Logistics in the South-West Pacific 1943-1944

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'I have gone at some length into this question of supply', wrote Lieutenant- General Sir E.F. Herring in a letter to Dudley McCarthy, author of the official series volume dealing with the South-West Pacific Area, 'because I think it was something the historian should know about'.[1] Herring was not the only wartime general of this opinion. In August 1943, Major-General L.E. Beavis, Director of Ordnance Services AIF in the Middle East from 1940 to 1942 and Master General of Ordnance from 1942 to 1947, had written to the Australian War Memorial to press for 'a volume specifically on administration and maintenance' to be included in the Army series.[2] This volume was authorised by the government but never written. Reviewing Official Historian Gavin Long's *Final Campaigns* when it appeared in 1964, Beavis took issue with Long's decision not to cover administration:

> perhaps if there had been a history of the administration by British and Australian authorities of the First AIF at the outset of the 1939–45 war we would not have been without the organisation to provide the material requirements of a force in the field based on Australia. Such a history might have helped the military authorities between the wars in their failure to train in peacetime an organisation which could have been expanded when war came. As it was, the organisation to look after the arms, ammunition and equipment of the field force had to be created at the same time it was required to function, and it was largely a case of the 'blind leading the blind' until with experience and training an efficient organisation came into being.[3]

The Australian Army was indeed woefully unprepared to fight in New Guinea in 1942. Accustomed to having logistical needs met by the British Army, it was thrown entirely onto its own resources for the first time in the South-West Pacific Area (SWPA).

1. Letter, Sir E.F. Herring to Dudley McCarthy, 15 May 1957, Herring Papers, State Library of Victoria, MS 11355 Box 11.
2. MGO to LGA 4 August 1943, National Archives of Australia (hereafter NAA) (ACT): A2653 /1 M258/1943.
3. L.E. Beavis, 'Review Article: *The Final Campaigns*', *Stand To* (January-February 1964), 22.

Although Lend-Lease aid from the United States was an important source of equipment and munitions, the US Army in Australia was able to provide little in the way of direct logistical support because it had different doctrine and equipment. Moreover, in the first year of war its logistical situation was no better. After a brief moment in the spotlight in early 1942, SWPA, in the words of the US naval historian, 'led the list of "have nots" and "won't gets"'.[4] Shortages of logistical units forced the Americans to rely on the Australian Army for basic services such as the provision of rations and fuel in 1942 and early 1943, which were supplied free of charge under Reciprocal Lend-Lease. In no other theatre of war was local procurement of supplies by US forces as extensive or important as in the South and South-West Pacific, for Australian reciprocal lend-lease went straight to the most important bottom line of all: shipping. Every shipping ton procured in Australia saved two in the Atlantic. During 1943 the US Army gradually reduced its dependence on the Australian Army at the urging of the Australian Government and was fully aware that it would need its own logistical system when it got to the Philippines.[5]

That the Allies had organisational difficulties is not to say that New Guinea did not pose daunting logistical challenges in its own right. The terrain and climate were formidable and the country almost devoid of the infrastructure needed to conduct modern warfare. In much of the country there were no roads, no buildings, no wharves, and no skilled labour. In 1942, bases had been carved out of the jungle at Port Moresby, Milne Bay, Buna, Wau and Merauke, but in early 1943 they were still far from what was required to support the upcoming campaigns. The role of the bases was not so much as to support the operational units as the other way around, for it was the bases that were important to the prosecution of the war against Japan, allowing air and naval units to move ever closer to choking off Japan's imports. The function of the operational units was to capture and defend those bases.

The major logistical feature of jungle warfare in New Guinea was the absence of wheeled transport. The road network was restricted to what had been constructed in the base areas. Under these conditions, the most useful vehicle was the ubiquitous quarter-ton jeep but even it was restricted to whatever vehicle tracks could be constructed. Resort was therefore made to older modes of transport. The 3rd Pack Transport Company employed horses and mules to deliver supplies in the Wau-Bulolo area but difficulties in providing forage for the animals resulted in this mode of transportation being phased out. Papuan civilian carriers—the famous 'Fuzzy Wuzzy Angels'—had been a vital means of transportation during the Papuan campaign, especially in forward areas, but while still important, they could not be relied upon so heavily in 1943, for the campaign would

4. S.E. Morison, *History of United States Naval Operations in World War II,* Volume VI*: Breaking the Bismarcks Barrier, 22 July 1942—1 May 1944* (Boston: Little, Brown and Co., 1950), 32.
5. A.P. Stauffer, *The Quartermaster Corps: Operations in the War Against Japan* (Washington, DC: Office of the Chief of Military History, Department of the Army, 1956), 98-133.

be taking place in sparsely populated areas and there would be competition for labour from base construction activities. Allocation of local labour resources among competing demands remained the responsibility of the Australian New Guinea Administrative Unit (ANGAU).

Water transport seemed the logical alternative to land transport. No amphibious operations had been carried out in SWPA in 1942 although small craft had carried troops between Milne Bay and Buna. There were several reasons for this: the waters surrounding New Guinea were poorly charted; the Japanese air forces were alert and effective; and there was a shortage of landing craft. Transported across the Pacific deck-loaded on freighters, these had arrived in pitifully small numbers. Then in early 1943, the US Army began shipping some 600 disassembled 36-foot (11.0 m) LCVPs (Landing Craft, Vehicles, Personnel) for its 2nd Engineer Amphibian Brigade. This formation had been created for a 1942 English Channel operation but its cancellation had the US Army's amphibian engineers looking elsewhere. Shipping the landing craft disassembled allowed them to be carried in the holds of Liberty ships, the standard wartime bulk cargo carrier. Equipped with these landing craft and a few of their larger 50-foot (15.2 m) cousins, the LCM (Landing Craft, Mechanised), the 2nd Engineer Amphibian Brigade was assigned to General Sir Thomas Blamey's New Guinea Force for the upcoming operation, codenamed POSTERN. How big a part it could play depended on how quickly its landing craft could be reassembled at a plant the US Army built and operated at Cairns.[6]

The Australian Army had been no less impressed with the potential of water transport than its American counterpart. In 1941 a Tug and Lighter Company of about 60 men had been formed in the Middle East. It had served at Tobruk for about four months from November 1941 before returning to Australia in July 1942. It became the first water transport unit in New Guinea in August, equipping itself with whatever craft it could lay its hands on, including the wreck *Macdhui* from the harbour. Australian Army land-ing craft, along with other small craft and barges, operated on the lines of communications along the coasts of Papua and New Guinea. By April 1943, the Australian Army was operating some 348 small craft, of which 272 were with the 1st Water Transport Group in Papua, which had absorbed the Tug and Lighter Company. This fleet of small craft included only 20 landing craft, mostly of American make but four of them were Australian made. Working with the Ford Motor Company the Australian Army had designed and developed its own landing craft, known as ALCV and ALCM, which were manufactured by Ford at its plants in Brisbane and Geelong. As diesel engines were unobtainable, they were powered by Ford V8 Mercury petrol engines imported from

6. J.H. Casey, *Engineers of the Southwest Pacific 1941-1945*, Volume IV: *Amphibian Engineer Operations* (Washington, DC: Government Printing Office, 1959), 30-45, 703-10.

the United States under Lend-Lease. The design was deliberately kept simple because they had to be fabricated by firms inexperienced in boat building.[7]

In 1943 the RAN converted its three merchant cruisers into fast amphibious transports, HMAS *Manoora, Kanimbla* and *Westralia.* Each of the three ships carried American landing craft, some 20 to 22 LCVPs and two or three LCMs. These three ships became the beginning of the VII Amphibious Force. The Australian Army was approached by the RAN to provide experienced hands to work the ships' gear, handle all the landing craft and tactically load assault equipment.[8] The Guadalcanal and North African landings of 1942 had been carried out with such transports carrying the troops to the landing area and then landing them on the beaches in the ships' landing craft but in 1943 the introduction of new types of landing ships radically altered amphibious doctrine.

The LCT (Landing Craft, Tank) was a 120-foot (36 m) vessel with a bow ramp that could carry three medium tanks. The first of these was completed in October 1942 and three had been shipped to Australia by the end of the year, deck loaded in three sections on freighters. The LCI (Landing Craft, Infantry) was a 158-foot (48 m) ocean-going vessel, the first of which were built in December 1942. It had no ramp as it was designed to carry infantry only, disembarking them by means of gangways on either side of the bow. It had a cruising radius of 8,000 miles at twelve knots and could carry 188 troops but it lacked quarters and mess facilities to carry them for more than about 48 hours, being designed for commando raids in Europe. Larger still and most important of all was the Landing Ship, Tank (LST), an ocean-going 1,490-ton, 328-foot (100 m) vessel with a bow ramp and a 50-foot (15 m) beam. Capable of carrying 2,100 tons deadweight, they could hold 20 medium tanks and had accommodation for 160 men. The design ingeniously managed to reconcile sufficient draught for seaworthiness with a shallow draught for landings by using ballast tanks like submarines. If the beach grade was just right they could beach and discharge tanks or trucks into shoal water.[9]

The US Joint Chiefs of Staff had ordered these landing ships as part of a crash program for an invasion of France in early 1943. Their priority was so high that the keel of an aircraft carrier was removed to enable LSTs to be built in her place.[10] The cancellation of operations in Europe provided a windfall for the South-West Pacific Area of 72 LSTs, 36 LCIs and 72 LCTs but the actual strength of the VII Amphibious Force

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7. R.R. McNicoll, *The Royal Australian Engineers 1919 to 1945: Teeth and Tail* (Canberra: Corps Committee of the Royal Australian Engineers, 1982), 299-311.
8. OC 3 Landing Ship Detachment, 'Report on the Formation of Aust Landing Ships Dets RAE', 20 September 1944, A[ustralian]W[ar]M[emorial]54 963/21/7.
9. Norman Friedman, *US Amphibious Ships and Craft: An Illustrated Design History* (Annapolis, MD: Naval Institute Press, 2002), 115-20, 131-4, 140-3.
10. S.E. Morison, *History of United States Naval Operations in World War II,* Volume II*: Operations in North African Waters, October 1942—June 1943* (Boston: Little, Brown and Co., 1947), 268.

on 1 April 1943 consisted of the HMAS *Manoora,* the barely serviceable USS *Henry T. Allen*, and just five LCTs. The rest would arrive during 1943 as they were completed and made the trip across the Pacific.

Because the 2nd Engineer Special Brigade had only sufficient *assembled* landing craft to support one brigade, the original 1943 campaign concept called for an overland advance on Lae combined with a secondary coastal movement. Amphibious doctrine at the time called for landings to be made outside the range of enemy artillery. As a landing to the south of Lae would require a crossing of the Markham River, a beach east of Lae was the logical alternative. In a single night, the 2nd Engineer Special Brigade could only sail about 60 miles, so a base that close was considered to be required. Buna and even Morobe were too far away, so Nassau Bay, about 35 miles from Lae, was chosen and was captured in a preliminary operation. Ironically, the 2nd Engineer Special Brigade would demonstrate in this operation that it could operate over 150 miles. General Blamey subsequently decided to land two brigades of the 9th Division east of Lae. To accomplish this he requested additional support from the VII Amphibious Force to the tune of seventeen LCIs and three LSTs. Once the VII Amphibious Force was on board it was a short step to carrying out a 'ship-to-shore' operation from Milne Bay.

To support the 7th Division's movement to the front around Wau and subsequent advance on Lae from that side, General Blamey relied on the construction of a road from Bulldog to Wau capable of carrying motor traffic. Continuation of a land supply line over the Markham River looked at first like it would require a bridge, which was estimated to require a field company of engineers and about twelve weeks to construct.[11] Always receptive to new technologies, Blamey proposed instead to use DUKWs, newly developed $2^{1}/_{2}$-ton amphibious trucks, to carry supplies across the river Some 100 DUKWs were due to arrive in SWPA in June or the first half of July and another 150 between mid July and mid August so SWPA General Headquarters (GHQ) in Brisbane was able to offer Blamey 50 for the Markham River crossing and another 36 for the amphibious operation.[12]

If the Bulldog Road was not available in time, Blamey intended to rely on air supply. Considerable improvement had been made in this area since 1942. Most of the aircraft of various types that had originally been pressed into service as transports had been replaced by new C-47s, a military cargo version of the Douglas DC-3. A second group of 52 C-47s had been rushed to SWPA in December 1942 in response to an urgent request from General MacArthur and in March 1943 the Pacific Military Conference allocated another 2½ groups to the theatre, which were scheduled to arrive by the end

11. Minutes, Planning Conference, Adv LHQ, 10 June 1943, AWM54 213/3/20.
12. BGS (Ops), 'Discussion between DCGS and Gen. Chamberlin G3 GHQ 31 May 1943', 1 June 1943, AWM54 213/3/20.

of September.[13] Some 78 C-47s were shipped to the RAAF under Lend-Lease and were used to form six squadrons but the RAAF withdrew its transport planes from the control of the Allied Air Forces in May 1943.[14]

The Australian Army rose to the challenge of making more efficient use of the available air transport resources. Three air maintenance companies were formed for the 1943 campaign, one each for Port Moresby, Dobodura and Nadzab. Each consisted of a headquarters, a supply depot platoon, a transport platoon, an aircrew platoon, an air packing platoon and a workshop section and was capable of operating an aerial supply head. Methods for handling rapidly changing priorities were implemented, procedures for efficient loading aircraft were worked out and special packaging for supplies delivered by air was developed. The 7th Division was treated to a 12-minute training film, 'Loading the Douglas C-47'.[15]

The Bulldog Road has been described as 'one of the most ambitious engineering projects ever undertaken by the Australian Army'.[16] The idea was to create a line of communications that ran up the Lakekamu River to Bulldog and thence over the Owen Stanley Range to Wau. In 1942 the 1st Independent Company had trekked along the route to reinforce Wau and from then on it was in use by carriers to bring up supplies. On 12 January 1943, General Blamey put Lieutenant-Colonel W.J. Reinhold in charge of construction with orders to push road construction through as rapidly as possible. A consulting engineer in civilian life, Colonel Reinhold had considerable experience in road construction in Northern Queensland. During the First World War he had served with the 1st AIF on exchange with the British Army on the Western Front, winning the Military Cross and serving in the Tank Corps. He was the driving force behind the project. Initially a jeep track was to be built. This was then to be upgraded to a full road capable of handling trucks. Speed was of the essence if the road was to be completed in time to play a part in the upcoming campaign. Initially, the gradient was set at five per cent and the minimum curve radius at 80 feet. To save time, this requirement was reduced to a gradient of ten per cent and a minimum curvature of 50 feet. Perishable materials such as softwood timber were freely used.

Work proceeded from both ends, supported by the 41st Water Transport Group from the south and air supply from Wau in the north. Survey began in February but the final route of the road was not determined until April, by which time construction was underway. A tramline was begun at Grimm Point, south of Bulldog, in order to cut out a

13. Minutes of Pacific Military Conference, 18 March 1943, NACP RG 218 CCS381.
14. Letter, CinC SWPA to Prime Minister Curtin, 9 June 1943, NAA (ACT): A2684/3.
15. *7 Aust Division Training Instruction No. 7*, 7 August 1943, War Diary, 7th Division, 1943 Part 2 (Appendices), AWM52 1/5/14.
16. Dudley McCarthy, *South West Pacific Area—First Year* (Canberra: Australian War Memorial, 1959), 578.

particularly snag-ridden and fluctuating section of the river but was later abandoned. The de-snagging and marking of the river was carried out concurrently with the construction of the road.

At the height of the project in July 1943 there were 1,038 soldiers and 2,349 Papuan civilians working on the road. Work was carried out largely, and on some stretches entirely, with hand tools. In mid-July 1943, the 2/55th Light Aid Detachment stripped down three 1,730-pound compressors and each was carried forward down the track by 51 men to difficult sections where heavy rocks had been holding up progress, the engine blocks alone requiring eight carriers. Before this, drilling on the rock sections had to be done by hand. At this time the Royal Australian Engineers (RAE) were not well-endowed with mechanical plant and there were some who were doubtful of its value. The experience in New Guinea would change this and quantities of plant were ordered from America under Lend-Lease. A platoon of the 2/1st Mechanical Equipment Company detached to work on the Bulldog Road became the first Australian specialist plant unit to serve in New Guinea outside the Port Moresby Base Sub Area.

The route ran for 68 miles over rugged and densely forested terrain above 9,000 feet (2,700 m). Such mountainous terrain could be bitterly cold even in tropical New Guinea. Some sections were unexplored, unmapped and practically unknown even to the nomadic Kukukuku people. The Australian and Papuan road builders worked under severe conditions, living under canvas at high altitudes, often on reduced rations, and sometimes in clothing that was insufficient to withstand the cold and constant rain. Despite the hardship, only four men died on the road: one was killed by a falling tree, one by a landslide and two through careless use of explosives. One serious but non-fatal injury resulted from each of these three causes. The major medical problem affecting the troops was malaria, while the Papuans, unused to the heights, suffered from pneumonia and bronchitis.

The road was pushed ahead relentlessly. On the morning of 23 August 1943, two jeeps left Edie Creek for Bulldog, returning the next day with a convoy of fourteen trailer-hauling jeeps. That day Colonel Reinhold received a special signal from General Blamey:

> Congratulations on first passage. The road is now named the Reinhold Highway.

It remained to widen the road to take three-ton trucks, which first traversed the road on 23 September 1943.[17] By this time Lae had fallen and the strategic value of the road began to decline. It never carried the volume of supplies that had been envisaged but in

17. W.J. Reinhold, 'The Bulldog-Wau Road: The John Thompson Memorial Lecture at the University of Queensland, 1945', Reinhold Papers, Fryer Library, University of Queensland, Special Collection Box 62.

return for the manpower, equipment and supplies invested it yielded a benefit beyond price: tactical flexibility which guaranteed victory under any circumstances. No more could be asked of any military engineering project.

By the time the 7th Division arrived in New Guinea in July problems with the Lakekamu River silting up, with the availability of watercraft, with finding the shipping to move the required motor transport to Bulldog and delays in road construction made it clear that the 7th Division operation would be, at least initially, an airborne one. Development of a forward airbase therefore became a priority. Gliders were brought up from Australia to carry heavy equipment and first a battalion and then an entire regiment of paratroops was allocated to seize the Nadzab area. A one month delay was imposed to allow for the arrival of more transport aircraft.

GHQ wanted a full order of battle submitted by 1 July 1943 to enable it to allocate shipping and transport aircraft. This was handed in two days late and contained a number of units that did not yet exist. While some units could be created from New Guinea Force's limited resources, the majority would have to be raised in Australia. Given the short time available, the only way that this could be done was by disbanding operational units. The 30th Infantry and 1st Motor Brigades were disbanded in order to bring the 6th and 7th Divisions up to strength.

To control administrative units supporting the upcoming campaign, the Moresby Base Area was created on 15 March 1943 and placed under the command of New Guinea Force.[18] On 5 June, New Guinea Force created five subordinate Base Sub Areas, one each for Moresby, Milne Bay, Buna, Bulldog and Morobe. Command of all Line of Communications units passed from New Guinea Force to the Moresby Base Area on 14 June 1943. The Bulldog Base Sub Area was especially notable because it was a wholly Australian responsibility, the first of its kind, involving up to 10,000 troops.[19]

The immediate task of the Moresby Base Area was to get the Base Sub Areas up and running. War Establishments for the Base Sub Areas were not approved until 22 July 1943 but New Guinea Force was authorised to proceed with raising them anyway.[20] Some 330 additional personnel were required to staff the new Sub Area headquarters, more than was readily available in New Guinea, and a call for personnel went out to the New South Wales, Victorian and South Australian Line of Communications Areas. Such personnel had to be fit for tropical service but could be medically Class B, that is, fit for base service only.[21]

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18. DA&QMG New Guinea Force, *New Guinea Force Administrative Instruction No. 80*, 12 March 1943, War Diary, New Guinea Force G Branch, AWM52 1/5/51.
19. GOC New Guinea Force to LGA, 'Formation of Sub Areas: New Guinea', 21 April 1943, NAA (ACT): A2653/1 M56/1943.
20. GOC New Guinea Force, 'Administrative Organisation—New Guinea', 10 November 1943, AWM54 9/5/9.
21. AG to NSW LOCA, Vic LOCA, SA LOCA, 9 June 1943, NAA (ACT): A2653/1 M56/1943.

The Moresby Base Area was instructed to prepare three transit areas for brigade groups at Milne Bay, Buna and Bulldog and hutting for additional stores. By D minus 30, New Guinea Force hoped to have 30 days' supplies for 15,000 troops at Morobe, 30 days' for 25,000 at Buna, 60 days' for 40,000 at Moresby, ten days' for 20,000 at Bulldog and 20 days' for 20,000 at Wau.[22] This was not accomplished. DEXTERITY, the American campaign to capture Woodlark and Kiriwina, absorbed shipping and port space and, by pulling fighters off to provide air cover for the fleet, even prevented the transports from flying in to Wau for a time. This caused the stockpile at Milne Bay to be reduced. GHQ thought that Morobe was too far forward and therefore subject to Japanese attack to hold so many stocks, so more was held at Buna and less at Morobe. Finally, the move away from using the Bulldog Road caused stocks there to be run down.

For the campaigns of 1943, GHQ took over direct control of shipping to Milne Bay and points north. This represented an important change, for shipping for the maintenance of the Australian Army in New Guinea had hitherto been the responsibility of Allied Land Forces Headquarters (LHQ) in Melbourne.[23] This led to friction over the allocation of shipping between Advance LHQ and GHQ. The Australians felt that they were being shut out of Milne Bay and the needs of POSTERN were not being met at Buna. The issue went all the way to General MacArthur.

Initially the Australians intended to use Oro Bay, near Buna, as their main supply base but this small port was also needed to support the Allied Air Forces and the upcoming invasion of New Britain. General Blamey therefore decided to use Buna as the principal Australian port instead. This avoided some hassles, for Oro Bay soon became badly congested with American shipping, but Buna harbour was little more than a roadstead formed by coral reefs. It was exposed to the north and east and could be reached only by means of a tortuous channel between the coral heads.[24] The US Navy did not believe that it would be possible for Liberty ships to berth in Buna as their charts indicated a depth of only twelve feet and a fully laden Liberty drew around 26 feet. The US Army was equally adamant that the required tonnages could not be shipped in shallow draught vessels and that Liberty ships would have to be used. Anything less would be like 'dumping a bucket out with a teaspoon'.[25] It was found that some parts of the harbour were indeed deeper than twelve feet but they had to be surveyed and marked

22. DA&QMG New Guinea Force, *New Guinea Force Administrative Instruction No. 105*, 7 June 1943, War Diary, DA&QMG New Guinea Force, June 1943, AWM52 1/5/53.
23. LGA, 'Allied Land Forces in South West Pacific Area Administrative Instruction No. 2—Overwater Supply', 19 August 1942, NAA (ACT): A2653/1 M140/1945.
24. H.J. Casey, *Engineers of the Southwest Pacific 1941-1945*, Volume VI: *Airfield and Base Development* (Washington, DC: Government Printing Office, 1951), 128.
25. Minutes, Conference at GHQ, 8 June 1943, AWM54 213/3/20.

before vessels drawing more could use the harbour. This task fell to the Port Director, Lieutenant-Commander J.M. Band, RANR. Considerable improvisation was necessary. The steaming and side lights of the SS *Anshun*, sunk in Milne Bay in September 1942, were salvaged and used to light the buoys at Buna so the port could be entered at night and operated around the clock.[26] The Buna Base Sub Area constructed new depots and a new wharf for Liberty ships. As built by the Australian engineers, there was 22 feet of water at the wharf and the first Liberty ship was discharged on 22 July by unloading top cargo into LCMs and LCTs until the ship's draught was reduced sufficiently to unload at the wharf. Efforts were made to increase the port capacity by rounding up additional docks personnel in Port Moresby, using operational troops as labourers and securing some additional landing craft.

The work was done so well that it became possible for transport aircraft to start flying out of Dobodura on 4 August 1943, allowing them to avoid overflying the Owen Stanley Range. Although only slightly shorter than the flight from Port Moresby, weather conditions, visibility and landmarks were all more favourable. In August the 2nd Air Maintenance Company became operational at Dobodura to support the 3rd Division in the Wau area, and later the 7th Division in the Markham Valley.

Lieutenant-General Herring's I Corps also moved to Dobodura, which was close to the headquarters of the 1st Air Task Force and in telephone contact with the US 5th Air Force and New Guinea Force in Port Moresby. The high Owen Stanley Range made radio traffic between Port Moresby and points north of the range difficult but Herring could control his corps by radio from Dobodura. The linesmen were already at work stringing a line from Dobodura to Lae. In late 1943, Army ripped up one of the old underwater cables that ran across the Bass Straight to Tasmania and re-laid it across the Torres Strait by the cable ship SS *Mernoo*, connecting Australia and New Guinea by wire. By this time the 19th Line of Communications Signal Unit had completed a line from Morobe to Lae via Salamaua.[27]

To the consternation of GHQ, planning was delegated to the 7th and 9th Divisions and the Moresby Base Area, as was Australian doctrine at the time, although it was contrary to the manner in which operations were carried out on the Western Front in 1918. GHQ doubted that effective co-operation could be arranged at the division level. The decentralised approach had its advantages but generally did not work out well. The 9th Division altered its loading plans without notifying I Corps, and when ships were sunk or damaged their contents were not known. Ordnance stores were left at various points along the coast and I Corps, unaware of where they were, could not make up

26. G. Hermon Gill, *Royal Australian Navy 1942-1945* (Canberra: Australian War Memorial, 1968), 172, 327.
27. CGS to Secretary, Department of the Army, 6 November 1943, NAA (Vic): MP742/1 94/13/571.

deficiencies quickly.

The movement of the personnel of the 7th and 9th Divisions from their training areas on the Atherton Tableland to New Guinea was completed on 19 and 24 August, although each still needed a couple of Liberties to lift remaining vehicles. Priority shifted to the administrative and independent units, some 13,000 strong with 2,500 vehicles, including 67 Matilda tanks of the 1st Tank Battalion, requiring eighteen Liberty voyages. Following them were around 3,000 personnel earmarked for the new Lae Base Sub Area, requiring another three ships.[28] The movement of the base units was running well behind schedule but there was still hope that everything would be available when it was needed, for Lae was not expected to fall until three weeks after operations began.

A case in point was the headquarters of the new Lae Base Sub Area itself. Lieutenant-General Herring recommended that it be raised in Australia for service at Lae with the same establishment and duties as the Buna Base Sub Area and urged that it be moved to New Guinea by air as soon as possible in order to study the local conditions and prepare for the development of the new base.[29] LHQ was unable to assemble even the nucleus of the new headquarters in Brisbane by 30 June as promised. Lieutenant-Colonel O.A. Kessels assumed command on 23 August 1943 and the other officers commenced duty during September, by which time it was far too late for study and preparation.[30]

The 7th and 9th Divisions were both supposed to have been re-equipped in Australia but somehow arrived in New Guinea without certain items of equipment, necessitating a comb-out of the depots in New Guinea. Some items were found to be in disrepair, including eight brand-new short 25-pounders straight from the factory in Australia, which were found to have defects such as filings in the recuperators. Only two could be made ready in time for the operation.[31] It was discovered that the 1st Tank Battalion had arrived without ammunition. To assemble the required motor transport, LHQ established a pool at Enoggera, Brisbane, and ordered units on the mainland to contribute to it. The result was that a large number of vehicles that had been used in the Middle East were shipped to New Guinea and many were found unroadworthy on arrival. Some 200 trucks loaned to the 9th Division by the US Army Services of Supply (USASOS) for the amphibious phase were described as 'unserviceable' and 'junk' when returned a month later.[32]

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28. DA&QG, 'Decisions Affecting Planning', 13 August 1943, War Diary, DA&QMG LHQ, August 1943, AWM52 1/2/6.
29. GOC New Guinea Force, 'Proposed BINOCULAR Advanced Base', 29 July 1943, War Diary, Adv LHQ DA&QMG Branch, AWM52 1/2/6.
30. OC Lae Base Sub Area, 'Officers posted to HQ Lae Base Sub Area', 18 November 1943, War Diary, Lae Base Sub Area, August–December 1943, AWM52 1/8/15.
31. OC 2/51 LAD, 'Defects in 25 pdr Light Guns', 3 September 1943, NAA (Vic): MP742/1 94/1/450.
32. W.F. Craven and J.L. Cate (eds), *The Army Air Forces in World War II*, Volume IV*: The Pacific: Guadalcanal to Saipan* (Chicago: University of Chicago Press, 1950), 192.

At Lae the Australian Army was confronted with the logistics of an amphibious operation for the first time since Gallipoli. The beaches became confused and the need for a beach master with overall authority became apparent. A special Beach Group was also required; the Shore Battalion of the 532nd Engineer Boat and Shore Regiment was insufficient for the task. The biggest problem was that LSTs and LCTs arrived after 2300 and the Navy required them to depart before dawn. Unloading a combat-loaded LST in four hours of darkness proved difficult, if not impossible and many left partially unloaded. In the rush to unload, stores and equipment were piled up unconcealed on the beach and exits were blocked. There was no possibility of properly segregating supplies and in some instances fuel and ammunition dumps were just 20 metres apart. Inevitably, a Japanese air raid hit an ammunition dump, which set a fuel dump on fire and 100 tons of supplies were lost. [33]

Shortly after the 503rd Parachute Infantry had seized the Nadzab area on 5 September 1943, the 2/6th Field Company, the 2/2nd Pioneer Battalion and some 800 civilian labourers arrived, having crossed the Markham River using rubber boats and a folding boat bridge. Work began on the airstrip the very next day with hand tools. Trees were felled, potholes filled in and a windsock erected. It had been arranged that engineering equipment would be flown in by glider but owing to a breakdown in communications, the gliders were not called forward from Dobodura. Lacking mowers, the Kunai grass was removed by burning.[34] The US 871st Aviation Engineer Battalion began arriving on 7 September with its tiny air-portable bulldozers and graders. By the end of October there were four airstrips at Nadzab, one of which was 6,000 feet long and sealed with bitumen. All the while, transport operations proceeded uninterrupted by work on the airstrips, flying in troops, equipment and stores of the 7th Division, with up to 27 aircraft taking off and landing every 45 minutes.[35]

As the fall of Lae had made Salamaua superfluous as the site of a base, the Area Commandant Headquarters that had originally been raised for Salamaua was sent to Nadzab. Nadzab had not been intended as a major supply point and there was no supply depot platoon to take over dumps from the 7th Division. As the campaign proceed down the Ramu Valley, the 3rd Air Maintenance Company, intended to receive supplies at Nadzab, found that it had to dispatch them to Dumpu as well, and so needed to be twice as large. The 2nd Air Maintenance Company from Dobodura pitched in to help. Air shipments had accompanying conductors who accompanied the supplies to the intended destination and obtained receipts on delivery.

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33. Casey, *Amphibian Engineer Operations*, 103-4.
34. GOC 7th Division, 'Report on Operation Outlook', 27 November 1943, War Diary, 7th Division, 1943 Part 4 (Appendices), AWM52 1/5/14.
35. Casey, *Airfield and Base Development*, 168.

Daily maintenance of the 7th Division was flown from Dobodura while troop movements were made from Port Moresby. Some 36 aircraft were available from Nadzab daily and 54 daily from Port Moresby. This was estimated to yield 54 loads per day from Dobodura and 49 from Port Moresby. It was estimated that lifting the whole division would require 1,816 planeloads. The daily maintenance requirement was estimated at 24 aircraft loads; six for Australian rations, one for Native rations, fifteen for ammunition and two for POL. This still left 30 discretionary loads per day, which were used to build up reserves. Because there was less fighting in the Markham Valley than expected, ammunition and medical stores began to pile up and eventually they were deleted from the daily maintenance run and sent forward only on demand.

All letters posted to the troops went by air from Australia to Port Moresby. A daily run, weather permitting, brought them up to the 7th Division at Nadzab. Men in the Ramu Valley could read letters posted in Sydney just three days before. Letters bound for the 9th Division were flown to Dobodura but then travelled forward in barges or small ships so there was a delay of several days. By contrast, parcels and newspapers went by surface and mailbags piled up by the thousand at Buna for want of priority to move them forward. In this case, the situation was reversed and it was the 9th Division that got their mail earlier. When it came to sending mail home, soldiers in the field had no access to stamps and no cash to buy them, so they simply marked their letters home 'On Active Service' and the Army paid the postage.

Rations were supplied in bulk, although there were experiments with American 10-in-1 packs. The 7th Division received fresh fruit, meat, butter, eggs and vegetables whenever they were available in Buna and fresh bread was flown from Dobodura to Nadzab daily. There were no refrigeration units in Buna until October, so reefers were discharged as required. A small ship, the *St John*, with about $12^{1}/_{2}$ tons of refrigeration spaces made two runs to Lae with fresh meat, butter, fruit and vegetables. The 7th Division prepared a schedule whereby each aircraft carrying rations carried a balanced load of 900 rations. This meant 36 different commodities on each aircraft and involved considerable handling. After a few weeks of this, I Corps switched to 'bulk' loading the aircraft. Each aircraft carried only six different commodities but 5,400 balanced rations were carried for every six aircraft, the same as before. Apart from considerably reducing the effort to load the plane, pilfering was reduced by concentrating the attractive items and placing a conductor on the plane, who obtained a receipt upon delivery.[36]

Lae was in an appalling state when it was captured on 16 September. Rotting food and decomposing enemy dead had attracted swarms of flies. The enemy had used shallow trench latrines, one of which was poised over a creek and the medical authorities feared an outbreak of dysentery unless things were cleaned up quickly. The 2/3rd Anti Malaria

36. *Report of I Aust Corps on the Operations in New Guinea from 22 Jan 43 to 8 Oct 43*, AWM54

Control Unit arrived on 21 September and found large numbers of anophelene mosquitoes breeding in bomb and shell craters and in the swamps. Bodies and rotting food were heaped into dugouts, covered with oil and burned, and then the dugouts filled in. The trench latrines were treated with chloride of lime, covered with oil-soaked hessian to prevent hatching flies from reaching the surface and filled in. The 9th and 14th Anti Malaria Control Units arrived on 1 and 14 October and set to work filling in the bomb craters and draining the swamp. The 106th Casualty Clearing Station opened a 500-bed hospital on 22 October and was treating 500 patients by the end of the month.

The headquarters of the Lae Base Sub Area arrived at Lae on 30 September. Some 5,000 administrative troops were nominally assigned to it but shipping priorities and unexpectedly early fall of Lae did not permit them to be in place in time and the administrative plan was consequently disrupted. The Lae Base Sub Area was subordinated to the Lae Fortress, which was created from the headquarters of the 5th Division on 22 September. The Lae Fortress was under the command of Major-General E.J. Milford until 3 November, when Brigadier G.V. Moriarty succeeded him. All Australian troops in the area except those assigned to the 7th and 9th Divisions came under its control. In addition, the Lae Fortress had operational control of the American base, the port, and the airfield. Lae Fortress could not directly take control of the Allied Air or Naval Forces or the USASOS unless Lae came under attack, but the principle of co-operation between all services was firmly established.

The Lae Fortress troops were confronted by three interdependent tasks: the construction of the Markham Valley Road to Nadzab; the development of the port of Lae; and the construction of the base in Lae. The Americans were given responsibility for the port, the airdrome and the US base while the Australians worked on the roads and the Australian base. Work on the port proceeded fastest. A floating dock was brought up from Oro Bay and assembled in three days, allowing a ship to discharge on 20 October 1943, just 34 days after the capture of Lae. A permanent 336 foot Liberty ship dock was completed on 23 November, allowing two Liberties to dock simultaneously. Other ships were offloaded into barges and DUKWs.

The large-scale development of airdromes in the Nadzab area required heavy construction equipment which could only be brought in by sea to Lae and then overland. Development of the road connecting Lae and Nadzab was therefore given the highest priority. Completed on 4 October, it was washed away by heavy rains three days later. After considerable effort by the US Army and RAAF engineers, the road was finally opened on 15 December.[37] Paralleling the road for much of its length was 30 miles of four-inch pipeline constructed to supply a fuel tank farm at Nadzab. Three pumping stations

37. Craven and Cate, *Guadalcanal to Saipan*, 192.

were established at ten mile intervals. A six-inch Victaulic pipeline was construct-ed from the fuel jetty at Lae to supply the needs of the Lae airdrome and road transport.

Petrol, Oil and Lubricants (POL) for all forces was the responsibility of the Australian Army. Bulk storage tanks had been established at Port Moresby and Milne Bay from which tankers could discharge. POL could be also carried in Liberty ships, which had two deep tanks capable of carrying 29,000 and 55,000 US gallons (110,000 and 208,000 litres). Fuels were then supplied to the air forces via pipelines. Supplies to the forward areas were in four- or 44-gallon drums which were manufactured in Australia by Rheem. During the Papuan Campaign increased production and a reclamation program had overcome a critical shortage of 44-gallon drums. At first it was thought that the problem was solved but as the Allies moved forward, the number of drums required increased and a drum shortage recurred in early 1944.

It was not intended that Lae should become a major airbase as it was further from Rabaul than Woodlark and Kiriwina and further from Madang and Wewak than Nadzab and the ground was not nearly so suitable for airfields as that in the Markham and Ramu Valleys. From the Allied Air Forces' point of view, the primary function of Lae was to supply Nadzab through the port. Nonetheless, the Lae airdrome was repaired within two days after the town was captured and was soon the centre of considerable activity as, pending completion of the Lae-Nadzab Road, it was used to supply Nadzab with POL. LCTs and LSTs landed fuel in 44-gallon drums which were trucked to the Lae airdrome, loaded on C-47s and flown out to Nadzab. At one point there was a takeoff or landing every 26 seconds. This took its toll and maintenance was continuous.[38]

The development of the Australian base was dependent on the construction of some 20 miles of roads. This was complicated by the same unseasonably heavy rains in October that had stymied the construction of the Lae-Nadzab road and also by the lack of mechanical plant until a platoon of the 2/1st Mechanical Equipment Company arrived in late November. The Bitibum Road was opened on 21 November. Due to a shortage of roofing materials, hut frames were erected and left pending the arrival of roofing. The Australians initially opened up a number of wells as water supply points. Later the Americans set up a water pipeline and pumping station. A water supply system was constructed in order to provide over 1,000,000 gallons of water, with a peak demand of 2,000 gallons per minute, using the Bitibum and Busu Rivers as sources. Pipes were laid to carry water to kitchens and showers. Later the Americans constructed a 500,000 gallon reservoir. Electric power was established to provide lighting for the docks and the base area, initially with a salvaged 41 kW set, and later with two plants totalling 200 kW. Shortly after the capture of Lae, the 2/78th Light Aid Detachment managed to

38. Casey, *Airfield and Base Development*, 170-9.

get the town ice-works back into operations. This supplied ice to both Australians and Americans until refrigeration plant began to arrive, starting with 5,000 cubic feet on 15 November, although it took almost a month to install owing to shortages of parts. Some 30,000 cubic feet of refrigeration space was installed in the Australian area over the next two months.

The allocation of local labour was controlled by the Lae Fortress, which received heavy demands from the 7th and 9th Divisions, engaged in operations in the Markham and Ramu Valleys and around Finschhafen, from the US 5th Air Force, and of course from the base. By mid-November, the 9th Division had exhausted its local supplies of labour and some 1,000 labourers were transferred from the Markham and Ramu Valleys. Some 1,500 local labourers worked for the Lae Base Sub Area.[39]

By early 1944, the base at Lae, along with those at Finschhafen, Nadzab and Dumpu, was ready to play its part in the upcoming campaigns. For the Australian Army, it had been an enormous learning experience, and a satisfying one. Enormous challenges had been faced and overcome. In February 1944, General MacArthur declared that 'the great problem of warfare in the Pacific is to move forces into contact and maintain them. Victory is dependent upon solution to the logistic problem'.[40] In this, the Allies had been eminently successful.

39. Sgt E.E. Smith, 'The Account of the Development of Lae as an Allied Base', 30 November 1943, AWM54 589/3/1.
40. M. Matloff, *Strategic Planning for Coalition Warfare 1943-1944* (Washington, DC: Department of the Army, 1952), 461.

The Nakai Contingency Unit and the Battles of Kankirei Range

Kazumi Kuzuhara

Lieutenant-General Adachi Hatazo, the commander of the 18th Army, who conducted the Eastern New Guinea campaign, has said of the battles fought in New Guinea that 'the difficulties by far exceeded what could be expected of any human being'. The 18th Army was forced into unimaginably difficult tactical situations, without solid strategic foundations. They had to face enemies like difficult nature, terrain, weather, disease and above all the US-Australian Allied Forces. They had to fight unexpected engagements.

Take the example of three divisions under the 18th Army. The survival rate of the 20th Division was 3.1 per cent, the 41st Division 2.8 per cent, the 51st Division 17.2 per cent.

These statistics of the front line units indicate that the survival rate of the 78th Regiment of the 20th Division was only 2 per cent, the 79th Regiment 1.5 per cent, the 80th Regiment 1.7 per cent, and the 26th Field Artillery Regiment 4.3 per cent.[1] These figures clearly show the reality of the war in New Guinea.

However, even under these severe conditions into which the troops were thrown, they had to fight the best they could according to the tactical situations. General Adachi had expected all of his troops to adopt any possible tactical means and be flexible to the changing situations.

The first crisis that the 18th Army had to face was caused by the surprise attacks made by the two Australian divisions from the east and west sides of Lae. From this time on, the Japanese troops who had been taking the initiative, became tactically rather passive. On 4 September 1943, the Australian 9th Division landed in the east of Lae. The following day the Australian 7th Division landed at Nadzab. Due to these moves made by

1. Yuki Takachi, *Tukon no tōbu nyūginia sen* (The regrettable battle of eastern New Guinea) (Tokyo: Senchi kankokai, 1993).

the Australian divisions, the lines of communication of Japanese 51st Division located in the Saramaua, 50 km south of the Australian positions, were completely cut off. Because of this tactical situation, the 51st Division started to withdraw toward Kiari, crossing over the Saruwaget Mountain Range, and passing between the two enemy divisions.

At that time, the Nakai Contingency Unit (Nakai Force) was organised under the command of Major-General Nakai Masutaro, and reconstituted by the main force of the 78th Regiment of the 20th Division. Its missions were to support the withdrawal of the 51st Division by checking the Australian 7th Division, and at the same time, holding positions within the Kankirei Range in order to stop the advance of the Allied forces that had landed at Finschhafen and Gunbi Cape while the withdrawal of the 20th and 51st Divisions was under way.

Indeed, by preventing the allied advance, the Nakai Force, indeed, saved the 18th Army from a most critical situation and gave it time to complete the withdrawal of all troops to Madang by March 1944. During these operations, the role of one battalion that was located in the Kankirei Range and which defended the route was extremely distinguished. In particular, the work of one artillery company under the leadership of Captain Ohata Masahiko must be recognised. His company fired 4260 rounds by using only two mountain guns in action against an Australian artillery regiment and allied air attacks. This chapter is a study one of the tactical applications of the Imperial Japanese Army during the war in New Guinea, and focuses on the records of the battles[2] of Captain Ohata's artillery company.[3]

The Significance of the War in New Guinea and Road Construction

The significance of the war in New Guinea

Why did operations occur in New Guinea, and why did the Japanese Army have to fight there?

The fighting in New Guinea involved battles that tried to gain control of the air and to establish airfields through the use of ground, maritime and air power. In other words, the role of the ground forces was to defend the established airfields. The flight ranges of the Army aircraft at that time were 500-600 km, which meant that the flight route from Japan hopscotched from Kyushu, through Okinawa, Taiwan, Philippines, Menado, Ambon, and finally to New Guinea. In New Guinea, which stretches 2,000 km in length, the connecting points at Babo, Hollandia, Wewak, Madang, and Lae/Salamaua were regarded as very important.

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2. Interview Ohata Masahiko, Commander Dai 3 chutai, dai 1 daitai, dai 26 hohei rentai to nyūginia (The 3rd Company, 1st Battalion, 26th Artillery Regiment in New Guinea), 20 January 2003.
3. Ohata was born in 1919 and is a graduate of the 37th Class, Tokyo Military Cadet School, and 57th Class, Japan Military Academy.

For General MacArthur, who was determined to re-capture the Philippines, it was absolutely necessary to gain the same air bases for the same reasons. MacArthur is reported to have told General Eichelberger, 'I want you to take Buna or not come back alive'.[4]

At the beginning of 1943, the Imperial Headquarters had already determined that the essence of the war on the New Guinea front was the meeting engagements (i.e. chance, short-term fire fights rather than long-term encounters) between the two sides centred on the competition for bases for control of the air.[5] From the beginning of the war in New Guinea in July 1942, when the South Seas Expeditionary Unit had landed at Buna, until July 1944 the 18th Army conducted combat operations from Salamaua to Aitape, a distance of 1,000 km.

The 18th Army had to secure their established airfields in order that the Allied Forces could not use these bases for their advance. Therefore, the war in New Guinea can be described as the defence of these airfields, and their loss and recapture for the next two long years. The role of the 18th Army in these operations throughout the war in New Guinea was extremely significant.

The terrain of New Guinea and the practical reality of road construction

The mobility of the Japanese troops was greatly impeded due to its limited maritime transportation. The main obstacles to ground transportation were the terrain and the jungle vegetation. Movement from north to south was hampered by the Finisterre Mountain Range, which in places was over 4,000 metres high. The northern parts of these mountains were covered by wild jungle forests, and coastal roads were rarely available. The troops had to move through coastal swamps, soaking their feet, causing trench foot or contracting parasitical worms. They were protected from the air attacks by the jungle, but their work in building a military road had exhausted their physical strength.

The southern parts of the Finisterre Mountain Range were not suitable for road because the valleys were very deep with steep grades and flash floods frequently occurred. The weather on the peaks was extremely cold, dropping even to the zero degree mark at times. Man-power was further exhausted due to inadequate food and medical supplies.

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4. Bōeichō, Bōei kenshūjō senshishitsu (ed.), *Senshi sōsho: Minami Taiheiyō rikugun sakusen* (2) *Gadarukanaru-Buna sakusen* (Official military history: Army operations in the South Pacific (2) Guadalcanal-Buna operations (Tokyo: Asagumo shimbunsha, 1969), 353. The original quotation appears in Robert Eichelberger, *Our Jungle Road to Tokyo* (New York: Viking Press).
5. Bōeichō, Bōei kenshūjō senshishitsu (ed.), *Senshi sōsho: Minami Taiheiyō rikugun sakusen* (3) *Munda-Saramaua* (Official military history: Army operations in the South Pacific (3) Munda-Saramaua (Tokyo: Asagumo shimbunsha, 1970), 20.

The Japanese infantry could have demonstrated their confidence to overcome weather and terrain similar to what they had faced before in East Asia and display their fighting abilities if they had had adequate. However, in case of New Guinea, the harder they tried the sooner they exhausted themselves. Under these conditions, the expectation for a road became higher when the Japanese could not maintain air control, making maritime transportation extremely dangerous and increasing the importance of the road as the lifeline for preserving fighting strength.

The advance of the 20th Division and the reality of their task of road construction

I have already stated that the real nature of the meeting engagements in New Guinea was to establish airfields. In order to connect these established airfields, the construction of the connecting roads was necessary. Aware of the fact that re-gaining the control of the maritime transportation could no longer be expected, Imperial Headquarters regarded the overland transportation, rather than the maritime transportation, as the sure way to nurture fighting power.

The directive so stated: 'The basis of the success of the operations [in New Guinea] is dependent on the construction of the main road which can be used for transporting the troops and materials, and to prepare for the construction of the necessary airfields. Therefore, the necessary mapping and terrain information must be gathered.'[6]

The 18th Army was tasked to construct the road between Madang and Lae, which was to become the main logistic line transporting troops and supplies. The Eighth Area Army had responded to this task by saying the distance between Madang and Lae was 400 km, approximately the distance between Tokyo and Osaka, and it would take 40 days for two companies of infantry to move that distance in New Guinea. It also said that improving the road for automobile use would take four to five months.

In the last part of February 1943, the Commander of the 18th Army had ordered the main portion of the 20th Division at Wewak to move to Madang, and to open a road between the Finisterre Mountain Range and the sea coast. The 18th Army, even after losing air control of the area, tried to keep the important base at Lae on the coast, and began construction of the road between Madang and Lae in order to maintain the line of communication.

On April 20, the main force of the 20th Division had arrived at Madang from Wewak. The 20th Division was a regular division, home based in Korea, and was tasked to construct the airfields in Madang, then to construct the road between Madang and Lae. The construction of this road was critically important in order to secure Lae. The Division Commander, Lieutenant-General Aoki Shigemasa, himself worked along

6. Ibid., 20.

with the troops, but contracted malaria and died on July 2. Lieutenant-General Katagiri Shigeru succeeded him as commander, but the geography of New Guinea's terrain resisted the challenges of the human power. The only map the Japanese had was the 'Map of Eastern Papua' (1/25,000 scale) and the details of the map did not match the actual area.[7] Also, even after construction, the road became muddy during the rainy season and posed obstacles even worse than those of the jungle.

Lieutenant-Colonel Imoto Kumao, who accompanied the Eighth Area Army Commander General Imamura Hitoshi, as his staff officer, wrote in his diary of 29 May 1943:

> The Imperial Headquarters had deployed the troops into New Guinea without any knowledge of how to use them in the terrain of New Guinea. The troops have tried to achieve their tasked missions. However, in the face of increased enemy strength compared with our own the difficulties caused by the terrain multiplied. Under such circumstances road construction had become impossible.[8]

The war situation of the area had gradually worsened, and the work on road construction had become no longer sustainable. Then, Adachi suspended road building owing to the landing of the Australian 9th Division's landing in the east of Lae, and the landing of the Australian 7th Division in Nadzab on 4 September 1943. The main portion of the Japanese 20th Division was determined to secure the Dampier region, after completing the road between Erima and Yokopi.

The discontinuation of the road construction and the organisation of Nakai Force

Lieutenant-General Adachi, 18th Army Commander, had decided to abandon the Lae/Salamaua area, and ordered the 51st Division move to Kiari, by way of crossing over the Saruwaged Mountain Range. The main portion of the 80th Regiment was dispatched to reinforce the area to defend against the expected Australian landing at Finschhafen. The Nakai Detachment was organised around the 78th Regiment, and was tasked as its basic mission to support the withdrawal of the 51st Division. Major-General Masutaro Nakai, the commander, had decided to conduct operations to check the Australian 7th Division's advance in the Markham Valley. The 3rd Battalion was dispatched to Kaiapit, and the 2nd Battalion was sent to the Kankirei Range which was the point closest to the road leading to Madang.

On September 17, after the confirmation of the retreat of the Japanese 51st Division from Lae, the Australian 7th Division Commander decided to dispatch the 6th Papua

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7. Ibid., 106.
8. Imoto Kumao, *Sakusen nisshi de tsuzuru DaitōA sensō* (Operational Diary of the Greater East Asia War) (Tokyo: Fuyō shobō, 1997 rpt), 423.

Independent Company to Kaiapit, with the 21st Brigade to follow.[9] On the same day, the 6th Company received orders 'to take over Kaiapit as soon as possible, and to prepare the airfield with the runway of 1,200 yards for the landing of transport aircraft. Also, to undertake reconnaissance activities and destroy the enemy found in the area.' Thus the situation had arisen where both Japanese and Australian sides had dispatched their advance units to Kaiapit. The Japanese mission was trying to construct the road to maintain their strength, while the Australians were pursuing their objectives of securing airfields.

The Operational Guidance given by the Commander of Nakai Force, in regard to the Operations within the Finisterre Mountain Range

Meeting engagement conducted at Kaiapit

The Australian 7th Division had landed in Nadzab. Considering the situations and the given missions, Major-General Nakai had decided to encounter the Australians along the road between Madang and Lae, and dispatched the 3rd Battalion ahead, departing from Yokopi headed for Kaiapit. The decision was made based on the Imperial Japanese Army's Operational Manual, which stated 'the essence of the meeting engagement is taking the initiative'.[10]

The main part of the Nakai Contingency Unit had departed Yokopi on September 7, and arrived at the so-called 'forest of Soul' closer to Kaiapit in the evening of September 18. The advance was delayed due to the heavy rain and the troops moved with soaking feet through the muddy water. On the other hand, the advance company, which departed earlier, was facing heavier counter-attacks by the superior enemy force.

This Kaiapit operation ended unsuccessfully, because the Australians had already taken 'Church Hill', which was the objective of the operation. The chance of success had already been lost, and the main force detachment had to execute a rescue operation of the advance unit. On the 21st, a part of the Australian unit had moved along the Markham River to Zagaraga, ten km west of Kaiapit. At this time, the Japanese had attempted a special infiltration and raiding operation conducted by the Saito Volunteer Unit.

The Saito Unit was organised into four small attack groups, each of four men. They had attempted to infiltrate into the enemy camp of 300-350 men at night while the enemy were asleep, attacking them with explosives and automatic rifles. The unit's first operation was executed on August 1, and destroyed two enemy barracks, eleven houses and three

9. Bōei senshishitsu (ed.), *Minami Taiheiyō rikugun sakusen* (3) *Munda-Saramaua*, 435.
10. Kyōiku sōkanbu (Inspector General of military education) (ed.), 'Sakusen yomurei,' dai 2 bu (Field Service Regulations, 2nd edition), July 1940, 42.

mortars.[11] The second attempt was against Dakisaria and Marawasa, and a third attempt was against the enemy troops within 'the Forest of Soul' . The enemy reacted to these raids with heightened alerts. Afterwards Saito's men tried another twenty attacks. Thus, the works of Nakai Unit were judged to have contributed to the successful extraction of the 51st Division.

The Unit shifted to the defence posture at Kankirei

Kankirei (or 'summit of joy') was so named because, in June 1943 when the troops of the 20th Division had reached to the top of the mountain range and were looking down the Ramu River Plain, they cheered with joy because they had completed the road from Madang. However, Australian troops were already approaching this road from Madang.

On September 22, the Australian 20th Brigade landed in Finschhafen. The main part of the 20th Division tried to destroy their attempts, and to stop their landing. On September 23, the new order was issued to Nakai Force, which had been tasked to support the 20th Division's withdrawal, and 'to occupy Hill 910 of Kankirei, and to fiercely meet and check the movement of the advancing enemy'. Major-General Nakai issued the following orders:

1. The 1st Battalion of the 78th Regiment is to support consolidation of the 3rd Battalion back into the regiment (the 3rd had been deployed for combat in Kaiapit).
2. The 78th Regiment (less 1st Battalion) is to move in to the area of Kankirei.
3. The 1st Artillery Battalion is to be located at the area of Erima and tasked to defend the sea-coast.
4. The 3rd Battalion is to advance to Hill 610, and defend against the enemy moving from Kesawai to the direction of Madang.
5. The 3rd Company and the Saito Volunteer Unit is to defend against the enemy moving toward the west through the southern part of the Mountain Range, and to make reconnaissance against the advance of the enemy.[12]

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11. Tanaka Toshio, *Rikugun Nakano gakkō no tōbu nyūginia yūgekisen* (The Nakano school's raids in eastern New Guinea) (Tokyo: Senshi kankokai, 1997), 42.
12. Bōei senshishitsu (ed.), *Minami Taiheiyō rikugun sakusen* (3) *Munda-Saramaua*, 440.

The operations of the Artillery units

Lieutenant-Colonel Kageyama, the 1st Field Artillery Battalion Commander, had ordered each company to carry their ammunition themselves as previously assigned. On October 8, Major-General Nakai stopped the 3rd Artillery Company and said to the Company Commander Captain Ohata Masahiko (according to Ohata's notes):

> I have just ordered one Artillery Company to reinforce Kankirei to defend the position. All the other artillery units are on the move and scattered so contact is difficult. The unit at Kankirei must fight to the death. I am serious.[13]

Captain Ohata accepted the task of the Unit Commander on condition that the Commander himself would explain the change of order to Ohata's Battalion Commander. Then Captain Ohata readily moved to Kankirei. One Battalion from the 26th Field Artillery Regiment was to be deployed to Kankirei. However, since Major-General Nakai himself personally had ordered Captain Ohata there, the 3rd Artillery Company was now tasked to conduct the battles of Kankirei with their two artillery guns.

The meeting engagement at Kesawai (November 8-15)

In the middle of October, a part of the Australian 7th Division had already moved into Kesawai, after taking over Tompu following the withdrawnal of the Nakai Unit. They were preparing to go in to Madang. The airfield at Tompu could take any mid-sized aircraft so that the Japanese posts at Kankirei and the supply routes were exposed to light bomber air attacks. Therefore, the Unit Commander decided to make surprise attacks against the Australian forces at Kesawai in order to restrain the enemy at Tompu.

The plan of these attacks was first to send the infiltrating troops of the Saito Volunteer Unit with explosives into small Australian camps (30-40 tents each) in Kesawai at around 3 am, December 8. Then, send another Sakai infiltrating Unit. At the same time, the main part of the 78th Regiment opened the attacks against Futaba Aoba and Holiba Mountains. After completing these surprise attacks successfully, the main part of the Regiment would make preparations to attack the enemy in Tompu.

The battles spearheaded by Saito Volunteer Unit went successfully, and the Australian forces started withdrawing toward the east of Flejapo River. The Detachment Commander, seeing his objectives achieved, decided to end the attacks, and all the troops returned to their main camps. The Kesawai operations were a success, owing to the enthusiastic attempts of each battalion commander to pursue his given missions within the short time for the operations.

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12. Ohata Interview.

Defence Preparation at Kankirei

Guidance given by the Nakai Force Commander during the defence preparation

Major-General Nakai, accompanying Captain Ohata, had made his reconnaissance tour around the defensive area of Kankirei. The guidance given by the Force Commander is based on Captain Ohata's diary.

The prohibition of committing suicide by artillerymen

The Detachment Commander had instructed Ohata that 'the enemy is extremely sensitive to the use of artillery fire arms so that the artillerymen are expected to cooperate closely with the infantry men until the very end'. 'And', Ohata recorded, 'I realised what was expected from our commander, and he also said please take good care of your life. It took more than twenty years to train one artillery officer, but a gun is only material. We can replace the gun, but not an artilleryman.' Nakai must have quoted from the *Artillery Field Manual* which said (Article 10): 'The gun is the life of the Artillery. Therefore, the Artilleryman must live and die with the gun, and share the honour and shame together with the guns. One must continue to fight until the end'. Owing to the prohibition against suicide made by the Force Commander, however, many artillerymen survived the ensuing battles.

The selection of covering positions to enable prolonged combat by artillery guns

The Unit Commander also instructed that, 'The Artillery position must be shifted daily after firing so as not to be caught by the enemy'. However, the gunners also had to keep supporting the infantry without delay or gaps in firing.

The first gun position had been half concealed. Therefore, the emplacement became a target of enemy fire as soon as the first shot was fired. Fortunately, however, the gun was safe even though enemy fire punctured its gun shield in ten places.

Captain Ohata thought that if he could conceal the flash made at the time of firing by lowering the position of gun and covering the gun he could preserve it during the fighting. The second gun position was completely covered by the shelter. 'However', Ohata wrote, 'the footsteps of the soldiers who were coming in from the behind the position were spotted by the search airplane. We were indeed astonished by their way of finding the gun position.'

He continued:

> As we received the 2nd squad, I located them in the ideal location in the outskirt of Byobu-yama (Shaggy Ridge). This position was protected by the ridgeline in front of them. Thus enemy shells flew over the defiladed gun and we received the impact of enemy shells which came in 300 metres safely behind our position.

The fortification of the gunnery position in order to improve its survivability

Captain Ohata requested the Detachment Commander to send the engineer support to fortify the artillery position so that it could continuously support the front line infantry. The following day, one engineer platoon arrived and fortified the position. Also, the unit added more landline communications between the forward infantry and the supporting artillery positions.

The accumulation of munitions to sustain artillery combat

Captain Ohata estimated that he needed to accumulate 1,500 rounds for each gun before the opening of the decisive battles, and also needed to have twenty rounds as his daily unit of fire before the all-out fighting. He offered to carry the artillery ammunition from Yokopi to his fortified positions, since vehicles moved the ammunition from Erima where part of the battalion was located. From Yakopi each man carried two rounds (six kg each), and took two days to make the round trip on foot. So, 500 rounds required 100 men taking five days. It was indeed fortunate that the vehicles were used to carry the munitions at least part of the way.

The occupation of the combat position and the initial battle

a. Area intelligence estimate

The problem that arose here was the fact that there were no accurate maps. Without maps, how could they prepare a firing plan? Captain Ohata went along the same route as Nakai, and made an area reconnaissance. Ohata had grasped the terrain appreciation as follows: 'the key terrain is Kannkirei located in the centre of defence, with Fubatsu-san to the east, Byobu-yama (Shaggy Ridge) forward down the centre, and Kankirei-west-side-hill (Prothero I) to the west. Of the two main roads, one is the road coming through the edge of Byobu-yama, and other is the road coming along the Prothero Hill, which were regarded as the roads through which the enemy would come. Then, the artillery commander selected observation points of these routes, and located his gun positions so that they had accurate range and firing data.

b. The occupation of the combat position

The combat positions of each Company at Kankirei were located one km apart. The 1st Company, machine-gun company, and regimental infantry gun platoon were positioned at Fubatsu-san. One construction company was positioned forward. At the central Byobu-yama point, the 11th Company (later replaced by the 6th Company) was positioned. Each company was isolated, separated by deep valleys, and protected by the barbed wire around the position. The heavy weapons were concealed, and the communication trenches between the covering positions were completed.

Byobu-yama position, which was the main defence position, was located on the steep mountain ridge. At one end of the position was a concealed, fortified pillbox. The first defence line was located 100 metres behind this pillbox, and groups of two to three foxholes for individual fighting positions were located behind. The second defence line guarded with heavy machine-guns and an infantry assault gun was placed behind that. Then, the company headquarters was located in the low ground and the artillery observation point was located on the hill within the heavily guarded defence positions before reaching the third defence line.

While Ohata Company's headquarters, observation post and one mountain gun were located within Kankirei and Fubatsu-san, the Baba Platoon was deployed to occupy the combat position at Byobu-yama and mainly tasked to defend the flank in the direction of Byobu-yama and Irie Village.

c. The initial firing engagement against the enemy

On October 9, the 2nd Battalion was defending Kankirei. The 1st Battalion was withdrawing toward Fubatsu-san where the 5th Company's positions were located. Captain Ohata, stationed at the unit headquarters in Kankirei, was tasked by Nakai to support the withdrawal of the 1st Battalion. Then, he unlimbered the artillery gun and brought it into firing position. The following description of the battle was taken from Captain Ohata's note:

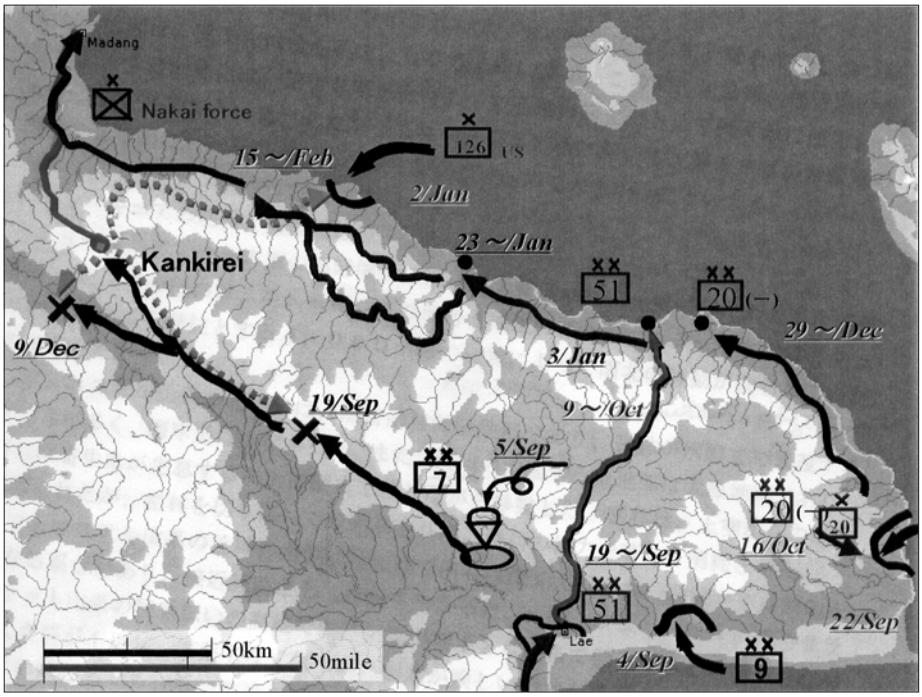
> On the 11th, as we were moving toward Byobu-yama, we spotted the enemy on the ridgeline. A group of people, 50-60, were bivouacking. We saw three of their tents as they were lit by the morning sun. We fired 100 rounds on the first day, and on the second and third days we fired the same number. The Nakai Force Commander rewarded us and said, 'Our infantry unit has completed its withdrawal and the artillery support was effective.'

Thus, the withdrawal of the forward unit was accomplished, and the defensive battles had begun at Kankirei. The following descriptions of the process of the battles were taken from the notes of Captain Ohata.

The Process of Battles at Kankirei (October 1943–1 February 1944)

(1) First attack

Starting from around 0900 on October 18, sixteen Curtis fighter planes flew over the Flejabo valley and fired at the Iriemura positions. The enemy had also crossed over the Flejabo River. The engineer company's Lieutenant Shimojo immediately fired 24 or 25 rounds at the enemy. In this battle, we destroyed five of their machine guns and two mortars. They had to withdraw from the area, conducting their retreat under cover of smoke, delivered perfectly by the supporting aircraft.



Area map of Kankirei (cited from the Australian Official Military History documents)

(2) Second attack

The enemy had shifted the course of their attack after failing in their assault on Iriemura, and headed toward Fubatsu-san (Cam's Saddle). Between each of our defence positions, there was a distance of about three km. So, we had positioned scouts every 500 metres. They reported that about 200 enemy troops had infiltrated into our defence lines. However, they were caught by our mines. We saw the black smoke along with the sound of explosions.

The biggest threat we had to face was the enemy's artillery. They had 27 20-pound artillery guns, and their numbers incomparably exceeded ours. Their firing range was 10,700 metres (11,900 yards) while ours was only 8,300 metres (9,077 yards). However, their mortars were located within our firing range. After our successful firing, their mortars ceased their attacks against Iriemura.

(3) Third attack (25 December–16 January)

On December 25, the enemy artillery started their attacks, coming from three different directions. All of their attacks seemed to have concentrated on our positions at Byobu-yama. They fired more than 6,000 artillery rounds between 0800 and 1000. As we

received a report that the Australians had started moving toward McCaughlley's Hill, we fired at them, and they withdrew.

The enemy, however, had already destroyed our first defence line, and started advancing toward our second defence line. On order, Captain Ohata fired 500 rounds using his mountain gun. The supporting fire maintained the second defence line and saved the infantrymen holding positions there.

On January 2, Captain Yano Kakuji relieved the Battalion Commander, Major Shoji Kagawa, who was ill with malaria. Captain Yano, as the Battalion Commander, had sent one additional platoon led by 2nd Lieutenant Yamashita to the west side of Kankirei, as he observed there were many unprotected positions in the area.

(4) Fourth attack and the fall of Byobu-yama position (January 20–22)

On January 16, 70 light bombers bombed Kankirei. On January 20, the enemy's gunfire had begun at 0800. They were shooting against the first defence line of Byobu-yama, re-taken by the Japanese, and against the Prothero II area where Baba Platoon was defending.

> I received the order from Yano Battalion Commander directing me 'to support our counter attack force against the advancing enemy at Byobu-yama'. Also, I received a request coming from 2nd Lieutenant Urayama for support for his attempted counter-attack against the enemy advancing toward Byobu-yama.

Captain Ohata continued to fire against the advancing enemy toward Byobu-yama and against the advancing enemy toward the Headquarters of 6th Company located in the south side of the mountain. At that time, Captain Ohata received a call from 2nd Lieutenant Urayama, requesting fire support. Then he said, 'Make sure to contact me when you need to adjust our target range by 12.5 metres for each time.' So, he extended the fire range as 2nd Lieutenant Urayama asked. By this time Captain Ohata had only 100 rounds left.

Byobu-yama positions were maintained as the result of the counter-attacks made by the 11th and 6th Infantry companies and of the fire support provided by the Artillery Company.

(5) Fall of Prothero Hill and the end of Kankirei positions (January 22-23)

Another enemy attack front was the Prothero Hill I, located in the north-western side of Byobu-yama. Here were Baba Platoon's positions. Also,Yamashita Platoon was deployed at Prothero Hill I. 'I received a call from 2nd Lieutenant Baba who reported while crying that he lost three men headed by Sergeant Nakamura whom he had sent

to rescue the infantrymen in the forward defence position, as he fired his gun against the approaching enemy who were within 50 metres of his position.'

One infantry platoon located forward on the flank of Baba Platoon was completely wiped out. Then, the enemy surrounded the Baba Platoon. Captain Ohata requested Battalion Commander Yano's permission to withdraw his troops from the west side of Kankirei in case he could no longer support the infantry. However, the request was denied because that position was critical to the defence of Kankirei. Captain Ohata did not have another gun to spare in order to support Baba Platoon while he was firing against the enemy on Byobu-yama's main area. Sixteen men under 2nd Lieutenant Baba were believed already dead, and the men of the 6th Company surrounded and annihilated. Without the fighting power to hold the position, on the evening of the 21st, all the men left the area to be assembled at the last defence position at Yano-yama (Crater Hill), one km north of Kankirei.

(6) Battle of Yano-yama position (January 23–31)

Since the enemy did not pursue us, we were able to assemble and complete our field fortifications defensive positions. The battalion headquarters, Machine Gun Company, 6th Company and 1st Company were positioned in a circular defence. On the 22nd, the enemy started appearing. On the third day after coming to Yano-yama, the enemy's attacks increased in intensity. By the fifth day, the enemy completely surrounded Yano-yama. Our ammunition and food were also running out.

The defence commander was resigned to total defeat, and he ordered the infantrymen without rifles to withdraw, together with the artillery units, in the direction of regimental headquarters. Two hundred and fifty men, among them 50 artillerymen, were still surrounded by the enemy. They had only one mountain gun with 120 rounds, and the gun was not in a covered position enabling it to fire in all directions. Captain Ohata had burnt unit documents including the firing chart, combat directives, and reports. Also, he called regimental headquarters and transmitted his final messages saying, 'I deeply regret that Kankirei was taken. 250 men under the direction of Captain Yano will fight till the last man.' The defence commander soon sent 60 men of Morisada Company to rescue these 250 men. A warrant officer now commanded Morisada Company since they had already lost their three Platoon leaders, and the Company Commander was wounded. They had 200 men at the start of the battle of Kaiapit, but now were reduced to only 60 men.

All the men suffered from lack of food. On January 31 they received their last meal of one scoop of cooked rice. They were told that the enemy would not break through as long as they held until the last man.

1st Lieutenant Nishimura, who had been sent to the Unit Headquarters, returned with orders from the Unit Commander. The message was that all the companies under Battalion Commander Yano were to abandon the positions that evening and reassemble at Saipa. The mountain gun was dismounted, and the parts, including the optical sights and breech, were buried. Then, the Company made it back to Saipa the same night. After being greeted by the Kageyama Battalion Commander, the troops were fed and, according to the diary of Captain Ohata, slept two entire days.

The main part of the 78th Regiment was now tasked to defend the Nanzan Peak located in the northern part of Kankirei. Major-General Nakai requested that the defences include the artillery company since their support was extremely effective. The Kageyama Battalion Commander also cautioned Nakai not to throw away the artillery since its support was also indispensable. He noted the example of Baba Platoon which was annihilated without receiving any infantry. Major-General Nakai promised the safe return of Ohata Artillery Company.

An analysis of the battles conducted during the period of three and half months, from 10 October 1943 to the end of January 1944, follows.

(7) The significance of the Battles of Kankirei

The mission of Nakai Force was to support the withdrawal of the 51st Division. They were defending Kankirei in order to stop the advance of the Australian 7th Division. During the period of the beginning of the year 1944, the 18th Army was in the following condition. The 51st Division was at Kiari and Gari undergoing reconstitution. The main part of the 20th Division was assembling around Sio, ten km east of Finschhafen. The 41st Division at Wewak was still preparing to advance toward Madang.

On January 2, the Allied Forces landed at Gunbi Cape, about 100 km west of Kiari and Sio, cutting off the supply route of the 20th and 51st Divisions, and placing the main part of the 18th Army in the terrible circumstances. On January 5, 18th Army Commander, Lieutenant-General Adachi, decided to conduct a 300 km-long mobile operation by withdrawing both the 20th and 51st Divisions. Under the unified command of Lieutenant-General Nakano Hidemitsu, they moved through the peaks of the Finisterre Mountain Range to Madang. The Nakai Force located at Kankirei was tasked to support these two Divisions' withdrawal operations.

On January 7, Major-General Nakai moved his force headquarters to Atsusa and tasked the main part of the 1st and 3rd Battalions to guard the area, while tasking Colonel Matumoto Matsujiro, the regimental commander, to defend Kankirei. The Nakai Force's mission was to secure the passages of withdrawing troops and to accumulate supplies while defending against the advance of the enemy.

The Nakai Force had successfully completed its mission to support the withdrawal of two divisions to Madang by the end of February. At the time of these two Divisions' departure, the troops numbered a total of 13,000 men. Of these 3,700 men were lost in the mountains, and 9,300 men reached Atsusa.[14] Then, 7,435 men successfully reached Madang in the period of 12 February-7 March.[15]

While the 41st Division was already in Madang by February, the three divisions under the 18th Army finally made their way to Madang by the end of March. The work of the Nakai Force was an extremely important one as they had successfully defended Kankirei by stopping the advance of the Australian Forces and keeping open the withdrawal of the Japanese troops. Their successful accomplishment owed much to the commander and the men of the Nakai Force applying tactics consistent with the terrain and overall situation. I would like to describe their deeds.

The Application of the Tactics During the Battles of Kankirei

The flexible tactical applications used by the Commander of the Force

At the battle of Kaiapit, Major-General Nakai had enthusiastically supported the withdrawal of the 51st Division by sending the Detachment. Also, at the Kesawai Operation, he sent the Saito Volunteer Unit to infiltrate the enemy camps at Tompu airfield, thus, displaying active tactical initiative while covering a withdrawal.

During the battles of Kankirei, he placed one battalion on the key approach route and prepared a fortified defence. One artillery company was sent to defend the forward defence line, since the Australians were susceptible to artillery gunfire, and also deployed one artillery battalion to Erima to defend against the enemy landing. Major-General Nakai's superior leadership should be recognised as he handled the situations well at the time of US troops' landing at Gunbi Cape, also successfully withdrawing his two divisions to Madang.

The mutual executions of their missions among the leaders, requests and tasking

Major-General Nakai made all leaders at each level, including the defence commander of Kankirei, company commanders, platoon leaders, aware of the mission of his Force. It was exemplified as the protracted defence exhibited by two platoon leaders during the battles of Kankirei. The successful counter-attacko by those units owed much to the

14. Bōeichō, Bōei kenshūjō senshishitsu (ed.), *Senshi sōsho: Minami Taiheiyō rikugun sakusen* (4) *Finbshuhaaben-Tsurubu-Tarokina* (Official military history: Army operations in the South Pacific (4) Tsurubu-Tarokina) (Tokyo: Asagumo shimbunsha, 1972), 405.
15. Bōeichō, Bōei kenshūjō senshishitsu (ed.), *Senshi sōsho: Minami Taiheiyō rikugun sakusen* (5) *Aitape-Puriaka-Rabaul* (Official military history: Army operations in the South Pacific (5) Aitape-Empress Augusta Bay-Rabaul) (Tokyo: Asagumo shimbunsha, 1970), 5.

artillery support provided by Ohata's artillery company. It was a case of Captain Ohata appropriately making his requests, and the quick response by the Force Commander to those requests.

The shortages of manpower at Prothero Hill I resulted in the annihilation of the Baba Platoon and Katayama Company. As a consequence, the fall of Kankirei became inevitable.

Battalion Commander Yano withdrew his troops from the defence line, rather than sacrificing them by fighting to the death. The priority of the mission of the Nakai Force was the ultimate accomplishment of the given mission. This awareness was evident throughout the regiments and the divisions.

Closer cooperation between infantry and artillery tactics

During the defence battles, two mountain guns had actively supported the withdrawal of the infantry from the first defence line. For the main front, the artillery continued to fire against the advance of the enemy. Also, the artillery actively defended the flank of the defensive position. The infantry also covered their positions, so that the artillery gunfire could pass overhead. Also, the infantry cooperated with the artillery as they spotted the enemy position firing machine guns and mortars. The artillery fire accurately suppressed enemy fire.

Because of communications by landline in support the counter-attack of the infantry against the enemy, the cooperation between infantry and Artillery during these battles was a model for the Japanese Army. The use of gunfire by Captain Ohata should be also recognised as exceptional. Even today's advanced tactics may capitalise on these valuable lessons of small unit tactics.

Conclusion

The war in New Guinea showed the short-comings of the Japanese Army. Take for example the air route from Tokyo to this battle ground. Each soldier, each bullet, each single grain of rice had to be brought across this great distance. The Imperial Headquarters had thought that this war was one of meeting engagements. However, we had to face a much different challenge. We had to face the Allied forces whose supply bases were closer than ours and who could therefore fight a protracted campaign.

We tried to maintain our war strength by constructing the road between Madang and Lae. However, instead we exhausted our strength. We had fallen in to a pattern of reinforcing failure so that the worse things got the harder we tried.

We must take these lessons learned from the war in New Guinea seriously. The Imperial Headquarters repeated this unwise undertaking at Iwo Jima and Okinawa.

Contrary to how we wasted our strength in the construction of airfields, the Allied forces took only the connecting points, leapfrogging from one point to the other, by sea and air. Road construction could be done after the occupation of the vital points, not during it. Indeed we have encountered a different aspect of war.

Kankirei was where both the Australians and Japanese met, each using their best tactics. By defending Kankirei, the reconstitution of the 18th Army became possible. The troops were sure that the defence of the road could contribute to the success of withdrawal.

By studying the flexible operational guidance of the Commander of Nakai Force, we can see the best use of the tactics among the various leadership levels as applicable to the situations. The troops were held together under one tasked mission, and resisted until the last possible moment. New Guinea was not an easy battle ground. There were no places for ostentation or falsehood, but only a cold reality. Therefore, studies of the war in New Guinea, tactically or strategically, give our hearts a feeling of the terrible reality of fighting there.

Rising from the Ashes: Allied Air Power and Air Support for 14th Army in Burma, 1943-1945

Sebastian Ritchie

On the afternoon of 2 May 1945 the Officer Commanding 110 Squadron, Wing Commander A.E. Saunders, piloting a de Havilland Mosquito, was making a reconnaissance of Rangoon airfield when he observed a large white marking, as though a cloth had been laid out in surrender. He decided to land. Finding no Japanese at the airfield he proceeded to the city gaol, where some 1,400 Allied POWs had been incarcerated. There he was received by the senior officer, Wing Commander L.V. Hudson, Royal Australian Air Force, who confirmed that the enemy had abandoned Rangoon a few days earlier.[1]

It was entirely appropriate that Rangoon should have been liberated, symbolically at least, by the Royal Air Force. For the advance that brought General Slim's 14th Army from northern Burma to within 50 miles the capital in just six months, after more than two years of stalemate, would have been impossible without air power. During the campaign, transport aircraft of the Combat Cargo Task Force supplied an army of more than 300,000 ground troops; without their efforts, Slim's operations would have been logistically unsustainable. Close air support aircraft were guided onto ground targets by forward air control teams, helping to punch through Japanese opposition wherever it was encountered. Medium and heavy bombers cleared particularly difficult obstacles in so-called 'earthquake' operations. In January 1945 an especially well prepared enemy defensive complex at Gangaw blocking Slim's crucial right hook to the west of Mandalay was the target of one such attack; afterwards it was captured at a cost of only two infantrymen wounded. Allied fighters also shielded Slim's advance from Japanese reconnaissance aircraft, ensuring that their high command remained oblivious to the developing threat on their flank until it was too late; at the same time Allied aerial reconnaissance provided an abundance of vitally important targeting intelligence and

1. Air Ministry and Central Office of Information, *Wings of the Phoenix: The Official Story of the Air War in Burma* (London: HMSO, 1949), 136.

battle damage assessment information. And as the ground troops moved southwards, so too did Allied air power; by the early months of 1945 former enemy airfields were being brought into operational use within days of their capture by Slim's forces. This both ensured the maintenance of airborne supplies and enabled close air support and fighter aircraft to be positioned near to the battlefront.

On the eve of hostilities with the Japanese, Allied air power in South-East Asia was virtually non-existent; in 1940 the Royal Air Force possessed only a handful of largely obsolete aircraft in theatre.[2] According to one leading historian,

> There were few airfields, a small maintenance unit on Singapore, few spare parts and supplies, few trained pilots and so little intelligence on the Japanese that the RAF did not know of the existence of the Zero fighter.[3]

Yet in 1944 the British Empire and American air forces in Burma participated in one of the war's most outstanding feats of air support for a land campaign. Moreover, they did so in a theatre where climatic and topographical conditions combined to produce one of the most hazardous flying environments in the world. The full range of land-based air operations which underpinned 14th Army's victory included air defence, offensive counter-air, close air support, air interdiction, strategic bombing, photographic reconnaissance, tactical air transport, airborne operations, glider operations, special operations and maritime air reconnaissance. A truly dramatic transformation had occurred.

Histories of the air war in Burma have predominantly offered narrative accounts of the growth of Allied air power from its inauspicious beginnings through to the victories of 1944 and 1945, culminating in the liberation of Rangoon. The aim of *this* chapter is to provide a more analytical approach to the problem; by focusing here on air superiority, air transport, and close air support operations, the objective is to demonstrate how and why air power came to play such a crucial role in the Allied victory.

Inevitably, the specific issue of army-air co-operation, whether through airborne supply or close air support, has featured very prominently in the historiography of Allied operations in Burma. Yet it is important to remember that none of the air operations in support of 14th Army would have been possible without one fundamental precondition—air superiority; the air-air battle had to be won before the air-land battle could be won. During the early stages of the war with Japan, Allied air forces in South-East Asia found themselves heavily outnumbered and outclassed by their adversaries. On 7 December 1941 the RAF possessed just 181 serviceable aircraft in theatre, and their principal fighter, the American-built Buffalo, quickly proved to be no match for

2. R.J. Overy, *The Air War, 1939-1945* (New York: Stein and Day, 1981), 114.
3. Ibid.

modern Japanese fighters like the Zero and the Oscar. Although reinforced by small numbers of British Hurricanes and American P-40s, the squadrons committed to the defence of Burma fell victim to determined counter-air operations by large formations of Japanese aircraft early in 1942, and were soon wiped out.[4]

The task of rebuilding Allied air power in Burma afterwards passed to the British and American commands in India. It was a painfully slow process. The 'Germany first' strategy pursued by the Allies ensured that South-East Asia was invariably accorded lowest importance in the allocation of resources, and although more aircraft began to reach India during 1943, the most modern fighters and bombers were held in Europe. The first Spitfire fighters only arrived in October 1943.[5]

But such aircraft would in any case have been difficult to employ to optimum effect without the necessary supporting infrastructure, which had to be created almost from scratch. This inevitably took time, but it enabled air power to be far more decisively projected later on. The various infrastructure projects included a massive airfield construction program, the multiplication of supply and maintenance depots, the improvement of communications, and the establishment of a radar chain (augmented by ground observers), and fighter control facilities.[6] No less important was the creation, in the final months of 1943, of a properly unified and integrated command and control structure, Air Command South-East Asia, covering all British and American air forces in India and Burma.[7]

While these preparations were under way, Allied air strength was being steadily augmented. Compelled to spread their air forces across several theatres, and unable to produce sufficient numbers of aircraft or pilots, the Japanese lost the numerical superiority that they had enjoyed in 1942. Over Burma, by January 1944, the Allies possessed an advantage of almost 5:1 in fighters over the Japanese; moreover, by then fighter squadrons were being re-equipped with aircraft like the Spitfire, soon followed by American P-38s, P-47s and P-51s, which proved more than a match for the best Japanese fighters. Japanese air operations over Allied territory began to incur unsustainable attrition rates.[8] In the second Arakan campaign in February, 1944, Japanese air attacks on the so-called 'Admin Box' were beaten off, and the Japanese Army Air Force proved unable to stop airborne supplies from reaching the surrounded Indian ground troops; 65

4. Air Commodore Henry Probert, *The Forgotten Air Force: The Royal Air Force in the War Against Japan, 1941-1945* (London: Brasseys, 1995), 84-6, 93-4; British Intelligence Objectives Sub-Committee report, BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 11-12, copy held at Air Historical Branch.
5. Hilary St George Saunders, *Royal Air Force, 1939-45*, Vol. 3, *The Fight is Won* (London: HMSO, 1975), 299. Photo-Reconnaissance Spitfires had arrived earlier, however.
6. Saunders, *The Fight is Won*, 299, 307-8.
7. BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 7-8.
8. Ibid., 14.

Japanese aircraft were destroyed or damaged, for the loss of only three Spitfires. The same pattern was to be repeated in the battles of Kohima and Imphal.[9]

At the same time Allied long-range fighters and bombers embarked on an offensive counter-air campaign against the principal Japanese airfields in Burma, destroying numerous aircraft on the ground and in air combat. The Japanese were compelled to operate from distant bases; some of their sorties over Imphal were flown from airfields 600 miles from the front.[10] Concurrently, Allied air strikes against Japanese supply lines left numerous aircraft at forward airfields grounded by shortages of spare parts.[11] Replacement aircraft, pilots, and spares were also stopped *en route* to Burma after details of their movement were intercepted by Allied signals intelligence.[12] The final tally of Japanese aircraft destroyed or damaged between December 1943 and May 1944 was 760.[13] By mid-1944 the Allies were able to conduct air operations virtually unchallenged; air superiority was won over Burma at approximately the same time as it was established over Western Europe. By January 1945, after the diversion of some of their forces to the Philippines, the Japanese could field only 126 frontline aircraft in South-East Asia, while Air Command South-East Asia numbered more than 1,500 aircraft.[14]

The advantages which air superiority conferred on the Allies were nowhere more in evidence than in the air transport operations mounted in support of 14th Army between 1943 and 1945. Logistics lay at the very heart of the British Army's inability to confront the Japanese in 1942. Throughout the Burma campaign the Japanese had consistently mounted flanking movements through the jungle around road-bound British columns. While engaging British forces frontally, they sent mobile units on foot to strike the vulnerable British lines of communication. To protect them, the British then withdraw troops from the front line, only for the Japanese to increase the intensity of their frontal assault. The British were repeatedly left with no alternative but to retreat.

The potential for the Japanese themselves to be outmanoeuvred through the application of air power only gradually became clear. In the late 1930s the RAF had largely been constructed around Bomber Command and Fighter Command, and when Burma fell in 1942 an air transport force was still in the early stages of development.[15]

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9. Probert, *Forgotten Air Force*, 168, 192.
10. Saunders, *The Fight is Won*, 331.
11. BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 14-15.
12. Alan Stripp, 'Japanese Army Air Force codes at Bletchley Park and Delhi', E.H. Hinsley and Alan Stripp (eds), *Codebreakers: The Inside Story of Bletchley Park* (Oxford: Oxford University Press, 1993), 292.
13. BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 15.
14. Probert, *Forgotten Air Force*, 244.
15. Humphrey Wynn, *Forged in War: A History of Royal Air Force Transport Command*, 1943-1967 (London: HMSO, 1996), 6.

But air transport occupied a far more prominent position in USAAF doctrine, and the United States possessed significantly larger numbers of transport aircraft.[16] Air transport was employed effectively but on a limited scale by both air forces during the retreat from Burma in 1942 to bring emergency supplies to ground troops and to evacuate personnel. It subsequently became central to American efforts to support China from India, and to the supply of isolated garrisons such as Fort Hertz, and ground troops cut off from surface transport by the monsoon.[17] Elsewhere in the Far East, such as Papua, transport aircraft were successfully used to supply American and Australian ground forces.[18]

But the real turning point in Burma was the first of Orde Wingate's long-range penetration expeditions in February 1943. Although the direct military impact of his expedition was limited, Wingate demonstrated beyond doubt the feasibility and military economy of air supply of ground troops in jungle combat. Each of his columns had its own RAF liaison officer, responsible for relaying supply requirements to the supply base at Assam, and for organising drop zones.[19] In all, some 178 sorties were flown by RAF transport aircraft in support of Wingate's forces, the so-called 'Chindits', dropping 303 tons of supplies.[20] Thereafter, the potential for supplying ground forces by air would always be considered by Allied commanders.

The second Arakan campaign began in November 1943. For the first time, Allied planning now presupposed total dependence on airborne supply for at least one of the divisions involved, 81st West African Division, on the eastern flank. After early progress, the Allied advance was itself confronted by a Japanese offensive in February 1944, which was conducted on exactly the same tactical principles that had proved so successful in the past. The difference was that Messervy's 7th Indian Division did not respond to the Japanese flanking manoeuvres by retreating; instead they were ordered to stand and fight, and to rely on airborne supply.

Concentrated around the Admin Box, they heroically repelled the Japanese onslaught in some of the bloodiest fighting of the war in Burma, while a steady stream of Dakotas sustained them with rations, weapons and ammunition. These missions were executed in very close proximity to the enemy, and many aircraft were damaged by small-arms fire from the ground; nevertheless, 700 supply sorties were flown to the Admin Box, while in total Allied transport aircraft flew more than 3,000 sorties to convey 10,000

16. Arthur Pearcy Jr, *The Dakota* (London: Ian Allan, 1972), 13-20.
17. BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 27; Air Command South East Asia, *Air Transport Operations on the Burma Front* (unpublished official account, 1944), 8, copy held at Air Historical Branch.
18. J.G. Taylor, *Air Supply in the Burma Campaigns* (Air University USAF Historical Division Study, 1957), 12, copy held at Air Historical Branch.
19. Ibid., 14-15.
20. Saunders, *The Fight is Won*, 302.

short tons of supplies to the divisions involved in the Arakan campaign in the crucial month of February 1944. By mid-February the forward Japanese units were themselves running out of supplies, and by the last week of the month they were in full retreat. Second Arakan demonstrated that through the use of airborne supply, Japanese jungle tactics could be defeated.[21]

The experience was to be repeated on a larger scale at the battles of Kohima and Imphal in March 1944, but not before a further radical development in the employment of air transport in Burma. This was the movement of an entire division, 5th Indian Division, from the Arakan front to shore up the defences around Imphal, which was threatened by the second stage of the Japanese offensive; the division's redeployment required about 750 transport sorties, in addition to those needed to airlift reinforcements from India into the area. The ground forces at Kohima were subsequently maintained in a tiny garrison area by transport aircraft flying in daylight at an altitude of only 200-300ft, invariably under small-arms fire from the Japanese. At Imphal a force of 150,000 troops in contact with the enemy and 138 miles from the nearest railhead had to be sustained entirely from the air. Their requirement of more than 400 tons of stores per day had to be flown into a valley ringed by Japanese guns. In total, Allied transport aircraft brought more than 32,000 tons of stores into the Imphal-Kohima area during April, May and June 1944, moved nearly 59,000 personnel into or out of the battle area, and evacuated 15,000 casualties. By the end of June it was once again the Japanese who were compelled to withdraw.

At Second Arakan, Kohima and Imphal, 14th Army had drawn decisively on air transport, but had largely done so spontaneously, as a desperate measure to stave off defeat. However, the potential for building air transport into many different stages of operational planning was in the meantime illustrated by the second of Wingate's long-range penetration expeditions. The first Chindits had their powers of endurance stretched to the very limit by their infiltration through the Burmese jungle on foot; they only depended on the air only for supplies. But Wingate's second, far larger, operation relied on air transport for deployment, supply, casualty evacuation, and in part for extraction. The initial deployment, undertaken by transport aircraft and gliders, conveyed 12,500 troops into the field along with full field equipment, pack animals, bulldozers, jeeps, tractors, armoured cars, ammunition, rations, and anti-aircraft guns and artillery; this force was then sustained by 2,000 tons of airborne supplies per month. Light L-1 and L-5 aircraft evacuated more than 1,300 casualties, and RAF Sunderland flying boats

21. Probert, *Forgotten Air Force*, 169-70; Air Command South East Asia, *Air Transport Operations on the Burma Front*, 14.

brought out a further 500 wounded by landing on Lake Indawgyi, after forward air strips had been flooded by the monsoon.[22]

In summary, between the beginning of 1943 and mid-1944, air transport operations in Burma established a range of precedents, which came to exert a decisive influence on Allied planning and tactics. The first Wingate expedition introduced the principle of airborne supply for fielded forces in Burma; the second Arakan campaign witnessed the deployment of a regular division dependent on air supply, and the first defeat of a Japanese offensive in Burma, partly through airborne supply; the second Wingate expedition saw the deployment of a major ground force by air, and also the partial extraction of that force by air; Imphal demonstrated the Allies' capability to use air transport to switch an entire division from one front to another, and to sustain an entire corps by air. Hence, given the availability of sufficient transport aircraft, air power could demonstrably fulfil virtually all the essential transport and logistical requirements of 14th Army; moreover, it could also give the Allies a critical advantage in both movement and logistics over the Japanese, who were dependent on vulnerable land lines of communication and on water-borne transport. After Imphal it was possible to plan the recapture of Mandalay and the advance on Rangoon overwhelmingly on the basis of air transport and supply.

The Japanese response to the vastly enhanced use of air transport by the Allies was something of a paradox. In 1942 they had correctly identified the British Army's land supply lines as a centre of gravity; by severing British lines of communication, they repeatedly pursued the fastest and most effective route to victory. By contrast, in 1944 and 1945, the Japanese Army Air Force consistently failed to target Allied air transport, despite its fundamental role in the 14th Army's logistical chain. This was partly because of the losses incurred in combat against Allied escort fighters, but it also reflected the Japanese Army's preference for employing air power in direct support of ground operations. Yet by this stage of the war Japanese close air support was too weak to inflict significant damage or casualties on British ground forces, and numerous aircraft were lost during these attacks. The Commander-in-Chief Air Command South-East Asia subsequently expressed incredulity at this misdirection of scarce and very valuable resources: 'Had the enemy used his fighters effectively', he wrote, 'instead of frittering away their effort on infrequent low-level attacks against forward troops, he would have been able to do great execution among our supply aircraft, thus seriously impeding the advance.'[23]

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22. BIOS/JAP/PR1987, *Air Operations in China, Burma, India, World War II*, 31.
23. Air Chief Marshal Sir Keith Park, Despatch on Air Operations, from 1st June 1944 to the Occupation of Rangoon, October 1945, 20, copy held at Air Historical Branch.

The second (but no less important) field of Allied operations which could not have been conducted effectively without air superiority was close air support (CAS). The RAF's limited tactical capability during the early years of the war is well known and requires no further comment here. In fact it could be argued that the doctrinal obstacles to effective CAS which had so influenced the RAF in the late 1930s had largely been swept away by the time hostilities commenced with the Japanese, as a result of experience gained in northwest Europe and North Africa. Again, however, resource constraints impeded the development of CAS in Burma in 1942 and the first half of 1943.

During the first Arakan campaign in late 1942 and early 1943 the only bombers available for CAS were three squadrons of Blenheims, which proved quite unsuited to the task. Fighters also provided direct support, but were more successful strafing enemy lines of communication. Enemy targets in jungle locations were often impossible to identify from the air, so instead they were indicated to pilots by pin-point positions or by smoke shells fired by the artillery. The effectiveness of such methods was often hard to gauge, however, and there was a chronic shortage of accurate battle-damage assessment information. On the ground, Army units at first supplied wildly over-optimistic reports on their effectiveness; many Japanese bunkers and foxholes in fact emerged unscathed from bombing attacks. It also proved difficult to co-ordinate air and ground operations effectively; assault troops were assembled too far from the Japanese lines, and the defenders usually recovered from the effects of bombing before the ground attack started.[24]

During the operation 224 Group, based at Chittagong, had overall responsibility for providing air support, while an organisation called the Army Air Support Control operated alongside 14th Division's headquarters to control tactical aircraft engaged in CAS. Air Support Controls were linked to Brigade and RAF Wing headquarters; they had first appeared in the Western Desert in 1942. The Army Air Support Control seemed to function well enough, but the small scale of operations probably meant that it was not very rigorously tested.[25] Wingate's first expedition likewise provided few opportunities for developing CAS tactics or organisation.[26] The decisive impetus would only come at the end of 1943 and in early 1944.

By the *second* Arakan campaign, Allied air forces were numerically stronger and more capable, but could hardly be considered modern by the standards of the air forces in northwest Europe. The aircraft available for direct support included Hurricane fighter-

24. *The Campaigns in the Far East*, Vol. 3, *India Command, September 1939-November 1943* (unpublished official narrative, undated), 82-7, copy held at Air Historical Branch.
25. AP3235, *Air Support* (unpublished official monograph, 1955), 126-7, 139, copy held at Air Historical Branch.
26. Probert, *Forgotten Air Force*, 136.

bombers and Vengeance dive-bombers, and American B-25s and British Wellingtons from the Strategic Air Force also participated. But the results were far from satisfactory and were in many respects similar to those observed in the earlier campaign. Accurate targeting again proved exceptionally difficult in the jungle terrain; Japanese defences were deep, strongly protected, well camouflaged, and hence very resilient. The heavier bombers could only periodically be diverted from other operations to assist the offensive, and any advantage which they conferred on the attacking forces from the impact of their bombing was invariably offset by their greater margin of error, which compelled Allied ground troops to begin their assault too far away from their ultimate objective. The problem of co-ordination was exacerbated by the fact that the larger bombers were based hundreds of miles behind the battlefront.

Operational control of CAS aircraft engaged in Second Arakan was again vested in 224 Group, but the Group headquarters was separated from 15 Corps headquarters by a distance of about 100 miles. CAS during Second Arakan was therefore once again directed through the medium of an Army Air Support Control located with 15 Corps. Difficulties arose because, while 15 Corps was entirely committed to the Arakan offensive, 224 Group was engaged in a variety of other operations, including long-range attacks on enemy lines of communication and fighter escort duties. In these circumstances there was inevitably strong competition for resources between the two headquarters, and it proved difficult to strike a mutually acceptable balance.[27]

Second Arakan nevertheless witnessed two tactical developments of considerable long-term significance. First, in the later stages of the campaign, ground forces communicated directly by radio with tactical aircraft to guide them towards their targets—a technique then also emerging in Italy and (under American sponsorship) in northern Burma. Second, a system was introduced whereby heavier bombing attacks were swiftly followed up by precision attacks by tactical aircraft, designed to keep enemy forces pinned down until ground troops had closed on their positions. Properly practised and refined, these tactics would in time provide the solution to co-ordinating air and ground attacks in the Burmese theatre.[28]

Ground operations in the spring of 1944 provided a further stimulus to the development of CAS organisation and tactics. The tactical aircraft of 221 Group flew more than 25,000 sorties from March to July in support of ground forces at Kohima and Imphal; Slim later acknowledged that ‘without the victory of the air forces there could have been no victory for the Army’. The battle raised many of the same tactical issues that had arisen on the Arakan front, but inter-service co-operation improved considerably,

27. *The Campaigns in the Far East*, Vol. 4, *South East Asia, November 1943 to August 1945* (unpublished official narrative, 1952), 56-8, copy held at Air Historical Branch.
28. Ibid., 56-7, 369.

not least because 221 Group headquarters was located forward on Imphal plain, along with some of the squadrons actually engaged in CAS. This greatly facilitated army-air liaison.[29] Closer co-operation was reflected in more effective targeting and co-ordination between air and ground forces; during the battle assault troops were brought to within 200 yards of enemy targets being attacked by tactical aircraft.[30]

In the same period Wingate's second expedition witnessed the more systematic employment of ground-to-air radio to direct tactical aircraft on to their targets. In a sense there was no alternative, because Wingate's forces were operating hundreds of miles from Allied air bases; the situation on the ground was liable to change between the time that air support was requested and the arrival of the aircraft in the target area. So RAF sections—the RAF Component Special Force—deployed with Wingate's six brigades. During tactical air operations they worked as forward air controllers, guiding aircraft towards enemy forces, which were also illuminated by smoke shells from mortars or artillery.

The supporting aircraft were themselves assigned to a special unit named the Air Commando Force, a controversial measure but one that worked in the specific circumstances of the expedition. Tactical air operations during the expedition provided ample opportunity for comparing attacks by aircraft with and without radio contact with the ground, and it was found that CAS was far more effective when ground-to-air radio was employed. The difficulty of targeting enemy forces in the jungle environment also encouraged efforts to exploit photographic reconnaissance more effectively. Altogether some 382 tactical operations were conducted during the campaign involving 1,900 sorties.[31]

14th Army's campaigns in the first half of 1944 contained numerous lessons on CAS. They demonstrated that operations would benefit from closer army-air co-operation at headquarters level, that tactical air control could be improved by the more widespread use of ground-to-air radio and photographic reconnaissance, and that air and ground attacks could be better synchronised without undue risk to ground troops. During the second half of the year these issues were studied intensively, together with developments in the application of CAS in Europe. The result was a series of organisational changes, which drew on European experience while at the same time making allowances for differences between the two theatres. These included the far greater distances between deployed formations and units that was often a feature of operations in Burma, and the relatively poor standard of communications there.[32]

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29. Probert, *Forgotten Air Force*, 188-92.
30. *The Campaigns in the Far East*, Vol. 4, 125.
31. Ibid., 184; Probert, *Forgotten Air Force*, 174-9; AP3235, *Air Support*, 139.
32. Air Marshal W.A. Coryton, Despatch covering operations of Third Tactical Air Force from 1st June 1944 to 4th December 1944, December 1944, 8, 41, copy held at Air Historical Branch.

First, the decision was taken to co-locate the headquarters of 14th Army with the headquarters of 221 Group, which was to be responsible for controlling all CAS aircraft engaged in the forthcoming campaign in central and southern Burma.[33] When the speed of 14th Army's southward advance threatened to open too great a gulf between the headquarters and units near the battlefront, it was decided to form what was known as a Group Control Centre, which would move as far forward as possible with the most advanced Wing headquarters to take control of all CAS operations.[34] Secondly, once the controlling function of the Air Support Controls had passed to the Army/Air headquarters, they were replaced by Air Support Signals Units. Their role was to operate a dedicated signals network solely for the purpose of air support, functioning at corps, division and brigade level and at group and wing headquarters; these units had first been created in Europe earlier in 1944.[35]

At the battlefront itself the basic organisational unit, underpinning the entire system, was the Visual Control Post. Visual Control Posts were joint mobile Army/RAF teams functioning at brigade level and equipped with ground-to-air radios. As the name suggests, they controlled tactical aircraft visually from a position on the ground commanding a view of the battle area. Specifically, they were tasked to:

1. Assist aircraft to identify their targets, or to adjust them.
2. Cancel or delay operations if necessary.
3. Direct aircraft to secondary targets.
4. Direct aircraft from a 'cab rank' (orbiting patrol).
5. Co-ordinate and control heavy bomber operations in support of ground forces.[36]

Alongside this new organisation, important tactical changes were introduced to maximise the impact of Allied air support. There were particularly marked improvements in the exploitation of heavy and medium bombers immediately preceding the assault of enemy strong points by the Army. The tentative experiments witnessed during the second Arakan campaign were rationalised and refined; there were extensive exercises

33. AP3235, *Air Support*, 134.
34. *The Campaigns in the Far East*, Vol. 4, 377-8; Air Headquarters Burma, *The Reconquest of Burma: A History of the Air Support Rendered to Ground Forces, 14 Army, by No. 221 Group, RAF, January 1945-September 1945* (unpublished official narrative, 1945), 88, copy held at Air Historical Branch.
35. AP3235, *Air Support*, 118, 134; Ian Gooderson, *Air Power at the Battlefront: Allied Close Air Support in Europe, 1943-1945* (London: Frank Cass, 1998), 26-7.
36. AP3235, *Air Support*, 135.

and rehearsals. The 'earthquake' operations that resulted were designed to exploit the psychological effect of bombing on the enemy and not simply the material damage inflicted. According to one contemporary document,

> Air bombardment can NOT completely neutralise an area … At Cassino and Caen … reports show that the numbers actually killed were small but that there was a most marked stunning effect for a period of time … Our infantry and armour must take immediate advantage of this period of stunned uncertainty.[37]

Earthquake operations scheduled an initial strike by heavy or medium bombers, followed by fighter-bomber attacks which receded as the ground troops advanced, and which finished with dummy attacks. Ground troops were brought to within 700-800 yards of their objectives during the heavier bombardment, and closed to 200-300 yards while the fighter bombers were in action. By launching their final assault so close to the Japanese positions, they were able to exploit the demoralisation and disorientation which bombing invariably generated among enemy forces to overwhelm their defences.[38]

In 14th Army's southern offensive to liberate Burma in 1945 all the basic components of Allied air support for ground operations described in this chapter can be identified. When operations commenced, Allied air superiority protected Slim's troops from all but the most limited and ineffective attacks by the Japanese Army Air Force. It also ensured unhindered air transport and CAS in support of ground forces; air transport provided the army's logistical chain, while CAS played a crucial part in destroying Japanese resistance. As soon as territory had been seized, captured airstrips were re-opened, bringing air superiority fighters and ground support aircraft close to the front, and allowing supplies and reinforcements to be flown in; this in turn provided the impetus behind further advances on the ground. The application of these tactics had almost brought 14th Army to the gates of Rangoon when the monsoon started at the end of April 1945. By that time the Japanese had fled the city.

The process by which air power was developed to support Allied ground forces in Burma can only be described as incremental – the absorption of lessons from previous operations and from other theatres, and their application to future campaigns. After the initial defeats of 1942, Allied air power was gradually rebuilt, like the proverbial phoenix rising from the ashes. Air superiority – the key to full exploitation of the air medium – had been won by mid-1944. The scope for using air transport to solve the army's fundamental problems of movement and logistics became clear partly from unplanned measures of last resort implemented to avoid defeat, and partly from the

37. Coryton, Despatch covering operations of Third Tactical Air Force from 1st June 1944 to 4th December 1944, December 1944, 8, 43-4.
38. AP3235, *Air Support*, 137.

inventive and far-sighted initiatives of Wingate's expeditions. In Wingate's second operation it was for the very first time *planned* that virtually all long-range movement and logistical arrangements should depend on air transport. The same basic approach, vastly extended, was then employed by 14th Army during the reconquest of central and southern Burma. The evolution of CAS was similarly incremental, the exigencies of battle producing organisational and tactical changes which were then studied, refined, rehearsed, and adapted in the light of European experience. After a great deal of trial and error, the Allies had by the later months of 1944 established a formidable CAS capability, which was applied with devastating effect in the final Burmese campaigns.

An explanation of air power's triumph in Burma in 1945 must begin with the disastrous defeats of 1942 and early 1943. These early campaigns showed that the Japanese were better prepared for jungle warfare than the Allies in almost every respect—experience, doctrine, training, equipment, tactics and logistics. In a straightforward confrontation between Allied and Japanese ground forces, the Japanese clearly held too many advantages; the task of evicting them from Burma using ground forces alone would have proved enormously difficult, drawn-out and costly. It was air power which by 1944 gave the Allies a means of defeating the Japanese army, particularly (although by no means exclusively) through the systematic exploitation of airborne movement and logistics, and close air support. At the same time these vital capabilities were denied to the Japanese, so that their ground forces were placed at a decisive disadvantage. Behind these developments lay the Allies' pursuit of a general air strategy, and their willingness to allocate material and human resources to air power on a scale that dwarfed the combined efforts of the Axis powers, who tended to view air warfare merely as an adjunct to land or naval warfare.[39] The final word may be left to Slim himself:

> The Allied air forces ranged all over Burma as far south as Rangoon, on a plan designed almost entirely to help 14th Army. Enemy fighter squadrons were driven farther and farther back, his communications harried all round the clock, his movement by day made perilous and by night delayed. Our attacks were preceded by devastating 'earthquake' bombardments; our bridgeheads as we clung to them screened from fire by the air. Never, I believe, was air co-operation closer, quicker or more effective; never was it more gratefully appreciated than by 14th Army and its commander.[40]

39. Overy, *The Air War*, 262.
40. Probert, *Forgotten Air Force*, 264.

The Allied Translator and Interpreter Section: The Critical Role of Allied Linguists in the Process of Propaganda Creation, 1943–1944

Allison B. Gilmore

In his memoirs, Colonel Sidney F. Mashbir, the head of the Allied Translator and Interpreter Section (ATIS), a little-known intelligence agency that operated in the Southwest Pacific during the Pacific War, remarked 'it is often humorously stated that no sane white man can learn the Japanese language, and if by any chance he should he cannot stay sane'.[1] Yet after nearly a quarter century of studying Japanese, Mashbir was not only sane, but sufficiently proficient in the language to lead a small army of linguists against Japan. In so doing, he contributed a great deal to Allied victory. The intelligence amassed by the Allied Translator and Interpreter Section was a critical factor in conventional military operations in the Southwest Pacific. This chapter, however, focuses on how the skills of its linguists contributed to an aspect of the war against Japan that historians have largely overlooked—the propaganda war, with special emphasis on developments in 1943–44, when ATIS and psychological warfare (psywar) operatives established the kind of working relationship and exchange of information and resources that ensured their mutual success.

At the time of the Japanese attack on Pearl Harbor, *Life* magazine asserted that fewer than 100 persons in the United States had a real mastery of Japanese, and quoted Archibald MacLeish of the US Office of War Information as stating that there were only 'three Americans with full command of the language'.[2] While this is perhaps a slight exaggeration, there is no question that in 1941 exceedingly few Americans knew much about Japan or its language. Many years later, Faubion Bowers, one of the few Caucasians who was truly fluent in Japanese during the war, stated that in 1941 there

1. Sidney Forrester Mashbir, *I Was an American Spy* (New York: Vantage Press, 1953), 24.
2. 'The Japanese Language', *Life*, 7 September 1942, 58-63, at 58.

were 'only twenty-five American *Hakujin* (Caucasians) who could read, speak and write—more or less—the Japanese language'. And, as he pointed out, 'twenty-five is not much of a number when you are planning on an Army and Navy of five million or so'.[3] Likewise, commenting on the efforts by the Australian Military Forces to establish a Japanese language intelligence section in early 1941, the ATIS official history notes that 'the shortage of linguists was so acute that the Royal Australian Navy was able to obtain only one qualified civil servant'.[4] The dearth of Japanese linguists hampered Allied efforts to gather intelligence on Imperial Japan's military capabilities and intentions and constrained psychological warfare operations throughout the Pacific War. Yet, thanks to ATIS's mobilisation of the talents of a relatively small number of Japanese linguists, the language barrier was substantially overcome.

The years 1943 and 1944 were crucial as the formative period of Allied efforts to construct an effective apparatus for acquiring intelligence from captured enemy documents and prisoners of war, and using it as the basis for a responsive psychological warfare capability. The organisations charged with the collection, analysis, and application to psychological operations of the intelligence gathered from prisoners and documents were ATIS, the Far Eastern Liaison Office (FELO), and the Psychological Warfare Branch (PWB), each of which was built on foundations laid in part by Australians. The unheralded though impressive performance of these units over the course of the war resulted from an effective alliance of primarily Australian and American personnel in the Southwest Pacific Area (SWPA) of operations.

By the end of 1944, Allied linguists and propagandists had not only accumulated a mountain of intelligence on the Japanese enemy, but developed mechanisms for sifting through that intelligence, disseminating it quickly to the appropriate units, organising and presenting it in formats compatible with both combat and psychological operations, and using it in ever more influential ways to bring Imperial Japan to its knees. By 1944, the Allies, all too familiar with the strengths of the enemy's fighting spirit, had also identified vulnerabilities in Japanese military morale. Based on that information, they crafted realistic propaganda principles and objectives, and devised a multitude of propaganda messages (chiefly in the form of leaflets) to hasten the demoralisation of Japan's fighting forces. By 1944, ATIS had become a dynamic, truly allied organisation, and an integral part of the intelligence apparatus constructed to defeat the Japanese war machine in the Southwest Pacific. It was clear in 1944 that Japanese linguists were vital to the Allied war effort and would become more essential as the months passed and war

3. *American Patriots: MIS in the War against Japan* (Washington, DC: Japanese American Veterans Association of Washington, DC, 1995), 11.
4. General Headquarters, Far East Command, Military Intelligence Section, General Staff, *Operations of the Allied Translator and Interpreter Section*, GHQ, SWPA, Vol. 5, Intelligence Series (1948), 3 (hereafter cited as Intelligence Series, ATIS).

planners turned to postwar considerations. But it was equally clear that as the number of captured documents and prisoners grew, thus increasing the demand for competent linguists, the Allies' ability to locate and train linguists in sufficient numbers and quality was diminishing.

ATIS was established by order of General Headquarters, Southwest Pacific Area (GHQ, SWPA) in September 1942 and is described in the official history as a 'centralized intelligence organization composed primarily of language personnel … designed to systematize the exploitation of captured documents and the interrogation of prisoners of war', and oversee the collation and distribution of this information to Allied military forces in the theatre. ATIS was an inter-allied, interservice organisation that resulted from a union of US personnel from General Douglas MacArthur's headquarters (originally designated Translator and Interpreter Unit, G-2, GHQ, SWPA, and consisting of nine men) with Australia's Combined Services Detailed Interrogation Centre (CSDIC), which began operating from Brisbane with seventeen personnel in early September 1942. The latter Australian organisation was itself the result of a merger of two independent Australian units established shortly after Japan's December 7-8 attack, one a POW section, the other a document translation section.[5] When MacArthur's headquarters established ATIS on 19 September 1942, the official history notes that the 'personnel and activities' of Australian linguists 'were gradually absorbed' by ATIS. Thus, ATIS's 'earliest beginnings stemmed from the formation, at Advanced Land Headquarters in Brisbane, of a small group of Australian officer linguists. From this nucleus was developed ATIS, one of the most important intelligence agencies to serve the United Nations in the area of General MacArthur's operations.'[6]

From the outset, ATIS adhered to three operating principles: first, all linguist resources in the theatre would be pooled; second, all service and national distinctions would be eliminated; and third, all intelligence accumulated would be released simultaneously to all services.[7] ATIS originally consisted of 25 officers and ten enlisted men, but as the scope of its operations grew, so did its personnel. By September 1944, ATIS employed 767 people and by the end of the war had grown to nearly 4,000 men and women. During the Pacific War, ATIS linguists interrogated over 14,000 prisoners; scanned, summarised or translated two million documents; and distributed over twenty million pages of intelligence on the Japanese. In its efforts to acquire documents and examine prisoners within moments of their capture, ATIS linguists participated in every Allied

5. ATIS, SWPA, Progress Report, From Organization—19 September 1942 to Reorganization—8 September 1944, A, MacArthur Memorial Bureau of Archives (hereafter MMBA), RG 3: Records of Headquarters, South West Pacific Area, 1942-1945, Box 72, Norfolk, Virginia (hereafter cited as ATIS Progress Report).
6. Intelligence Series, ATIS, i, 4.
7. Intelligence Series, ATIS, 2-3.

assault from Papua to the Philippine Islands, and at least seventeen Japanese linguists died as a consequence.[8] ATIS's chief limitation was the shortage of qualified language personnel—a problem which was never fully resolved.

In the United States, efforts to find and train Japanese linguists for military intelligence work had scarcely begun when the attack on Pearl Harbor came, and only then, thanks to the foresight of two young army officers. As tensions between the US and Japan rose in 1941, Lieutenant-Colonel John W. Weckerling and Captain Kai E. Rasmussen, both US Army intelligence officers who had learned Japanese while serving in Japan, began to argue that the absence of linguists might well be debilitating to the army in the event of war. They believed, given the complexities of the Japanese language, it would take months or even years to train enough language specialists to fulfill the army's wartime needs. Consequently, Weckerling and Rasmussen began to search for Americans with some knowledge of Japanese. They rapidly came to the conclusion that Nisei (second generation Japanese Americans) were the most likely candidates for language training. It soon became clear, however, that even among Japanese Americans, there were few who knew more than a little Japanese, and only a handful who were familiar with Japanese military terminology. Of the 3,700 Nisei initially interviewed by Rasmussen and Weckerling, only ten per cent were admitted to the US Army's language training program. One Nisei, Bill Hosokawa, who later became a prominent American journalist and author, recalled his interview with Colonel Rasmussen as a humiliating experience. Hosokawa was confident that he possessed a 'fair speaking knowledge' of Japanese, but his language skills were soon proven to be 'completely inadequate'. Able to identify only two or three characters out of every one hundred used in a typical Japanese high school textbook, Rasmussen summarily rejected him. 'Hosokawa', he snarled, 'you'd make a helluva Jap'. The US Army had clearly overestimated the language skills of Nisei, who by 1941 were considerably more American than Japanese. Yet some familiarity with the language was better than none and, in the end, 85 per cent of the students recruited for the US Army's language school were of Japanese ancestry.[9]

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8. Intelligence Series, ATIS, i, 5; ATIS Progress Report, A. For the figure of seventeen Nisei linguists killed in the Pacific War and Asia see Tad Ichinokuchi (ed.), *John Aiso and the M.I.S.: Japanese-American Soldiers in the Military Intelligence Service, World War II* (Los Angeles, CA: MIS Club of Southern California, 1988), 201.
9. Bill Hosokawa, 'Our Own Japanese in the Pacific War', *American Legion Magazine* (July 1964): 15-17, 44-7. For more information on Nisei contributions to the Pacific War see Bill Hosokawa, *Nisei: The Quiet Americans* (New York: William Morrow & Co., 1969); Roger Daniels, *Asian America: Chinese and Japanese in the United States since 1850* (Seattle: University of Washington, 1988); Masaharu Ano, 'Loyal Linguists: Nisei of World War II Learned Japanese in Minnesota', *Minnesota History* 45 (1977), 273-87; Joseph D. Harrington, *Yankee Samurai: The Secret Role of Nisei in America's Pacific Victory* (Detroit: Pettigrew Enterprises, 1979); and Lynn Crost, *Honor by Fire: Japanese-Americans at War in Europe and the Pacific* (Novato, CA: Presidio, 1994).

Most of the US Army's translators in the Pacific underwent intensive language training at the Fourth Army Intelligence School, later renamed the Military Intelligence Service Language School (MISLS). Initially established at the Presidio in San Francisco, its first class of 60 students (only two of whom were Caucasians) began intensive language training in November 1941, just five weeks prior to the Pearl Harbor attack. In the spring of 1942 the school was moved to Minnesota (Camp Savage in 1942 and then Fort Snelling in 1944) and placed under the direct supervision of the War Department. By war's end MISLS had graduated nearly 4,200 linguists for service in combat areas throughout Asia and the Pacific. In all, approximately 6,000 Nisei and 600 non-Nisei completed MISLS training.[10]

The British, Australians, and Canadians likewise established language training programs in hopes of spanning the linguistic gaps in the Allies' intelligence apparatus. The British created a fourteen–sixteen month intensive Japanese language course to train army personnel as Japanese speakers and translators, while the Royal Navy and Royal Air Force opted to train only translators. In 1944, the British government projected that its programs would produce 100 army, 30 navy, and 120 air force linguists during 1945, and similar numbers for 1946. These linguists would contribute little to the war in SWPA, however, as they were all earmarked for assignments in Southeast Asia. Australia, which created a combined language course for army, navy and air force personnel, projected that it would train 50 graduates in the first six months of 1945 and thereafter, 50 Japanese linguists annually. By 1945, Canada's Japanese language school was training 70 students and had plans to increase its output of trained linguists to 100 per year in 1946 and thereafter. These numbers reveal both the scarcity of the human resources available to serve as Japanese translators and interpreters, and the Allied awareness of the ongoing need for linguists.[11]

Even as the Allies searched for likely prospects for its language schools in 1944, a great many Japanese Americans were already in the field. Nisei contributions to the intelligence war in the Pacific demanded great personal risk, for if captured by the Japanese they undoubtedly would be tortured as traitors. Because of their Japanese ancestry, Nisei also risked being mistaken for the enemy. Allied commanders took a variety of precautions to protect Nisei serving in combat zones and discovered that Nisei had to do more than merely wear American or Australian uniforms and carry identification cards to ensure their safety. In forward areas, Nisei prominently displayed

10. Ano, 'Loyal Linguists', 277; Ichinokuchi (ed.), *John Aiso and the M.I.S.,* 192; and US War Department, General Staff, Military Intelligence Division, 'MISLS: The Training History of the Military Intelligence Service Language School', 17 volumes (1949), Annex 10: Personnel Procurement Office, 3ff.
11. Report of Japanese Document Conference, 28 December 1944–15 January 1945, 28, National Archives and Records Administration (hereafter NARA), RG 165: Records of the War Department General and Special Staffs, entry 79, box 1992.

special passes that included their photograph and proof of American citizenship and by late 1943, ATIS policy dictated that Nisei working in the front lines be accompanied by Caucasian officers whose job it was to protect Nisei from friendly forces.[12]

Not only did the Nisei presence on battlefields require special precautions, Allied forces made the very existence of the organisation itself a closely guarded secret. ATIS linguists knew that the Imperial Japanese Army (IJA) depended heavily on written orders but nonetheless maintained lax security measures. The Japanese failure to encode much of their communications resulted from an apparent belief that their written language was so utterly alien to westerners as to constitute a cryptographic system in and of itself. An ATIS report noted in 1944 that the Japanese apparently assumed that 'even if the Allied forces did capture Japanese documents, they would be unable to translate them'.[13] Colonel Mashbir (Coordinator of ATIS) believed that if the Japanese learned of ATIS's existence, they would 'take precautionary measures that would nullify' much of the organisation's work and 'thus deprive the United Nations of a major source of information concerning the enemy'. ATIS was thus a well-kept secret, and Japan never became aware of its existence during the war.[14]

Despite the many imposing obstacles in the path of ATIS success, Mashbir and his polyglot company began operations within a year of the Pearl Harbor attack. From October 1942 through June 1945, ATIS headquartered in Brisbane. Referred to as Base ATIS, headquarters included Translation, Examination, Information, Production, and Training Sections. ATIS created an advanced unit in September 1944 as the result of successful Allied counter-offensives in SWPA and the forward movement of MacArthur's headquarters to Hollandia, New Guinea. Known as Advanced ATIS (ADVATIS), this unit was a 'miniature ATIS' designed to extract intelligence of immediate operational value ('spot information') from documents and POWs, classify it as to potential value, then forward it to Base ATIS in Brisbane for processing. As MacArthur's forward headquarters advanced toward the Japanese home islands, ATIS personnel went with it, moving to Manila in May 1945, and then in October 1945 to Tokyo to assist MacArthur with the occupation.[15] Meanwhile, beginning in January 1943, ATIS created a number of Advanced Echelons, each of which provided translation and interrogation services to Allied forces in the field. The first of these was the 1st Advanced Echelon assigned

12. Hosokawa, 'Our Own Japanese', 46; ATIS, SWPA, Information Request Report no. 96, 25 November 1943, 5-7, MMBA, RG 3, box 123; Mashbir, *I Was An American Spy*, 242, 247, and Report of Japanese Document Conference, 28 December 1944–15 January 1945, 69-72, NARA, RG 165, entry 79, box 1992.
13. ATIS, SWPA, Publication no. 6, 'The Exploitation of Japanese Documents', December 14, 1944, 1, NARA, RG 407: Records of the Adjutant General, entry 427, box 1316. See also Mashbir, *I Was An American Spy*, 237, and Harrington, *Yankee Samurai,* 5-7.
14. Ibid. and Intelligence Series, ATIS, 12.
15. Intelligence Series, ATIS, 31, 33-5.

to the New Guinea Force. Linguists on service with this and other advanced language field units as they emerged, accompanied Allied combat forces on landing operations throughout the theatre over the remainder of the war where they scanned captured documents and conducted preliminary interrogations of prisoners in the search for information of immediate use.[16]

ATIS's primary function was to provide Allied commanders with intelligence about the whereabouts, capabilities, and intentions of Japan's armed forces. Yet ATIS translations of captured documents and interrogations played a prominent role in the Allied propaganda war as well, for they revealed much about enemy morale and the factors that affected it. Together, ATIS publications and personnel contributed to a better understanding of Japanese military psychology, pinpointed the enemy's vulnerabilities, and provided propagandists with current intelligence that proved critical to the Allied assault against enemy morale. ATIS linguists also critiqued Allied propaganda, wrote Japanese language leaflets, served as interpreters at POW encampments, and through prisoner interrogations provided much-needed feedback on the impact of Allied propaganda.

In SWPA, two military organisations engaged in psywar operations designed to demoralise enemy forces and reduce Japan's military effectiveness. The Far Eastern Liaison Office (FELO), established in June 1942, was an Australian organisation headed by Lieutenant-Commander J.C.R. Proud (RANVR). Initially consisting of five people, FELO grew to 474 personnel by the end of the war, including 105 New Guinea natives and five Japanese prisoners. Originally identified as Section 'D' of the Allied Intelligence Bureau, FELO was soon separated from that agency and became a 'semi-independent' organisation under the command of the Australian Chiefs of Staff and directly responsible to the commander, Allied Land Forces, General Thomas Blamey.[17] Two years later in September 1944, in anticipation of his return to the Philippines, General MacArthur approved the creation of the Psychological Warfare Branch (PWB), which consisted primarily of American military personnel and was commanded by Brigadier-General Bonner F. Fellers. Propaganda operations in the theatre were then coordinated at GHQ, SWPA. For both FELO and PWB, leaflets were the primary weapons of persuasion—weapons designed to convince Japanese that the war was unwinnable and continued resistance would lead to Japan's destruction rather than victory. For both organisations, ATIS provided the raw materials from which the finished product came and often evaluated the quality of the propagandists' output by assessing the credibility of the message as well as the accuracy of its presentation in Japanese.

16. Exploitation of Japanese Documents, 1-2, 57; ATIS Progress Report, A; Intelligence Series, ATIS, 16ff.
17. 'Report on Activities of Far Eastern Liaison Office for Period June 1942 to September 1945', 1, Bonner F. Fellers Papers, box 2, Hoover Institution on War, Revolution, and Peace, Palo Alto, California. For a more detailed discussion of the organisational relationship between FELO and AIB see Alan Powell, *War by Stealth: Australians and the Allied Intelligence Bureau, 1942-1945* (Melbourne: Melbourne

American psywar personnel received their first introduction to propaganda operations from Australians when, in 1944, the PWB handed seventeen officers and twenty enlisted men over to FELO for 'basic training'.[18] FELO's indoctrination course, coordinated by Commander Proud, stressed both psywar methods and the need to understand the target audience. It outlined the rules of propaganda creation, described the variety of preliminary intelligence needed for optimal psywar planning, and provided an outline of the stages of development that comprised an effective propaganda campaign. Above all else, FELO indoctrination emphasised the importance of timing. 'The crux of the whole program', concluded Proud, was 'the right leaflet at the right place at the right moment.'[19] The second requirement was intimately related to timing: psywar must be perceived as 'one of the fighting forces', a weapon to be used operationally in light of local situations. Proud drilled into his students that successful psywar began with the collection of intelligence relevant to a particular operational area. It then proceeded through a planning stage six to eight weeks prior to the start of a military campaign, which focused on determining the enemy's susceptibilities based on current intelligence. Propagandists then devised specific propaganda themes to exploit identified weaknesses in enemy morale. Upon completion of its psywar training course, FELO assigned nine Australians to PWB to serve as the nucleus of the new American unit.[20]

As head of the PWB, General Fellers combined the insights gained from Australia's field experience through two years of war with Japan, with his own study of Japanese military psychology at the US Army Command and General Staff School in the 1930s, and outlined four stages in conducting an effective psychological warfare campaign.[21] A closer examination of these four stages highlights the crucial role played by ATIS in Allied propaganda operations. First, Fellers wrote, effective psywar required a 'detailed knowledge of enemy psychology'. Second, propagandists must recognise the enemy's psychological vulnerabilities. In the third stage, propagandists must select 'decisive psychological objectives', and finally, time their propaganda properly and be sure the facts are clearly and logically presented. Beyond that, he emphasised that propagandists must continually reevaluate and revise their output as dictated by current intelligence

18. Report on Activities of FELO, 38.
19. 'Notes Recorded on Indoctrination Course in Psychological Warfare Given by Officers of the Far Eastern Liaison Office', 3, 15-17, NARA, RG 331: Records of Allied Operational and Occupational Headquarters, World War II, General Headquarters, South West Pacific Area, entry 283 L, box 31.
20. Report on Activities of FELO, 38.
21. Written in 1935, Fellers' study, entitled 'The Psychology of the Japanese Soldier', outlined his thinking about the Imperial Japanese Army in the 1930s and contained ideas that continued to hold sway throughout his tenure as head of PWB. Fellers' study is included as annex 23 of his 'Report on Psychological Warfare in the Southwest Pacific Area, 1944-1945' (Washington, DC: US Army Center of Military History, Historical Records Branch, 1946). This report is located in the US Army Center of Military History, Historical Records Branch, Washington, DC; the MMBA; and in the Bonner F. Fellers Papers.

estimates. In each of Fellers' four stages, as well as the process of evaluation and revision, ATIS was an integral part of the process of propaganda creation.[22]

What Mashbir once said of intelligence agents applied equally well to propagandists—they must be able to put themselves inside the enemy's brain. In order to anticipate the enemy, Mashbir said, 'your knowledge of his character and psychology must be so profound as to permit you to deduce his probable intentions'.[23] ATIS's many reports and publications enhanced propagandists' understanding of the Japanese enemy. ATIS wrote, for instance, a five-part report intended by its authors 'to give a rounded and documented exposition of Japanese military psychology'. Totaling nearly 200 pages, it contained a wealth of information on the history and traditions of the IJA as well as the training and indoctrination of its soldiers. It revealed both the historical roots of the custom of self-immolation and the reasons behind its continued practice during the Pacific War, assessed the role of the 'emperor cult' in Japanese indoctrination, and discussed the ramifications of the 'death before dishonour' philosophy of Japan's fighting forces.[24] Taken as a whole, ATIS's report on Japanese military psychology provided a wealth of information for combat propagandists seeking to understand the ostensibly 'inscrutable' Japanese enemy.

The second step in planning, according to Fellers, involved pinpointing the enemy's psychological vulnerabilities. Here again, ATIS gave propagandists the means to search for weaknesses in the Japanese psyche. Propagandists scrutinised ATIS's 'Current Translations' (excerpts of captured documents) for information on the status of enemy morale as revealed in diaries and official Japanese army and navy communications. ATIS's 'Enemy Publications' (verbatim translations of Japanese military manuals, intelligence reports, or operational orders) supplied propagandists with evidence of the debilitating effects of interservice rivalries, discipline and morale problems, strained officer-enlisted men relations, and supply shortages on Japan's war effort. Enemy documents also called attention to the Japanese army's reliance on corporal punishment, which by its own admission had a decidedly negative impact on the morale of enlisted men. ATIS 'Research Reports' documented Japan's use of 'false rumours' to raise morale, the medical corps' practice of killing sick and wounded troops, and assessed the psychological impact of bombing, disease, and food shortages. ATIS reports thus helped psychological warfare personnel develop a realistic appraisal of the mental well-being

22. Fellers, 'Report on Psychological Warfare in the Southwest Pacific Area, 1944-1945', Annex 22: Basic Military Plan for Psychological Warfare in the Southwest Pacific Area, 1-4.
23. Mashbir, *I Was An American Spy*, 33.
24. ATIS, SWPA, Research Report no 76 (5 parts), April 4, 1944-February 24, 1945, MMBA, RG 3, box 119.

of Japan's field forces.[25]

Step three in Fellers' prescription for effective psywar called on propagandists to establish specific objectives based on their understanding of the enemy's frailties. The PWB outlined over twenty such objectives, which included efforts to increase Japanese doubts about their leaders, convince the enemy that their spiritual strength was not adequate to overcome Allied material superiority, heighten interservice rivalries, and show that the emperor had been exploited and betrayed by the 'militarists' (Imperial Japanese officers who controlled the government and were responsible for initiating the war in Asia and the Pacific).[26] In pursuing these goals, the PWB sought to exploit the psychological weaknesses exhibited by Japan's fighting forces—weaknesses caused by the military defeats and physical hardships inflicted upon them by conventional Allied forces and then exposed by intelligence organisations such as ATIS.

The final step in Fellers' formula for effective psywar stipulated that propagandists time their operations carefully and present the facts logically and clearly to the enemy. Again, ATIS sources frequently revealed the whereabouts and state of morale of enemy troops, thus dictating which leaflets were most appropriate for distribution to a given enemy unit. As for the presentation, whenever possible ATIS linguists screened Allied leaflets to ensure that the language was properly employed, the calligraphy was written correctly, and the message was appropriate for a Japanese audience. In every respect, ATIS enhanced Allied efforts to uphold Commander Proud's dictum that the key to effective propaganda operations was 'the right leaflet at the right place at the right moment'.

The New Guinea campaign provided the first opportunity for FELO to engage in extensive propaganda operations in the field. FELO began its field work in Papua, New Guinea soon after its establishment in June 1942, making its first propaganda leaflet drop on Japanese troops retreating along the Kokoda Track and establishing its first forward office at Port Moresby in November 1942.[27] All told, FELO dropped millions of leaflets and captured 3,367 Japanese POWs in New Guinea, 798 of whom attributed their willingness to surrender to Allied propaganda.[28] Subsequent analyses of ATIS interrogations of prisoners taken in New Guinea revealed a substantial number of interesting preliminary findings on the volatility of Japanese morale, discernible

25. See, as examples, ATIS, SWPA, Research Reports no. 94: Psychological Effect of Allied Bombing on the Japanese; no. 117: Infringement of the Laws of War and Ethics by the Japanese Medical Corps; no. 122: Antagonism Between Officers and Men in the Japanese Armed Forces; also ATIS, SWPA, Enemy Publications no. 237: Personal Punishment and Military Discipline-Court-Martial Judgments, 2 Army; nos. 285 and 300: Lessons from New Guinea Operations; and no. 336 Extralegal Punishment. All located in MMBA, RG 3.
26. PWB, SWPA, Daily Collation Summaries, NARA, RG 331, entry 283 L, boxes 7-14.
27. Notes on FELO Indoctrination Course, 35; and Report on Activities of FELO.
28. Report on Activities of FELO, 12.

trends in enemy morale in connection with specific morale factors, and the presence of a continuum of 'personality profiles' among Japanese combatants. In each case, ATIS reports proved that at least some Japanese were susceptible to psywar operations and were remarkably useful in Allied efforts to devise more convincing propaganda messages.

Studies of ATIS interrogations of prisoners captured in New Guinea between February and November 1943 showed that Imperial Japan's armed forces were comprised of men with varying dispositions and tendencies and that each individual soldier possessed a unique level of morale that fell along a continuum, which included 'examples of unshaken patriotism and morale at one extreme and defeatism and anti-war sentiment at the other'. The Foreign Morale Analysis Division (FMAD, a section of the US Office of War Information) classified the prisoners taken in New Guinea in 1943 into four 'personality profiles' based on their responses under ATIS interrogation. The first group consisted of men who exhibited 'positive morale'. Prisoners in this category generally enjoyed military life; saw themselves as effective soldiers; were not despondent about Japan's losses in New Guinea; had faith in Japan's mission in Asia; expressed confidence in their immediate military superiors, the high command, and Japan's political leadership; and remained convinced that Japan would win the war. Men with positive morale were also unimpressed with Allied propaganda leaflets and did not discuss their contents with other soldiers.

The second category of Japanese POWs was comprised of men who exhibited 'changing morale' levels. These individuals tended to believe that their military reversals in New Guinea were simply the consequence of Japan extending itself on too many fronts and had no broader significance in terms of strategic implications. Some of these prisoners also confessed to some war weariness, however, acknowledging that their initial enthusiasm for the war and Japan's leaders had deteriorated over time and that they had become more cynical and concerned about Japan's military prowess and its likelihood of ultimate success. Men in this group also asserted that they found Allied propaganda amusing and poorly worded and said they were unaffected by it.

FMAD's third category of Japanese included those who were characterised as having 'passive morale'. Prisoners in this group stated that they fought only because they were conscripted, had never been enthusiastic about the war, did not like soldiering or the military, believed one's duty did not extend to killing oneself to avoid capture, and were not markedly influenced by Allied propaganda.

Finally, FMAD identified those with 'poor morale': men who were bitter about being conscripted, did not see themselves as effective soldiers, perceived the war as 'utterly futile' or even the result of Japanese greed and aggression, were appalled by the privations they suffered in New Guinea, felt their superior officers had no regard for the troops' well-being, believed Japan could not win the war, and eagerly read Allied

propaganda leaflets and discussed them with others. Some of these men had become so demoralised that they confessed to having deliberately exposed themselves to capture or death just to 'get it over with'. In short, one FMAD study concluded, 'as long as he does not possess an army of automatons or robots, as long as he must depend on human beings, with all the range of temperament, suggestibility, courage and hardihood that this implies, there are weak spots in his armour, chinks which psychological warfare strives to locate and exploit'. [29]

The small numbers of Japanese combatants who were taken captive in New Guinea between September 1942 and April 1943 were badly wounded, unconscious, unarmed, or otherwise unable to resist. As the campaign progressed, however, larger numbers of Japanese prisoners were taken and found to be in much better physical condition at the time of their capture, thus exhibiting less willingness to resist. Even so, nearly all Japanese prisoners captured in New Guinea (or elsewhere, for that matter) believed that being taken prisoner was 'the greatest single evil that could have befallen them' and expressed no desire to return to Japan or have their families informed of their fate.[30] That never changed. Other facets of Japanese thinking, however, proved to be more malleable.

As operations in New Guinea wound down, careful analysis of ATIS reports on the campaigns there revealed that between July 1942 and May 1944 'the Japanese in New Guinea moved through a complete cycle, materially and in terms of morale'. As Japan's initial advances and combat successes were followed by a long period of physical hardships, greater isolation, increased air attack, and finally outright defeat, the psychological and emotional well-being of Japanese combatants underwent a parallel collapse. 'The extremes of success and failure during this period', said one report, 'made possible a study of Japanese morale under diverse conditions.'[31] Some analysts in 1944 hypothesised that this pattern of emotions might repeat itself in future campaigns and even suggested that Japanese civilians might exhibit a similar pattern of responses over time. Just as combatants in New Guinea became progressively less confident in victory as military reversals and supply shortages mounted, intelligence analysts surmised that Japanese civilians might fight bitterly at first, but as the Allies cut Japan off from its empire, the intensity of the air war increased, and realistic hope

29. US, Office of War Information, Foreign Morale Analysis Division (FMAD), Report No. 19, 'Group and Individual Morale of the Japanese During the Lae-Salamaua Campaign', 12 May 1945, 24-37, NARA, RG 331, entry 283 K, box 9.
30. US, Office of War Information, Foreign Morale Analysis Division (FMAD), Report No. 18, Aspects of Japanese Fighting Morale during the Papuan Phase of the New Guinea Campaign, April 23, 1945, 26, NARA, RG 331, entry 283 K, box 9.
31. US, Office of War Information, Foreign Morale Analysis Division (FMAD), Report No. 20, Factors Affecting Japanese Morale during the Aitape-Hollandia Campaign, June 10, 1945, 3, NARA, RG 331, entry 283 K, box 9. See also FMAD Report No. 19, 18-19 for a summary of Japanese POW attitudes toward capture.

of victory faded, Japanese civilians might become more willing to give up the fight, as seemed to be the case in New Guinea.[32]

Beyond the evidence of Japanese demoralisation, ATIS intelligence pinpointed specific conditions that eroded morale as well as those that sustained Japanese fighting spirit over time. Multiple studies of prisoners and documents captured in New Guinea showed a rising level of demoralisation due to immediate battlefield circumstances such as combat reversals, supply shortages, and the absence of air support, though most remained confident in more remote or ideological issues such as the righteousness of the war, the inviolability of the Japanese Emperor, the competence of the nation's political leaders, and the commitment of the Japanese home front to the war effort. In short, captured documents and prisoner interrogations confirmed that the 'tenor of criticism grows more intense as the person or group under discussion becomes less exalted and remote'. While 'the Emperor had no critics', concluded one wartime study, the immediate military superiors of Japanese prisoners were widely condemned for their failure to provide effective leadership and adequate supplies to the men in the field. Among the vast majority of Japan's front line troops in New Guinea there also developed early on a 'lively skepticism concerning the reliability of the news' they received.[33] And as Japanese troops became more suspicious of official reports disseminated within their own camp, the more hungry they became for any source of news and the more willing to put credence in Allied propaganda, particularly FELO news leaflets, which dominated propaganda operations throughout 1943.

Japanese combatants in New Guinea also lost confidence in their weaponry and war material, and there was a total collapse of morale with regard to issues of health and well-being as disease, malnutrition, and abysmal medical services took their toll on Japan's fighting forces. Even more significant was the growing number of prisoners who began to exhibit a loss of faith in ultimate Japanese victory during the final months of fighting.[34] Nonetheless, Japanese troops, even those who were dispirited and seemingly devoid of hope, retained faith in the righteousness of Japan's cause and justified the war as one of Asian liberation from western domination. The documentation also shows that most Japanese soldiers remained intensely loyal to the Emperor, exhibited considerable confidence in the nation's political leadership, and clung tenaciously to the belief that surrender was dishonourable to oneself, one's family, and the nation.[35] Propagandists concluded therefore that since battlefield defeat and physical hardships did not generally lead the Japanese to abandon their most deeply held principles, those principles were resistant to external manipulation and thus not a likely prospect for

32. Ibid., 3, 23.
33. FMAD Report No. 18, 12-13.
34. FMAD Report No. 19, 23.
35. Ibid., 23. See FMAD Report No. 18, 3-14 and Report No. 19, 20-23 for more detailed analyses of the ways in which specific circumstances affected the morale of Japanese combatants in New Guinea.

propaganda operations. Conversely, ATIS intelligence confirmed that as battlefield conditions deteriorated, Japanese troops exhibited a dramatic loss of confidence in the organisational efficiency of the IJA, which had failed to maintain an adequate supply system, provide desperately needed reinforcements, or even communicate reliably with its field forces. As a result, psywar personnel concluded that they were more likely to increase Japanese despair and sense of hopelessness by focusing attention on concrete matters related to the abysmal battlefield conditions confronting the target population, while propaganda themes of a more philosophical or ideological bent were unlikely to produce favourable results.

In addition to contributing to Allied understanding of propaganda themes most likely to demoralise Japanese combatants, ATIS linguists also offered valuable critical analyses of Allied propaganda. Harold Nishimura, a Nisei serving with the US 7th Division Language Team, for example, wrote a lengthy memo in January 1945 assessing the merits of the propaganda disseminated during the Leyte campaign. Noting that ATIS made every effort to elicit POW reactions to Allied propaganda, he stated that the results were 'gratifying'. Nishimura reported that in the late stages of the operation 'nearly all prisoners either surrendered using a leaflet or stated they had read and been influenced by them'. He also noted, however, that of the 127 prisoners taken by the 7th Division, nearly all of them objected to the fact that Allied leaflets contained the word 'surrender'. Indeed, ATIS interrogations revealed that virtually all Japanese objected to surrender leaflets that had the words 'I Surrender' emblazoned on them. Even though the words were in English, ATIS reports showed that Japanese troops understood their meaning and found them offensive. As a result, the standard surrender leaflet was changed to read 'I Cease Resistance'. Nishimura's report also insisted that whenever possible, skilled Japanese Americans should collaborate in the creation of propaganda leaflets since 'very few Caucasians have the necessary insight … to produce effective propaganda. Without a thorough knowledge of the Japanese language', Nishimura wrote, 'the actual composition of the propaganda leaflet is juvenile or contrary to Japanese psychology and language.'[36]

Allied propagandists never completely overcame their difficulties with the Japanese language, although the assistance of ATIS linguists and a growing reliance on POWs helped considerably. Mashbir recalled that some of the early propaganda leaflets exhibited malapropisms that rendered the message meaninglessness, and referred to one author who twisted 'his Japanese aphorisms as completely as though he had used a Mixmaster'. The resulting leaflet, said Mashbir, would have made as much sense to Japanese as saying to Americans: 'Here are some beautiful Vermont maple leaves.

36. Memo, HQ, 7th Division re: Psychological Warfare, January 10, 1945; and report by Harold S. Nishimura, both in NARA, RG 331, entry 283 K, box 14.

Therefore you must surrender because a rolling stone is worth two in the bush.' Mashbir went on to say, however, that ATIS suggestions were 'well received' and the quality of propaganda improved dramatically as the war continued.[37]

The hundreds of interrogation reports issued by ATIS proved immensely valuable for evaluating the results of the propaganda war. ATIS publications included evidence of declining morale in entire units as well as individual prisoners and revealed the extent of Japanese contact with Allied propaganda. During interrogation prisoners often commented on the degree to which they and their comrades had been influenced by the 'war of words' and frequently identified propaganda themes they found persuasive as well as those which did not resonate with the troops. Although POW interrogations confirmed that the quality and effectiveness of Allied propaganda leaflets increased over time, prisoners often suggested ways to improve specific leaflets and in some instances even volunteered to write their own propaganda texts or make front line broadcasts.[38]

Effective psychological warfare depended upon a complex network of Allied personnel who laid the groundwork and provided the wherewithal for assaults against the enemy's mind. The work of propagandists began only after successful military operations had created a susceptible target audience. Once the enemy became physically and mentally vulnerable as a result of successive military defeats, ATIS intelligence highlighted psychological targets of opportunity. Propagandists then organised the data as it pertained to several clearly stated objectives. FELO made use of a collation section to bring together information gathered from various intelligence sources bearing on a particular psywar objective. In this, as in so many other ways, the PWB followed FELO's lead. The PWB's Collation Section, for example, analysed the intelligence amassed by agencies such as ATIS (and parallel units in Asia and the Pacific, e.g. the Southeast Asia Translation and Interrogation Center and the Joint Intelligence Center Pacific Ocean Area) and made recommendations as to how it should be used to achieve PWB's goals. It fulfilled these tasks by creating worksheets known as Daily Collation Summaries that collected and organised intelligence data pertinent to a specific psywar objective.

Just two or three brief examples will illustrate the process at work. ATIS intelligence revealed that Japanese enlisted men frequently accused field officers of abandoning them in the face of enemy attack, deliberately lying to them in an effort to raise morale, and ordering medical personnel to kill sick and wounded troops who impeded military operations. In response, the PWB Collation Section urged leaflet-writers to capitalise on the 'willingness of high-ranking officers to desert their men' while expecting or

37. Mashbir, 339.
38. See Allison B. Gilmore, '"We Have Been Reborn": Japanese Prisoners and the Allied Propaganda War in the Southwest Pacific', *Pacific Historical Review* LXIV:2 (May 1995), 195-215.

demanding that the enlisted men fight to the death. It also recommended the use of propaganda that exposed the lies of Japanese officers, as well as their orders to murder wounded men. PWB responded with a leaflet quoting directly from an ATIS translation of a Japanese officer's orders to 'dispose of all sick and wounded soldiers' in the event of a successful enemy attack. The leaflet labeled this order a 'death sentence' and urged Japanese troops to cease resistance or face certain death, perhaps at the hands of their fellow soldiers and 'by order of your direct superiors'.[39]

Other PWB leaflets attempted to increase soldiers' distrust of their superiors by exploiting false Japanese claims of victory. Leaflets asked how the US Navy was capable of retaking the Solomons, New Guinea, and Saipan if it had been destroyed in 1942 and 1943 as had been widely claimed by Japanese officers? Or how Americans could land in force in the Philippines if their fleet had been destroyed in naval operations off the Philippine coast? Considering these developments, read one such leaflet, do the reports of your military leaders 'seem entirely reasonable to you?'[40]

A final example of the role of ATIS in propaganda creation is revealed through a chain of events that began with an ATIS interrogation report in which a Japanese prisoner stated contemptuously that,

> The Government is trying to create the impression among the men that because they are Japanese and therefore possess the Yamato spirit they cannot lose battles and cannot be destroyed. They shipped us to distant lands—to New Guinea and Guadalcanal—and expected us to win the war with Type 38 Rifles and the Yamato spirit, but without food or airplane protection. Are they expecting five feet of Yamato spirit to overwhelm 500 kg bombs from Consolidated B-24s? This is absurd.

Inspired by this condemnation, the Collation Section recommended a series of leaflets to portray the 'one-sided character of the present struggle' and demonstrate the futility of the war. In this case, the process of propaganda creation culminated with a leaflet describing the history of the Type 38 rifle, which was first used in the Russo-Japanese War, and the advances made in military technology since then. 'Why then', the leaflet asked,

> do you have to fight against automatic rifles with rifles of the bolt-action type? If you had fought with new weapons like the Americans, perhaps tragedies like Leyte might have been avoided. However much spiritual strength you may have, how can you expect to tackle a 500-KG bomb from a Consolidated bomber with a Type 38 rifle?[41]

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39. PWB, SWPA, leaflet 7-J-11, Sandberg-Hallgren Collection, University of Nebraska-Lincoln, Love Library Special Collections.
40. PWB, leaflet 9-J-1: 'Truth of Leaders', Sandberg-Hallgren Collection.
41. PWB, Daily Collation Summary, NARA, RG 331, entry 283 L, box 14; and PWB, leaflet 33-J-1: 'Type 38 Rifle', MMBA, RG 4: Records of General Headquarters, United States Army Forces Pacific, 1942-1947, box 56.

Allied propagandists thus seized an opportunity, as revealed in the enemy's own words, to heighten Japanese despair. In this instance, and many others like it, ATIS laid the groundwork for psywar operations.

By the end of 1944, ATIS had become an indispensable source of intelligence. But the statistical trends did not portend well for the future of this language intelligence unit or others akin to it functioning in Asia and the Pacific. There was growing concern among Allied organisations dependent on ATIS intelligence that the numbers of available Japanese linguists were inadequate, the language skills among linguists recently arriving in theatre were declining, and the sources of future linguists and the instructors to teach them were nearly exhausted, at precisely the same time as the numbers of captured documents and POWs were multiplying. Already by the summer of 1944 ATIS reported that it had accumulated 'a backlog of approximately 200,000 captured documents'.[42]

In December 1944, representatives of the Allies met in Washington DC at the Japanese Document Conference to address the brewing crisis associated with the collection, translation, and exploitation of captured Japanese documents. The Language Personnel Committee, one of several committees created to grapple with various aspects of the Japanese documents problem, concerned itself exclusively with the procurement, training, and employment of Allied language personnel. It concluded that the various language training schools simply could not keep up with the demand for linguists. 'Practically all activities to which language personnel from these schools have been assigned desire personnel increases', the final committee report stated, but the number of people receiving training was not keeping pace with the growing demands. 'As the war against Japan progresses', the committee summarised,

> Allied military operations will be over larger land masses where Japanese will be encountered in increasing proportions. Increasing demand will, therefore, be felt for language personnel who can cope with the linguistic problems of every sort occasioned by this contact. Language personnel will be required not only for military and naval intelligence, but for civil administration, censorship and other purposes. As the presently and prospectively available language personnel are definitely limited in both number and quality, the necessity for considering the procurement, training, utilization and conservation of language personnel, especially for the purposes of military and naval intelligence, at this time is obvious.[43]

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42. ATIS, Progress Report, A. The growing deluge of documents led to a September 1944 reorganisation of ATIS and the creation of a more elaborate system of scanning and screening each captured document to ascertain its significance, thus permitting linguists to translate in full only those considered of immediate value.
43. Report of Japanese Document Conference, 26.

At the time of the Japanese Document Conference (December 1944–January 1945), the total numbers of trained Japanese linguists of 'varying degrees of proficiency' from all sources was determined to be roughly 3,000. Projections were that by January 1946, that number would grow to nearly 5,500; and by January of the following year, perhaps as many as 7,500 Japanese linguists would be available for military duty. Even so, those willing to venture a guess predicted a considerable shortfall in language personnel. The Language Personnel Committee noted that in the coming months of the war, Allied combat units would only exhibit a greater need for linguists as 'the amount of Japanese language intelligence material which will fall into Allied hands will be "tremendous"'. The committee stated that it was impossible to project the overall number of linguists needed by the Allies in coming years, but reported that censorship duty alone was likely to require the skills of at least 2,000 Japanese linguists, and that civil administration was likely to have a 'similarly large requirement'.[44] The committee was also concerned that the 'critical shortage of qualified personnel' in the field meant that mentally and physically exhausted linguists were not being rotated out of active combat theatres and were being denied leave or furlough. What is more, the language skills exhibited by recent graduates of the language schools seemed to be diminishing and the search for students and teachers alike to maintain the flow of linguists from the various national language schools was turning up fewer and fewer legitimate prospects. (For example, in 1944 the average MISLS recruit was familiar with only 300 kanjis whereas their 1943 counterparts began language training knowing 700.[45]) In short, ATIS had fulfilled a critical intelligence need during the slightly more than two years of its existence, but the struggle to acquire skilled linguists would continue for the remainder of the war and on into the occupation of Japan.

It is a well accepted maxim of war that one must 'know the enemy' in order to defeat him. But in the case of Imperial Japan, the process of getting to know the enemy was extraordinarily difficult. Westerners had great difficulty understanding 'exotic' Asian cultures and the 'inscrutable' Japanese people, or so they said. The real problem, of course, was not so much the complexities of Asian cultures and peoples, as basic ignorance. Too few Americans and Australians knew much of anything about Japan in 1941, and considerably fewer could claim even a rudimentary knowledge of the Japanese language. Nonetheless, the language barrier that threatened to keep Allied forces in the Southwest Pacific ignorant of the intentions and capabilities of Imperial Japan was

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44. Ibid., 25-7. The breakdown in numbers for these projections is as follows: of the 5,487 linguists predicted for January 1946, the US Army would provide 3,865; the US Navy 910; the British 287, Australia 140, Canada 135, and 150 would come from other Allied sources. By January 1947, officials hoped to have an estimated 7,502 Japanese linguists: 4,580 trained by the US Army and 1,710 by the US Navy; 537 British linguists; 190 Australians; 235 Canadians; and 250 from other sources.
45. Ibid., 27-30. For an extended discussion of the difficulties in recruiting and training Japanese linguists, see 'MISLS: The Training History', Annex 10.

diminished because of the invaluable contributions of ATIS linguists. The union of two distinct national organisations, one Australian and one American, enabled ATIS to grow to maturity as a truly Allied intelligence unit and its successes exemplify the critical importance of shared knowledge, expertise, and objectives in coalition warfare.

It is unfortunate that despite the significance of their work as translators, interpreters, propagandists, and intelligence analysts, Japanese linguists, most of whom were Nisei, along with the intelligence organisations to which they belonged, remain an historical footnote. Perhaps it is because they were not war heroes in the traditional sense—because, as one historian has observed, 'their weapons were language, skill, and intelligence, not bayonets and machine guns'—that they have failed to receive much recognition.[46] Yet the historical record speaks for itself. ATIS was highly acclaimed by those who relied on the intelligence gathered by its linguists during the war, and who continued to depend on ATIS during the occupation that followed. MacArthur himself reportedly told a Mashbir confidant, 'I am Mashbir's most avid reader. In fact, I imagine I have read every word that he published'.[47] While it is safe to assume that MacArthur did not in fact read the millions of pages of intelligence ATIS produced, the remark is nonetheless indicative of the value he placed on the organisation and the role it played in conventional military operations. But ATIS was also an integral and indispensable part of the process of propaganda creation and evaluation, for its linguists provided the bulk of the intelligence that enabled propagandists to know the enemy, pinpoint his vulnerabilities, devise convincing propaganda, and assess the results of psychological warfare operations.

46. Ano, 'Loyal Linguists', 287.
47. Mashbir, *I Was An American Spy*, 240.

‘A Fatalistic Bloke’: Australian AttitudesTowards the Japanese in New Guinea, 1943–1944

Mark Johnston

According to the military historian John Laffin, Australians of the Second AIF often discussed their enemies.[1] He had fought the Japanese himself, and other Australian soldiers’ writings bear out his assertion. Letters and diaries penned in 1943 reveal a complex set of experiences and attitudes. That is not surprising, considering that Japanese and Australians were fighting almost continuously in 1943, and that tens of thousands of Australians were operating in close proximity to Japanese. This chapter will concentrate on attitudes in the period from September 1943 to January 1944, when the 7th and 9th Divisions fought large-scale campaigns against the Japanese in New Guinea.

I want to start with a reflection about attitudes towards the Japanese in 1942. An illuminating article on this topic appeared in *Army* magazine in December 1943. The article is entitled ‘Moral Advantage’, and the setting is Papua in late 1942, as a section of infantrymen are sitting down to a meal. One of the men, Private Skilly, is talking about how best to tackle the Japanese. His tired mates try to change the subject even though, the anonymous author says, they are sympathetic to the speaker. ‘Everyone had a theory about the Nips’, the article says. ‘There were theories on what made them tick’, it continues, ‘theories about how to trick them; theories on the way to reach Tokio in the shortest time; theories—or perhaps you might call them certainties—on their ancestry and immediate parentage, which were always under question.’[2]

Private Skilly’s theory is built on the notion that the Japanese were ‘just ordinary civilians thrown into uniform … just like we are’. He argued that in civil life, though, most Japanese were simple people, peasants. If the Australians ‘blitzed them’, by which he meant attack them, then the Japanese would collapse. He used this analogy: ‘Human

1. John Laffin, *Forever Forward* (Newport, NSW: 2/31st Battalion Association, 1994), 10.
2. Anon., ‘Moral Advantage’, *Army* (December 1943), 38-9, at 38.

beings are just like dogs. You blitz a savage dog on sight, without waiting to let him find out you're scared of him, and—.'[3] His mates didn't let Skilly finish. However, in the story, he and his acolyte, Wicks, are proved right at Gona shortly afterwards. Japanese surround their patrol in large numbers but Skilly and Wicks launch an unexpected and entirely successful attack. To persuade his mate to attack with him, Skilly says, 'It's the best time [to try out theories]. Don't you reckon you're worth a dozen of these filthy little—.' Wicks nodded and replied, 'Two dozen'.

This sounds like boys' own fantasy, but it is based on fact. Skilly and Wicks are thinly disguised pseudonyms for Les Crilly and Stan Weeks, both of whom won Military Medals at Gona in just such an action with the 2/14th Battalion.[4] The article shows us that Australians were still trying to fathom the Japanese at the end of 1942.

By then they had already had a good deal of practice. It is undeniable that when the 2nd AIF went to war with the Japanese in Malaya in January 1942, many of its troops suffered from a racist ignorance and complacency. When confronted with the reality of a tough and daring opponent, Australians of the 8th Division fought hard, but could not avoid defeat. By the time of the campaigns in Papua in late 1942, Australian soldiers were no longer complacent. They knew that their lives depended on an accurate and sober assessment of Japanese fighting qualities. Some *over*estimated Japanese abilities, but as we all know, by early 1943, the Australians had won the Papuan campaign, with substantial American assistance.

A little book about that extraordinary campaign was produced for Australian soldiers serving overseas in 1944, as part of a series called *The Australian Army at War*. The title page called this 'An Official Story of the Australian Soldier—First Victor of the "INVINCIBLE" Jap'. The book was entitled *The Jap Was Thrashed*.

That arresting title has some basis in statistics, for in that campaign the Japanese lost more than 13,000 killed, while the Australians suffered about 5,700 casualties.[5] Given the paucity of Japanese supplies, their inability to escape, their unwillingness to surrender, and the Australians' unwillingness to accept surrender, the high Japanese casualties are not surprising. But do these figures mean that the Japanese were 'thrashed'? Were they losers in a one-sided contest? No. Had they been so, these campaigns would not be as famous as they are, and General Blamey would not have written on the inside cover of this official story: 'Australian troops had never previously been called upon to perform a harder task than that which faced us in New Guinea in the latter half of 1942.'

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3. Ibid.
4. Information supplied by Mr John Crilly, son of Les, who also kindly alerted me to this article.
5. Dudley McCarthy, *South-West Pacific Area* (Canberra: Australian War Memorial, 1959), 531; Gavin Long, *The Six Years War* (Canberra: Australian War Memorial, 1973), 249n.

At the sharp end, too, Australians knew that the Japanese had been extremely hard to beat. For example, in the very first week of 1943, a tired and wet trooper of the 2/7th Cavalry Regiment sat in a foxhole near Sanananda and wrote up the day's events in his diary. His name was Ben Love. Japanese were just 40 yards away, so close that shrapnel from Australian artillery had wounded two of Love's comrades that day. Half of his troop had been evacuated sick, wounded or dead in the three weeks since arriving at the front. Love found time to muse on the enemy: 'How these Nips have stood the shelling [,] rain, and lack of food these last 2 weeks is a "plurry marvel".' [6] After a week more of it, he conceded: 'He is a tough nut to crack, this so often despised little yellow chap.'[7] Another week, with the awful fighting for Sanananda at last coming to a close, the trooper expressed his frustration with the Japanese: 'What a peculiar manner these fanatical Jap soldiers display in their utter disregard of lives—their own as well as others. They say all Jap positions are now smashed, it is just a matter of mopping up. This mopping up costs lives against these mad-men.'[8] You might have picked up a contrast in tone here with Private Skilly's comments earlier, but Trooper Love's three exasperated quotations sum up much of the typical Australian attitude to the Japanese by the end of the campaigns on the Papuan beachheads. The Jap was persistent, he was a despised little chap, and he was a fanatical 'madman'.

The Japanese continued to bewilder Australians throughout 1943. I mentioned that tens of thousands of Australians lived, fought and died in close proximity to the enemy in 1943. We might expect that physical closeness to have created a profound understanding of the Japanese, or even sympathy. In fact, as 'Jo' Gullett said in the light of his experiences with the 2/6th Battalion at Wau and Mubo in 1943, 'there was no point of sympathy, no communication between us at all'.[9] This was due less to the formidable language barrier than to Japanese behaviour. For the way of the Japanese warriors puzzled and shocked Australians, and fed their pre-existing racism.

They often described the Japanese as 'fanatical'. For example, in March 1943, a lieutenant in an Independent Company wrote home from New Guinea: 'I have not worked out yet whether the Nip is fanatically brave or idiotically stupid—he has very little regard for life.'[10] That disregard for life was one of the most baffling aspects of the Japanese. Troops of the 7th Division had seen evidence of it in Papua, where Japanese were willing to die in defence to the last man. One of the features that made the Gona-

6. Tpr B. Love, 2/7th Cav Regt, diary 7 January 1943, A[ustralian]W[ar]M[emorial] 3 DRL 7211.
7. Ibid, diary 12 January 1943.
8. Ibid, diary 20 January 1943.
9. Henry Gullett, *Not as a Duty Only: An Infantryman's War* (Melbourne: Melbourne University Press, 1984), 127.
10. Lt A. Crawford, 2/3rd Independent Coy, letter 17 March 43, Mark Johnston's collection [hereafter cited as MJC].

Buna-Sanananda fighting so appalling was what the official historian describes as 'the fixity of purpose of the Japanese for most of whom death could be the only ending'.[11] The matter-of-fact way in which those men faced death is exemplified by their use at Gona of their comrades' corpses as protection on the parapets, as firesteps in the slime, and as a storage surface for food and ammunition.[12]

When the 7th Division fought for Lae and the Ramu Valley in 1943, they saw more examples of that outlook. The number of Japanese captured in this campaign and the 9th Division's simultaneous operations totalled fewer than 100.[13] Here are three anecdotes that illustrate the typical behaviour of Japanese faced with capture. On 7 October 1943, two patrols of the 2/33rd Battalion were in the foothills of the Finisterres. Three men in one patrol saw a Japanese soldier trying to cross a stream from the opposite bank. They called on him to raise his hands. Instead the Japanese unslung his rifle and made to shoot: he was killed. The other patrol, at platoon strength, found a Japanese asleep on a small knoll about 50 metres away. They crept towards him, intent on taking a prisoner, only to see him suddenly sit up and reach for his rifle—he was shot dead. The battalion historian who records these incidents concludes: 'Such was the Japanese soldier. Both of these could have been taken prisoner and the chance was offered them … Japanese [were] incapable of surrender.'[14]

A second illustration of Japanese attitudes to death. On 12 October 1943, Australians of the 2/14th launched a bayonet charge along a narrow path at King's Hill. Ten Japanese defending the hill jumped off and fell hundreds of feet to their deaths. This was a gesture that one Australian wartime publication says was typical on the cliffs of the Finisterres.[15]

A third story concerns one of the best-known episodes of the Finisterres campaign, the capture of a Japanese gun on Mount Prothero. An Australian stretcher-bearer who had evacuated some of the many casualties caused by this gun witnessed the clearing of the enemy dead from the gun-pit:

> Dead Japs lay every-where [he wrote], piled on top of each other. Some had limbs blown right off … There were some in a small store-room under the floor—killed by blast. The Batt. lads hauled them out of the gun-pit, by tying a rope to a leg, and one of them

11. McCarthy, *South-West Pacific*, 508. He says this in reference to Sanananda, but the point applies to all the fighting in the area. See, for example, McCarthy, *South-West Pacific*, 443 re Gona, 484 re Buna.
12. Raymond Paull, *Retreat From Kokoda* (Melbourne: Heinemann, 1958), 295; Victor Austin, *To Kokoda and Beyond: The Story of the 39th Battalion 1941-1943* (Melbourne: Melbourne University Press, 1988), 203; Lida Mayo, *Bloody Buna* (London: New English Library, 1975), 130.
13. My estimate based on the official histories.
14. William Crooks, *The Footsoldiers: The Story of the 2/33rd Australian Infantry Battalion, A.I.F. in the War of 1939-45* (Brookvale, NSW: Printcraft Press, 1971), 321-2.
15. Anon., *Reconquest* (Melbourne: Director General of Public Relations, 1944), 118, 123. This incident may actually have occurred on Pallier's Hill.

> received a big shock when on tying the rope around the Jap's leg, he felt warmth in the leg. They hauled the Jap out, and found him dazed with his only wound a small piece of shrapnel in his left wrist. Brigade [HQ] was offering £5 for a prisoner and so the lads thought they had a fiver worth on hand—until the Jap started biting and kicking. When he started this performance, one of the lads stepped back a pace and gave him a short burst of his Owen gun. They threw the Jap into the big hole with his mates, before he had finished kicking.[16]

These three stories show Japanese defying death, as in 1942. However, they also express what Australians identified as a new mood in 1943. The 2/33rd patrols that killed the two Japanese were part of a battalion advance. A few days later, the unit found that the Japanese had unaccountably retreated from good defensive positions: a tendency that had been apparent since the 7th Division landed at Nadzab and marched on Lae.[17] The cliff-jumpers too had chosen to run rather than fight on ground that was superbly suited to defence.

The Mount Prothero gun also exemplified a Japanese failure to make the most of their defensive positions. The Japanese did not patrol the difficult but obvious approach path that the Australians took in capturing the gun, and indeed did not patrol the entire Shaggy Ridge area sufficiently, being content to wait in their defences.[18] Many Japanese fought hard in the Ramu and Finisterres, and they chose their ground well. However, it is little wonder that a veteran of the Kokoda and Gona fighting wrote as he left the Ramu Valley in January 1944: 'And so I've finished a 3-month campaign which will always be remembered by me as the easiest fighting I've been in so far.' As partial explanation, he said that Australian 'organisation and supply were well nigh perfect'.[19]

Few men of the 9th Division would have said that of the organisation of their campaign in the Huon Peninsula, and particularly of the early stages when rations were scandalously inadequate. The results of the campaign were similar, although the 9th Division's experience with the Japanese was bound to be different in some respects, for they had no previous experience against the Japanese. Before their landing on the Huon Peninsula, the 9th Division expected a really difficult task, as they knew that the Japanese had not been thrashed in 1942. A member of the 2/43rd Infantry Battalion later recalled that while he and his mates trained for the landing at Lae, they tended to believe the many horror stories they heard about jungle warfare against the Japanese. In retrospect he was surprised that there weren't mass applications for transfer to base units, but argued that 'most of us anticipated the next campaign with considerable trepidation'.[20] Just after the actual landing, another infantryman in the division wrote

16. Cpl F.T. Wade, 2/5th Field Ambulance, diary 22 January 1944, MJC.
17. See, for example, Frank Rolleston, *Not a Conquering Hero* (Eton: Frank Rolleston, 1984), 163.
18. Long, *Six Years War*, 351; *Reconquest*, 132.
19. Sgt C.E. Edwards, 2/27th Bn, diary 7 January 1944, MJC.
20. Allan Jones, 'A Volunteer's Story', unpublished memoir, 1988, 227.

in his diary that when the men heard rustling in the trees, they asked themselves: 'were the Japs infiltrating to cut our throats in our shallow weapon pits as we were told so much about back in Australia?'[21]

Once the two sides clashed, the Australians found their opponents baffling. Like the 7th Division men, they were shocked by the apparent Japanese fondness for suicide. The 2/24th Battalion was dug in one night when a Japanese rose from a foxhole in their midst, shot and winged one man, and then killed himself with a grenade.[22] This action seemed foolhardy, but at least partly rational, unlike a case reported by Private Fred Camarsh during the advance towards Sio. A grenade had exploded just before dawn within Australian positions. Two young Japanese were found dead. Camarsh wrote:

> They had sheltered the night in [a] bunker in the heart of our perimeter … They had then stood together, face to face, placed the grenade to their chests and pulled the pin … We wondered why they had not waited, used their grenade to better effect and then gone for a break.[23]

The Japanese predilection for futile suicide, exemplified here, was still more outlandish to Australians than reckless attacks and 'fanatical' defence.

Even when Japanese surrendered, their subsequent behaviour seemed odd to Australians. Japanese prisoners did not follow the international convention of maintaining a strict silence on all but name, number and unit. Instead they frequently gave valuable information, as in this example reported by Corporal Jack Craig of the 2/13th:

> Another Jap caught has dropped his 'guts' in a big way. He has informed HQ where all their troops are, who they are, Generals names & everything. He said he knows his mates will be killed after giving this information but war was war & the Australians have been very kind to [him] … This information was found to be correct.

Given that Australians were so committed to the idea of loyalty to their mates, it is not surprising that Craig concluded this description with the comment: 'I think they are crazy.'[24] It is also no surprise that monetary rewards were offered for prisoners, as mentioned in the Prothero quotation.

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21. See Mark Johnston, *Fighting the Enemy* (Cambridge: Cambridge University Press, 2000), 106. Some sailed into this campaign very confident of success: David Dexter, *The New Guinea Offensives* (Canberra: Australian War Memorial, 1961), 328.
22. R.P. Serle, *The Second Twenty-Fourth* (Brisbane: The Jacaranda Press, 1963), 289.
23. Pte F. Camarsh, 2/17th Bn, diary 10 January 1944, MJC. Similar: H.D. Wells, *'B' Company Second Seventeenth Infantry* (Toowoon Bay, NSW: H.D. Wells, 1984), 165.
24. Cpl J. Craig, 2/13th Bn, diary 30 November 1943, MJC. Also on giving information: Dexter, *New Guinea Offensives*, 520; McCarthy, *South-West Pacific*, 517; Russell Mathews, *Militia Battalion at War* (Sydney: 58/59th Battalion Association, 1961), 173.

Such enticements were offered because of a Japanese reluctance to surrender, but also because of an Australian reluctance to take prisoners. Australians regularly shot Japanese rather than capture them. To take just one example that appeared recently in a Melbourne publication, *Tobruk House News*. A 9th Division veteran of Tobruk, Alamein and New Guinea was asked whether the Japanese were a different enemy than the Germans. 'Yes', he replied. 'After the battle of El Alamein I was sent to take four German prisoners to the rear in the back of a truck. It was just me and them but I felt quite safe. The Japanese, on the other hand, neither gave nor expected mercy. We took no prisoners and nor did they.'[25] Such explanations cannot prevent modern readers from being somewhat bewildered by this Australian behaviour and attitude.

This behaviour is well illustrated by two stories that appear in a wartime diary kept by Captain J.J. May during the fighting at Wau early in 1943. At the airfield he saw a prisoner wearing a notice round his neck on a piece of cardboard. Printed on it, above the signature of Brigadier Moten, were the words: 'I am not a Jap P.O.W. I am a Korean a prisoner of the Japanese and made to be a carrier for them. I have given valuable information.'[26] The need to make such a sign is itself a sign of Australians' homicidal feelings towards Japanese. May was responsible for the loading of wounded men on air transports from the Wau airfield during the hard fighting there in January 1943. He was approached one day to make room for six Japanese prisoners who would soon arrive, bound together, and who were to be taken to Port Moresby for questioning. The Japanese did not come at the expected time, but eventually:

> A soldier appeared with his rifle slung over his shoulder and looking at the ground told me that they would not be coming. I blew off what the bloody hell do you mean you ask us to make room for you and now you don't want it. One could sense something was wrong and it very shamefacedly came out, they had been killed, a soldier had opened up on them with a Tommy gun and shot the lot. The boys and I were pretty aghast at this and we said they had been tied up; the poor messenger was also rather stricken and tried to explain how it happened. A soldier that opened up had his mate killed alongside him during the night. It somehow cast a dark shadow over us including the poor B who had to tell us.[27]

Australians did not take prisoners because of the tit-for-tat aspect mentioned by the Rat of Tobruk, because of the anger at the killers of mates mentioned at Wau, because of the logic of close fighting in the jungle, because of the tendency of Japanese men to offer fake surrenders and then try to kill approaching Australians. Most of all though,

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25. Interview with William Nathan Tolliday, ex 2/32nd Bn, *Tobruk House News* 19 (June 2002), 16. Numerous other examples can be found in my *Fighting the Enemy*.
26. Capt J.J. May, 2/10th Field Ambulance, diary 1 February 1943, AWM PR87/135.
27. Ibid., diary 30 January 1943. See also the story told by Bill Crooks in Eric Bergerud, *Touched with Fire* (Harmondsworth: Penguin, 1997), 423-4.

they killed prisoners because of fear and anger engendered by Japanese brutality. That brutality was most evident in 1942. The nature of the 1943 campaigns allowed the Japanese few opportunities to maltreat prisoners, because most of the time they were retreating from the Australians.

Which brings us back to a point of similarity between the 7th and 9th Division experience against the Japanese. Australians were not only bewildered by much of the Japanese behaviour, but also felt that it reflected a poor ability as fighters. Needlessly committing suicide was one example, dropping one's guts as a prisoner was another. Corporal Jack Craig witnessed two others. After their edgy first night, in his unit's first day of combat against the Japanese at Scarlet Beach, he was involved in an action in which 'a heap of Japs screaming "banzai" and charging down a track' were annihilated at no cost to the Australians.[28] Later he met soldiers of the 2/28th who reported a Japanese habit of blowing a bugle that warned the Australians of their approach. Unusually, these Australians did not want to be relieved from their front-line position on the Sattelberg Track, for the bugle was giving them perfect warning of attacks into their sights. Craig wrote:

> … they were having a great time knocking off Japs as they attack 6 abreast down the Track. They say it is like shooting sitting rabbits … They have been warned by their C.O. that the man that shoots "Merv's" [the Japs'] bugler will be courtmartialled. He blows his bugle just before his attack & during it. The attacks are always attempted at exactly the same time …[29]

Men of the 2/28th at that time were heard saying 'the Jap's only a fourth rate Italian'.[30] Vickers gunners of a sister battalion, the 2/32nd, were said to have become 'almost hysterical with joy' on Pabu Hill when day after day groups of Japanese continued to walk to their deaths along the nearby track—heedless of the piles of Japanese corpses around them. Australian onlookers were 'speechless with astonishment' that the Japanese did not change their approach, and that the soldiers in the forward positions did not warn their compatriots of the danger.[31]

After the 9th Division's first efforts against them, at Lae, a unit diarist asserted: 'The enemy has done nothing to entitle him to our respect during the operation.'[32] Tom Derrick, who was destined to win a Victoria Cross against the Japanese, and later to be

28. Craig, diary 23 September 1943, MJC.
29. Ibid, 25 October 1943.
30. Pte J. Butler, 2/23rd Bn, diary 23 September 1943, AWM 3 DRL 3825.
31. Dexter, *New Guinea Offensives*, 651.
32. In Dexter, *New Guinea Offensives*, 391. He does say that not all members of the Division would have agreed, even at this point.

killed by them, wrote scornfully after the fall of Lae: 'Just under a fortnight to take the place from a never surrender fanatical enemy—hooey—our greatest problem was trying to catch up with him.'[33] No doubt there was some self-satisfaction and relief here that pre-campaign trepidation had proved unfounded. Moreover, the Japanese did fight the 9th more stubbornly later, around Sattelberg, where Derrick won his VC. However, the scorn owed something also to genuine surprise at the enemy's inability or unwillingness to hold very defensible positions.

In the last week of 1943, near the end of the 9th Division's campaign, a diarist wrote: *'As usual* he's only fighting rearguard actions and pulls out as soon as we arrive in strength.'[34] This is quite a contrast to the quotation from Trooper Love in the first week of 1943, referring to the Japanese steadfastness as a 'plurry marvel'.

Private Keys of the 2/15th wrote proudly to his sister in October:

> When we came up here we were told how bad the conditions were & what a wonderful fighter the Jap is. Well, Min, the conditions here are 100 per cent better than in the desert … [The Jap] has had everything in his favour, such as high ground, etc. & every time we've met him we have belted him & he has run.[35]

Others made the point that the ground lost by the Japanese would have been held by the Germans, let alone the Australians.[36]

David Dexter's official history volume, *The New Guinea Offensives,* covers the period from April 1943 to mid 1944. He calculates that in that period the Australians suffered 1,231 killed and their Japanese opponents 35,000.[37] The Army's wartime booklet describing the campaigns of 1943-4 was called *Reconquest*, but it could plausibly have been called *The Jap Was Thrashed.* Dexter wrote: 'Any soldier who fought the Japanese cannot but have respect for them as fighters, even though, with the tide turning against them, they did not fight it out to the last, as on the Papuan beaches.'[38] Some Australians did respect Japanese bravery and fighting skill: for example, the battalion historian who acknowledged the courage of a Japanese who had buried three dead comrades despite a severe leg wound; or Jack Craig, whose disparaging remarks were quoted earlier, but who also wrote: 'The Jap is sure making a stand here & taking some shifting. It looked so easy at the start but gets harder every day.'[39]

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33. Sgt T.C Derrick, 2/48th Bn, diary 17 September 1943, AWM PR82/190.
34. In H. Gillan (ed.), *We Had Some Bother* (Sydney: Hale and Iremonger, 1985), 112. My emphasis.
35. Pte C. Keys, 2/15th Bn, letter 4 October 1943, MJC.
36. Allan Dawes, *'Soldier Superb': The Australian Fights in New Guinea* (Sydney: F.H. Johnston Publishing Co., 1944), 44.
37. Dexter, *New Guinea Offensives*, 817.
38. Ibid., xi.
39. John Burns, *Brown and Blue Diamond at War* (Adelaide: 2/27th Battalion Ex-Servicemen's Association, 1960), 184; J. Craig, diary 7 November 1943, MJC.

Yet most Australians expressed little or no respect for the Japanese as fighters in these campaigns, largely because they did not fight it out when at times they could have. In assessing the Japanese, the Australians did not always take into account certain important factors in the result: their own numerical and material superiority, and the Japanese supply difficulties, not to mention the ineptitude of the enemy commanders. To paraphrase another assessment of this campaign, 'Blunder above Bravery' might be taken as the epitaph of those 35,000 Japanese dead.

As mentioned, many Australians at the time spoke of 'fanaticism' rather than bravery. Even Dexter talks of the Japanese as 'a fanatical enemy'.[40] Neither this assessment, nor that of the Japanese as an idiot, made for empathy. Nor did the assessment offered by General Blamey in the foreword to *The Jap Was Thrashed*. The then commander-in-chief of the Australian Military Forces said that in 1942-43 the Australians 'proved their superiority—and that of the white races—over the beast from the Western Pacific'. If the Australian troops who read those words took them to heart, perhaps it is not surprising that so few Japanese were captured. Not that many needed much encouragement, but it is interesting to contrast this with what Private Crilly said to his mates on the Kokoda Trail: the Japanese were quote 'just ordinary civilians thrown into uniform … just like we are'. Both the racist epithet and the cool estimate of Japanese weaknesses probably reflect attitudes that helped to defeat the Japanese.

What is certain is that by the time the article 'Moral Advantage' appeared at the end of 1943, its conclusion about the way Australian front-line troops were thinking a year after Crilly and Weeks had their discussion was accurate. It said to Australians in late 1943 that 'although [the Japanese soldier] was tough, a dogged stickler when trapped in his pill-boxes, he had long been proved "just human." The idea that he was some incredible, super-human kind of fighter had been exploded. He was just a fatalistic bloke with some training and not much brains—but one you had to watch.'

The Australians would have to do more than watch him in their next campaigns, in 1945, but the moral advantage lay well and truly with the Australian and against his frightening, bewildering and death-embracing opponent. In 1943 this enemy had thought himself superior in martial spirit, and believed that this would carry him through against material superiority. He was wrong, for he had underestimated not just the material but also the tactical and moral strength of the Australian Army.

40. Dexter, *New Guinea Offensives*, 817.

Medicine at War: The 'Pivot Years' of 1943 and 1944 in the New Guinea Campaign

John Pearn

Medical issues always influence the outcomes of military campaigns. With lime juice and the prevention of scurvy, the Royal Navy conquered the oceans of the world. By contrast, Napoleon failed in his disastrous Moscow campaign of 1812 when his army was more than decimated by typhus and hypothermia. Of the six million casualties of the First World War, combatants and refugees alike, half died from disease.

Thus it was also in the Second World War campaigns in India and Burma, and especially in those of the South West Pacific. Any historical audit of the years of 1943 and 1944, in the New Guinea campaigns, thus needs include an analysis of the medical themes which were of crucial significance to the outcome of that campaign.

Some military historians of the twenty-first century have referred to the middle years of 1943 and 1944 of the New Guinea campaigns as the 'forgotten years' of the Second World War. Indeed, few Australian youths and young adults know of the Battle of Lae (June 1943), one of the most successful combined amphibious and airborne landings of the entire war. Whereas some twenty-first century students at least know the names of Buna, Gona and Kokoda, few know of the Finisterres or the victories at Nambariwa and Sio on the Vitiaz Strait.

Nevertheless, from the perspective of 100 years of Australian military medicine, these two years (1943 and 1944) witnessed the two greatest technical advances of the twentieth century.[1] The first of these was the first use (in July 1943) of penicillin in

† I thank Mr Roger Lee and Mrs Emma Robertson of the Army History Unit; Ms Margaret Lewis of the Research Centre, Australian War Memorial; and Mrs Lynne Packer of the University of Queensland, all for much encouragement.

1. M. Tyquin, *Little by Little: A Centenary History of the Royal Australian Army Medical Corps* (Canberra: Australian Army History Unit/Australian Military History Publications, 2003).

the field,[2] and the consequent introduction of antibiotics which revolutionised military medicine. The second was the discovery (in 1944) of the effective prevention of the scourge of malaria which had hitherto incapacitated troops in hyperendemic areas. This was achieved by research on the drugs Atebrin[3] and later (in 1945) on Paludrine.[4] These crucial years, in the chronology of military medicine, also saw the disappearance of a supposed psychiatric condition, 'tropical neurasthenia',[5] or 'troppo' in soldiers' vernacular. This condition, hitherto tacitly accepted as a pseudo-medical 'diagnosis' even as recently as 1942, was finally recognised for what it was—a sociological *apologia* for alcoholism and the abandonment of former lifestyle mores and personal standards. By 1943 it was accepted that this state of affairs was due to a combination of factors which had no direct medical causes—actors such as boredom, inappropriate posting and deployment policies, and poor leadership. Recurrent malaria with inanition and loss of energy, alcoholism, hysteria, combat fatigue and operational stress neuroses of course occurred among troops in the New Guinea campaigns; but from 1943, 'tropical neurasthenia' did not.[6]

Besides these 'technical' advances in military medicine, the years of 1943 and 1944 saw changes in two health-related paradigms—changes which were to have immense consequences not only for military medicine but for the enduring post-war world of civilian medicine which followed. The first of these centred on Blamey's ruling, in his General Routine Order (September 1944) that the occurrence of malaria, preventible by taking atebrin tablets every day, was not primarily a medical responsibility but one of command.[7] This approach, rigorously implemented, forever changed the responsibility for the maintenance of positive health away from doctors and medics, and finally placed it rightfully upon the individual soldier and those who commanded him. The two most important issues of preventive health in the last decade of the twentieth century—self

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2. G. Macfarlane, *Howard Florey: The Making of a Great Scientist* (Oxford: Oxford University Press, 1979), Epilogue: 368. Florey's original paper on the discovery of the clinical use of penicillin was published in the *Lancet* in 1940. After the first stocks of penicillin had been manufactured in the United States, Florey and Chain went to North Africa in May 1943 to undertake the first trial on war wounds. Only local application to wounds was trialled, because of the scarcity of penicillin. 'The results were so good, particularly during the invasion of Sicily in July 1943, that the American authorities gave the highest priority to penicillin production and consequently had enough for the Normandy campaign (in June 1944)': MacFarlane, *Florey*, 368. See also A. Walker , 'Penicillin', in *Clinical Problems of War*, Series 5 (Medical), ,Vol. I, in *Australia in the War of 1939–1945* (Canberra: Australian War Memorial, 1952), 411.
3. T. Sweeney, *Malaria Frontline: Australian Army Research During World War II* (Melbourne: Melbourne University Press, 2003), 200-48; N.H. Fairley, 'Chemotherapeutic suppression and prophylaxis in malaria: an experimental investigation undertaken by medical research teams in Australia', *Transactions of the Royal Society of Tropical Medicine and Hygiene* 38 (1945), 311-65.
4. Land Headquarters Medical Research Unit, 'Researches on "Paludrine" (M.4888) in Australia', *Medical Journal of Australia* 1 (1946), 234-6; Walker, *Clinical Problems of War*, 149-50.
5. Walker, *Clinical Problems of War*, 375.
6. Ibid., 688-92.
7. General Sir Thomas Blamey, General Routine Order, September 1944 (Anti-Malarial Precautions), quoted in Walker, *Clinical Problems of War*, 163.

protection against HIV infection and optimal personal diets to prevent cardiac disease—saw their genesis in this paradigm shift traceable to Blamey's and later Mountbatten's rulings.[8]

The second paradigm shift that occurred in 1943 was one of little moment at the time, but one which was to develop crescendo impetus in the decades which followed. It was the decision to accept uniformed women health professionals into the Australian Army Medical Corps. The first woman doctor had been commissioned in the AAMC in September 1940; but it was not until the War Financial Regulations were amended on 1 September 1944, to allow all prospective women officers of the Australian Army Medical Corps, irrespective of their specific health disciplines, that the Army uniformed medical services were truly integrated and thus co-ordinated. This ruling enabled women health professionals to be paid at the same rates as female officers in the other Services (AANS, AWAS and AAMWS). It meant that female women pharamacists, radiographers and medical scientists could be commissioned in the AAMC, and that female physiotherapists could be re-commissioned in their rightful Corps. Female military physiotherapists had had their commissioned status removed on 15 July 1943; and had had their rank reduced to that of non-commissioned officers in the AAMWS. Although all women health professionals, including female medical officers, received less pay than male soldiers of the same rank, qualification and posting, nevertheless the date of 1 September 1944 remains an important one in the chronology of progression towards gender equality of opportunity, albeit a faltering first step.[9] On 1 September 1942, the first woman doctor in the Australian Army (Major Lady MacKenzie) had been promoted to the rank of substantive Major. These several events marked the beginning of gender equality of opportunity for women health professionals in the armed services. With the opportunity both for uniformed professional service and for professional advancement—based, if not on equal pay and conditions, nevertheless for the first time on personal ability rather than gender—those 'pivotal years' were to witness the beginning of another paradigm shift which was eventually to extend into the civilian community.

Many other significant medical events occurred in the middle years of the New Guinea campaigns. However, in this historical analysis, I have chosen these five themes as exemplars of advances that were forever to change the face of service medicine in Australia. For this reason, I have called these crucial years the 'pivotal years' of military medicine, as they define a watershed of both technical and sociological advances that continue to manifest their influence today.

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8. Lord Louis Mountbatten. Order of the Supreme Allied Commander, South East Asia Command, Anti-Malarial Precautions. Ref SC5/398/E, 14 February 1945, quoted in Walker, *Clinical Problems of War*, 163.
9. 'Women Officers—Australian Army Medical Corps. Memorandum dealing with Women Officers of the AAMC, 1944', A[ustralian]W[ar]M[emorial]54 481/2/3.

Battle Casualties and Trauma

Surgery in the New Guinea campaigns was transformed by the use of antibacterial agents which had not been available in the First World War. The techniques of war surgery, fine tuned in the carnage of the First World War, had had to be relearned. High energy wounding—bullets, blasts and shrapnel—necessitates a technique known as debridement and delayed primary closure.[10] When high-energy projectiles cause wounding, extensive tissue is devitalised but such is not necessarily immediately obvious to the surgeon's eye. If dead tissue is inadvertently sutured it invariably becomes infected and in some cases gas gangrene ensues. For this reason the surgeon urgently removes all foreign debris and obviously dead tissue from such a wound and packs it without suturing. The wound is re-examined perhaps 24 hours later when any residual dead tissue has become obvious. Such further dead tissue is then surgically excised as a second step; and only then is the wound sutured and re-dressed. Such high-energy wounds had not (and are still not) normally seen in civilian practice in Australia. Indeed, in 2003 the Defence Health Service has made plans for contemporary military surgeons in Australia to obtain experience in gunshot and blast wounds by short-term deployments to Johannesburg. The technique of debridement and delayed primary closure of military wounds had originally been developed in the First World War; but had to be re-learnt by military surgeons in the Spanish Civil War (1936) and again in the North African campaigns and in those of Greece and Italy in the early years of the Second World War.

Topical Antiseptics

What was new in the 'pivotal years' of the Second World War was the refinement of chemical antiseptics,[11] applied topically to the exposed tissue of such wounds, inevitably contaminated by shrapnel, metal, fabric, mud or other foreign material. 'Monacrin', as a surgical antiseptic, had been used empirically in the last year of the First World War; and in early 1943 had been subjected to successful clinical trials at 115 Military Hospital in Heidelberg, Victoria, and later by the clinical research of Sir Hugh Poate—a military surgeon and national Commissioner for the St John Ambulance Brigade in Australia.[12]

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10. W.A. Hailes, 'Excision and primary suture of wounds in war surgery', *Australian and New Zealand Journal of Surgery* 12 (1942), 64-7, which includes an account of the early use of powdered sulphonamides in war wounds; W.A. Hailes, 'The treatment of large soft tissue injuries by excision and primary suture', *Medical Journal of Australia* (1943) 1:135-6; H.R.G. Poate, 'The management of established wound infections', *Medical Journal of Australia* (1944) 1:242-5.
11. Albert A. Kationic, 'Chemotherapy, with special reference to the acridines', *Medical Journal of Australia* (1944) 1:245-8.
12. H.R.G. Poate, 'The management of established wound infections', *Medical Journal of Australia* (1944) 1:242-5.

The Polish chemist, Gerhard Domagk (1895-1964), had discovered Prontosil, the first of the sulphonamide drugs in 1932. Sulpha drugs, given orally or by injection, had thereafter transformed military surgery in the early years of the Second World War. In 1944, the manufacture of sulphamerazine began in Australia and supplies became adequate for Australian troops in the New Guinea campaigns. It has been said, however, that 'the general excellence of forward surgery in the [New Guinea] island battle zone must be given due praise. Prompt and wise excision of infected or potentially infected tissue was probably of *much greater* importance in the treatment of wounds received in the contaminated mud of some of these areas.'[13]

Penicillin—Military Significance

It was the discovery of penicillin, however, by Florey in 1940,[14] and its availability to Australian troops in late 1943, which transformed military medicine. A DGMS Technical Instruction (No. 92)[15] specified the maximum dose of the precious stocks of penicillin for different types of infection—e.g. 100,000 units daily for *Streptococcus* infections, and 200,000 units for *Clostridium* infections, the cause of gas gangrene. Penicillin was manufactured in Melbourne by the Commonwealth Serum Laboratories from 1944. Its use was controlled by the DGMS in mainland Australia, and its availability restricted to uniformed service personnel; and in New Guinea by the DDMS. Allan Walker, the Second World War medical historian, wrote:

> Penicillin was a saver of life and of bodily structure and function in many instances. Its harmlessness and potency made it an adjunct to careful [military] surgery, in spite of its limitations and bacterial selectivity … it can be said too that the caution impressed on young Australian [military] surgeons, and the encouragement given them in following correct principles in circumstances where rougher methods might easily have been condoned by some, bore fruit when the partial conquest of wound infection became possible.[16]

Accidental Trauma

Accidental trauma was a significant cause of mortality and morbidity in the New Guinea campaigns—as it has always been on operational deployments everywhere. Accidental preventible trauma remained relatively unacknowledged, as a loss of fighting power, in the contemporary medical audits of the Second World War. Nevertheless,

13. Walker, *Clinical Problems of War*, 408. Emphasis added.
14. E.B.Chain, H.W. Florey, A.D. Gardner, N.G. Heatley, M.A. Jennings, J. Orr-Ewing, A.G. Sanders, 'Penicillin as a Chemotherapeutic Agent', *Lancet* (1940) 2:226-8.
15. DGMS [Australia] Army. Technical Instruction No. 92. Melbourne, Office of the DGMS, 1943.
16. Walker, *Clinical Problems of War*, 418.

death and disability due to accidental trauma are described in every account of every New Guinea campaign. Two examples will suffice here. The deaths and injuries at the Nadzab airborne insertion (June 1943) were due to accidents, not Japanese fire. Of the first fourteen troops killed, members of the gallant 2/28th Battalion, who died in the amphibious assault on Lae (9 September 1943), thirteen were drowned in the surging Busu River. David Dexter, the official war historian of the New Guinea campaigns, was to write of this tragedy:

> Most Australian soldiers who fought in the South-West Pacific would agree that they would rather face an aroused enemy than an angry Nature. It took a cold and calculated form of courage for the West Australians [2/28th Bn] to walk into the raging Busu on 9th September 1943, particularly because, as in every unit, there were some men who could not swim.[17]

It was an accidental fatal plane crash, off Cairns, on 5th March 1945, which was to take the lives of two of the finest leaders in the Australian Defence Force—Major-General G.A. Vasey and the Director General of Medical Services (2nd Army), Major-General Rupert Downes.

The discipline of accidental trauma prevention had its genesis in some of the post-war reviews of accidental trauma experienced by troops both during training and on operational service. It however was another twenty years before Haddon began the modern scientific approach to analysis of the factors which led to accidental trauma,[18] and the beginnings of a proper scientific approach to their prevention.

MILITARY PREVENTIVE MEDICINE

The 'pivotal years' of 1943 and 1944 were the golden years of military preventive medicine. The concepts and initial doctrine of preventive medicine had been established by another doctor-soldier, Sir John Pringle (1707-1782), the Physician General to the British Forces during the War of the Austrian Succession (1740-1748). His publications, *Observations on the Nature and Cure of Hospital and Jayl Fevers* (1750) and his *Observations on the Diseases of the Army* (1752), established the discipline of preventive medicine and public health in both the military and civilian domains. In the New Guinea campaigns, two major advances, in the prevention of tropical diseases, were of particular relevance to the Allied fighting troops. The first of these was the control of scrub typhus by the application of mite repellents; and the second was the ultimate conquest, albeit an incomplete one as it transpired, of malaria in the military domain.

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17. D. Dexter, *The New Guinea Offensives* (Canberra: Australian War Memorial, 1961), 346.
18. W. Haddon Jr, 'The changing approach to the epidemiology, prevention, and amelioration of trauma: the transition to approaches etiologically rather than descriptively based', *American Journal of Public Health* (1968) 58:1431 *et seq*.

Scrub Typhus

Historically, typhus was one of the greatest killers during military campaigns. 'Camp fever', 'ship fever' and 'jayl fever' had for millennia destroyed armies and determined the outcome of campaigns. Epidemic typhus is caused by a microscopic organism called a rickettsia, spread by the body louse. Personal hygiene, including particularly the regular washing of clothes and bed linen, was and remains the most effective way of reducing its predations. The military habit of cutting the hair short—'short back and sides'—dates from the recognition that body lice and in particular 'nits' were one cause of typhus.

A new type of typhus, found particularly in tropical regions and spread by a Trombiculid mite, emerged as a cause of significant morbidity in the first two years of the New Guinea campaigns. It was a particular problem in the Markham and Ramu Valleys. Trials of sulfa drugs and penicillin (from 1944) showed that there was no effective drug treatment for the condition, once a soldier had contracted it. It was not until the discovery of tetracycline in 1948, that the morbidity and mortality of scrub typhus, once contracted, was modified by drug intervention. Clinical management of afflicted soldiers relied particularly on superlative nursing care; and even although drug therapy was ineffective, such nursing care significantly reduced mortality.

The mainstay of management of scrub typhus in the New Guinea campaigns was prevention. Extensive research work on repellents was undertaken by the American Typhus Research Commission in 1942, and by Australian soldier-scientists, such as Womersley, working in New Guinea in 1943. It was found that sulphur powder and DDT were relatively ineffective as repellents; but that di-methylphthalate and particularly di-butylphthalate (DBP) were very effective indeed. Subsequently, work by Captain Ronald Southcott AAMC[19] on the classification of Trombiculid mites[20] enabled the final problem of scrub typhus to be overcome.

Like typhus, dengue also has no known drug treatment and again the mainstay of management is prevention. Fortunately, the extensive use of repellents and the Blamey-enforced 'clothes discipline and repellent discipline' not only reduced malaria but also dengue and scrub typhus. The use of appropriate repellents was of crucial significance, exemplified by the experiences particularly of the 9th Division in the Finisterres. The 2/43rd Battalion, for example had landed 706 men and had received 130 as reinforcements (836 men)—of whom 600 were evacuated sick.[21] Soldiers in the New

19. J.H. Pearn, F. Russell, 'The Life and Contributions to Toxinology of Dr. Ronald Vernon Southcott', *Toxicon* 37 (1999), 837-40.
20. R.V. Southcott, 'Observations on the Epidemiology of Tsutsungamushi Disease in North Queensland', *Medical Journal of Australia* (1947) 2:441-50.
21. Dexter, *The New Guinea Offensives*, 735. Dexter's account of the 9th Australian Division in the Finisterre campaign at Nambariwa, Sio, Kiari and Weber Point describes the large manpower loss from dengue and typhus.

Guinea campaigns had a particular fear of typhus, probably because of its prolonged convalescence and post-convalescence morbidity, particularly severe depression. One unit diarist of the 9th Division wrote:

> Although this unit is not 'repellent conscious', men are being returned from hospital without the mosquito nets which they took there. Those in authority were finding that it was not sufficient to instruct men to take atebrin, apply anti-mosquito repellent, roll down sleeves and trousers, wear gaiters and sleep under nets; such instructions must be enforced in the same way in which a child is made to take medicine. A side light on this anti-mosquito discipline was that the men had a horror of scrub typhus and never needed supervision when applying repellent in an area containing ticks [or mites].[22]

The control of scrub typhus amongst Australian soldiers in the New Guinea campaigns is shown in the following quarterly returns for typhus in the medical archives of the 1943 and 1944 campaigns:

1943 (Oct – Dec)	859 cases
1944 (Jan – Mar)	402 cases
1944 (Apr – Jun)	102 cases
1944 (Jul –Sept)	56 cases
1944 (Oct – Dec)	13 cases[23]

At the end of the New Guinea Campaigns, mortality from typhus had fallen from eight per cent to less than five per cent, although a proportion of soldiers who had contracted it were left with sub-acute or chronic morbidity. However, by the end of the Wewak–Aitape campaigns (December 1944), the military medical problem of scrub typhus, due to effective repellent use alone, had been overcome.

Malaria

On operations in wet tropical theatres, malaria is responsible for 90 per cent of the sick wastage due to tropical diseases.[24] The conquest of malaria, as it afflicted troops in the field, was one of the most significant determinants of the outcome of the Pacific War. Australian military medical researchers played the pivotal role in this 'scientific front' of the Second World War.[25]

22. Ibid.
23. Walker, *Clinical Problems of War*, 195.
24. Ibid., 110.
25. Sweeney, *Malaria Frontline*, 200-48.

Prior to the bombing of Peal Harbor (7 December 1941), oral quinine had been the mainstay of the management of malaria for those who lived and worked in hyperendemic areas. After Pearl Harbor, it was quickly appreciated by military doctors that a campaign in the Malayan, Indonesian, New Guinea and Pacific Islands would be won or lost by the army best able to protect itself from malaria. In the preceding decade, the world's principal stocks of quinine had been obtained from Cinchona plantations in the Netherlands East Indies, particularly on Java. At the outbreak of the Pacific War, it was appreciated that the loss of such stocks to the Allies would, if an alternative drugs could not be found, mean devastation to the Allied forces.[26] In the weeks after the attack on Pearl Harbor, doctors of the AAMC, and in particular Colonel Neil Hamilton Fairley, brought forward urgent, indeed desperate advocacy, concerning what they knew would be devastating consequences to Allied troops, if malarial prophylaxis could not be guaranteed.

When Java fell to the Japanese, one million kilograms (1,000 tons) of quinine was lost to Japan and denied to the Allied forces. The pre-war use of quinine worldwide was 700 tons per year. Although the new synthetic drug, atebrin, had recently been manufactured in the United States and the United Kingdom, it had not been proven as an effective anti-malarial agent under field conditions; and urgent calculations revealed that 200,000 kilograms of atebrin per annum would be needed to replace the one million kilograms of quinine lost through the fall of Java.[27]

Major-General Burston recalled Colonel Fairley urgently from the Middle East in January 1942, and sent him to Java with authorisation for cash payment from the Australia Government, for the purchase of 130,000 kilograms (130 tonnes) of quinine, to be 'rescued' before it was controlled by the advancing Japanese. The huge tonnage was putatively placed on the Dutch ship, the SS *Klang*, bound for Broome. The precious quinine never arrived. By March 1942, the Australian Army held less than 500 kilograms of quinine; with troops in the New Guinea force using 1000 kilograms (one tonne) of the drug every month. An urgent paper published in the *Medical Journal of Australia* exhorted Australian doctors to conserve every gram of quinine in the crisis.[28]

Urgent investigations and calculations showed that 50 tons of atebrin was the total available from combined sources in the United States and in the United Kingdom. It was judged that this might just be sufficient for the unknowable campaigns of 1942 and 1943—noting however that atebrin, unlike quinine, was unproven as an effective treatment for malaria once a soldier had contracted it. Quinine itself was a relatively poor

26. Ibid., 18-21.
27. Ibid., 22.
28. Editor, 'The War, Quinine and the Medical Profession in Australia', *Medical Journal of Australia* (1942) 1:512.

prophylactic against malaria; and atebrin was unproven in the field as a prophylactic agent. The situation, as expounded particularly by Colonel Neil Hamilton Fairley and Colonel Edward Ford (Assistant Director of Pathology of I Corps, 1942-1943)[29] was desperate.

In parallel with these urgent medical developments, there existed a perplexing complacency amongst military planners, concerning the potential effects of malaria on Allied troops operating in hyperendemic areas. It had been known since 1914 in Rabaul, that Australian troops, immunologically naïve to the parasite, would be stricken by malaria in any jungle-based campaign. Two forms of malaria occur in the South West Pacific—benign tertian (BT) malaria due to the mosquito-borne protozoan, *Plasmodium vivax*, and malignant tertian (MT) malaria, due to *Plasmodium falciparum*. The first, vivax or BT malaria, does not normally kill by its attacks, but renders the victim acutely ill with recurrent fevers, and then produces a progressive inanition and anaemia. Malignant tertian malaria, or falciparum malaria, is a life-threatening disease and causes cerebral malaria—but if cured, does not continue to recur unless reinfection occurs. If a soldier has clinical malaria, with fevers sometimes in excess of 41º C, and rigors, he is unable to shoot straight, let alone fight.

The Buna and Gona campaigns (1942) re-taught the Allied armies that in tropical and sub-tropical countries of the world, malaria is the major determinant of campaigns, if not of battles themselves. The Buna and Gona statistics for malaria, for Australian troops, revealed a rate of 2,900 cases per thousand troops per year. This meant that each soldier was averaging three attacks each year; and with a convalescent period of a month or so after each attack, it meant that stricken battalions were rendered *hors de combat*. By January 1943, 14,011 soldiers had been incapacitated by tropical diseases, and 4,137 by battle casualties, a sick-to-wounded ratio of 4:1.[30]

The US 32nd Infantry Division at Buna in 1942 consisted of 10,000 officers and men. Of these, 8,000 became ill from tropical diseases, half of which were malaria. Although 1,000 of the US troops at Buna were medics (1 in 10 of the entire force), the advice about medical prophylaxis *followed* the campaign, rather than preceding it. The stricken Division had to be reconstituted, but even by March 1943, the Division remained 30 percent below strength because of malaria.[31]

By June 1943, 25,000 Australian soldiers had contracted malaria, most of them suffering recurrent bouts thereafter.[32]

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29. See Dexter, *The New Guinea Offensives*, 781, for biographical note on Col. Sir Edward Ford OBE, NX445, CO 1 Mobile Bacteriological Laboratory 1940-42.
30. Sweeney, *Malaria Frontline*, 18-21.
31. Drea, 'Before Finschhafen', xx.
32. Sweeney, *Malaria Frontline*, 22.

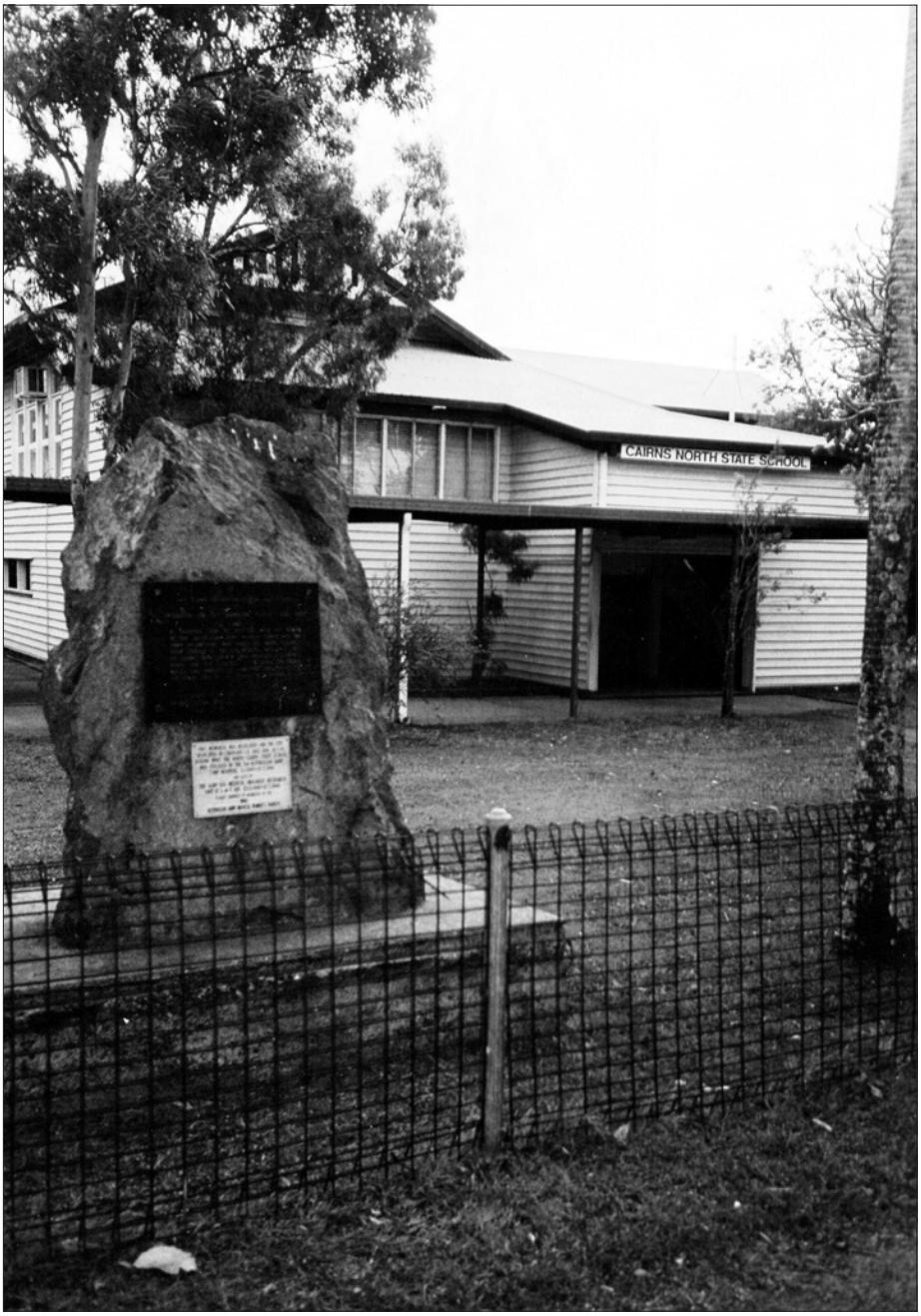

Figure 1: The basalt memorial marker to the Army Medical Unit, Land Headquarters, of the Australian Army in the Second World War. Situated in the grounds of the Cairns North State School, facing Sheridan Street, it records the pivotal work of the Unit at Cairns and at Rocky Creek, on the Atherton Tableland—work which was a major determinant of Allied success in the War. Photograph, John Pearn, September 2002.

Figure 2: The plaque on the Medical Research Unit (LHQ) Memorial, in the grounds of the Cairns North State School, Cairns, Queensland. Photograph, John Pearn, September 2002.

Figure 3: The research staff of the Medical Research Unit (LHQ) at Cairns. These scientists and laboratory workers unravelled the detailed biology of the *Anopholes* mosquito and discovered much of the pathogenesis of both benign tertian (BT) and malignant tertian (MT) malaria and documented the protective role of both atebrin and paludrine in the fight against malaria. Captain Josephine Mackerras AAMC (1896-1971) is far left, front row. Photograph, 1944, from the Bancroft-Mackerras family photograph album, courtesy of Mrs Diana Hacker.

Providentially, a number of wise and experienced Australian doctors, already in uniform, had both the experience and the wisdom to address this clinical problem. Such included Colonel Keogh (as Director of Pathology), Lieutenant-Colonel Ian Mackerras, Captain Josephine Mackerras, Lieutenant-Colonel R. Andrew, Lieutenant-Colonel C.R.B. (later Sir Charles) Blackburn, Lieutenant-Colonel Edward (later Sir Edward) Ford[33] and in particular Colonel (later Brigadier, Sir Neil) Hamilton Fairley. They advised the Director General of Medical Services, Major-General S.R. Burston, that the problem of malaria, threatening to entrap the entire Allied forces in the New Guinea campaign, could be overcome only by the urgent establishment of a military research unit and the testing of the newly-developed potentially suppressive drugs, particularly atebrin. Major-General Burston advised General Sir Thomas Blamey, in strongest terms, of the urgent need for such a research facility. Blamey's support for and implementation of the consequent Medical Research Unit, as a Unit within and administered by the Australian Army Land Headquarters, was in the audit of history, one of Blamey's most important decisions in his entire military career.

33. Ibid., 44, 45, 228, 229, 236-8.

The Medical Research Unit of LHQ was established initially in Sheridan Street, Cairns, within 5 Camp Hospital in the grounds of the old North Cairns State School. A simple granite marker, which stands today, records the work of that singular Unit. Sub-laboratories were established at Rocky Creek on the Atherton Tableland. Much has been written about the work and the ultimate success of that Unit. In brief:

- Between 1943 and 1946, 1000 Australian soldiers volunteered as research subjects for the work of the Unit;
- The Medical Research Unit (MRU) for the first time established the details of the life-cycle of *Anopheles* mosquitoes, particularly the species which were transmitting malaria in the hyperendemic areas of the South West Pacific;
- Researchers, and in particular Major Josephine Mackerras,[34] established the first experimental breeding colonies of *Anopheles*, anywhere in the world.
- The Medical Research Unit (LHQ) established the natural history of malaria as a clinical disease, in great detail. In particular, the military clinicians and scientists showed that there was no natural immunity to its ravages, at least among troops who had not been exposed to malaria continuously in their childhood. Furthermore, they demonstrated that immediately after a mosquito bites, the sporozoites circulate in the blood for only the ensuing 20 minutes or so.
- In all the human experiments, volunteers were used exclusively for the mosquito biting and human-to-human infected-blood transmission experiments. In all cases, controls who volunteered to suffer inoculation with malaria and then not be treated, were drawn by lot. The formal modern bioethical dictates of human experimentation did not emerge until after the Nuremberg Code (1946), published at the conclusion of the Nuremberg War Crimes Tribunal. Nevertheless, the ethical code of research practice using human volunteers, undertaken at the Medical Research Unit at Cairns and at Rocky Creek, was well in advance of best-practice medical research for decades to come.[35] In a paper published at the conclusion of the war, Sir Neil Hamilton Fairley wrote especially of the 'tribute which is also due to the volunteers for their self-sacrificing co-operation'.[36]

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34. J.H. Pearn, 'Major Josephine Mackerras (1896-1968) AAMC: a pioneer woman doctor/soldier in Australia: a memoir in the centenary year of the Royal Australian Army Medical Corps', *Paulatim* (Journal of the Royal Australian Army Medical Corps), centenary edn, 2003: 24-6.
35. Sweeney, *Malaria Frontline,* 44, 45, 228, 229, 236–8.
36. N.H. Fairley, 'Chemotherapeutic suppression and prophylaxis in malaria: an experimental investigation undertaken by medical research teams in Australia', *Transactions of the Royal Society of Tropical Medicine and Hygiene* 38 (1945), 311-65.

- Quinine, atebrin and (after 1944) paludrine were tested in the drug-suppression trials.
- It was found that a dose of atebrin, of 0.2 grams daily, suppressed all forms of malaria—both benign tertian (BT) and malignant tertian (MT); and that such a dose also cured the clinical effects of malignant tertian malaria.
- The effects of extreme heat, combined heat and humidity, exertion to exhaustion and hypoxia were studied. It was shown that none of these potential confounding factors compromised the suppressive effects of atebrin, when this latter drug was given in the correct dose.
- Eighteen volunteers, experimentally inoculated with malaria, were flown to Melbourne where they were subjected to high-altitude simulation, with consequent hypoxia, at the No. 1 Flying Personnel Research Unit, based at the University of Melbourne.[37]

These scientific results, undertaken with great urgency in 1943 and during the first nine months of 1944, enabled military doctors to advise commanders for the first time, with scientific certainty, about the treatment and cure of malaria; and, most importantly of all, about its prevention.

Tropical Fatigue

The exigencies and special circumstances of operational service can advance medical knowledge in unexpected ways. One such advance of the 'forgotten years' of 1943 and 1944 in the Pacific War, was the final discrediting of one pseudo-medical condition—that known as 'tropical neurasthenia', or in soldiers' parlance, 'troppo'.[38]

Whether men and women of European origin could work, or soldiers fight, in the humid tropics, had been an emergent issue of scientific speculation since Federation. The Commonwealth Government established the Commonwealth Institute of Tropical Medicine in Townsville in 1910 to help answer this question.[39] Officially opened on 28 June 1913, three years after its foundation, by the eminent medical governor and former researcher, Sir William MacGregor,[40] its terms of reference specifically included an

37. Walker, *Clinical Problems of War*, 125 passim.
38. Walker, 'Psychological Effects of Environment', in ibid., 375.
39. R. Douglas, 'One Day in the Medical Life of Queensland', in John Pearn, ed., *Pioneer Medicine in Australia* (Brisbane: Amphion Press, 1988), 135-44.
40. J.H. Pearn, 'Doctor Governor, Sir William MacGregor—and the Queensland Medical School', *Medical Journal of Australia* (1990) 153:708–11.

inquiry into the health,[41] physical adaptation[42] and disease susceptibility[43] of Australians of European descent, working in coastal tropical Australia[44] and New Guinea.[45]

Much of the body's knowledge of the adaptation to humid heat had been learnt from research on cane cutters working in extreme conditions in the north Queensland cane fields prior to the Second World War. John Simpson Kirkpatrick (1892-1915), 'Simpson', the hero of Gallipoli, had tried cane cutting for a week in north Queensland, north of Cairns in 1912, but had found the conditions intolerably hot.[46]

The medical effects of *dry* heat, especially its effects on the manpower efficiency of unacclimatised troops, was well known from the research of K.G. Hearne in Mesopotamia in the First World War[47] and from the work of Allen[48] and C.E. Corlette[49] in Australia. Heat stroke and the devastating effects of prickly-heat on troops in hot *humid* environments were well known by the time of the first engagements against the Japanese in the Markham Valley (May 1942) and at Salamaua in June 1942.

The history of both civilians and troops deployed to the *humid* as compared to the *dry* tropics had indicated that rates of psychiatric illness, alcoholism and 'moral decay' were increased. However, in medical terms such were known to be due to the effects of family disruption, isolation, cultural loneliness, boredom, physical disease and incomplete heat acclimatisation. Nevertheless, there remained in the military, particularly in outpost deployments to the wet tropics, the 'dangerous label'[50] of 'tropical neurasthenia'.

In Darwin, the first enemy bombings on Australian soil had occurred on 19 February 1942. At that time there existed an element of 'restlessness and discontent' amongst

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41. Anton Breinl, 'The Influences of Climate, Disease, and Surroundings on the white race living in the tropics', The Second Stewart Lecture, University of Melbourne, 1913; copy in Archives of the School of Public Health and Tropical Medicine, Townsville.
42. A. Breinl, 'An inquiry into the effect of high wet bulb temperatures upon the pulse rate, rectal temperature, skin-shirt temperature and blood pressure of wharf labourers in north Queensland', *Medical Journal of Australia* (1921) 1:303-12.
43. A. Breinl, N.J. Young, 'Tropical Australia and its Settlement', *Medical Journal of Australia* (1919) 1:353–9.
44. A. Breinl A, H. Priestly, 'Sprue in North Queensland', *Medical Journal of Australia* (1917) 1:95-100.
45. A. Breinl, H. Priestly, 'Malaria contracted in New Guinea by members of the Expeditionary Force and its treatment', *Medical Journal of Australia* (1916) 1:91-5.
46. J.H. Pearn, D. Gardner-Medwin, 'An Anzac's Childhood: John Simpson Kirkpatrick (1892-1915)', *Medical Journal of Australia* (2003) 178:400-02.
47. K.G. Hearne, 'Hyperpyrexial Heatstroke: a Mesopotamian experience, with some aetiological views and a method of prevention resulting therefrom', *Medical Journal of Australia* (1932) 1:226–32.
48. S.D. Allen, J.P. O'Brien, 'Tropical Anidrotic Asthenia: A Preliminary Report', *Medical Journal of Australia* (1944) 2:335–3.
49. C.E. Corlette, 'The Heat Losses of the Body connected with surgical operations', *Medical Journal of Australia* (1921) 2:98-102.
50. Dudley McCarthy, *South West Pacific Area—First Year: Kokoda to Wau* (Canberra: Australian War Memorial, 1959), 73.

some military units in Darwin.[51] Although there were acknowledged problems of military leadership, and of deployment policy, it was still believed that much of the lack of morale, indeed criminal behaviour (such as looting) which had been exhibited by troops after the bombs fell, was 'as result of the general effects of tropical service'.[52]

The appointment of Lieutenant-General Sir Edmund Herring on 28 March 1942 led to rapid and very effective staff changes in the Northern Territory. This had the immediate effect of reversing the situation of poor morale and any *apologia* of troops being 'troppo'. After a period of: 'intense training, indoctrination and reconnaissance and of rapid reconstruction, and of detailed organisation in an endeavour to provide for maintenance of the [revitalised] force',[53] the syndrome of tropical neurasthenia disappeared from the Australian mainland. The 1943-44 campaigns of the northern coast of New Guinea, from the Huon Gulf in the east to Vanimo in the west, saw the final disappearance of this syndrome; and 'dangerous labels' such as 'tropical neurasthenia' or even the colloquial 'troppo' are not today found in the index of any reputable book on medicine or psychiatry and certainly not in those of military medicine.

PARADIGM SHIFTS

The 'pivotal years' of 1943 and 1944 saw two paradigm shifts, in the context of military medicine and health, which were to have profound implications not only in the Australian Defence Force but over the succeeding decades in civilian society as well. The first of these was Blamey's shifting of responsibility for preventive medicine from one of reaction by the Medical Corps to one of proactive responsibility in which individual soldiers and the commanders who led them would be responsible for their own health, if effective preventative measures were available.

The second theme, understated and perhaps unrecognised for its importance at the time, related to emergent issues of gender equality. This latter was to have ongoing implications which continue to resonate in the military community today.

Blamey's Health Policies

By August 1944, the medical research into malaria undertaken at the Medical Research Unit of Australian Land Headquarters, based in Cairns, had shown that malaria could be safely prevented by the daily swallowing of two atebrin tablets. As both Commander of the Allied Land Forces in the South West Pacific, and as Commander-in-Chief of the

51. Ibid., 74.
52. Walker, *Clinical Problems of War*, 163.
53. McCarthy, *South West Pacific Area—First Year*, 74.

Australian Military Forces, Blamey elected to make the issue of preventible disease a proactive one of command, rather than a reactive medical response to disease once it had occurred. In his famous General Routine Order of September 1944, he issued three statements which were devastatingly powerful:

1. Commanding Officers will be held personally responsible [for preventible disease, specifically malaria, occurring amongst troops under their command].
2. Neglect to comply with such instructions [hereto affixed and more generally promulgated] will be treated as a serious offence.
3. The occurrence of cases of malaria in a Unit which has been directed to take the dosage of atebrin prescribed in this Order will be regarded as *prima facie* evidence that the Commanding Officer has failed to ensure the observance of such instructions.[54]

On 14 February 1945, Lord Louis Mountbatten, Supreme Allied Commander of South East Asia Command, issued a similar Order.

Blamey's policy was to be almost completely successful in the preservation of fighting power, at least down to Battalion level. MacArthur's 'coast hopping' and 'island hopping' strategy, by which pockets of Japanese troops were not continuously fought face-to-face, but were denied supply, had one particularly devastating effect on Japanese soldiers. Soldiers can continue to fight with inadequate food but they cannot continue to fight without taking anti-malarial suppressive drugs. The denial of stocks of quinine, by MacArthur's tactics, meant that the Japanese force was devastated by malaria; whereas the Allied forces, following MacArthur's implementation of the proven atebrin preventive measures, produced an enormous imbalance in the opposing forces. Japanese soldiers died in battle and took their own lives, in the face of impending capture or defeat, by suicide. However, although detailed statistics are unavailable, it is thought that of those who died, at least one third perished from tropical diseases, especially dysentery, malaria and hepatitis. The Japanese 18th Army, following its retreat from and ultimate defeat in the Lae–Finisterre campaigns, suffered a 91 per cent mortality, and a 97 per cent mortality at Battalion level. Such figures had perhaps not been seen since typhus destroyed Napoleon's army in 1812.

Atebrin had one unfortunate side-effect—it stained the skin yellow. Some troops also believed that it caused impotence; this latter belief, erroneous in fact, was one of the many causes of sub-optimal compliance both with medical advice and later with

54. General Sir Thomas Blamey, General Routine Order, September 1944 (Anti-Malarial Precautions); Walker, *Clinical Problems of War*, 163.

Blamey's General Order of September 1944. Occasional resistance was partly overcome by the daily 'Atebrin Parade' in which troops were given the atebrin tablets to swallow by an NCO or officer, after which they had to drink, swallow and then speak. By the end of 1945, research on the newer anti-malarial suppressive drug, paludrine, had been completed in Cairns. This work was published in 1945 and 1946.[55] Paludrine was shown to be one of the safest drugs known; and a summary of the Australian military research recorded that 'Paludrine is undoubtedly the most potent anti-malarial drug known—its discovery is a triumph for British chemotherapy'.[56]

Gender Equality of Opportunity—First Steps

At the outbreak of the Second World War, no woman doctor in Knox's Medical Directory for Australia listed any Militia or Volunteer appointment in the Australian Army Medical Corps, as part of their self-submitted biographic entries. Prior to the outbreak of the Second World War, it was estimated that there were 5,083 males and 323 female medical practitioners in Australia. Planning for full mobilisation revealed that 1,160 medical officers would be required with reinforcements at the rate of ten per cent per year in any imagined future conflict.[57]

When war broke out in 1939 the only provision for women to play an active role in the provision of medical services was for them to train in first aid and the elements of hygiene and home nursing by the Order of St John, the Australian Red Cross, or an approved Ambulance Association. In addition to these very limited avenues, consideration was given to the possibility of regarding physiotherapists and some other specialists as a distinct category of voluntary aid, and therefore eligible to serve.

Pearl Harbor and the subsequent New Guinea campaigns were to change this gender-restrictive ethos. Twenty-six women doctors (five Majors and 21 Captains) served in the Australian Army Medical Corps in the Second World War. By October 1944, there were eighteen women Medical Officers on the active list on fulltime duty, mainly serving as specialists with some carrying out general duties and administration.

Prejudice against women's service in the AAMC reflected the conservative gender-restrictive attitudes in the Australian civilian society of the times. In the military domain, however, this ethos extended to all the health disciplines, even more intensely. Whereas a grudging acceptance had finally been accorded to three women doctor-soldier pioneers (Captain Lady MacKenzie, Captain H.B. Kershaw and Captain Josephine Mackerras), other career professional women continued to be denied entry to the commissioned ranks of the AAMC.

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55. See notes 4 and 5 above.
56. Walker, 'The Introduction of "Paludrine"', *Clinical Problems of War*, 149-50.
57. Typed memorandum, 'Mobilization of Medical Profession [1941]', AWM 54 481/2/26.

Australia's first military woman pharmacist, Lieutenant Gwyneth Richardson, was not commissioned in the AAMC until September 1944, and then only after a period of four years service to the Army—two years as a civilian pharmacist and two years as a Staff Sergeant in the Australian Army Medical Women's Service (AAMWS). Women physiotherapists had been accepted for a short period (until 15 July 1943) but thereafter had to join the AAMWS.

The War Financial Regulations were amended on 1 September 1944 to allow all perspective women officers of the AAMC, irrespective of their specific health disciplines, to be paid at the same rate as female officers in the other women's services (AANS, AWAS and AAMWS). However, their pay remained less than that for male soldiers of the same rank, qualification and posting. Nevertheless, this bureaucratic change in regulations allowed professional women, skilled in the health professions, finally to transfer to the AAMC for the first time. That date (1 September 1944) was an important milestone in the progression towards gender equality of opportunity, albeit a faltering one.

Two of the women doctor-soldiers in the Australian Army who rendered conspicuous service in the 'pivotal years' of the Second World War. deserve special mention in this context. The first of these was the first woman accepted into the AAMC, Captain Lady MacKenzie (1900-1972). The second was Captain Josephine Mackerras (1896-1971).

Lady MacKenzie was the widow of Sir William Colin MacKenzie (1877-1938), the Victorian orthopaedic surgeon, comparative anatomist and philanthropist who had written many works including 'Military Orthopaedic Hospitals'[58] and the comprehensive 'Comparative Anatomy of Australian Fauna'. He and Lady MacKenzie gave to the Australian nation the Healesville Sanctuary —part of where was to become the School of Army Health. In 1930, Sir William and Lady MacKenzie moved to Canberra and established the Institute of Anatomy. The couple had no children. Lady MacKenzie applied to join the Australian Army Medical Corps at the outbreak of the Second World War, but was refused. Subsequently, as a civilian, she was allowed to perform fulltime voluntary duty at Army Headquarters, from April 1940, undertaking administrative and office duties in the Office of the Deputy Assistant Director of General Medical Services at Army Headquarters in Melbourne. In September 1940 at the age of 40 years, she was commissioned with the rank of Honorary Captain and placed on the Reserve of Officers, whilst still performing these duties. If she had not been titled, if her late husband had not been one of the most powerful medical men in Australia for several decades, if she had not proven herself by voluntary civilian service, if she had not been a widow and if she had not been childless, it is doubtful whether she would have been

58. W.C. MacKenzie, 'Military Orthopaedic Hospitals', *British Medical Journal* (1917), 669-78.

Figure 4: Major Lady MacKenzie (1900-1972) the first woman-doctor commissioned in the Australian Army Medical Corps. She is shown here in her appointment as Deputy Assistant Director General of Medical Services, in her office at A Branch, Allied Land Headquarters, Victoria Barracks, Melbourne. Photograph 15 November 1944, courtesy of the Australian War Memorial. AWM Photo 030214/12.

so accepted. She was commissioned as a full Captain in the Australian Army Medical Corps on 1 November 1940 and formally posted to the Office of the Deputy Assistant Director General Medical Services (DADGMS). Her duties included the maintenance of accurate records of the professional qualifications of the (male) Officers of the AAMC and, in 1943 and 1944, the selection of details of postings of male AAMC members to the New Guinea theatre of operations.[59]

Captain Josephine Mackerras enlisted as an Honorary Captain and was placed on the Reserve of Officers in the Officers in the 2nd Military District on 3 November 1941. She was commissioned as a substantive Captain on 7 February 1942 and posted to 103 Australian General Hospital. After several transfers she was posted (18 January 1944) as the entomologist to the Medical Research Unit (AIF) of Land Headquarters, initially to the Research Laboratories of that Unit in Cairns. She was promoted to the rank of substantive Major on 26 March 1944. It was her meticulous research and her clinical

59. Recommendations for King's Birthday Honours 1945—(Office of the DQMG [Department of the Quarter-Master General] & DGMS [Director General of Medical Services]). [Recommendations] Not Accepted [by the Chief of the General Staff], AWM119 226 (Part 2).

involvement with the more than 1,000 human volunteers in the malaria experiments at Cairns and at Rocky Creek, which with the work of others, led ultimately to the control of clinical malaria in the Allied forces in the Pacific Campaign.

In her laboratories in the MRU (AIF) in Cairns, she was the first person in the world to establish a breeding colony of *Anopheles punctulatus*. In her three years of active military service she handled '233,000 engorged mosquitoes, undertook 38,000 dissections of malarial mosquitoes and supervised more than 20,000 infectious bites on over 1,000 human volunteers, some of them several times'.[60]

Professor Frank Fenner, himself a former doctor-soldier of the AAMC, and one of only two Australian scientists to have been awarded science's highest accolade, the Copley Medal, was to write in 1991:

> Major Mackerras' results were of great importance to the Australian war effort, since they established a scientific basis for chemoprophylaxis that was eventually to transform into a minor problem what had threatened to be a disease that would totally disable the Australian and United States forces in the field in New Guinea … [this work] … at the Land Headquarters Medical Research Unit on Malaria was not only of great importance to the war effort, but also contributed greatly to the understanding *of the pathogensis of malaria.*[61]

These two pioneer women doctor-soldiers suffered prejudice within the system—not individually, but stereotypically because of their gender. In a summary memorandum of 1944, entitled 'Women Officers—Australian Army Medical Corps', although it was explicitly stated that '[women] Medical Officers receive the same pay and allowances as male Officers', under the entry specifying the conditions for decorations and awards, the draft proposal that 'Women Officers of the AAMC are eligible for all Honours and Awards available to male officers of the AAMC' was struck out in draft by the senior reviewing and drafting AAMC officer.[62]

This prejudice was to have unfortunate and unfair consequences which remain unredressed today. Both Major Lady MacKenzie and Major Josephine Mackerras were recommended on three occasions for a military decoration (an MBE) by Major-General Burston, the Director General of Medical Services. The last of the these three serial nominations and recommendations for public recognition included a detailed submission for the End of War List in 1946.[63] Among other summaries of her service, the proposed citation for Major MacKenzie, noted her 'Valuable contribution to the efficiency of the Administration of the Army Medical Services'. In the case of Major

60. E. Ford, 'Obituary: Mabel Josephine Mackerras', *Medical Journal of Australia* (1972) 1: 604-6.
61. F. Fenner, 'The Impact of The Bancroft Kindred on Australian Medical Science', in J. Pearn and L. Powell (eds), *The Bancroft Tradition* (Brisbane: Amphion Press, 1991), 59.
62. Women Officers—Australian Army Medical Corps 1944, AWM54 481/2/23. This memorandum deals with Women Officers of the AAMC, and therefore is not concerned with the Australian Army Nursing Service or the Australian Army Women's Service.

Figure 5: Captain Mabel Josephine Mackerras (1896-1971), pioneer woman doctor-soldier of the Australian Army Medical Corps. Photograph, *circa* February 1942, from a family photograph album, courtesy of Mrs Diana Hacker.

Josephine Mackerras, the proposed but rejected citation concluded with the words which encapsulated the perspective of her military service: 'Few women can have made a greater contribution to the Allied war effort.'[64]

Conclusion

It is said that history is a tool for the present, that success may be achieved in the future. The health challenges of those pivotal years, 1943 and 1944, especially those of tropical diseases, threatened to incapacitate the Allied forces in the field. The practical responses to such challenges were indeed one of the most important 'force multipliers' and one of the most successful and significant foundations for the ultimate victory which was achieved in 1945. Such issues remain with military commanders today. In July 2003, on the day this paper was given to the [Australian] Chief of Army's History Conference in Canberra, Australia, Colonel Gaddafi, President of Libya, speaking at the African Union Summit in Maputo, Mozambique, said:

> Don't worry about the tsetse fly and the mosquito. They are God's armies, which will protect us against colonialists. If they come here they will get malaria and sleeping sickness.[65]

Wound surgery and the correct use of antibiotics have to be continuously relearned. Women health professionals, equal in professional status, skills and record of service when compared with their male counterparts, will take their place without gender-restrictive stereotyping in the campaigns of the future. The prevention of accidental trauma, malaria and typhus will continue to confront our troops in all tropical theatres in the years ahead. These future threats will be controlled if the successful lessons of these two pivotal years of the New Guinea Campaigns continue to be a force-multiplying guide.

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63. See notes 34 (full proposed citation for VFX81148 Major Lady MacKenzie [Winifred Iris Evelyn MacKenzie]) and 35 above.
64. 'End of War' Awards :Submissions by QMG and DGMS. Rejected Citation (MBE) for NFX 137899 Major Mabel Josephine Mackerras and for VFX 81148 Major MacKenzie: AWM 119-248/25.
65. Colonel Mu'Ammer Gaddafi, Address to the African Union Summit Meeting, Maputo, Mozambique, 13-14 July 2003, *The Times*, 14 July 2003; *New Scientist* 179 (2003), 8.

The Green Hole Reconsidered

Peter Stanley

Ten years ago I published an article 'The Green Hole: exploring our neglect of the New Guinea campaigns of 1943-44'.[1] A decade later, this conference offers an opportunity to reconsider those reflections and arguments and to discuss the ways in which Australian historians have and have not dealt with the campaigns in New Guinea.

In 1992 I began by alluding to the fact that we were in the midst of the fiftieth anniversary of the Second World War. We had seen the year before the commemoration of the fall of Singapore (and the bogus controversies that followed over the exaggerated so-called Wavell report into the misbehaviour of Australian troops). We saw the major pilgrimage to Papua, where Paul Keating kissed the ground at Kokoda and argued that we should be focussing on the losses and achievements of the war in our region and making less of the losses in defence of the empire in the Great War. I wondered whether in the coming year we would see much attention on the battles of 1943 in New Guinea. As it happened, we did not. 1993-1994 turned into a trough between the interest shown in 1992 in Singapore, the Coral Sea and Kokoda (though not Alamein) and the even greater peak of 1995, the year of Australia Remembers. Primed by the then Minister for Veterans' Affairs, Con Sciacca, Australia Remembers became a major celebration, funded by government and supported by the community. We would have to wonder whether we will again see the anniversaries of Shaggy Ridge and Sattelberg overlooked or given the acknowledgement they deserve. Certainly we can anticipate that the 60th anniversary of the war's end will be marked appropriately, though there is so far no sign that the extravaganza of Australia Remembers will be repeated in a comparable form.

I argued that in comparison to Kokoda the New Guinea campaigns of 1943-44 are virtually unknown. The operations which carried Australian and American forces from the hills overlooking Salamaua in April 1943 to the capture of Madang in April 1944, are virtually unknown, summed up in vague references to 'New Guinea and the islands'.

1. 'The green hole: exploring our neglect of the New Guinea campaigns of 1943-44', *Sabretache: Journal of the Military Historical Society of Australia*, April-June 1993, 3-11.

In this paper I want to argue that these campaigns have continued to be neglected, discuss the reasons for our overlooking them and to comment on the implications of our forgetfulness. Along the way I want to comment on what has and has not changed since I gave that paper ten years ago.

The New Guinea Campaigns

Having defeated the Japanese attempt to take Port Moresby overland and having advanced to the north coast of Papua, MacArthur planned the series of campaigns which would take his forces closer to his strategic aim, the re-occupation of the Philippines. To achieve this the American and Australian forces in the South West Pacific Area would have to deal with the Japanese in New Guinea and New Britain.

In three campaigns, fought mostly by the Australian army supported by mixed but primarily American air and naval forces, MacArthur's forces re-gained New Guinea. The 3rd, part of the 6th and later the 5th Australian Divisions, drew Japanese troops towards Salamaua, the so-called 'Salamaua magnet'—fighting a series of small actions in rugged country. In September 1943 George Vasey's 7th AIF Division mostly landed by air around Nadzab, while George Wootten's 9th AIF Division landed by sea at Red Beach. Both then advanced on the great Japanese base at Lae. The 9th Division reduced the Japanese defenders of the Huon Peninsula in a series of fights around Finschhafen and Sattelberg. To cut off the Japanese retreat to the west and establish Allied air bases, the 7th Division advanced up the Markham and Ramu valleys, taking the massive Japanese position at Shaggy Ridge by January 1944.

The year-long offensives virtually destroyed the Japanese Eighteenth Army, which lost 35,000 men. The term 'body count' belongs to the Vietnam War, but the idea was born in the intelligence reports of New Guinea Force. The Australian Army lost 1,200 killed and 2,800 wounded, with many more men evacuated sick with illnesses such as malaria and scrub typhus.

It is important to grasp the scale of these campaigns. They were among the largest and most complex fought by Australia in the Second World War. Twenty-five Australian infantry battalions participated in the operations for the capture of Lae and Salamaua, the largest number of Australian battalions to participate in a single campaign during the Second World War, and the most to see action simultaneously since the battles in the Somme valley in the summer of 1918. The naval, logistic, and particularly air support they required was immensely greater than that provided to the first AIF.

Forgetting the War in New Guinea

My concern is not just that the Australian people generally have forgotten what their fathers and grandfathers endured in those campaigns. Rather, I want to raise the question of why the military historical community of this country—and that means us—has neglected events which on the face of it would justify more than a passing interest. My argument in 1992 was that the New Guinea campaigns are for most of us a green hole. I began by surveying briefly how they have been treated in print.

I started, of course, with David Dexter's volume of the official history, *The New Guinea Offensives*, and the naval, air and medical volumes that complemented Dexter's volume.[2] I acknowledged the role of unit histories. While they cumulatively represent a rich resource, illuminating the general from the experience of the particular, I suggested that their appeal was too often restricted to those who served, baffling even members of their families, who recall vaguely that Dad was in the infantry somewhere 'up in the islands'.

Of general works, I suggested that the picture was grim. I acknowledged David Horner's books, *Crisis of Command*, *High Command* and *General Vasey's War*.[3] I should have noted American books, such as the 'Green books' on the war in New Guinea, and Lida Mayo's *Bloody Buna*.[4] I was suitably dismissive of Timothy Hall's *New Guinea 1942-44*, which disposes of the last two years in about twenty error-filled pages.[5] I also acknowledged important and influential memoirs, such as Peter Ryan's *Fear Drive My Feet* and Frank Legg's *War Correspondent*.[6]

Then I spent some time offering some reflections on how Australia has—or rather has not—remembered these campaigns, deploying an analysis of articles on Australian Army publications, articles, papers and grants sponsored by the Memorial to support my contention.

What do we lose by this neglect? I suggest that in the absence of a clear understanding of these events we permit the survival of an attenuated menu of images which collectively represent the war in New Guinea in the popular imagination, a compound of impressions

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2. David Dexter, *The New Guinea Offensives*, Vol. VI of *Australia in the War of 1939-1945* (Canberra: Australian War Memorial, 1961).
3. David Horner, *Crisis of Command: Australian Generalship and the Japanese Threat* (Canberra, Australian National University Press, 1978); *High Command: Australia and Allied Strategy* (Sydney: Allen & Unwin, 1982); *General Vasey's War* (Melbourne: Melbourne University Press, 1992).
4. Lida Mayo, *Bloody Buna* (New York: Doubleday, 1974). Interestingly, a British edition distributed in Australia was sub-titled, sensationally and misleadingly, *The campaign that halted the Japanese invasion of Australia*.
5. Timothy Hall, *New Guinea, 1942-44* (Sydney: Methuen, 1981).
6. Peter Ryan, *Fear Drive My Feet* (Sydney: Angus & Robertson, 1959); Frank Legg, *War Correspondent* (Adelaide: Rigby, 1964).

of diggers in jungle green uniforms—'the best jungle fighters in the world'—saving Australia from invasion by beating fanatical Japs. The picture becomes a caricature. 'New Guinea' becomes a green blur, dotted with a couple of indistinct landmarks, Kokoda, Buna, Shaggy Ridge. For the Memorial, I would argue that the consequence would be that we know less and less, raising the dangerous prospect that we eventually fail to understand the significance of our collection, particularly of official records. The net result of our deepening ignorance, I need hardly emphasise, would ultimately be to diminish awareness of those whom the Memorial seeks to commemorate.

Why should New Guinea have been neglected? I suggested five reasons:

First, because the New Guinea campaigns were complex, requiring a great deal of effort to understand just what occurred, why and to what point. Speaking honesty, I asked who had not picked up *The New Guinea Offensives* only to be deterred or at least depressed to find that the New Guinea campaigns were so *detailed.*

Second, it has been suggested to me that the war in New Guinea was, compared to other operations, undramatic, lacking the highs and lows of, say, Kokoda. Perhaps David Dexter modestly presented them in a minor key, but I would suggest that the events he chronicled are hardly dull. The three-month fight for Shaggy Ridge, perhaps the one New Guinea action popularly known, was a desperate affair, fought along knife-edged ridges on a one-man front. At Finschhafen a Japanese counter-attack drove between the 24th and 20th Brigades, and only the Australian ability to move reinforcements unimpeded prevented what might have been a messy reverse.

Third, and ironically, because they were by and large so successful. Historians thrive on tension, dissent, problems and failure. It is hard to avoid the conclusion that to be interesting Australia's campaigns have to involve a defeat, as in Gallipoli, a narrow victory, as in Kokoda, a victory so costly that it might have been better to have lost, as on the Western Front. British perfidy, incompetence and contempt adds zest, so perhaps the absence of British generalship itself explains our reluctance to acknowledge arguably our most successful campaigns.

Fourth, that despite their success, the New Guinea campaigns contributed little to the war's outcome. Nevertheless, they were the Australian Army's largest campaigns, and, in any case, as the persistent fascination with Gallipoli attests, there is a clear correlation between futility and historical interest; but it does not extend to New Guinea.

Fifth, because Australians were and are Eurocentric. We know—or at least care—more of D-Day than we do of our own battles. Conversely, our apathy towards Melanesia, evident today in our news coverage, carries over into an indifference to the Australian war there. And of course my observations on the 1943-1944 campaigns apply equally to those of 1945.

So it seems that the neglect of New Guinea is a part of a wider amnesia concerning the Second World War. This might appear to be a surprising claim, but is it possible that we are still fixated on Gallipoli because it relates to the perennial Australian preoccupation with national identity. Except for Kokoda, do we ignore large and important aspects of our military experience with less direct connection with impulses which have traditionally given Australian history its dynamism?

This much was, I admitted, pretty depressing. In 1992 I then moved on to discuss why it was so, and then to suggest some areas of future research to redress the deficiency. Ten years later, I want to say something more positive first, and that is to reflect on the achievements of the past decade. Since 1992 we have seen a number of welcome initiatives that collectively have left us in a much better position to understand these campaigns. It is not possible to mention everything, but I hope to suggest how much progress has, and has not, been made.

Let us begin with several genres in which Australian military history is strong. Australia has a well-established tradition in military biographies. Pre-eminent among them is David Horner's biography *Blamey*.[7] He emphasised Blamey's role in shaping the Australian force, presenting an unsympathetic commander in a new and fruitful light. Mention of biography is a prompt to recognise the notable achievement of Neil McDonald's biography of Damien Parer, which was crucial to my understanding of Kokoda in developing the Memorial's Second World War galleries.[8]

Unit histories, another Australian speciality, continue to be produced. Their importance can be under-rated. However, consider that at least three engineer field companies have produced histories in the past five years. Though small in themselves, they suggest the scale of the engineer effort in New Guinea and the need to comprehend not only how the Allied forces built the infrastructure of war as they went, but also how that engineering capacity provided one of the keys to victory. It is also important to remember that we should not only be thinking of army units, but also of RAAF and RAN units. So many histories of units, particularly army units, have been published over the past decade that it is impossible to mention them all.

This is a subject that can become and remain parochial, and we need to recognise that there have been several studies of the war in south-east Asia which Australians need to be aware of if they are not to work in an Australian ghetto. Alan Levine's 1995 *The Pacific War* gives us a good context for the Australian-American war of special

7. David Horner, *Blamey: the Commander-in-Chief* (Sydney: Allen & Unwin, 1998).
8. Neil McDonald, *War Cameraman: The story of Damien Parer* (Melbourne: Lothian Books, 1994); see also Neil McDonald and Peter Brune, *200 Shots: Damien Parer, George Silk and the Australian War in New Guinea* (Sydney: Allen & Unwin, 1998).

interest to us.[9] Focusing on the war in this theatre, Stephen Taafe's *MacArthur's Jungle War* (dealing essentially with the 1944 campaign, in which Australian forces played a minor role) reminds us that other nations, and other nations' historians, have important things to say about a theatre many Australians regard as 'ours'.[10] For example, Ed Drea's *MacArthur's ULTRA* gives us insights into the intelligence side of the war: a book that I know John Coates used in writing his study of the Finschhafen battle, which was the product above all of an intelligence failure.[11] Likewise, anyone working on the air war in the south-west Pacific—and the entire war depended on airpower—needs to read Thomas Griffith's biography of George Kenney, *MacArthur's airman*.[12]

Although both of my contributions to the scholarship on the Second World War have Australian-sounding sub-titles, I would argue that we need to try to resist the parochial attraction of much of Australian military history. I would suggest that despite their national sub-titles their texts seek to place the Australian military effort in broader, multi-national contexts. This is the case with, for example, Alan Powell's 1996 *War by Stealth*, which dealt with special operations in the theatre and canvassed the Australian, American, British and Dutch relationships.[13]

The war in Papua New Guinea fostered other bi-lateral relationships: notably with the United States and with the people of Papua New Guinea. We need to involve American perspectives and evidence in gaining a full appreciation of the major Allied power in this region. Notwithstanding the heroic efforts of the creators of the *Remembering the War in New Guinea* website, our understanding of the war's impact on the people of PNG is still not much further advanced than it was a decade ago. While both Japanese and Australian scholars have worked on their respective relationships with local groups, indigenous voices are still not readily heard.

I suggest that the literature on the war in the south-west Pacific is still uneven. Despite the relative neglect of its operational history in Australia the Kokoda campaign has attracted a further slew of books since 1992, some mediocre, such as Patrick Lindsay's *Spirit of Kokoda*: others, such as Peter Brune's *Those Ragged Bloody Heroes*, useful re-considerations of Australia's hardest and costliest campaign of the war.[14]

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9. Alan Levine, *The Pacific War: Japan versus the Allies* (Westport, CT: Praeger, 1995).
10. Stephen Taafe, *MacArthur's Jungle War: the 1944 New Guinea Campaign* (Lawrence: University Press of Kansas, 1998).
11. Ed Drea, *MacArthur's ULTRA: Codebreaking and the War against Japan, 1942-194 (* Lawrence: University of Kansas), 1992.
12. Thomas Griffith, *MacArthur's Airman: George C. Kenney and the War in the Southwest Pacific* (Lawrence, University Press of Kansas, 1998).
13. Alan Powell, *War by Stealth: Australians and the Allied Intelligence Bureau 1942-1945* (Melbourne: Melbourne University Press, 1996).
14. Patrick Lindsay, *The Spirit of Kokoda* (Melbourne: Hardie Grant Books, 2002); Peter Brune, *Those Ragged Bloody Heroes: from the Kokoda Trail to Gona Beach, 1942* (Sydney: Allen & Unwin, 1991).

Other campaigns in New Guinea have been less well served. Even worse, the broader relationships between the war in the islands and the war at home have been poorly served. While we now have Roy MacLeod's useful *Science and the Pacific* War and Andrew Ross's idiosyncratic but valuable *Armed and Ready*, we still do not know much than we did twenty years ago about how the Australian industrial war effort was managed.[15] We do not know much more than we did when Michael McKernan published *All-In!* about the war's impact on Australians at home.[16] While formerly neglected subjects such as the traumatic impact of war and the experiences of war widows have been uncovered, not least through the work of Joy Damousi and Stephen Garton, and despite Melanie Oppenheimer's pioneering research the magnitude and contribution of the vast voluntary war effort is still opaque.[17]

Perhaps the greatest challenge, and the greatest achievement, in understanding the history of the Pacific war is to encompass the perspective of the nation which was for our country the enemy. In 1996 the Memorial embarked on a joint undertaking funded by the Japanese Embassy which is a story of astonishing success. This, the Australia-Japan Research Project, is based in my section, run since 1996 by Steve Bullard and Peter Londey with the advice and support of a network of scholars in several countries and supported by several researchers. The AJRP's website, including the complementary website Remembering the War in New Guinea, constitutes the premier scholarly expression of the shared experience of the two nation's wartime encounter. [18]

The continuing relative dearth of secondary works on New Guinea needs to be qualified in relation to two other speakers at this conference. Mark Johnston's several books, and especially *At the Front Line* and *Fighting the Enemy*, demonstrate the contribution which a dedicated scholar can make.[19] *At the Front Line* enables us to comprehend the life and attitudes of the AMF, in and beyond New Guinea. *Fighting the Enemy* is a confronting and courageous study of what Australian soldiers actually thought of their adversaries. As we have seen, the results are not always comfortable, but they need to be faced. John Coates's *Bravery Above Blunder*, a study of the Huon

15. Roy McLeod, *Science and the Pacific War: Science and Survival in the Pacific* (London: Kluwer, 2000); Andrew Ross, *Armed and Ready: the Industrial Development and Defence of Australia 1900-1945* (Sydney: Turton & Armstrong, 1995).
16. Michael McKernan, *All-in! Australia and the Second World War* (Melbourne: Nelson, 1983).
17. Joy Damousi, *The Labour of Loss: Mourning, Memory and Wartime Bereavement in Australia* (Melbourne: Cambridge University Press, 1999); Stephen Garton, *The Cost of War: Australians Return* (Melbourne: Oxford University Press, 1996); Melanie Oppenheimer, *All Work No Pay: Australian Civilian Volunteers in War* (Walcha: Ohio Productions, 2002).
18. The Australia-Japan Research Project's wealth of indexes, finding aids, guides, essays and links can be found at its website: http://ajrp.awm.gov.au/ajrp/ajrp2.nsf/.
19. Mark Johnston, *At the Front Line: Experiences of Australian Soldiers in World War II* (Melbourne: Cambridge University Press, 1996); *Fighting the Enemy: Australian Soldiers and their Adversaries in World War II* (Melbourne: Cambridge University Press, 2000).

Peninsula campaign, offers a model of what an expert military historian, one with a command of the Australian and Allied sources, can achieve.[20] We look forward to Philip Bradley's complementary study of the Markham-Ramu Valley campaign, and especially on Shaggy Ridge. Another recent book is Alan Powell's study of ANGAU, the Australian New Guinea Administrative Unit.[21] (Interestingly, one of the important realisations of one of the several conferences which the AJRP organised to bring Japanese scholars to Canberra was to learn that studies of the Japanese counterpart of ANGAU—*Minsebu*—disclosed comparable insights into the wartime management of colonial peoples.)

Out of a desire to document the story I should not overlook my own small contribution, one which shows how various elements of this network are connected. Having given a paper lambasting everyone for neglecting the South-West Pacific campaigns, I felt the obligation to contribute. In 1994 I was given the task of curating the fiftieth anniversary exhibition *1945: War & Peace*. As part of the research effort for that project I travelled to Borneo. Out of that encounter came my 1997 book, *Tarakan: an Australian Tragedy*.[22] By the time *Tarakan* appeared I was working on the major re-development of the Memorial's Second World War galleries, which opened in 1999 and which expressed through scale, style or substance many of the ideas I had gathered on this part of the war, including important insights gained through the AJRP.

Several PhD theses on the New Guinea have been started or completed. John Moremon has written on the neglected question of logistics, in Papua. Garth Pratten (who completed a tantalisingly brief study of the Militia in New Guinea while a Summer Vacation Scholar at the Memorial in 1995) is working on Australian battalion commanders.[23] Karl James at the University of Wollongong is working on the Bougainville campaign.

In 1992 I discussed the relevant sources and touched upon oral history. I will not repeat this, except to say that in 1992 I called for an attempt to collect personal sources relating to the Second World War. I am delighted to say that nine years on the Department of Veterans' Affairs has funded the Caulfield oral history archive of Australians at War, a major oral history project by any standard and one that has already generated hundreds of hours of priceless and otherwise highly perishable evidence about how the war in New Guinea has been experienced and remembered.

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20. John Coates, *Bravery Above Blunder: the 9th Australian Division at Finschhafen* (Melbourne: Oxford University Press, 1999).
21. Alan Powell, *The Third Force: ANGAU's New Guinea War, 1942-46* (Melbourne: Oxford University Press, 2003).
22. Peter Stanley, *Tarakan: an Australian Tragedy* (Sydney: Allen & Unwin, 1997).
23. Garth Pratten, *Two Seconds: the Australian Militia Experience 1941-1945* (Canberra: privately published, 1995).

Suggestions for New Research

Mention of sources naturally brings us to new questions and new directions in research. Despite the progress we have seen since 1992, there remain several notable opportunities to ask fresh questions and explore novel ideas. In 1992 I offered a selection, but I am sure that many more could still be generated.

In 1992 I suggested that more work needed to be done on Australian doctrine and the tactics of jungle warfare. Despite some pioneering work by John Moremon a decade ago much more needs to be done.[24]

I also suggested that more work needed to be done on the history of the human impact upon and interaction with the natural environment. New Guinea offered an unfamiliar, arduous and baffling arena to an army accustomed to either the north African desert or the training camps of south-eastern Australia. Despite useful contributions, such as Chris Clark's history of the Royal Australian Survey Corps in *Australia's Military Map-makers*, we need to know more.[25] How did the Australian army—through the Allied Geographical Section, for example—learn about and adapt to this unfamiliar environment, from mapping its contours to coping with the effects of heat, rain and humidity on men and equipment? And how did the massive military presence affect the country, from dredging and road-building to spraying DDT?

Despite the start John Moremon has made with his thesis on the logistics of the Papuan campaign, we need to know more about the logistics of the campaigns, from the massive resources of the American landing ships to the thousands of carriers recruited by ANGAU.

Notwithstanding Ed Drea's work on *MacArthur's Ultra*, we need to know more about intelligence, especially at the tactical level. I am pleased to say that the AJRP and the Memorial are funding a large indexing project so that the vast but unwieldy holdings of ATIS records will be accessible through the Memorial's and the AJRP's website. I'm pleased to say that my colleague, Chris Clark, is at work on a study of the Bletchley Park of the SouthWest Pacific, Central Bureau.

Despite Alan Powell's book, we need to know more about the peoples of New Guinea and how they were affected by or contributed to the war. I think too that we need to learn more about inter-national and inter-service relationships in conducting the campaigns, and about the conduct and experience of battle.

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24. John Moremon, ''Most deadly jungle fighters?': Australian infantry in Malaya and Papua, 1941-43', BA (Hons), University of New England, 1992.
25. Chris Coulthard-Clark, *Australia's Military Map-makers: the Royal Australian Survey Corps 1915-96* (Melbourne: Oxford University Press, 2000).

That this list remains suggests that my opening contention, that the New Guinea campaigns are neglected, is still unfortunately justified.

In 1992 I suggested that we needed a book to do for New Guinea what Bill Gammage's *The Broken Years* did for the first AIF. *The Broken Years* revealed the Australia of 1914 and how the Great War changed it. We need a book which will not simply attempt to replicate—a *Broken Years* in jungle green—but which considers how characteristic aspects of the war in New Guinea shaped both the experience of serving there and post-war Australian society. I am thinking of the inherent tension between military authority and egalitarianism, the impact of observing American technological mastery, the growing Australian capacity to manage a complex military effort, the encounter with the cultures of Melanesia, and the troops' perception of the Japanese, the consequences of all of which are evident in post-war Australia. Perhaps we cannot expect such a synoptic book until we can create a foundation formed from a composite of earlier studies.