RAF Harriers overfly a British Army FV-432

The Air/Land relationship – an historical perspective 1918-1991

By Sebastian Cox

Introduction

The Air/Land interface has historically been one that has caused friction and discord. It may truthfully be said that the relationship has been cyclical, or perhaps more accurately conformed to a waveform with highs and lows. It therefore appears sensible to ask what might be the enduring themes in the Air/Land relationship and how the perhaps inevitable frictions and disagreements have been overcome, or at least ameliorated, in the past. Once we have identified enduring themes it is possible to consider in more detail why it is that they are enduring and what help that can offer in any consideration of the issue today.

Even a cursory examination of the history of this subject soon highlights the fact that some of the difficulties of the past, and thus perhaps the present, go deeper than mere process or equipment, but rather have stemmed from the differing military philosophies of the soldier and the airman. The latter has tended to take the view that many of what would be considered air power's core characteristics, such as flexibility, reach, penetration and speed, provide the Commander with a broad spectrum of capabilities, which should be utilised to secure the maximum benefit for the overall campaign plan. From the perspective of the soldier with his feet firmly planted both physically, and he would perhaps claim metaphorically, on the ground, the issues are perceived rather differently. Often the soldier's philosophical outlook is predicated in the need or desire to have organic air on call when and where he thinks he needs it. Yet it is the undoubted and very valuable capability for an aircraft to be attacking Berlin or Baghdad one day and overhead the infantryman in the Normandy *bocage* or the dust of Um Qasr the next, which has itself been a root cause of air/land friction. Thus a discordant note is struck between the soldiers' voices raised in urgent supplication for visible air support directly to their front, and the airmen's chorus regarding the need to exploit air's flexibility and concentrate air power for decisive effect.

That said, clearly there have been periods when the Air/Land relationship has been better than at others. This leads naturally to the question of when has it been at its best and why? There are those who describe the Air/Land relationship as lurching from unmitigated disaster to unsullied triumph. This view tends to see World War One as very good, particularly at the end; the inter-war period as poor, the early Second World War period as disastrous, the later War period as very good, and the post-war era as a curate's egg, good or bad in parts according to taste. In truth, like all such complex relationships, it is subject to stress and strain even when working well. One of the problems has always been that when things are not going well, and especially though not exclusively when they are not going well on the ground, there has been a regrettable if entirely human tendency to regress into inter-service tribal warfare.

The First World War

In fact some themes and problems are discernible as early as The First World War which still resonate very clearly today, and one of Air/Land's great and real victories, the Battle of Amiens in August 1918, illustrates some of these ongoing issues very well. Amiens was a significant victory, which initiated the terminal decline of the German Army

and led to its eventual defeat three months later. The Air/Land problem during the Battle was related to the Command and Control [C²] structure for the air component and the lack of joint planning; both historically are recurrent themes. Paradoxically this was in part a result of the newly formed RAF's inheriting the command structure of the 'organic' Royal Flying Corps, whereby specific air force brigades were allocated to specific numbered armies. At Amiens 5 Brigade[1] of the RAF under Brigadier Charlton co-operated with General Rawlinson's 4th Army. However, 5 Brigade had opcon of only 17 of the 43 RAF squadrons in the battle. The bulk

RAF DH9As

of these squadrons came under Major General John Salmond, the overall RAF commander in France. In the planning for the battle we also see an early example of a problem which consistently recurs in the air/land relationship and is still recurring today, i.e. apportionment of assets.

Although relations between Rawlinson and the two RAF commanders with whom he dealt were apparently good on a personal level, and although numerous planning conferences were held to develop the plan there were two problems. Firstly, the RAF commanders, particularly Salmond, did not attend all of them, and secondly none of the commanders committed their thinking to paper in any coherent fashion, which would have allowed both proper co-ordination and focused their own minds and those of their subordinates. As a result, although the arrangements for the initial co-operation of the corps reconnaissance and fighter squadrons of 5 Brigade RAF were laid out in some detail, the orders for the battle made no mention of the fighter-recce or bomber squadrons on which any wider strategic effect would hinge. As Sir John Slessor later pointed out in his seminal study *Air Power and Armies*, apart from 5 Brigade's limited objectives for day one, 'the *object* of the air operations – the effect they were intended to produce, the part they were to play in the plan as a whole – was not clearly defined.'

Brigadier Charlton AOC of 5 Brigade defined the *strategic* objective of the attack as being simply to disengage Amiens and its rail network, i.e. a limited operation. He either knew nothing of, or did not comprehend, the strategic depth of the operation the army commander, Rawlinson, was intending. He therefore could not possibly plan to assist in the deep battle, despite the fact that his forces were those best placed to do so. Major-General Salmond was no better informed or prepared. In the event on day one close air support operations were reasonably successful if costly, but as the battle unfolded on subsequent days the lack of a properly integrated air plan for development of the Battle led to constant re-planning and re-directing of the air effort but without an overall aim and with consequent frequent shifting of focus and hence poor effect. The battle was won, but the fractured air effort made little difference to the outcome after the first day.

Inter-war

In the inter-war years, though much good co-operative work was done in imperial policing operations little was done to build an effective partnership for high intensity warfare. In part the problem was doctrinal and political. The RAF's primary doctrinal focus other than air policing was on strategic bombing and in truth right up until 1939 this reflected the Government's wish since the latter's commitment to engage in high intensity warfare on any scale was half-hearted at best. The Army's struggles to establish even a modest experimental armoured force are well known and the government's determination to avoid continental commitments militated against planning large-scale land warfare. The RAF developed small-scale army co-operation forces in part because the foreseeable army commitment was on a small scale. When the Government of the day performed a *volte face* in March 1939, six months before the outbreak of war, and announced plans for a 55 division army, the RAF's long-term industrial expansion plans were predicated on strategic bomber and fighter aircraft, not the provision of ground attack assets to support a previously tiny field force. Nevertheless, there were both doctrine and squadrons available to support the Army in the field in 1939. However, the former generally stressed reconnaissance and artillery co-operation, and attack on lines of communication, with close air support being conducted only in emergencies.

The Second World War

The lack of any proper joint planning or co-ordination became very evident during the campaign in France and the Low Countries in 1940. Communications links were also clearly inadequate, and those that were available were predicated on a relatively slow-moving ground war. They proved tenuous and tortuous, often having to be routed via the UK once mobile warfare destroyed fixed communications, and, unsurprisingly, seldom functioned effectively in the fast-moving campaign which developed. The rapid loss of air superiority quickly ensured that much of the RAF's effort was ineffective. Both air and land forces fought with considerable courage and occasionally achieved some local success against individual German units, but, with no effective C^3 their efforts were uncoordinated and had little overall effect. In part, also the wrong lessons were learnt, with too much attention being paid to the *Luftwaffe's* use of dive-bombers and too little to its concentration on air superiority and effective, flexible communications and planning.

As a result the development of an effective joint partnership, which first emerged in the Mediterranean theatre, took time. Some Army officers, including the Chief of the Imperial General Staff, General Sir Alan Brooke, argued for dedicated organic air once more: in essence a form of Royal Flying Corps writ large. Initially in the Western Desert the RAF tried to accommodate these concerns and reverted to an RFC model. It re-organised to provide generic air parcelled out at formation level but in the battles of 1941 quickly discovered that this negated two of air power's principal assets, flexibility and reach. This C^2 model proved defective, as it was ineffective in deploying aircraft to decisive points, and wasteful of assets which too often remained on the ground or were under-utilised.

The answer lay in the development of a system of integrated planning by co-located air and land headquarters, with air contributing to the formulation and preparation of the overall plan as well as its execution. Properly integrated planning by knowledgeable staffs saw air contribute through interdiction, battlefield preparation, and direct close support missions, as well as air superiority and reconnaissance tasks. Efficient communications nodes in the right areas were also deemed essential. Air now had a much better picture of Land's intentions and locations, and Land was better placed to appreciate that the air battle had to be won before air assets could be allocated to the land war.

Air Marshals Tedder and Coningham deliberately set out to create a close working relationship with their Army opposite numbers, initially General Auchinleck and his subordinates and later General Montgomery. This was greatly helped by the fact that Montgomery had developed a real understanding of the functioning of air power and stated that to do so was an essential pre-requisite if an officer was to hold high command. He also stated unequivocally that 'concentrated use of the air striking force is a battle-winning factor … it follows that control of the available air power must be centralised, and command must be exercised through RAF channels.'

Regrettably, the lessons regarding C^2, integrated planning and efficient communications proved remarkably difficult to transfer between theatres. Despite the successful model provided by Eighth Army and the Desert Air Force the Allied invasion of NW Africa [Operation TORCH] suffered initially from all the problems previously identified, and the situation was only improved by the transfer of experienced air commanders from Libya. Even experienced individuals, however, proved capable of repeating mistakes. Despite the oft reiterated lessons from the Western Desert personality clashes amongst the very same team of senior air/land commanders produced some C^3 disconnects in NW Europe during Operation Overlord. Thus, the army and air headquarters were no longer co-located and an overly complex air C^2 structure produced further fault lines in the system.

Personal relations between General Montgomery on the one hand and Air Chief Marshal Tedder and Air Marshal Coningham on the other had sadly deteriorated markedly, and the presence of an additional C^2 layer in the form of Air Chief Marshal Leigh-Mallory's AEAF C^2 Headquarters further complicated the picture. General Montgomery no longer took the air commanders into his confidence and in contrast to the Western Desert did not keep them accurately informed regarding his intentions and the overall conduct of the campaign. This lack of trust did not contribute to improving or sustaining integrated planning.

Despite these problems air/land co-operation was a cardinal factor in assuring victory in North West Europe, as evinced by General Montgomery's willingness to cancel operations if weather or other factors reduced or grounded the available air effort. The absolute freedom of manoeuvre granted to land by air superiority, and the converse almost total inability of the *Wehrmacht* to manoeuvre by day in the face of Allied air power, were crucial.

RAF Typhoon

On the few occasions that the German forces attempted to operate *en masse* by day, as for example during the Mortain counter-offensive, they suffered severely. Mortain demonstrated the advantages of having air centrally controlled and available to concentrate at the decisive point. In essence all the allied tacair assets, US and British, were withdrawn from other tasks and sent to Mortain as the point of main effort, and to decisive effect. The US fighter-bombers of the IX Tactical Air Force were used to hold off the *Luftwaffe* whilst the Typhoon Wings of the RAF's 2nd TAF concentrated on the German ground forces. In exactly similar fashion during the German Ardennes offensive both 2nd TAF and the US 9th TAF were used to support the US troops, whilst heavy bombers from the UK attacked interdiction targets leading to the battlefront. Speed, reach and flexibility were thus used to apply air power to greatest operational effect within the theatre without regard to the nationality of the supporting or supported forces.

The inherent tensions already identified as stemming from the basic characteristics of air power and their application are clearly discernable in the OVERLORD campaign of 1944-45. Air Marshal Coningham as AOC 2nd TAF tended to favour using the reach and flexibility of his air assets on armed reconnaissance missions penetrating well behind the Forward Line of Own Troops [FLOT]. The Army Commanders tended to favour Close Air Support missions at the FLOT where they had greater influence on their application and perceived an immediate, direct and visible effect, not least on friendly morale. The soldiers were thus very much in favour of having airborne cab-ranks of tactical aircraft immediately on call adjacent to the frontline. The airmen viewed this as expensive in terms of crew and aircraft fatigue and argued, rightly, that it increased losses to AAA. It was also essentially reactive and thus relatively ineffective in terms of forcing the enemy to conform to the Allied commanders will and not vice-versa. Coningham was convinced that it was air interdiction beyond the immediate battlefield which severely restricted the Germans' overall ability to manoeuvre, and not close air support at the battlefront. Thus, the 2nd TAF generally favoured close air support only for very specific operations such as the opening of a major offensive, as with, for example, the operations in support of XXX Corps' assault towards Arnhem on 17 September 1944, day one of Operation MARKET GARDEN.

Eventually these differing priorities were accommodated when a pre-cursor to the 1991 USAF system known as 'Push-CAS[3] was introduced in 2nd TAF, with aircraft reporting to cab-ranks before heading to pre-arranged armed reconnaissance areas if no more pressing target was available from the designated forward air controller. More generous

scaling and provision of effective air/land communications also helped to improve matters.

There were also perennial problems regarding the correct identification of targets and the avoidance of 'blue on blue' attacks. The use of 'bomblines' [akin to Fire Support Co-ordination Lines in more modern parlance] did go some way towards ameliorating the problem, but also meant foregoing some opportunities for attack of enemy forces. Bomblines were heavily dependent on accurate reporting of their positions by ground units. Despite such measures reports of 'blue on blue' attacks by tactical air forces were relatively common throughout the campaign, and remain a problem today, and one with a high media profile, as has been demonstrated on a number of occasions during operations in the Middle East from 1991 onwards. Although technical solutions may provide some relief in this regard in the future, they are unlikely to remove it entirely, and there are also recent examples of ground forces, operating under pressure, accepting or suggesting high risk attack profiles without sufficient appreciation of the possible effect of air weapons on friendly forces, thus echoing Second World War experience.

The ground forces in 1944-45 also accepted some element of increased risk when using the strategic assets of Bomber Command and the US 8th Air Force in direct support of operations. The 21st Army Group also routinely requested support from the strategic air assets of Bomber Command for the majority of its major set piece operations from Operation CHARNWOOD on 18 July 1944 onwards. Operations GOODWOOD, TOTALISE, TRACTABLE, VERITABLE and attacks on Le Havre, Boulogne, Walcheren, the Ardennes, Goch, and the Rhine crossing all received support from Bomber Command. On more than one occasion this did lead to significant numbers of friendly casualties, which despite the prior acceptance of risk by the army commanders did nevertheless cause significant friction after the event, exacerbated by the physical separation of planning staffs.

The post-war era

In the post-war era we again see a cyclical pattern. In the Middle East there was a concerted move towards jointness, with Air/Land co-operation generally good. This was considerably assisted by the long-term deployment of units and headquarters staff on both sides, with concomitant opportunities to develop both techniques and personal relationships. Generally speaking the intensity of operations was also such that the relationship between tasks and resources was not significantly strained. In Malaya the nature of the campaign and the terrain was such that direct air support of troops in contact was rare. Much of the support was therefore principally in the form of air transport and support helicopters and the long term nature of the commitment again provided an opportunity to smooth out differences over time. Nevertheless, one old lesson was re-learned, and Air/Land co-operation improved markedly when the Air Headquarters re-located to be closer to the GHQ and planning thus becomes better integrated.

In Germany post-war the long-term deployment of units and headquarters likewise provided ample opportunity for teamwork and planning to be nurtured and maintained, and it is clear that the

Harrier GR3 aboard HMS *Hermes* in the South Atlantic

withdrawal of the RAF from Germany marked a downturn in the Air/Land relationship for that very reason. In both the Middle East and Germany the proximity to each other, and the intimate co-operation that developed over time, also nurtured a better understanding of the other environment's methods of working and problems. This had also been present during the Second World War, not least because most senior RAF officers had started their careers in the Army during the First World War. Although Joint staff training helps to ameliorate this, it is not a substitute for day-to-day contact and understanding.

One significant test of Air/Land in an expeditionary operation came during the Falklands Conflict in 1982, with the deployment of No 1 Squadron's Harrier GR3s to HMS *Hermes* in the South Atlantic. Here there is little doubt the Harriers could have been used more effectively than they were. The Squadron operated under Admiral Woodward's OPCON, and the Captain of HMS *Hermes* effectively exercised TACON. The Squadron was isolated on the carrier where the RN had little or no recent experience in Air/Land operations but provided the communications, tasking and intelligence support to the Harrier's operations. The land campaign, however, was principally the concern of the amphibious warfare and Brigade staffs located aboard HMS *Fearless.* The Squadron had no real operations centre as the carrier was configured for fighting air warfare and ASW battles. There were no separate communications available to *Fearless*, no up to date land picture and no efficient method of joint planning – the result was unsurprisingly less than ideal. These These organizational shortcomings were considerably worsened by poor personal relations and as a result the technical expertise of the aircrews was not utilised to best effect. Matters were made worse by the RAF's decision to deploy an experienced Forward Air Controller, but one whose age and fitness did not measure up to the rigours of campaigning in a Falklands winter. Although the Harriers made isolated contributions to the campaign, for example in the final stages of the Battle of Goose Green, the C^3 and planning disconnects, coupled with personality issues, meant that their operations were not properly coordinated with the land campaign. In addition the tactical reconnaissance capability of the aircraft was almost entirely neglected.

In the First Gulf War of 1991 the RAF deployed both Tornado GR1s and Jaguar aircraft to theatre. The former were principally employed on Offensive Counter Air and Interdiction missions whilst the latter principally attacked military targets in Kuwait including artillery batteries, missile batteries, and troop concentrations. The operation

was divided into four phases only the last of which involved the commitment of ground forces. The first three phases were all conducted from the air, and lasted six weeks, and the subsequent ground and air phase which ultimately ejected the Iraqi forces from Kuwait lasted four days. The phases themselves were not necessarily consecutive – Phase 1 for example was intended to secure air superiority, but this was conducted simultaneously with a range of other missions directed against strategic targets in Iraq and military targets associated with preparing the battlefield. In the initial six weeks of air operations attacks were directed at targets across the spectrum of strategic, interdiction and fielded military target sets. The attacks did not seek the absolute destruction of particular target sets but were specifically designed as an effects-based approach intended to use air power as an operational rather than a tactical instrument.

General Schwarzkopf inspecting troops during the Gulf War

RAF aircraft did not conduct any true close air support missions during the War, partly because the ground war lasted only 100 hours and did not at any point run into very serious or sustained opposition from Iraqi forces, some of which were intent on escape. The overall coalition campaign does nevertheless contain some aspects which are worthy of note.

Firstly, there was an interesting twist to the perennial conflict between deploying air to attack strategic targets and those directly related to the Iraqi fielded forces. During the summer and autumn of 1990 when US ground forces were first deployed to Saudi Arabia to deter Iraq, CINCENTCOM, General Schwarzkopf, a soldier, was concerned that his lightly equipped forces, principally the 82ND Airborne, might be overwhelmed, or alternatively subjected to chemical or biological attack for which he would have no viable response option. He was therefore interested in strategic air options that gave him a retaliatory, and therefore also potentially deterrent, capability directly against Saddam's regime. By contrast, General Horner, Commander of CENTAF, an airman and Schwarzkopf's JFACC, resented the efforts of USAF planners in Washington to produce such a strategic plan, because he perceived it as impinging on his authority as the senior airman in theatre. He preferred initially to plan for air assets to provide direct support against an Iraqi move into Saudi Arabia. Paradoxically, therefore, the senior soldier in theatre encouraged the planning of the strategic air campaign, whilst the senior airman was more tactically focused.

Secondly, there were tensions between the US Ground and Air Commanders, which, as in Normandy, partly stemmed from the command structure. General Schwarzkopf never appointed an overall ground commander. There was an Army component Commander, General Yeosock, and a Marine

Component Commander, General Boomer, but no overall land equivalent to General Horner as JFACC. General Schwarzkopf intended to act in this capacity himself, but the many other calls on his time meant that it could not receive his undivided attention and he did not necessarily brief his individual land commanders: nor was land separately represented in discussions between the CINCENTCOM and Horner. Schwarzkopf was particularly intent on deploying air power against the Iraqi strategic and operational reserve in the form of the Republican Guards Forces Command [RGFC] divisions, which as the most potent Iraqi units and the guarantors of Saddam's regime, were perceived as both a strategic and a military target. US Corps commanders, however, did not favour the RGFC as the primary target for air power but rather requested attacks on the Iraqi frontline divisions and their artillery. When the RGFC received, at CINCENTCOM's behest, far more attention than the frontline divisions, the Corps commanders came to believe that their target nominations were simply being ignored by the air forces, whereas in fact, unbeknown to them, the priorities were being set by General Schwarzkopf. As land commanders had initially raised doubts that the original air plan had too little input from ground officers, and been reassured by the USAF that their views would be sought for Phase IV, when this did not happen they perceived this to be the fault of the air forces, not the CINC. These problems never became more than an irritant partly because in the end the massive coalition air resources ensured that few important targets were not attacked. It was not so much a matter of whether to deploy air power against Baghdad or the Iraqi Army, as whether to attack artillery or tanks. As in NW Europe in 1944-45 air power inflicted significant damage on the Iraqi forces and their logistical support and lines of communications and seriously undermined their morale, as well as imposing severe restraints on the Iraqi ability to manoeuvre, such that the latter's principal interest when the ground war started became surrendering or escaping, not fighting. Overall both the strategic campaign, and the attacks focused on the Iraqi fielded forces, contributed significantly to the successful prosecution of the war. The superfluity of air power assets available meant that tensions over apportionment and targeting, though present, never became a significant issue during the war.

Conclusions

The enduring themes that might be identified from this necessarily brief historical survey are:

1. The necessity for properly integrated planning by knowledgeable, properly authorised, and co-equal staffs, from the outset of operations (i.e. the concept of operations stage).

2. The concomitant need for a properly considered C^3 structure to assist rather than hinder this aim. Historically, co-location has often helped in this regard, and the modern trend towards physically remote headquarters may thus be unhelpful.

3. The need for mutual trust between the key elements and commanders and joint study/discussion of operational issues.

Personality has often played a role and here again, although not a panacea, co-location has helped to ameliorate problems.

4. The concomitant need for the proper mutual appreciation and understanding of the philosophical outlook, organisation, combat techniques, methods of working, weapons/sensor effects and characteristics, and particular problems/peculiarities of each environment. This is often difficult to develop and sustain in the face of the competing demands which affect the environments individually and restrict the ability to achieve such understanding.

5. Fratricide has historically been a problem and remains problematic despite signs of a technological fix. Recognition of air assets by land [and indeed naval] forces and vice versa will also remain an issue. This suggests that the development of a proper attitude towards situational awareness, along with appropriate training, technical procedures and equipment is required.

Notes

1 The RAF's more familiar terminology 'Group' had not yet been adopted.

2 Allied Expeditionary Air Force. In theory ACM Leigh-Mallory's Headquarters was in place to co-ordinate the efforts of all the non-strategic air assets of the US and Commonwealth air forces. This was not a happy arrangement, in part because of personality clashes amongst the senior airmen but also because Leigh-Mallory had an unfortunate habit of offering air assets to General Montgomery for which he did not have formal Opcon.

3 In the First Gulf War in 1991 the USAF adopted a system whereby flights of aircraft arrived at the front without waiting for a request from the ground commander, i.e. they were 'pushed' to him. If they were not needed immediately by any of the engaged ground forces they would orbit for a short time, before departing for a pre-planned interdiction target.