

***FROM PAST TO FUTURE:  
THE AUSTRALIAN EXPERIENCE OF LAND/AIR OPERATIONS***

***A HIGHER PLANE:  
LAND/AIR OPERATIONS IN THE  
SOUTH WEST PACIFIC 1942-1945***

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Before the Second World War, Allied expectations of wartime cooperation between armies and air forces were extremely limited. Few army officers could envisage the air contribution to the land battle extending much beyond air observation and reconnaissance although some direct support and protection from enemy fighters was hoped for. Most of their air force counterparts believed that strategic air operations would obviate the need for land battles in the first place. When tactical air power conferred a decisive advantage on Germany in 1940, these assumptions were seriously shaken. Armies and air forces were confronted with the inescapability of cooperation and then forced to develop appropriate doctrines and viable coordinating mechanisms in the heat of battle.

One of the most creative and formidable army-air partnerships to evolve in the Second World War took shape in the South West Pacific Area between 1942 and 1945. In this often overlooked theatre, Australian and American forces overcame formidable challenges with innovative tactics, coordinating methods, and a strategy that fully exploited the strengths of both army and air force.

The South West Pacific Area was established in April 1942 in a worldwide reorganisation of command areas by the Allied Combined Chiefs of Staff and encompassed Australia, Papua and New Guinea, the Netherlands East Indies, the Philippines and Borneo. The Philippines, the Netherlands East Indies and Borneo were already occupied by the Japanese who were now pushing south into mainland New Guinea from their newly established base on the island of New Britain. Although Japanese bombers based in the Netherlands East Indies were attacking Darwin, Japanese forces had not reached Australia. Like the rest of the Pacific the South West Pacific Area was designated an American responsibility and General Douglas MacArthur, evacuated to Australia from his shattered command in the Philippines, was appointed Supreme Commander Allied Forces. All combat units of the Australian armed forces were assigned to MacArthur's command.

MacArthur received his strategic direction through the US Joint Chiefs of Staff with direct communication through the US Army Chief of Staff, General George C Marshall.<sup>1</sup> Although MacArthur wanted to operate through task forces and to ensure American command of American forces, Marshall directed him to appoint General Sir Thomas Blamey of the Australian Army, Commander Allied Land Forces. Lieutenant General George Brett of the US Army Air Forces was appointed Commander Allied Air Forces. Brett's appointment was also unpopular with MacArthur and complicated by the fact that the United States Air Force had not achieved independence of the Army. MacArthur allowed his Chief of Staff, Major-General Sutherland, to dictate 'practically every action of the Air Force'.<sup>2</sup>

Then current American doctrine on land/air operations was outlined in Field Manual (FM) 31-35, Aviation in Support of Ground Forces. Issued by the US War Department in April 1942, FM 31-35 had as its key element the establishment of 'Air Support Commands' to work with ground forces. It allowed army formations down to division level to transmit requests for air support direct to these Air Support Commands through Air Force communications units or Air Support Parties.<sup>3</sup>

The Air Support Command System was neither necessary nor practicable in the South West Pacific in mid-1942. Of the small Australian and Papuan contingents scattered across Papua and New Guinea only Kanga Force at Wau had had any contact with Japanese forces and the small Allied Air Forces were fully stretched gathering intelligence through patrol and reconnaissance, attacking Japanese bases in New Guinea, defending Darwin and Port Moresby and running supply flights to Kanga Force.

Brett had insufficient American staff to draft an alternative doctrine to FM 31-35 and, having thoroughly integrated the Royal Australian Air Force and United States Army Air Force units under his command, endorsed that developed by the more experienced Australians.

The 1941 Middle East campaign had provided Australian Army and Air Force units with valuable, if not wholly appreciated, experience in the conduct of land/air operations. In the Middle East they discovered that air power could be critical to the outcome of ground operations, and not only through the hoped for reconnaissance and direct support; the establishment of air superiority delivered protection from enemy air attack and was a prerequisite for the safe and effective conduct of all other air tasks, whether interdiction, reconnaissance or direct support. Interdiction provided valuable indirect support, weakening opposing ground forces by depriving them of supplies and reinforcements.

Dedicated air support components were dissolved to prevent the dissipation of air resources and all requests for direct support were vetted by the Air Officer Commanding Western Desert, Air Vice Marshal Coningham. Coordination of air and land operations was achieved through close liaison at all command levels and the introduction of dedicated air support communications.

In response to the lessons learnt in the Middle East, the Australian Army had established a School of Army Cooperation in Canberra and raised a number of additional Air Liaison Sections and Air Support Controls.<sup>4</sup> Australian Army officers returning from the Middle East drafted a replacement for the now obsolescent 1938 British War Office manual on *The Employment of Air Forces with the Army in the Field*.

The replacement *Manual of Direct Air Support* was issued in June 1942 with the authorisation of Generals Blamey and Brett. Reflecting army unease with Coningham's reforms in the Middle East, it provided for a routine allocation of air force assets to the army with:

an initial allotment of Support aircraft ... made by the Commander, Allied Air Forces, to the Commander, Allied Land Forces, prior to the commencement of any land operations in Australia ... he will sub-allot aircraft to GOsC Armies or to the Commander of an Independent Division, Formation or Area. These, in their turn, will sub-allot on similar principles in order to place the actual control of aircraft at, or forward of, Corps HQ, but not below Divisional HQ.<sup>5</sup>

Australian Army Air Support Controls with attached air force officers would be allocated to corps and division headquarters to facilitate control of allotted aircraft. This system conformed in principle with a GHQ instruction issued in May 1942 authorising the Australian Army General Officers Commanding Northern Territory Force and New Guinea Force to assume operational control of all locally operating army, air and naval forces in the event of imminent or actual attack.

Milne Bay was the first and last operation fought under these command and control arrangements. In July 1942 the GOC New Guinea Force, Lieutenant General SF Rowell, delegated operational control of all elements of Milne Force to its commander with the proviso that he was not to assume full control unless attack was imminent or in progress. However, no Air Support Control was sent to Milne Bay, leaving Milne Force without dedicated air support communications and without an air officer to advise the army commander and coordinate direct support. Air Liaison Officers had yet to arrive, no surveyed maps and air photographs of the area were available, and target identification methods were untested.

Despite these shortcomings, the joint efforts of Milne Force's predominantly Australian army and air units culminated in the first defeat of an attempted Japanese landing in the Second World War. The Australian victory was due to a unique combination of operational circumstances, improvisation and experience. The area of operations, along a narrow coastal strip to the north of Milne Bay, was fairly flat and confined and even forward troops were operating in reasonable proximity to supporting air units, so the lack of a dedicated air support communications net posed no great difficulty; ground forces sent target information in to the RAAF operations centre marked on sketch maps. Air liaison was improvised with army staff officers seconded to the RAAF operations centre and the squadrons conducting their own direct support briefings. The pilots of No 75 and No 76 Squadrons RAAF were familiar with the area of operations and the Japanese assisted accurate targeting by inexplicably avoiding the foliage cover and staying close to known tracks.<sup>6</sup> And, most importantly, direct support could be provided without fear of harassment from enemy fighters because the Japanese were deprived of air cover by Allied raids on the Buna airstrip.

Eleven days before the Japanese landing at Milne Bay Major General George C Kenney had replaced Brett in command of the Allied Air Forces. Brett's integration of the Allied Air Forces had been deeply unpopular in Washington and Kenney's first action was to segregate the USAAF and the RAAF into two distinct commands. The USAAF, along with No 9 Operations Group RAAF, he designated the Fifth Air Force and gave responsibility for operations in Papua and New Guinea. The bulk of the RAAF along with a handful of USAAF, RAF and Dutch units became RAAF Command and was given responsibility for the defence of mainland Australia and for operations against the Netherlands East Indies.

It was now evident that Papua and New Guinea would be the core area of operations. The Japanese navy's ability to threaten Australia had been curtailed by the battles of the Coral Sea and Midway and the Joint Chiefs of Staff had ordered MacArthur to advance through New Guinea towards the major Japanese base at Rabaul. Kenney's division of responsibilities therefore ensured that the support of land operations would be primarily the province of the USAAF.

Kenney maintained his headquarters near MacArthur in Brisbane but ensured close oversight of operations in Papua and New Guinea with the establishment of an Advanced Echelon Fifth Air Force (ADVON 5 AF) in Port Moresby. He appointed 'one of the most admired fighter commanders' in the USAAF,<sup>7</sup> Brigadier General Ennis C Whitehead, Deputy Air Force Commander, placed him in charge of ADVON 5 AF and authorised him to deal directly with the Port Moresby based headquarters of the Australian Army in Papua and New Guinea, New Guinea Force, on operational matters concerning army-air cooperation.

Kenney was a keen proponent of air force independence, blunt but personable, and interested in and willing to improve all aspects of air force organisation. He soon won MacArthur's respect and a much wider degree of latitude in planning his air operations than the hapless Brett.

Although Kenney, like Coningham, was more opportunist than doctrinaire, it would be misleading to describe the practices and procedures he introduced in the South West Pacific as *ad hoc*. Kenney had been instrumental in the formulation of USAAF tactical air force doctrine in the 1920s and it was this that he began putting into practice in late 1942. His order of priorities would be the establishment of air superiority, interdiction and direct support.

The first priority for Fifth Air Force was to neutralise Japanese air bases at Rabaul, Lae, Salamaua and Buna from which Japanese naval and army air forces were attacking Port Moresby, Australian troops on the ground in Papua and Kenney's aircraft. His second priority was to interdict Japanese supplies and reinforcements. With no strategic road access and no air transport capability, the Japanese relied almost entirely on shipping for supply and reinforcement so interdiction took the form of attacks on Japanese naval convoys and the barges used for coastal transshipment.

Aircraft were not committed to direct support but those that could be spared from attacks on Japanese bases and shipping were tasked with supporting the Australian advance over the Owen Stanleys and the subsequent Buna-Gona-Sanananda campaign. An average of six aircraft were made available each day with a special allotment made for strikes against major approved direct support targets. However, close support was almost impossible to deliver safely and effectively along the jungle-shrouded Kokoda Track or into the swamps and coconut plantations of the northern coast. Bomblines procedures and target identification methods hammered out in the Middle East did provide a frame of reference but required further adaptation to the very different operating conditions. While the speed and complexity of operations had hindered accurate targeting in the mechanised and highly mobile Middle Eastern campaign, in the South West Pacific—where vehicle movement was restricted and operations were slowed to the pace of the infantry—the problem was the overgrown and tangled terrain. Few distinctive landmarks existed, and in 1942 accurate maps and photographs were extremely scarce.

The conditions that so complicated the delivery of close air support made it imperative that the air force provide support in the shape of transport and supply. There were no roads beyond the few widely separated administrative centres and the terrain was for the most part mountainous and difficult to negotiate. The Australian Army found progress not only slow but costly, with fatigue, hunger and disease taking a higher toll than enemy fire. Equally slow native carrier lines were the only means of evacuating casualties and of transporting artillery, ammunition and communications equipment.

Initial attempts by New Guinea Force to implement the air support control procedures outlined in the *Manual of Direct Air Support* failed when aircraft were not allotted to army formations for direct support. The Australian Air Support Control with the 1st Australian Corps was reduced to the transmission of air support requests and even then found conditions trying. Cumbersome radio equipment prevented it from keeping up with forward troops, targets were almost impossible to identify or describe and communications with aircraft in flight was discouraged because of the danger of Japanese interception.<sup>8</sup>

Until November 1942 most requests for air support were for pre-arranged strikes on Japanese rear areas and were sent direct to ADVON 5 AF in Port Moresby by normal signal channels. In that month an Air Operations Section was established at New Guinea Force Headquarters. Requests were then sent through this section where they were jointly vetted by the General Staff (Air) and an Air Support Officer seconded from ADVON 5 AF before forwarding to Bomber Command.

While the General Staff (Air) at HQ New Guinea Force regretted that the principles of air support laid out in the *Manual of Direct Air Support* had not been adhered to, they decided that 'the allotting of air units solely for support of ground forces is NOT really necessary provided, as was the case in New Guinea, Air Force is prepared to give due weight to the importance of direct support tasks'.<sup>9</sup>

2 Australian Air Support Control had more success providing communications between the army and No 4 Army Cooperation Squadron RAAF. After failing to carry out reconnaissance of the Kokoda Track, No 4 Squadron began proving its worth in the Buna-Gona area where inaccurate maps and restricted visibility rendered ground-level observation of artillery fire almost impossible. The Wirraway pilots acted as scouts for the Australian tanks, calling down artillery fire on Japanese positions in the path of the intended advance. They also hovered over the bomblines during attacks by Allied bombers, observing the direction of anti-aircraft fire and pin-pointing artillery attacks once the area was clear.

No 4 Squadron had entered the war with slow, obsolescent aircraft but, unusually, was to retain them for the duration. Both the Wirraways and the Boomerangs introduced in June 1943 were to prove perfectly suited to the careful, low-altitude reconnaissance required in Papua and New Guinea; few Japanese positions were visible from the air and the Tac/R pilots were forced to operate as aerial trackers, seeking out and interpreting signs of enemy movement. The faster reconnaissance aircraft introduced in other theatres could not have flown these intimate and tactically productive sorties.<sup>10</sup> Fortunately, the comparatively early

establishment of air superiority in the South West Pacific obviated the need for the Australian Army Cooperation Squadrons to upgrade. They were able to continue providing army formations with quality tactical, artillery and contact reconnaissance and to develop invaluable skills in leading in air strikes by faster and more heavily armed aircraft.

In the Wau-Salamaua campaign, much of the responsibility for supporting Kanga Force and the 3rd Australian Division rested with the three squadrons of No 9 Operations Group RAAF then based in Port Moresby: No 4 Squadron, No 22 Squadron (Bostons) and No 30 Squadron (Beaufighters). During this campaign the Americans experimented with a modification of the Air Support Command system mandated in FM 31-35, a newly raised American Air Force Air Support Party based at Wau airstrip advising Kanga Force on air matters and transmitting requests for air support direct to ADVON 5 AP in Port Moresby.

New Guinea Force approved of 1 Air Support Party's advisory function but had strong reservations about an air support control procedure which bypassed corps headquarters altogether. The first objection was that, in the event of operations in more than one area, the Commander New Guinea Force would be unable to coordinate air support:

Assume that Air Support is requested by Kanga Force in the Guadagasal area and by 41 Div in the Morobe area. These areas are only fifty to sixty miles apart and the operations may form part of a coordinated plan; yet the commander responsible for the coordination has not the control of the air support available.<sup>11</sup>

Decisions regarding the provision of direct support would be made entirely by Fifth Air Force without reference to the commander ultimately responsible for battle and without full details of the tactical situation from the army's perspective. The theatre commander would not have access to details of air support requests or of planned support operations. No mechanism would exist for obtaining air support other than that requested by the divisional commanders and no air advice would be available at corps headquarters.

With communications primitive and unreliable, the requirement for rear approval would slightly slow the delivery of direct support. However, impromptu support was seldom possible because of the restrictions on flying time imposed by the tropical climate; aircraft were generally grounded when the cloud cover closed in around noon. It was also seldom required after 1942; the nature of the country made most ground operations deliberate and 'next day' support met practically all requirements.

1 US Air Support Party personnel proposed the extension of the Wau system to the whole of the South West Pacific but New Guinea Force's fears were allayed when General Kenney issued his Allied Air Force SWPA Air Support Doctrine in July 1943. Kenney prefaced the new doctrine with the assertion that 'the theory of an Air Support Command does not fit the picture in this theater'.<sup>12</sup> Instead, he promised:

Whenever ground force action requires close support by aviation, all or part of the Air Forces will be employed for this purpose. The proportion of Air Force effort to be devoted to close support is determined by the Air Force Commander in accordance with directive by the Theater Commander, and with consideration for all the objectives to be attained.<sup>13</sup>

USAAF Air Support Parties would still be attached to divisional headquarters but they would transmit requests to both ADVON 5 AF and New Guinea Force for joint assessment and approval. Whitehead could authorise one of the Air Task Forces established north of the Owen Stanleys to attack tactical targets by direct arrangement with locally operating ground force headquarters, but simultaneous notification of requests would still be passed to HQ New Guinea Force.

Despite the fact that Kenney had not formed an Air Support Command, General Marshall advised President Roosevelt in March 1943 that the South West Pacific Area was the only theatre in which air power was being properly employed.<sup>14</sup>

Kenney had distributed and concentrated his scarce air resources to maximum effect, greatly altering the balance of capabilities in the South West Pacific in favour of the Allied ground forces. Attacks on Japanese air bases had deprived the Japanese air forces of the wherewithal to protect their sea lines of communication adequately or to support their ground forces. After 1942 they could only interfere with Allied operations on very rare occasions.

The Japanese ability to supply and reinforce their troops in Papua and New Guinea had also been severely constrained. After the March 1943 Battle of the Bismarck Sea, when the Fifth Air Force destroyed a major Japanese convoy en route from Rabaul to Lae, the Japanese had no choice but to land in remote areas and transship by coastal barges. These barges were ceaselessly hunted out by Kenney's light and medium bombers. Japanese ground forces were soon starved of both supplies and reinforcements, and operating at a distinct disadvantage vis-a-vis Allied ground forces. Compelled to husband their resources, they were able to attempt only two offensives of any note after early 1943: the landings at Scarlet Beach in October of that year and the attack on the American 32nd Division in the vicinity of the Drinimor River in July 1944.

Air transport had enabled MacArthur to airlift the US 32nd Division into the Buna-Gona area, avoiding a repetition of the Australians' costly struggle over the Owen Stanleys. Fifth Air Force had also flown in 2400 tons of supplies, including vehicles and artillery, and evacuated 3500 sick or wounded soldiers.<sup>15</sup>

Kenney's early successes won him a great deal of influence with MacArthur and he soon persuaded his ambitious commander that air power could offer more in this operating environment than support to the ground forces. As he had explained in October 1942:

In the Pacific theatre we have a number of islands garrisoned by small forces. These islands are nothing more than aerodromes or aerodrome areas from which modern fire-power is launched. Sometimes they are true islands like Wake or Midway, sometimes they are localities on large land masses. Port Moresby, Lae and Buna are all on the island of New Guinea, but the only practicable way to get from one island to another is by air or by water: they are all islands as far as warfare is concerned. Each is garrisoned by a small force and each can be taken by a small force once local air control is secured. Every time one of these islands is taken, the rear is better secured and the emplacements for the flying artillery are advanced closer and closer to Japan itself.<sup>16</sup>

After the bitter fight on the Buna-Gona-Sanananda front, MacArthur was anxious to avoid further confrontation with Japanese ground forces. What he did not want was a 'dilatory and costly island-to-island advance',<sup>17</sup> as he put into practice a revised Joint Chiefs of Staff's directive to neutralise Rabaul, establish airfields on Kiriwina and Woodlark Islands and seize Lae, Salamaua, Finschhafen, Madang and Cape Gloucester. MacArthur had only limited naval resources at his disposal, and 'the offensive and defensive power of the air, and the adaptability, range and capacity of its transport' offered him an alternative means of bypassing areas heavily defended by the Japanese.<sup>18</sup>

Fifth Air Force would be MacArthur's main striking force, ranging further and further west from bases secured by the army after amphibious or air landings. While the air force would support the army with transport, supply and direct support, the principal objective of the ground offensive would be the seizure and securing of land suitable for air bases. Landings would be staged and bases constructed in areas determined by intelligence assessments to be most weakly defended.

By mid-1943 MacArthur had achieved his twin ambitions of operating through task forces and removing the Australians from command of American forces. Blamey had been ordered to take command in New Guinea and had thereby become the commander of New Guinea Force. MacArthur gave New Guinea Force the task of seizing Lae, Salamaua and the Huon Peninsula up to Madang and Alamo Force, created to conduct operations by the American Sixth Army and the 1st Marine Division, that of taking Kiriwina and Woodlark Islands and the western end of New Britain. MacArthur's Allied Naval Forces were to support the operations

of New Guinea Force and Alamo Force, defend forward bases, protect lines of communication and transport the land forces for their amphibious landings. The Allied Air Forces were to destroy enemy aircraft and shipping, support the two land task forces, support the defence of forward bases and provide air transport for the ground forces.<sup>19</sup>

With the Japanese largely on the defensive, Allied forces had the initiative in deciding the direction and timing of operations. Time became available for the careful determination and coordination of land and air tasks at both the strategic and tactical level.

Because joint structures were never established and no air units were placed under army control, coordination of land and air operations relied entirely on liaison between the task forces. As Kenney stressed in the foreword to his Allied Force SWPA Air Support Doctrine:

The basis of effective air support is cooperation and teamwork. To attain this, all concerned must have the willingness to cooperate thoroughly, as well as the skill and training to weld supporting and supported forces into a combat team.<sup>20</sup>

Continual liaison at all command levels ensured that this willingness to cooperate was based on the most durable of foundations: mutual understanding and respect. The relationship between the Australian Army and the predominantly American Fifth Air Force was not only close enough to allow for the joint planning and execution of large and complex operations like the Nadzab landings in mid-1943 but, more importantly, was strong enough to withstand the occasional pressures such as those imposed by the divergence of operations later that year. Relations between these two services and the Allied Naval Forces seemed fractious by contrast and those between Allied armies and air forces in Europe fragile in comparison.

Whitehead dealt directly with New Guinea Force Commanders in Port Moresby and Whitehead's Chief of Staff, that 'wonderful forward planner', Colonel Merian C Cooper, regularly conferred with senior Australian Army Air Liaison Officers when planning Fifth Air Force operations.<sup>21</sup>

Australian Army General Staff (Air) worked with USAAF Operations and Intelligence Staff at force and corps headquarters and with USAAF Air Support Parties at divisions making certain that air support requests were accompanied by detailed and up-to-date target information and that air support was jointly planned and then approved at all command levels.

Australian Army Air Liaison Officers communicated to ADVON 5 AF, the three Air Task Force headquarters, and supporting squadrons, information on dispositions of friendly forces, targets, and methods of target identification to be used. The Air Liaison Officers were better acquainted than USAAF Intelligence Officers with the terrain and weather conditions in the areas in which supported army units were operating and better qualified to give a precise interpretation of the ground situation, army requirements, and target details. The Air Liaison Officers also utilised their army contacts to make a long-term contribution to the success of direct support missions; by informing army formations of air capabilities and limitations they encouraged the full but careful integration of direct support into army planning, and by keeping air force units apprised of the effectiveness of strikes they facilitated the development of optimum attack techniques.<sup>22</sup>

The USAAF had assumed primary responsibility for support of Australian forces from mid-July 1943, No 9 Operations Group RAAF having moved to Milne Bay, Kiriwina and Goodenough Islands and assumed responsibility for operations over the eastern end of Papua and its adjacent waters. The only exceptions were No 24 Squadron RAAF (Vengeances) which provided support for the 9th Division's advance from Scarlet Beach to Sattelberg and the Vengeances and Kittyhawks of the newly formed No 10 Operational Group RAAF which supported the 7th Division's assault on Shaggy Ridge.

Fifth Air Force support to the Australian Army had increased along with the size of Kenney's air force but the increase had been in intensity rather than frequency. The Buna-Gona campaign had demonstrated that frequent small air strikes were not an optimum use of air effort and not of greatest value to the army so direct support increasingly took the form of saturation bombing of entrenched Japanese positions and the softening-up of Japanese-held areas in the path of the ground advance.<sup>23</sup>

No ground-attack-capable air asset was exempted from direct support; the preferred fighter bombers and light bombers were joined briefly by the ill-fated dive bombers, and frequently by medium and heavy bombers. During June and early July 1943, for example, all USAAF bombers in Papua, including several squadrons of B-24 Liberators, were switched from other targets to support of the ground forces in the Mubo-Salamaua area.

There were periods when the reestablishment of air superiority or air support to American forces in New Britain or the South Pacific demanded all Kenney's resources and no plans were made for significant air support of Australian ground forces. When Japanese opposition proved heavier than expected, as it did during the 9th Division's assaults on Finschhafen and Sattelberg in late 1943, aircraft had to be quickly switched from other tasks. When the ground offensive outpaced planned air transport and supply, as it did with the 7th Division's push up the Markham and Ramu Valleys over the same period, the army could afford, albeit reluctantly, to wait until fighter escorts became available.

By 1944 the difficulties experienced by support aircraft in locating targets and avoiding friendly positions had been greatly reduced. Through the Herculean efforts of specialist American photographic squadrons, great tracts of Papua and New Guinea had been photographed since 1942. Ground-based target indication methods had also been refined. Indication by flares and lights had been abandoned almost at the outset when the Japanese sowed confusion with decoy flares and the use of ground panels had proved unsuitable in all but areas of sparse vegetation such as ridges. Artillery and mortar-fired smoke had become the most commonly used form of ground-based indication but the white smoke was not always possible to distinguish from the low cloud and rising mist common over the tropical ranges.

Where targets were difficult to indicate by these methods or pilots were inexperienced in close support, one of two types of lead-in was utilised. Lead-in by Tac/R aircraft was pioneered by No 4 Army Cooperation Squadron RAAF at Wau in early 1943 and involved the indication of targets to following attack aircraft by strafing with tracer or dropping phosphorus smoke bombs. Tac/R pilots also acted as forward air controllers after the initial lead-in, identifying further targets and observing and correcting fire. Sometimes ground forces would notify the pilot of secondary targets which were relayed to following aircraft and on other occasions support aircraft would simply follow him 'like a pack of wolves looking for a suitable target'.<sup>24</sup>

Another form of lead-in involved the Australian Army Air Liaison Officers flying in the lead aircraft of attacking formations and identifying targets and sites for smoke indication. This form, which took advantage of the Air Liaison Officers' superior map reading skills, was also used on raids against targets removed from the army area of operations.

The accuracy of direct and indirect support missions was also facilitated by Kenney's zeal for technical innovation. Fighters and bombers were adapted for ground strafing and delayed-action munitions like the parachute-retarded fragmentation bomb, developed by Kenney himself in the 1920s, were introduced, allowing for minimum altitude attack.

By 1944 close support was being delivered accurately to within 150 yards of friendly positions, an extraordinary feat considering the lack of dedicated air support and the difficult and undifferentiated terrain.

Casualties continued to occur from awkward approaches or poor bombing and even from air missions unrelated to direct support. Moreover, close support produced the same mixed results in the South West Pacific as in other theatres. It often resulted in enemy casualties or the destruction of enemy firepower and facilitated progress on the ground, but on some occasions had little material effect or, worse still, a distinctly negative effect, with bomb damage slowing the advance and necessitating last-minute changes in tactics. Generally, however, Allied air support was welcomed by the Australian Army and dreaded by the Japanese, who found their already limited freedom of movement even further restricted.

By mid-1944 MacArthur's forces were well positioned for an attack on the Philippines, having bypassed, if not eliminated, Japanese forces in New Guinea and established a string of air bases along its northern coast. Australian regular forces had withdrawn to Australia and while they were being reconcentrated, the Americans had continued their westward advance with amphibious assaults on Hollandia, Wakde, Biak, Sansapor and Morotai.

Satisfactory guidelines for amphibious air support had taken some time to evolve, because of early friction between Fifth Air Force and the Seventh Amphibious Force. By late 1944, however, procedures had been standardised with the routine provision of support aircraft on Air Alert and with Air Force Support Air Controllers Afloat and Support Air Controllers Ashore controlling the different phases of air support.

In late 1944 MacArthur made it clear that Australian forces would not accompany him on his return to the Philippines. Australian ground forces would instead relieve bypassed American garrisons in New Guinea and Bougainville and stage a series of assaults on Borneo. Fifth Air Force would be the assault force for MacArthur's advance and the RAAF along with the RNZAF and the American Thirteenth Air Force would remain behind for garrison and support.

In early 1945 Kenney acceded in part to Air Vice Marshal Bostock's request that RAAF Command assume responsibility for all air operations south of the Philippines, placing Northern Command in New Guinea, the Royal New Zealand Air Force in the Solomon Islands and 1st Tactical Air Force on Morotai under his operational control.

With air supremacy achieved and Japanese lines of communication all but severed, RAAF Command was in a position to provide substantial direct support to the Australian Army when the decision was taken to replace the Americans' perimeter defences with offensive operations against remnant Japanese forces. Few RAAF squadrons had any experience of direct support but the experienced General Staff (Air) and Air Liaison Officers were well positioned to induct them into its requirements and ensured that the quality of support did not suffer in the transition. These two organisations also adapted well to changes in their operating environment, allowing for the rapid streamlining of air support control procedures under conditions of air supremacy and for the creation of additional coordinating layers when the size and complexity of joint operations demanded them.

Air support request procedures were simplified for the 6th Division's offensive against the Japanese 18th Army in the Aitape-Wewak area and for 2 Corps' offensive against the 17th Army on Bougainville. The 6th Australian Division at Aitape-Wewak was supported in its offensive by 71 Wing RAAF at Tadjil and for the first time RAAF Air Support Parties were deployed to provide air support communications. Requests were vetted by division and wing headquarters, Air Support Parties were sometimes attached to formations forward of brigades, and ground to air communication was routine.<sup>25</sup>

Six squadrons of Royal New Zealand Air Force Corsairs supported 2 Corps' Bougainville offensive. Air Support Parties were not deployed and requests for support were passed through the General Staff (Air) at division headquarters to the RNZAF Operations Centre at Piva Strip.

The third 'joint' operation of 1945 was a three-phase assault on the island of Borneo undertaken by the 1st Australian Corps with the support of the First Tactical Air Force RAAF (1 TAF) and the American Thirteenth Air Force. The OBOE landings were the largest and most complex operations planned and conducted jointly by the Australian Army and the RAAF, and demanded more levels of coordination than were initially expected.

Air support control procedures were initially based on those evolved during earlier amphibious landings in the South West Pacific with the addition of one innovation from the South Pacific Area. Airborne Australian Army officers trained to analyse and report the ground situation and to identify potential air targets to the Support Air Controllers were assigned to continuous operation over the landing areas.<sup>26</sup>

OBOE 1—the assault on the island of Tarakan—revealed that insufficient attention had been given to the establishment of a sound air support control system. Transport delays and poor loading engendered delays in the establishment of shore-based communications and air and land headquarters were not collocated, complicating the delivery of support air observation and direct support.

For OBOE 6—the assault on Labuan Island and Brunei Bay—smaller, more mobile versions of the Air Support Parties were attached to battalion headquarters, reducing delays in the transmission of requests and target-related information during the critical landing phase.<sup>27</sup> The Support Air Observer effort was increased and an Air Liaison Officer was detached to 4th Photo Recon Group USAAF at Leyte, greatly improving the availability of air photographs.

The few remaining air support difficulties were ironed out for OBOE 2—the assault on Balikpapan, with General Staff (Air) and Air Liaison Officers appointed to work alongside the Support Air Controller Afloat as Support Air Observation Controllers and Air Liaison Officers attached to the Air Support Parties at brigade headquarters.

It might be tempting for army proponents of dedicated air support to attribute the success of the South West Pacific campaigns to the fact that Kenney's Fifth Air Force was part of the army. However, as US ground and air forces discovered at Kasserine in Tunisia in 1943, army command of the air force was no guarantee of success in conducting land/air operations. Ascribing it to the fact that Kenney had such a wide degree of latitude in allocating his air resources is also an inadequate explanation; so too did tactical air commanders at Kasserine.

Rather, it was Kenney himself who made the critical difference in the South West Pacific. It was Kenney's abiding interest in every aspect of tactical air power, his determination to exploit it to its fullest potential, his commitment to innovation and reform, and his ability to sell his ideas to MacArthur, that made these particular land/air operations such a success. Like his more famous British Air Force contemporary, Air Vice Marshal Coningham, Kenney understood that the establishment of air superiority was a prerequisite for the safe and effective delivery of all forms of air support. Once this was achieved, he provided not only the hoped for direct support but the interdiction, transport and supply that gave Allied ground forces the decisive edge. Kenney's efforts in support of the army won him MacArthur's respect and the experience and authority to shape strategy. Tactical air power came to assume a central, indeed pivotal, role in army planning.

Although Australian commanders had no comparative influence on the evolution of land/air operations in the South West Pacific, Australians working at the operational interface did make an important contribution. Building on their experience in the Middle East, the Australian Army's specialist liaison and air staff personnel did much to improve the accuracy and effectiveness of direct support and to foster understanding and respect between the cooperating forces.

The years since the Second World War have witnessed great technological advances and new approaches to the management of land/air operations and the circumstances that prevailed in the South West Pacific will never repeat themselves. Nevertheless, land/air operations in the South West Pacific are of abiding interest as a case study in the successful adaptation of doctrine, organisation, tactics and strategy. They also serve to illustrate and underline the flexibility necessary to satisfy the operating environment's unforeseen requirements.

## Endnotes

1. David Horner, 'The Military Strategy and Command Aspects of the Australian Army's Amphibious Operations in the South-West Pacific Area', in Glenn Wahlert (ed), *Australian Army Amphibious Operations in the South- West Pacific: 1942-45*, Canberra, 1995, p 28.
2. George C Kenney, *General Kenney Reports: A Personal History of the Pacific War*, New York, 1949, p 48.
3. Richard P Hallion, *Strike from the Sky: The History of Battlefield Air Attack, 1911-1945*, Washington, DC, 1989, p 163.
4. Australia's wartime attempts to improve the coordination of land and air operations are detailed in Nicola Baker, *More than Little Heroes: Australian Army Air Liaison Officers in the Second World War*, Canberra, 1994.
5. *The Manual of Direct Air Support*, Headquarters Allied Land Forces, South West Pacific Area and Headquarters, Allied Air Forces, South West Pacific Area, 8 June 1942.
6. John Mordike, 'Turning the Japanese Tide: Air Power at Milne Bay, August- September 1942', in Alan Stephens (ed ), *The RAAF in the Southwest Pacific Area 1942-1945*, Canberra, 1993, p 94.
7. Geoffrey Perret, *Winged Victory: The Army Air Forces in World War II*, New York, 1993, p 170.
8. Baker, *More than Little Heroes*, pp 54-55.
9. A[ustralian] A[rchives], MP 742/1, item 323/1/98, Air Operations in New Guinea—Sep 42-Jan 43, Report by GS (Air) HQ New Guinea Force, January 1943.
10. Peter Mead, *The Eye in the Air: History of Air Observation and Reconnaissance for the Army 1745-1945*, London, 1983, p 188.
11. A[ustralian] W[ar] M[emorial] 54, item 85/3/8, Air Support Organization New Guinea, 26 March 1943.
12. Wesley Frank Craven and James Lea Cate (eds), *The Army Air Forces in World War II, Volume IV, The Pacific: Guadalcanal to Saipan, August 1942 to July 1944* new imprint, Washington, DC, 1983, p 719.
13. AWM 54, item 85/3/8, Allied Air Force SWPA Air Support Doctrine. In the same month the US War Department issued FM 100-20, Command and Employment of Air Power, a document compiled by the USAAF without US Army Ground Force input. FM 100-20 began with the revolutionary assertion that army and air were co-equal and independent forces with neither the auxiliary of the other. It argued that flexibility was an air force's greatest asset and that only centralised control could effectively exploit this flexibility. Air superiority, interdiction and close air support were confirmed as the order of priorities for tactical air forces.
14. Perret, *Winged Victory*, p 530.
15. *Ibid*, p 174.
16. Craven and Cate, *The Pacific: Guadalcanal to Saipan*, p 119.
17. Cited in Gavin Long, *The Six Years War: A Concise History of Australia in the 1939-45 War*, Canberra, 1973, pp 256-57.
18. *Ibid*.
19. David Horner, 'Strategy and Higher Command', in Stephens (ed), *The RAAF in the Southwest Pacific Area 1942-1945*, p 60.
20. *Allied Air Force SWPA Air Support Doctrine*.
21. JE Hewitt, *Adversity in Success*, Melbourne, 1980, p 93.
22. Baker, *More than Little Heroes*, *passim*.
23. David Dexter, *The New Guinea Offensives*, Canberra, 1961, p 34.
24. Army-Air Cooperation in New Guinea, Report by GS (Air), Advanced Headquarters Allied Land Forces, SWPA, 1944.
25. Record of Air Support and Army Co-op in Operations Involving 6 Aust Div and 71 GR/B Wing in the Wewak-Aitape Area 3 Nov 44-15 Aug 45, OC 7 Aust Comd AL Section, 5 September 1945.
26. Baker, *More than Little Heroes*, p 119.
27. A detailed account of the air contribution to the OBOE operations and the strengthening of air support control mechanisms can be found in Gary Waters, *OBOE: Air Operations over Borneo 1945*, Canberra, 1995.