A Bristol Fighter of No 20 Squadron over the Khyber Pass, December 1925 (AHB RAF)

Friends in high places: air power on the North-West Frontier of India*

By Maj Andrew Roe

**Prior to 1947 (Independence), the region was known as the North-West Frontier of India. Now the same area is known as the North-West Frontier of Pakistan.*

Introduction

The Afghan conflict that began in the autumn of 2001 again focused the attention of the world on the troublesome North-West Frontier of Pakistan. This precipitous and inaccessible no-man's-land, linking Central and South Central Asia, was one of the most volatile and challenging territories of the British Empire. The area provided a strategic buffer between opposing British and Russian spheres of influence and became a crucial outpost of the British Empire requiring measured security and stability as opposed to social and economic assistance. Comprising an area of 25,000 square miles and containing a population of approximately 3,000,000 predominantly Pathan tribesmen, the North-West Frontier contained five British-administered districts: Peshawar, Kohat, Bannu, Dera Ismail Khan and Hazara. Beyond the districts and roughly north-west of them up to the International Border, known as the Durand Line, were the loosely controlled tribal territories of North and South Waziristan, the Kurram, the Khyber and the Malakand.[1] As India's traditional and well-used invasion route, the North-West Frontier was a constant concern to the Government of India.

While the defence of India remained paramount to the Government, border management and the security of the frontier districts and tribal territories provided an equally complex dilemma. The immediate challenges of tribal control frequently eclipsed the threat of Russian advancements, especially for those charged with 'controlling' tribal territory. With limited resources, 'ascendancy' over the tribesmen was exercised primarily by the distribution of allowances to sympathetic *maliks* (tribal representatives or elders), and by the employment of locally recruited *kassadar* (tribal policemen) and indigenous forces, known as scouts. Both proved invaluable in maintaining order and relieving regular troops of the expensive work of garrisoning frontier outposts. In the event of a situation escalating out of control, the Army of India was the fallback force on the frontier. This consisted of both the British and Indian armies which, when combined, was a sizable standing force of covering troops.

Tribal territory was routinely controlled and disciplined by a sliding scale of violence: first enticement, rewards and threats, next tribal *kassadars*, then the lightly-armed scouts; only in *extremis*, when outbreaks were too excessive to be contained by the scouts, would the political authorities call on the army to conduct a punitive expedition in order to administer punishment. At this stage, control of the operation, including political control and oversight of the civil armed forces, passed to the military commander. In all cases, a heavily-armed force was deployed into tribal territory to exact retribution. Before the arrival of the aeroplane there was no other method of applying armed force when political initiatives failed. Marshal of the Royal Air Force, Sir John Slessor, recalls: 'These little wars [punitive expeditions] meant fighting battles, some very small affairs but others much more serious, involving heavy casualties to British or native troops. I do not know the cost in casualties of the of the fifty expeditions on the North-West Frontier in the thirty years between 1895 and 1925, but the Waziristan operations of 1919-1920 alone cost us in six months over 1,800 lives, in addition to 3,675 wounded and 40,000 sick casualties.'[2]

Fortunately for the Government, the arrival of a small number of primitive aircraft offered a ground-breaking means of bringing order to the tribal territories of the North-West Frontier.

Royal Aircraft Factory BE2c

Air power was seen as an inexpensive and effective means to observe and punish rebellious tribal behaviour

The role of air power on the frontier

Air power made its first appearance on the frontier in 1916. A year later, a small number of slow-moving Royal Aircraft Factory BE2c bi-planes, working from Tank, cooperated with ground troops during the Waziristan campaign of 1917. Aircraft were used again during the Third Afghan War; notably, a single elderly Handly Page V-1500, piloted by Captain 'Jock' Halley, bombed Kabul[3] on 24 May 1919, which was credited with playing a key role in the Afghan King's decision to sue for peace.[4] It was not until the 1919-20 campaign in Waziristan that air power emerged as an indispensable component of all future operations. Such was the physical and psychological impact of aircraft on the frontier in the early days that ground operations were postponed when weather conditions prohibited aerial support. With the advent of better aircraft and improved relations between the Air Staff and General Staff, air power was seen as an inexpensive and effective means to observe and punish rebellious tribal behaviour.[5] It also permitted an almost instantaneous response to tribal transgressions, laying aside the slow method of persuasion and negating the laborious preliminary measures necessary for a military expedition.[6] In contrast with traditional expeditions, the employment of air power made Government forces relatively inaccessible to the tribesmen.[7] Sir Edgar Ludlow-Hewitt posits: 'The effect on the tribesman of depriving him of all the happy possibilities offered by an invading column of troops must be something similar to the feeling of the matadors in a bull-fight if the bull were removed from the arena – no sport, no honour, no prizes, nothing to do but go home.'[8] Air power also afforded additional benefits. Even the most isolated tribes could now be reached with relative ease. Likewise, aerial actions were also out of reach of war correspondents.

By the 1930s, air power was employed on the frontier in two ways: in cooperation with other arms and services and 'as a new weapon.' In the case of the former, aircraft undertook reconnaissance, artillery observation, offensive action (bombing and machine gun raids), re-supply of ammunition and supplies, delivery, demonstrations to deter rebellion, convoy protection, casualty evacuation, protection and messaging duties.[9] They also conducted daily 'reassurance' visits to isolated scouts' posts. Although offensive action, like punitive expeditions, was criticised by some senior British officials in India as being brutal and indiscriminate, Slessor argued that its routine

employment was carefully controlled and more restricted than other forms of punishment.

It was considered perfectly legitimate to shell [with mountain artillery] a tribal village without warning, but even in an area when troops were in actual contact with a tribal enemy, villages were not allowed by the regulations to be bombed without special permission and the usual [twenty-four hour] period of warning.[10]

Therefore, despite poor levels of literacy, tribes were warned of an impending operation by a coloured leaflet, written in *Pushtu*. White leaflets were dropped a number of days prior to the bombing, followed by red leaflets twenty-four hours before the attack. Both set out the reason and nature of the action. They also articulated the Government terms and directed the tribe to evacuate their village or a prescribed zone by a specified time.[11]

Whereas lashkars have collected to attack Gandab and are to this end concentrated in your villages and lands, you are hereby warned that the area lying between Khapak-Nahakki line and the line Mullah Killi-Sam Chakai will be bombed on the morning of [date] beginning at 7 a.m. and daily until further notice.

You are hereby warned to remove all persons from all the villages named and from the area lying between them and the Khapak and Nahakki Passes and not return till further written notice is sent to you.
Any person who returns before receiving such further written notice will do so at his own risk.

Signed Griffith-Governor, dated 4th September 1933.[12]

These advanced notices allowed the tribesmen to relocate their families and as much of their movables, valuables and livestock to a place of safety in order to avoid casualties.[13] Regrettably, leaflets were not always dropped on the correct villages in time. Moreover, a number of tribesmen remained to protect their property, for fear of being robbed by their fellow countrymen.

Tribes generally took shelter in surrounding caves, which 'were flea-infested and extremely uncomfortable' or became unwelcome guests in neighbouring villages.[14] *Pushtunwali*, a strict Pathan code of honour, ensured that requests for food and shelter were approved, but should any fighting occur with Government forces, receiving villagers ran a considerable risk of being mistaken for the errant tribesmen. Colonel F. S. Keen in his '1922-23 Gold Medal Prize Essay' cautions: 'By driving the inhabitants of the bombarded area from their homes in a state of exasperation, dispersing them among neighbouring clans and tribes with hatred in their hearts at what they consider 'unfair' methods of warfare, bring about the exact political results which it is so important in our own interests to avoid, viz., the permanent embitterment and alienation of the frontier tribes.'[15] Moreover, in providing a detailed warning, the element of surprise was lost and many tribesmen chose to join their families in refuge rather than endure an aerial bombardment; many of which lasted both day and night for a number of consecutive days. Whilst the physical impact of aerial attack was far from decisive, the moral effect of an aerial assault could be considerable. However, the net result was that attacks against villages soon began to have little or

no long-term effect on the tribesmen. Continuous operations against a nomadic enemy, with limited possessions, at best achieved a transitory effect. To counter this, many called for raids to occur without prior warning. Although the proposal was rejected, British aircraft, on rare occasions, bombed tribes on the frontier without notice.[16]

Of particular significance, the bombing of villages (often viewed as the stronghold and headquarters of the tribal forces), which lay at the heart of air power doctrine, was rarely politically practical or justifiable. 'The *ultima ratio* of reprisals on a raiding *lashkar* [armed tribal force], that of bombing to pieces the village whence it set out, is, in theory, our trump card. In practice, it is not only difficult but – as we are beginning to realize – inadvisable.'[17] Referring to the use of air power on the frontier in 1930, Major General Sir Charles W. Gwynn, an officer with a particular interest in the techniques of imperial policing, highlights the challenges associated with its use: 'During these operations it was seldom either politically expedient or justifiable to adopt the usual tactics of bombing villages from which the hostile elements came. Under the prevailing conditions, the hostile bodies were often made up of men drawn from wide areas and from villages which contained many opposed to their conduct.'[18] To avoid these complexities, aerial raids were frequently diverted from village communities to strafing attacks against herds of sheep and cattle or small groups of personnel. In response, the tribesmen divided their animals into small groupings in order to reduce the size of a potential target. In reply, standing crops were often set alight with 'jerry can' petrol bombs.

In the RAF's defence, Slessor is quick to point out that: 'In point of fact bombing was never indiscriminate; even with the relatively primitive equipment of the nineteen twenties and early thirties it was surprisingly accurate.'[19] Thanks to vertical and oblique aerial photography, it was theoretically possible for pilots to identify not only each village and hamlet but also an individual dwelling for attack. This was achieved by combining aerial photographs into a large montage on which almost every group of houses was identifiable by grid references and named with the help of informers. To cite a case in point, during an operation in March 1932, the Political Agent deemed it necessary to destroy the house of the Haji of Turangzai, a religious firebrand. Slessor recalls:

It was a particularly difficult target, lying as it did at the foot of a very steep hill, and it was essential not to damage the tomb of a specially holy Mullah [priest] situated in the same small village. Selected crews dived down the hill-side and bombed from about a hundred feet, the gunners firing the while to keep down the heads of enemy sharp-shooters. Eighteen 230-lb. bombs were dropped scoring ten direct hits on the Haji's house, and no other damage was done.[20]

Such an example was an exception. An experienced aircrew, in perfect conditions, could hit a point target with a relative degree of accuracy. However, such a crew and conditions rarely existed.[21] More usually, bombs fell wide of their target causing collateral damage. Even routine air supply, out of contact, was challenging. Recounting an aerial re-supply of rations by parachute in 1937, M. F. Kemmis Betty recalls: 'Great accuracy had not been achieved and loads dropped everywhere, but luckily no one was hurt.'[22]

Inexperienced pilots, overeager to take action and often under considerable pressure, were to blame for some inaccuracies. As the tactics of air-to-ground attack were still in their infancy, aircraft effectiveness also left much to be desired. David Omissi notes that of the 182 bombs dropped on frontier tribesmen in November 1928, 102 completely missed the target villages.[23] Only low-level attacks increased accuracy. Moreover, many attacks missed their targets altogether. Despite improved mapping, aerial navigation on the frontier was difficult and it was often awkward to distinguish between villages at seven thousand feet. It is unsurprising, therefore, that a number of villages were bombed in error. The tribesmen knew through experience they had little to fear from a retaliatory air attack. However, the use of air power in conjunction with ground forces was a different matter. Combined action often forced a strong-willed tribe to submit to Government terms. As Air Chief Marshal Sir Glenn Torpy posits: 'Success was most effectively delivered by an integrated use of air and land forces, with the lead in individual operations going to whichever Service was best placed to do so, depending on the circumstances particular to an individual operation.'[24] Air cover was also vital in suppressing tribesmen and negating their movement by daylight. Even aircraft that had run out of ammunition and bombs could repress hostile tribesmen by conducting mock attacks.

Despite the challenges associated with bombing villages, air power was particularly useful when employed in support of a force or post engaged with hostile tribesmen, although 'levels of support' were often driven by personalities. *The London Gazette* of 29 October 1937 notes: 'The close and cordial relations which were maintained between the Royal Air Force and the Land Forces [during operations in Waziristan from 25 November 1936 to 16 January 1937] were a marked feature of these operations. This satisfactory result was due, in great measure, to the high example and ready co-operation of Group Captain N. R. Bottomley, C.I.E., A.F.C., under whose direction the units of the Royal Air Force played a prominent part in bringing the operations to a successful conclusion.'[25]

Air power was also effective in helping to disperse hostile *lashkars* by bombing raids, ground strafing and the dropping of flares.[26] Air Commodore H. le Brock recounts that whilst attacking *lashkars* around Sorarogha and in the Tank Zam, one bomb was reported to have killed twenty tribesmen and wounded nineteen.[27] But this was not always the case. 'Mauser' posits: 'As a matter of cold fact, six thousand pounds of air bombs have utterly failed, in recent days, to prevent or even seriously to delay the advance on Peshawar of the Afridis, who have shown their contempt for modern mechanical inventions by practically besieging our cantonments at short range. The power of our air-arm against the only target that matters – the armed man himself – is, frankly, derisory.'[28] The dispersion of hostile tribesmen by air power added to the difficulties of the ground troops and made less effective the assistance which aircraft could provide in locating and fixing the enemy.[29] Moreover, some observers criticised its employment in the attack as 'a misuse of aircraft' and turning 'valuable reconnaissance aeroplanes into mobile machine-guns.'[30] However, the value of aerial

reconnaissance was not lost on the British. Scouting sorties were used to locate and monitor hostile *lashkars*. Information from these patrols enabled column commanders to site protective piquets and to direct long-range artillery fire. It also assisted in recognising forming-up places and lines of departure for an attack.

The Hawker Hart served as an effective light bomber with the RAF in India

Air power was also used as a 'new weapon' to compel submission and enforce discipline via an air blockade. The term referred to depriving an aberrant tribe of their customary means of livelihood to such an extent that a continuance of hostilities became unendurable. This approach included: preventing the watering of livestock; thwarting the ploughing or harvesting of cultivatable crops; and denying the tribesmen any form of compensation which other forms of punishment might offer. Air Commodore H. le M. Brock notes: 'We are not aiming at infliction of casualties, but to cause intolerable inconvenience for an indefinite time by excluding the tribesmen from their villages [including their fields], and, of course, to punish them by causing material damage.'[31] Sir Stuart Pears, Chief Commissioner of the North-West Frontier 1930-1, confirms Brock's position. He suggests the object of such operations is 'to make the normal life of offending sections so disorganised that they are compelled to comply with our just and lenient demands.'[32]

Frontier realities

The employment of air power in cooperation with other Arms and Services and 'as a new weapon' had its limitations, challenges and dangers. To be effective, air power relied on accurate intelligence and speed of employment; any delays in action were increasingly viewed by the tribes as weakness.
The main source of intelligence came via the political chain and various informers who were keen to sell their information.[33] The former depended mainly on personal contacts and tribal knowledge, supported by the *kassadars*, scouts and tribal structures. This hierarchy provided a regular supply of actionable intelligence. But informers were prone to informing both ways and were adept at misleading Government forces.[34] Likewise, it was not easy to gain 'timely' information in such a xenophobic environment.[35] The RAF also possessed its own intelligence officers who linked into the regional intelligence networks.[36] In contrast, British and Indian battalions often failed to develop effective intelligence structures. The same was true also at brigade level. Geoffrey Moore, a platoon commander and part-time brigade intelligence officer of the Razmak Brigade in 1936, recalls: 'I was soon to find that my grandiose title of Brigade Intelligence Officer masked the old-fashioned role of Brigadier's Orderly Officer. As my platoon wag remarked later when someone asked the meaning of my B.I.O. armband,

"Brigade Ignorance Officer, I expect." He really had hit the nail on the head.'[37]

Once a report had been verified, triggering aircraft in a timely manner was vital. The aim was to isolate any outbreak of violence before it could spread. Air Commodore H. le M. Brock recalls: 'It is as with a fire brigade – one engine can deal with a small outbreak, but if there is much delay in attending to it the fire becomes a big conflagration.'[38] As the mere threat of air power could cause a tribe to reappraise its position, the speed of response was essential. Field Marshal Sir Philip Chetwode recalls: 'In many cases, by taking swift action in a few hours instead of the weeks that it might have taken ground troops, aeroplanes have crushed our incipient trouble which, had it spread, would have involved a serious campaign.'[39] This relied on the efficient working of the administrative machinery to obtain political and Government decisions. It also called for effective communications and a duty pilot at a high state of readiness to support a patrol in trouble.

Despite the remoteness of the region, both line and wireless communications networks were becoming increasingly mature. An official report of the 1936-37 operations notes: 'Communications continued to be very good throughout the year, a great deal of the efficiency obtained was, no doubt, due to the fact that for the first time all L. of C. [Lines of Communication] in Waziristan were linked up by L/T [line telegraphy].'[40] To guard against tribal damage, consideration was given to procuring a 'few converters capable of giving one ampere at 4000 to 5000 volts when run off the normal power supply.'[41] Such a voltage would prove lethal to anyone touching the wires and, it was suggested, would act as a strong deterrent to sabotage. In the event of the tribesmen cutting the line, W/T (wireless telegraphy) was the alternative means of communication. This proved relatively satisfactory despite the age of the equipment and mountain atmospherics. It allowed deployed officers to remain in contact with the air staff headquarters and political authorities. It also facilitated discourse, which cleared up any misunderstanding. However, range remained a limiting factor and they could only work effectively if operated from the summit of a local hill; high ridges often interfered with radio transmissions. Communication from air to ground was either by pack R/T (radio telegraphy) or message dropping by hand.

Mule-pack sets accompanying deployed columns formed the basis of routine communications, but experience proved that for close support duties, the quickest and most effective means of communication were message dropping and the employment of Popham Panels[42] and ground strip codes.[43] Should wireless telegraphy fail, the country was well-suited to the use of visual signalling (both semaphore and heliograph), although this had significant restrictions. Although signallers were trained to send messages by coloured flags, shutter lamps and heliograph, all three required visual contact between sender and receiver. This was not always possible to achieve. Equally, flags were unable to be interpreted over long distances and it was difficult to establish a heliograph link. Moreover, once contact was established, the heliograph tripod could not be moved by 'so much as a quarter inch until the message has been sent and acknowledged.'[44] Flag, lamp

and heliograph all took time and could be unreliable. To compensate, carrier-pigeons were also employed on the frontier and were viewed as the only sure link in trouble. Every scout patrol carried with it a basket of four. These were always sent off in pairs, each with the same message, due to the threat of falcons or a lucky shot. Charles Trench, an experienced frontier hand, recalls: 'So efficient were communications – a carrier pigeon from *gasht* [patrol] to fort, thence by telephone or radio to Miranshah – that within half an hour of calling for help a *gasht* could expect a plane overhead.'[45]

Limited funding had an impact on close air support. The Government was averse to allocating sufficient capital to the RAF to assist with routine maintenance. As a result, aircraft serviceability proved to be difficult.[46] This enabled the army to question the availability of close air support. Moreover, once deployed, aircraft were 'cribbed, cabin'd and confined' by a range of out-of-date instructions on the height aircraft must fly, when, how and against what target a pilot might use his weapons.[47] The region's extreme weather also posed significant problems. High temperatures, resulting in strong convectional air currents, made flying conditions hazardous. On several days in the year, aircraft were prevented from operating in the mountains by heavy clouds, mists or sandstorms. Few pilots possessed experience of such an unforgiving environment, especially as flying over tribal territory was strictly controlled by the political authorities. Likewise, flying in narrow steep-sided valleys was also dangerous. A moment's lapse in concentration could result in catastrophic damage to a wing tip.

There were other risks associated with flying in the mountains. Although the tribesmen possessed no recognisable anti-aircraft defence, low-flying aircraft conducting 'close approaches' were not immune from ground fire. 'It may be said, in fact, that the Pathan will make good shooting against aeroplanes flying as high as 2,500 feet above his head.'[48] Even at higher altitudes aircraft were not immune from tribal fire. Lieutenant Colonel C. H. T. MacFetridge notes that during large-scale operations in 1935, a Mahsud tribesman shot down, 'with a brilliant shot,' a Royal Air Force reconnaissance aircraft flying over Makin. He recalls: 'It plummeted in sickening fashion to the ground.'[49] Despite the dangers, pilots had no option but to drop to lower altitudes during an attack. To mitigate tribal fire on these occasions, the air gunner fired his Lewis gun to dissuade tribesmen who routinely engaged aircraft.[50] This proved effective, but bullet holes were found repeatedly in aircraft returning from low-flying missions. During operations against the *Fakir of Ipi*, a notorious religious firebrand, *The Times* reported:

A Hart aircraft of No. 11 (Bomber) Squadron was fired at near Chaprai and the air gunner was wounded in the leg. This is the first time during the past two years of operations in Waziristan that any member of the crew of an aircraft has been wounded by rifle fire. Operational flying times during the period under review totalled about 27,000 hours.[51]

Should a pilot get into difficulty through enemy fire or engine failure, there were few suitable forward landing sites for aircraft carrying ordnance. If available, pilots tried to land on the straightest section of Government-constructed road nearby.[52] A small number of aircrews

were killed during crash landings in rugged terrain. On rare occasions, aircraft were disabled and crash landed in tribal territory. To help aid his release, each pilot carried a document promising a reward for the safe return of the bearer, known as a 'blood chit.' The exact amount varied according to the condition in which they returned. Although routinely held for ransom, there are only a small number of reports of pilots being killed or gravely tortured. Roger Chapman recalls a more usual outcome: 'One of the RAF men, Lieutenant Howe had previously served with the battalion [Green Howards] and had to make a forced landing in enemy territory. He was returned to Landi-Kotal after two weeks; probably in exchange for a 10,000 rupee award.'[53]

Furthermore, tribesmen became adept at camouflaging themselves from the air behind large boulders and in deep ravines, reducing the value of air reconnaissance. Visual reconnaissance proved less effective than expected, due to challenging flying conditions and broken terrain, and often turned out to be a matter of luck. Lieutenant Colonel H. de Watterville suggested why: 'The enemy's force, moreover, are numerically insignificant, they adopt no very definite formation; they are composed of individual combatants who are, one and all, experts in taking cover both from sight and against bullet, and, consequently, are never exceedingly visible.'[54] This included the employment of rudimentary slit trenches for shelter and concealment.

It was also extremely difficult to distinguish between hostile and peaceful villagers as well as government forces. 'Their targets are tribesmen, who, clothed to assimilate to the exact colour of their background, and scattered in shapeless groups which have no clear outline either when halted or on the move, are all but indistinguishable at ground-level and quite invisible from a height,' recalls 'Mouse.'[55] Reciting an incident whilst fighting in the village of Bui Khel, Frank Leeson, a British officer serving with the *kassadars*, highlights the realities of a mistaken identity: 'This time, diving steeply over us, the Tempest [aircraft] strafed the road just as our last section was crossing it. The pilot had evidently mistaken the Scouts for pursuing tribesmen.'[56] Fortunately, there were no casualties on this occasion.

An impressive line of RAF Hawker Audaxes

More often than not, pilots had to rely on the ground commander, who was often being shot at, to tell him roughly where the enemy was. Despite the limited employment of ground-to-air radios, Popham panels or improvised visual target indication were the primary means of communication. In the case of the latter, a number of linen strips, forming an arrow head visible from the air, pointed in the direction of the attack. A system of linen bars across the tail of the arrow provided an approximation of distance. This provided only the most basic information and was slow to erect.

This method was replaced by the 'X V T Close Support Code' in 1936. Like the Popham panels, the Close Support Code relied on a number of strips of white material weighted down by stones. These were used to create an 'X', a 'V' or a 'T' to inform the pilot of friendly and enemy positions.[57] The advantage of this method was its speed and simplicity.

But even this method faced practical challenges. It was not always possible to display a character to the circling aircraft above. Moreover, letters were often masked by shadows and bushes. A common mistake was pointing the 'V' in the wrong direction. Such a rudimentary system was incapable of dealing with dynamic situations or of expressing a commander's intent.[58] Pilots could drop written messages during an over-flight, but these were often lost, misunderstood or placed the 'retriever' in unnecessary danger. On rare occasions, Political Agents guided bombing raids. Such was the importance of striking the right target that during operations in 1919-20 'Parsons [Major 'Buch' Parsons], Political Agent, South Waziristan, guided, navigated and identified targets for the bombers.'[59] Parsons was subsequently awarded the Distinguished Service Order for his actions. More routinely, scout officers flew as observers.

Despite its considerable contribution to frontier management, air power faced repeated criticism because its effects were transitory, failing to put a lasting stop to the activities of the tribesmen. Punishment alone could not control the tribesmen. The ability to manage and pacify tribal territory, 'to get into close personal touch with the people, to make roads and to develop the country,' could only be achieved with the aid of ground troops.[60] This was a position echoed by Captain M, C. T. Gompertz, Indian Army, when he wrote: 'Our enemy lives on the earth, not in the air, and his mode of life offers few objectives; he lives in difficult country for warfare, and though the machine, in its multiple forms, may give us the power of swift motion and heavy fire effect, yet it is man who must finally bring him to book.'[61] This commonly held opinion proved to be a misconception over the wider utility of air assets.

Conclusion

Despite political restrictions, air power developed into a key component of the British approach to tribal control on the North-West Frontier. It helped shape tribal behaviour, revolutionised reconnaissance work, enabled freedom of movement, assisted in reducing raids and permitted an almost instantaneous response to tribal transgressions. It also achieved results that would have traditionally required a force on the ground of a size that the Government could ill afford and made every corner of the frontier accessible, denying the enemy sanctuary. Slessor, who remained supremely confident of the use of air power in policing the frontier, recalls: 'It had been proved on the frontier itself that tribal disorder could be dealt with by a few aeroplanes slipping off unobtrusively into the blue from their peace stations, returning unnoticed to slip off again the next morning.'[62] However, the primacy of the Army of India in frontier operations and the political dependency on civilising influences, requiring security through physical presence, barred the universal use of air power. Moreover, experience proved that air power alone could not manage the region. Personal contact, via the political authorities, was essential to controlling the tribesmen, who respected

a man-to-man approach. Therefore, while air power played a central role in tribal management it was only one part of a truly joint and escalatory approach to the complexities of the North-West Frontier.

Notes

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3 Bombs hit the palace, an armaments factory and Amir Abdur Rashman's tomb.
4 'There is little doubt that this raid was an important factor in producing a desire for peace at the Headquarters of the Afghan Government.' Source: Despatch by His Excellency General Sir Charles Carmichael Monro on the Third Afghan War, 1 November 1919 (Simla, 1919).
5 B2690, RAF Museum, Salmond Papers, Report by Air-Marshal Sir John Salmond K.C.B., C.M.G., C.V.O., D.S.O. on the Royal Air Force in India, dated August 1922.
6 C. F. Andrews, The Challenge of the North-West Frontier (London: George Allen and Unwin Ltd, 1937), 115.
7 H. le M Brock, 'Air Operations on the NWF 1930,' in Journal of the Royal Central Asian Society, Vol. 19 (1932), 42.
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9 Air Staff (India) Memorandum No. 1, April 1935, Tactical Methods of Conducting Air Operations against Tribes on the North-West Frontier of India, B22, Royal Air Force Museum, Hendon.
10 Slessor, The Central Blue, 66.
11 WO 106/5446. Tribal Disturbances in Waziristan (25th November, 1936 – 14th June, 1937), 6.
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13 But not all tribesmen could relocate. Captain Munford recalls: 'Air-bombing of villages strikes hardest at the poor – the weak, the aged, the sick – who stay at home. It hits the innocent and spares the guilty.' Source: Andrews, The Challenge of the North-West Frontier, 124.
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33 This provided a regular flow of information on internal politics, tribal groups, rivalries and personalities.
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37 Geoffrey Moore, Just As Good As The Rest (Bedford: Jaycopy Ltd, 1979), 23.
38 Brock, 'Air Operations on the NWF 1930,' 25.
39 Philip Chetwode, 'The Indian Army,' in The Journal of the Royal United Service Institution, Vol. LXXXII, No. 525 (1937), 12.
40 915 Comments on Inter-Communication Waziristan Operations 1936-37, Waziristan District Signals, Historical Record, 1938/39 (Royal School of Signals Museum).
41 Report of Intercommunications – Waziristan Operations 1937 (Royal School of Signals Museum).
42 Popham panels were made of wood and cloth, with movable panels. A canvas screen would be spread on the ground and black and white strips arranged in patterns to convey a message.
43 A.I.L.O, 'Close Support by Aircraft on the North-West Frontier,' 21.
44 Charles Trench, The Frontier Scouts (London: Jonathan Cape, 1985), 109.
45 Ibid, 132-3.
46 Brian Robinson, Crisis on the Frontier (Staplehurst: Spellmount Ltd, 2004), p. 260.
47 Slessor, The Central Blue, 121.
48 H. de Watteville, Waziristan, 1919-1920 (London: Constable and Co Ltd, 1925), 195.
49 MacFetridge and Warren (Eds.), Tales of the Mountain Gunners, 126.
50 A.I.L.O., 'Close Support by Aircraft on the North-West Frontier,' 19.
51 'Royal Air Force,' The Times, 10 April 1939.
52 Pettigrew, Frontier Scouts, 89.
53 'Afghanistan and the North-West Frontier,' The Friends of the Green Howards Regimental Museum Newsletter (UK: Great Northern Publishing, September 2002), 7.
54 de Watteville, Waziristan, 1919-1920, 194-5.
55 'Mauser,' 'A Forgotten Frontier Force,' 71.
56 Frank Leeson, Frontier Legion (Ferring: Selwood Printing Ltd, 2003), 195.
57 'X' indicated the position of the picquet or troops nearest the enemy; 'V' signified that the enemy was in the direction in which the apex of the V is pointing; and 'T' was the S.O.S. signal. This was a call for help when a picquet was likely to be overwhelmed or a sign that the enemy was following up a withdrawal so closely that it was impossible to get away. 'X' was only used in extremis.
58 Robson, Crisis on the Frontier, 260.
59 Trench, Viceroy's Agent, 41.
60 Keen, 'To what extent would the use of the latest scientific and mechanical methods of warfare affect operations on the North-West Frontier of India?', 400.
61 M. C. T. Gompertz, 'The Application of Science to Indian Frontier Warfare,' in Army Quarterly, Vol. 10 (1925), 122.
62 Slessor, The Central Blue, 69.