after their ammunition is depleted, and arm themselves with enemy rifles picked up in the pursuit. They do the same as regards machine guns.

The Japanese pursuit in recent campaigns, particularly on the Malay Peninsula, was so unremitting that trucks and other vehicles were abandoned in large quantities without being drained of water and gasoline. The large quantities of these two vital needs thus obtained were of great assistance to the Japanese.

The speed with which the Japanese deepened their advance in British Malaya, together with their control of the air, enabled their pursuit parties to cut across both civil and military means of communication with the result that they arrived in cities and towns before the civil authorities and populace knew of their proximity or had taken any steps to remove or destroy vital stores of food, fuel, and other supplies.

Japanese tanks and trucks drew into garages and filling stations and filled up with gasoline and water.

Japanese motor-repair units broke down and stripped large numbers of badly damaged British trucks and other motor equipment and used the spare parts to restore and maintain similar British vehicles that they had put to their own use.

The Japanese Army has proved to its own satisfaction the higher tempo of the pursuit the cheaper it is in men and the greater the prospects of obtaining large quantities of usable enemy weapons, vehicles, ammunition, food, fuel, and other supplies.

This means, too, that the pursuing forces will be largely spared the terrific task of laboriously bringing up great quantities of food, fuel, and ammunition in order to resume a pursuit halted by the lack of such supplies.

The Japanese always dispose of captured supplies *towards the front*, never to the rear or flanks.

Their air reconnaissance located and photographed enemy oil, food, and ammunition dumps and storage points in order that troops in the pursuit could later locate and use these supplies.

CHAPTER IX

JAPANESE AIR STRENGTH

On October 1, 1941, the Japanese air strength totaled 7,000 planes. On the same date monthly production totaled 750 planes.

This production included 100 bombers, 450 fighter planes, and 200 trainers. These figures are based on factory-by-factory monthly output figures as of that date.

No known additional plane-production plants were under construction prior to the war, as Japan's plane output is limited by lack of materials rather than lack of plants.

It is not believed that her plane production can be stepped up to more than 1,000 per month even with the additional critical materials made available through recent conquests.

Many material bottlenecks still persist.

A production of 1,000 planes per month was scheduled for September 1942, including a limited number being produced in Chosen and Manchuria. It is doubtful if this figure can be reached.

Five thousand German technicians are employed in Japanese aviation factories and with their assistance the Japanese are now producing a new model Messerschmitt 109 with redesigned wings with rounded tips, retractable tail-wheel, more powerful engine, no bracing struts, and generally improved silhouette. It is a faster, better-climbing plane than the German model they improved upon.

The Japanese have also discarded the wing guns of the German model Me. and equipped their new model with a 20 mm. cannon firing through the air screw hub and two 6.5 mm. machine-guns mounted on the fuselage in order to centralize weight and improve maneuverability.

All Japanese fighter planes lack armor protection for pilot and engine and are not as fast as our latest types of fighters. They are, however, highly maneuverable, and the Japanese consider maneuverability, within reasonable limits, the most important fighting characteristic in a plane.

The Japanese Navy zero-zero fighter has proved itself in combat definitely superior in maneuverability to our P-40. The Brewster-Buffalo cannot compete with it.

Japanese military and naval pilots and bombardiers are divided into two classes: "Division I" and "Division II."

Classification is based on combat experience, initiative and combat ability.

There are 1,500 Division I pilots in the total air service (Army and Navy).

Division I pilots and bombardiers usually have had 4 years' combat experience in China.

The very noticeable difference in bombing accuracy between groups of planes on the same missions can be attributed largely to the fact that Division I pilots and bombardiers may be assigned to one phase of the mission and Division II personnel to other phases.

This was clearly demonstrated in the Port Darwin bombing of March 19 when 91 Japanese bombers were observed in action.

Division I pilots and bombardiers, in one flight of 18 bombers, assigned to destroy shipping, sank 11 of 17 ships their first time over, from a height of 24,000 feet.

They also achieved direct hits on the power station, telephone—central and other concentrated targets from the same height.

At the same time Division II personnel were executing indiscriminate bombing and strafing of the Royal Australian Air Force Field, hangars and repair sheds, as well as the field occupied by American air personnel.

Their performance was not comparable with that of the Division I group.

CHAPTER X

JAPANESE EMPLOYMENT OF AIR-POWER

Within the space of 3 months the Japanese tore down a facade of empire that the white man had taken three hundred years to build.

This unchecked onslaught on far-flung dominions with unqualified success can be measured in terms of air power and air power alone.

Elsewhere in this report the effectiveness of Japanese infantry tactics is described, but the fact remains that the Japanese did not move a soldier nor strike a blow on land without air superiority. Even in those instances where they had only local air superiority they achieved the incredible with small, highly mobile infantry forces.

Just as the Japanese Navy, with local superiority, put forces ashore and covered their landing, so were audacious land operations made possible and successful because the Japanese air force dominated the air above their troops.

The Japanese air force not only protects the Japanese land forces, their bases, their lines of communication, and their concentrations, but it also gives prompt, intimate and sustained support and co-operation to the ground forces in every operation.

The Japanese Army goes into action both on the ground and in the air, operating as one team.

The fighting commanders, the task force commanders, have full control over all their weapons and the necessary aircraft for the task are just another weapon for the commander to employ. It is his war and he is presumed to know the proper use of his air-weapon as he does the use of his infantry or artillery.

There is no divided control. Plans do not have to be agreed upon through painful compromise, after regrettable delay, nor are operations hampered by lack of co-operation.

A Japanese manual says: "It is not *cooperation* we should *seek*—it is *coordination* we must make *certain*."

Before committing his forces to battle the Japanese Army Commander has large air formations assigned to him and placed under his direct command (men, officers, and planes), and he in turn often delegates command of smaller air units down to regimental commanders.

When the operations are ended the air forces in question return to bombing and strafing missions.

The Japanese consider their air force an indispensable, but not a dominating, arm. Where the British Air Force believes the plane to be the essential vehicle around which to build a plan of operations, the Japanese regard the plane as a useful weapon with which to assist military operations. It might be said that they look on it as an air-mobile battery, or, in its reconnaissance uses, as a pair of flying, long-range binoculars.

The Japanese opened every campaign in the Far East since December 8, 1941, by successful efforts to knock out the enemy's air strength and secure possession of his landing fields.

When they deprived the enemy of his landing fields in northern Malaya they made it impossible for the British fighter planes to protect the ground troops against the Japanese dive-bombing attacks which were particularly effective against the Indian troops.

The fighter-planes did not have the flying range to come a couple of hundred miles from the south, fight, and return to their fields.

CHAPTER XI

JAPANESE MERCHANT MARINE TONNAGE

As of October 1, 1941, Japan possessed over 6,000,000 tons of merchant shipping.

The pre-war imposition of economic sanctions against Japan automatically freed her great merchant tonnage for the military and naval operations she has conducted since December 8, 1941.

While much of this tonnage must eventually return to trade, a large portion of her imports and exports transport can now be conducted within conquered territories and adjacent seas, thus requiring much less tonnage and less fuel capacity than the pre-war trade because of the shorter distances involved.

Japanese shipping is now operating on interior lines, far removed from Allied naval bases, which means it moves, to date, with comparative security and relatively small losses.

Japan's military operations in Luzon, Mindanao, Netherlands East Indies, British Malaya, and Borneo required, at their peak, simultaneous employment of 2,000,000 gross tons of shipping.

This was the equivalent of between 330 and 340 ships of 6,000 tons each.

The military operations referred to required the transportation and maintenance of 18 divisions.

Concurrent with these extended military operations, Japan had to supply naval forces that required the services of 15 ten-thousand ton tankers or a tanker tonnage of 150,000 gross tons.

In addition, over 100,000 gross tons of shipping was required to fuel and munition the land-based air forces operating in Malaya, Luzon, Thailand, Netherlands East Indies, and the Mandated Islands.

This tonnage was the equivalent of 17 ships of 6,000 tons each.

At the height of her far-flung military operations throughout the western Pacific, therefore, Japan had a total of 2,250,000 tons of merchant shipping committed to military and naval requirements. (This figure includes shipping required for military operations in China and Manchuria.)

This total tonnage involved all of the tonnage formerly employed on her overseas trade (2,000,000 tons), plus the diversion of 250,000 tons of her total tramp tonnage of close to 2,000,000 tons.

Japan is also employing 1,500,000 tons of merchant shipping on regular schedules to China ports.

One million additional tons are engaged in coastwise and port-to-port (short-haul) shipping which has increased in volume since October 1, 1941.

Tramp tonnage still involves 1,600,000 tons, less 250,000 tons diverted to military and naval transportation purposes.

Following the occupation of Luzon, the Netherlands East Indies and Malaya, Japan requires only 800,000 tons of merchant shipping to maintain the forces holding these occupied areas.

This releases 1,450,000 tons previously committed to supplying military requirements at the peak of operations in these areas.

Of the 1,450,000 tons thus released, 600,000 tons have been re-committed to requirements in Burma.

This leaves approximately 800,000 tons of merchant shipping available for additional operations that could be undertaken concurrently with Burma campaign.

Japan has lost an estimated 200,000 tons of merchant shipping by enemy action and otherwise since December 8, 1941, but these losses have been restored by seizures, captures, and repairs of Allied shipping and production of Japanese shipyards.

It must be concluded that Japan will not be hampered by lack of shipping in any contemplated military operations in the west and southwest Pacific, Bay of Bengal, and Indian Ocean.

CHAPTER XII

JAPANESE RESERVES OF CRITICAL MATERIALS

On October 1, 1941, Japan possessed reserve storage of five and a half million tons of oil. The locations of this storage are described in a previous report to War Department.

On the same date she had stock-piles of rubber sufficient for the needs of her Army and Navy for 2 years.

The scrap-iron and pig-iron reserve was sufficient for 1 year's operations of present mills' capacity.

Reserves of tin, lead and copper had been reduced. Less than 6 months' reserves were on hand.

A 9 months' reserve of nickel and chrome had been built up.

Any references to Japan's 1941 position regarding critical materials, however, must include comment on the strategic and economic importance of the Dutch and British possessions in Malaya and the Malayan Archipelago.

Strategically, the long Malay Peninsula and the line of islands of the Archipelago serve a double purpose. They form a land bridge to Australasia and a barrier between the Pacific and Indian Oceans.

From an economic point of view, even in time of war, the economic importance of the Malayan Archipelago should be kept constantly in mind by military and political strategists.

The population of the Dutch Islands alone is several millions more than the total population of the whole British Colonial Empire, almost equal to that of Japan, and more than half that of the United States. If British Malaya and the Philippines are included, the population exceeds 100 millions.

These vast numbers are barely industrialized, yet their homelands are endowed with a rich profusion of natural wealth. Highly industrialized Japan will know how to make the most of such a situation.

In 1940 the Archipelago produced 9,000,000 tons of crude oil. (In Sumatra the Palembang-Jambi district in the south, and the Medan district in the north together produced 5 million tons; the fields of western Java, east of Batavia, and of eastern Java, between Sourabaya and Rembang, furnished 1 million tons; another million tons was produced in the Balik Papan region of Dutch Borneo; another million tons in the Island of Tarakon, off the east coast of

Borneo, and an additional 100,000 tons came out of Ceram in the Moluccas, plus 700,000 tons from Brunei, British Borneo, and 200,000 tons from Sarawak.)

Large quantities of tin are now available to Japan in Malaya and in the Dutch Islands of Banka, Billiton, and Sinkep, off the east coast of Sumatra. The tin on the above-named islands is a continuation of the ore belt which runs through Thailand and French Indochina into southern China.

In 1940 Malaya's output of tin amounted to 85,384 tons, compared with 44,563 tons produced in the three Dutch islands, to which Banka contributed the greater part, with Billiton second and Sinkep third in importance.

Together, British Malaya and the Netherlands East Indies produced over 55 percent of the world's total output for 1940.

Malaya's tin ore is smelted on the island of Penang and in Singapore, as is the ore from Billiton and Sinkep.

Bauxite is in large deposits in Johore and on the Dutch island of Bintan, opposite Singapore.

Johore's exports of bauxite to Japan rose from 36 tons in 1936 to 100,000 tons in 1940 and the production of the ore in the Netherlands East Indies, which exceeded 250,000 tons last year, also assisted the Japanese in building up their aluminum industry.

In addition to oil, tin, and bauxite the Malay Archipelago produces coal; iron ore (total exports 1940, 2,200,000 tons); manganese ore (50,000 tons exported to Japan in 1940); scheelite, wolframite (8,000 tons to Japan in 1940); low-grade nickel ore (30,000 tons exported to Japan in 1940).

The most important crop accruing to Japan through her conquest of the Malay Archipelago is rubber. In 1941 the Archipelago exported 1,142,000 tons, equivalent to 81 percent of the world's total shipments. An additional 9 percent came from Thailand and Indochina, so that 90 percent of the world's supply is now in Japanese hands.

The remainder was produced in Ceylon, Burma, and Latin America, mainly Brazil.

Other important crops produced on the rich soils of Netherlands Indies include large quantities of copra, palm oil, fibers, spices, tobacco, quinine, cinchona bark, tea, coffee, and pepper.

Netherlands Indies provides 90 percent of the world's supply of quinine and pepper, three-fourths of its kapok, one-third of its copra, and one-fifth of its palm oil.

Chrome has just been found in the Moluccas in apparently large deposits.

CHAPTER XIII

JAPANESE VULNERABILITY TO GUERRILLA ATTACKS

The Japanese Army is peculiarly vulnerable to guerrilla attack in the territories it has over-run since December 8th, 1941.

Japanese forces of occupation in British Malaya, Luzon, Siam, Indochina, Java, Sumatra, Borneo, and the islands of the Celebes and Moluccas are incredibly small.

The Japanese manifest a complete disregard of the possibility of guerrilla operations being conducted against them in the named territories, although they have had to combat extensive and persistent guerrilla attacks in China. In the other areas they are relying on the docility and helplessness of the natives, the bulk of whom, it is true, have welcomed the invaders with real, or feigned, friendliness. There are, in all these countries, however, thousands of natives who are not disaffected and who would welcome the opportunity to reduce the efficiency and strength of the invader's forces.

These men would have to be organized and trained before introducing them into enemy-held territories. Preferably they should be natives of the country in each instance.

It might be physically possible to fly white men into Java today from Port Darwin, Australia, but they would stand as much chance of escaping detection and death as would a small Japanese force introduced into San Francisco tomorrow. Even as individuals hidden in the hills of conquered territory in the Southwest Pacific they could not survive for long. The white man's food problem and native informers would soon end their activities.

Chinese guerrillas have not obtained results in any way comparable to their numbers.

They have been elusive and persistent, but lack of organization and training has, to a considerable extent, prevented their obtaining results commensurate to their strivings and sacrifices.

They have not spared themselves. They have marched hundreds of miles and endured great privations in order to annihilate small enemy forces, while at the same time failing to strike vulnerable points in communications and supply which were exposed to them while they were en route to kill a few more Japanese.

Merely because the guerrilla operates in territory in the possession of the enemy he need not be unschooled in his profession. On the

contrary it is essential that he be as well organized and carefully trained as the regular soldier for his job.

His activities should not be merely incidental or haphazard or sporadic.

They should be based on and follow carefully preconceived plans.

These plans should always provide for offensive operations. When the guerrilla accepts a defensive role, by assignment or enemy compulsion, his usefulness is destroyed, if not himself.

It is habitual with the Japanese to leave supply lines and communications without adequate protection. Details as small as two sentries, one off and one on duty, are assigned to guard vital installations (in occupied or conquered territory) such as telephone centrals, power stations, electric lines and transformers, railroad shops, gasoline storage, power dams, and bridges and ferries at critical points. It often happens that no guards at all are placed at such vital points and installations.

It is reliably reported that many miles of railroad and telegraph lines in occupied Malaya and Java are wholly unguarded against sabotage.

If previous recommendations to the British and Dutch military authorities in these now enemy-occupied territories had been accepted and acted upon, well-trained guerrillas would now be seriously harassing the enemy and forcing him to commit large numbers of troops to the protection of innumerable transportation and communication points and installations.

Immediate steps should be taken to organize, train and weapon guerrilla units in Australia, the United States and West Indies. Officers and enlisted men from the regular forces could be carefully selected and trained for such duty, preferably volunteers.

The selection, organization and training of these units should be a function of the regular forces. "Amateurs" cannot be efficient guerrillas and amateurs cannot create them. If the training of guerrillas is instituted on a justifiably large scale it should be carefully formulated and comprehensive. Only men possessing intelligence, resourcefulness and obvious self-confidence should be selected for training and the training program should be inclusive enough to develop linguists, intelligence men, demolitions men, chemists, radiomen, engineers and other technicians to carry out special tasks related to their specialized abilities.

Untrained guerrilla units are now operating, with limited success, against the Japanese in Java, Borneo, Sarawak, Amboina, Timor, New Guinea, and New Britain.

Guerrilla operations now being conducted in the Philippines, particularly on the islands of Luzon, Mindoro, and Mindanao, are more widespread and successful than in any of the previously named regions.

Unfortunately, because of lack of training, present guerrilla operations in all these areas consist, mainly, of attacks on Japanese personnel, viz.: messengers, isolated guards and patrols, staff cars, military police, etc. This is largely due to the fact that many guerrilla bands, including their leadership, are motivated by one purpose: to stalk and kill the Japanese invader.

Specialized training would triple the effectiveness of such volunteer units.

CHAPTER XIV

JAPANESE ARMY METEOROLOGICAL SERVICE

For years the Japanese army had meteorological experts assigned to observations throughout the islands of the southwest Pacific, including Sumatra, Java, Borneo, the Moluccas, the Celebes, and all other islands of the Netherlands East Indies.

They were also located in British Malaya, Burma, Thailand, Indochina, and the Philippines until as late as September, 1941.

Many of these men, including professors in the science of meteorology, sought and secured employment as laborers on the rubber plantations, in the rice fields, and tin mines.

Documentary evidence secured subsequent to the outbreak of war in the Far East discloses that the Japanese meteorologists made particular studies relative to the beginning and end of the monsoons, their deductions being based on precipitation, pressure, temperature, and sun-spot observations.

The Japanese Army makes the claim that its synoptic weather data enables it to forecast when the monsoon will begin, how long it will continue, and whether it will be normal or wet or dry.

In addition to the data secured and correlated by these military meteorological personnel, the Japanese civil meteorological services furnish the army, throughout the Orient, with day-to-day local and route forecasts.

There is evidence that the Japanese Army received continuous data from over 18,000 rainfall and sunshine stations or observation posts in the southwest Pacific.

The timing and routing of Japanese military thrusts into the Philippines, Netherlands East Indies, Burma, and India in recent months indicate careful study and full consideration of weather factors in those areas.

The staff of each field army includes commissioned meteorologists and enlisted assistants. Some of these men are university professors of meteorology temporarily commissioned to augment the permanent military meteorological service.

CHAPTER XV

COMBAT OBSERVATIONS

Malaria and dysentery are foes that will be encountered, and must be combated, throughout the Far East and southwest Pacific theatres of war. They reduced our forces on Bataan.

Steps should be taken to limit the public purchase of quinine in the United States to antimalarial use only.

The Japanese forces in Malaya, Burma, China, and Luzon used the leaves of the "chirata" plant (indigenous to Nepal) to combat malaria. They also used other Nepalese herbs to ward off dysentery and various tropical diseases.

Troops must be hard—and be prepared to live hard.

Troops should be specially instructed in the destruction of trucks, tanks, guns, and other equipment that may be disabled or about to be abandoned. As described elsewhere in this report the enemy quickly repaired and made effective use of such equipment whenever possible.

British and American troops were compelled to abandon large quantities of matériel in retirements and in their haste drivers of motor vehicles, for example, often merely removed distributors. The Japanese either had distributors adaptable to the vehicles in question or obtained them from completely disabled similar vehicles.

Motorized and mechanized equipment abandoned in withdrawals should either be blasted or burned. Each piece of such equipment should be fitted with an adequate demolition device.

It should be possible to empty gasoline tanks and water-jackets immediately by connections within the driver's reach while the vehicle is in motion. Dive bombers may force him to abandon his truck at a moment's notice.

The Japanese transport columns secured thousands of gallons of oil and gas from hastily abandoned British trucks, tanks, and other vehicles.

Army radio sets to be used in the Far East and southwest Pacific theaters should be specially designed and constructed for tropical use.

Ordinary radio sets deteriorate rapidly in humid climates and must be almost constantly run to keep them dry.

Commanders should give earliest possible information to signal communications officer regarding any move. Great quantities of wire

were lost in Malaya and Luzon because such advance notice was not received by signal officers, particularly in the case of withdrawals.

Communication lines (wire) should not be laid along roads as they will be continually knocked out by bombing, artillery, and mortar fire directed at the latter.

Flag signaling could seldom be used.

Portable radio sets should be issued every company and battalion commander. Every Japanese company and battalion commander was equipped with one and thus had contact with units on his right and left and with the air.

Close, continuous communication was maintained between Japanese ground and air forces.

The "peep" ($\frac{1}{4}$ ton reconnaissance car) was found to be indispensable. It is superior to motorcycles for most military uses although the motorcycle was a much-used communications aid.

Mobile water supply (motorized water tanks) should be available for all large units in the field.

It is more effective and economical to use tanks and half-track 75's, and mobile 37 mm. guns in beach defense than it is to use men.

Mobile gun and tank defense held the long beach perimeter of Bataan Peninsula.

Troops pinned down to watching beaches would be far more useful if they constituted a mobile reserve. Lack of such reserves, after flanks had been turned, had much to do with the loss of the Malay Peninsula.

The American soldier can be relied on to carry out his duties even when under fire for the first time. On Bataan and Corregidor, A. A. gun crews, under their first bombing and strafing, performed well.

Some instances of physical failure to function (where men dropped shells while loading guns) were due to actual shell shock.

The unique Japanese system of dispersion of planes and air-field installations deserves attention.

Immediately after taking over Clarke Field and Nichols Field (as well as Khota Baru and Singora airfields in Malaya), the Japanese secured dispersion of planes and fuel by laying out over 40 landing strips (with hand labor and graders) some distance from the central field.

This was also done in the vicinity of Manila.

They allot two or three planes to a strip, together with oil (in drums) and minimum servicing facilities.

Enemy bombers coming in to attack are likely to find only two or three planes while other Japanese fighters are gaining altitude from other strips.

Strips are sometimes two or more miles apart.

Hangars and repair facilities are located a considerable distance from runways at main fields.

These arrangements contribute greatly to the security of planes while on the ground as well as that of supplies and personnel.

Sulfanilamide proved very effective in treatment of wounds on Bataan and Corregidor. It inhibited gas bacteria.

Gas-gangrenous wounds over large areas of the body were caused by contaminated earth being driven into flesh by bomb blasts.

The 105 mm. howitzer and the 75 mm. howitzer are more effective than the 75 mm. gun in British Malaya, the Netherlands East Indies, and Australia.

There are 52 fortified or semifortified points in the Marshalls, Carolines, and other ex-Mandated Islands.

Concreted works include concrete, camouflaged submarine slips 350 feet long, with 4½ feet reinforced concrete roof. Fifteen such slips are in the Pelew Islands (pictures).

Two new 43,000-ton battleships launched August 22, 1941.

Japanese casualties in China since 1937 total 80,000 killed, 300,000 wounded, 60,000 missing.

Japanese casualties in operations on Luzon, British Malaya, and Netherlands East Indies total 12,000 killed, 30,000 wounded, 4,000 missing, exclusive of inestimable losses through transport sinkings.

The Japanese 90 mm. mortar proved itself more practicable and effective in close country than 75 mm. guns. British Malaya, Netherlands East Indies, and northern Australia are tropical countries, densely wooded, that limit use of the 75 mm.

In the Port Darwin raid of March 19, no warning was received although P-40 fighters (U. S.) were up on patrol.

The Japanese found the radio frequency of our planes and "jammed" their attempted reports.

Increasing roar over radio at Operations Office at airport was finally interpreted as indicative of air raid but too late to warn personnel at field.

CHAPTER XVI

THE LOSS OF THE "PRINCE OF WALES" AND THE "REPULSE"

On December 10, 1941, the *Prince of Wales* and *Repulse* were sunk by Japanese aircraft.

The facts concerning the engagement are as follows: Admiral Sir Tom Phillips put to sea with the two major ships and a flotilla of destroyers in order to interrupt the Japanese landings in the Gulf of Siam. He was not accompanied by an aircraft carrier nor was he escorted by land-based naval planes. The Fleet Air Arm was not present.

There is also no evidence of arrangements for cooperation with the R. A. F. in the form either of air escort for the squadron or of attacks against enemy air bases in order to keep the Japanese aircraft on the ground.

Admiral Phillips was evidently relying, for protection, on overcast weather and surprise. His partial final instructions were: "I want to finish quickly and so get well clear to eastward before the Japanese can mass a too formidable scale of air attack against us."

At 9:50 p. m. in the evening preceding the engagement, however, he discovered that he was being shadowed by three Japanese aircraft and thereupon turned back for Singapore. From that moment, with no means of keeping hostile reconnaissance aircraft at their distance, much less of providing proper protection from air attack, his big ships were doomed.

At 11:15 a. m. the following morning the action started with an attack by six aircraft. The attacks grew quickly in intensity. They were of two kinds, evidently in order to distract the A. A. gunners and to lessen the concentration of their fire, and also to complicate the problems of evasive action set for the helmsmen.

A number of aircraft carried out high-level bombing from 17,000 feet, scoring hits on both ships.

Other aircraft delivered torpedo attacks.

The *Prince of Wales* was struck by a torpedo and, with her steering gear smashed and with a list to port, became a much easier target.

Three more torpedoes heavily increased the list to port and she went down by the stern.

The *Repulse*, hit by a heavy bomb that lessened the volume and effectiveness of her A. A. fire, was hit by three torpedoes and quickly slid to the bottom.

The total number of Japanese aircraft engaged was 43, 7 of which were shot down.

R. A. F. aircraft arrived on the scene an hour after the ships had been sunk.

Their operations had been hampered by attacks on their airdromes.

Conclusions: the engagement proved conclusively that the battleship, in all the more normal circumstances of war, cannot withstand reasonably strong air attack with its own resources alone.

On the one hand was pure sea power. On the other was pure air power. In no previous meeting in history of the two powers, sea and air, had there been such balance, such absence of all extraneous and abnormal factors.

The answer was shattering in favor of air power.

It proved that naval units cannot operate without air support in areas where a reasonable weight of enemy air attack is normally to be expected.

It did not, however, signal the end of all usefulness of the battleships.

It proved, simply, that the battleship has suffered a certain further diminution of its usefulness by reason of the fact that its future operations will of necessity be circumscribed by additional precautions. And it further proved that a battleship cannot normally expect to survive in fair fight with anything like an equivalent aerial force in the absence of air support.

Not only the action in which the *Prince of Wales* and *Repulse* were lost, but all other subsequent engagements in the Southwest Pacific involving sea and air power, demonstrated that naval (surface) units cannot operate if the air above them is controlled by the enemy.