Air Mshl T M Anderson – Air League Slessor Lecture - 11 Oct 10

The Royal Air Force, in common with the Army and Royal Navy, is committed to prosecuting the campaign in Afghanistan. On a daily basis, our personnel successfully face the significant challenges of delivering air power to a joint multi-national operation, in a complex counter-insurgency campaign in a physically very challenging environment, amongst an uncertain population and against a highly resilient and adaptive opponent.

Geography, distance, time and the ability of the enemy to restrict surface movement all make air power absolutely imperative to routine operations. It is unquestionably the glue that holds the campaign together, from the strategic air bridge, to fixed wing and helicopter tactical mobility within theatre, to persistent intelligence, surveillance and reconnaissance and direct support to ground forces in contact with the enemy, delivered by manned and remotely piloted combat Intelligence, Surveillance, Target Acquisition, and Reconnaissance air systems.

With less than a handful of exceptions, the entirety of the Royal Air Force's force elements - Tristar, C17 Globemaster, Hercules, Chinook, Merlin, Tornado, Reaper, Sentinel, Nimrod R1, VC10 - are fully committed to Afghanistan. Our Airspace Control Centre, No.1 ACC, came back last December after more than 3 years in theatre. The Royal Air Force Regiment continues to provide force protection to enable operations at both Kandahar and Bastion airfields, the RAF contributes disproportionately to the delivery of air operations and the provision of intelligence to operations in Afghanistan and RAF officers command in the Joint and Coalition environments. The RAF thus contributes to every air power role, and many joint roles, not only in Helmand, but also "across divisional boundaries" in support of ISAF partners in different provinces – and often during the same mission. This multi-faceted, professionally delivered, theatre-wide presence is highly prized by those engaged in the doing of the current operations, particularly those on the ground in harm's way. And I am consistently impressed by the professionalism of those RAF personnel involved, by their calm acceptance of risk, and by their courage – particularly that of our support helicopter crews operating routinely amongst an enemy determined to target them, and of the RAF Regiment in facing the IED threat on a daily basis.

And there are occasions when air power is absolutely critical to operational outcomes in Afghanistan. Let me take you back to Op MOSHTARAK earlier this year – one of the largest airborne assaults since the Second World War. The planning was meticulous. The whole range of ISR capabilities, including images collected by REAPER and the RAPTOR reconnaissance pod mounted on RAF Tornados, and information fed from the ground, was fused and exploited - for months before the operation was launched. For instance, images were taken of the intended helicopter landing sites for the main assault every day for weeks in advance. These were not only used to prepare the helicopter pilots, but also to analyse enemy activity such as the laying of IEDs.

When the main clearance phase of the operations was launched from Camp Bastion Airfield,

the RAF completed 167 air moves and coordinated 90 aircraft in just four hours. RAF personnel helped to ensure the US Marine Corps deployed to their objective to take Marjah and that 1,200 UK and Afghan troops were airlifted to secure the Nad 'Ali and Showal areas of central Helmand province. For every single helicopter landing site we had a fast jet with a targeting pod examining the site before the troops arrived and watching as the troops were unloaded, searching for enemy activity or threat, and providing armed overwatch to protect the troops unloading. Overall tactical control for this phase was vested not in a ground commander, but in a Tornado navigator orchestrating a myriad of capabilities from his 500 mph 'office' 5 miles above events on the ground. Air resupply continued as the operation progressed – not just delivering supplies to the troops, but also a massive airlift of food, water and fuel to areas recaptured from the Taliban, with the Joint Helicopter Force based at Camp Bastion moving around 100 tonnes of supplies for troops and civilians.

I offer another example. On 20 August 2009, the Afghan Presidential Election saw a spike in violent incidents, from an average total of 90 daily incidents, to over 500 incidents on the day, which, unusually, occurred across the whole country. Eighty required an immediate air response, including several from RAF Tornado GR4s. That no request was refused, and support was provided to most within 12-15 minutes, is testament to the flexibility of carefully postured air support.

Twice in 2008/9, insurgents sought to exploit the 6 monthly rotation of British brigades, by attacking the provincial capital of Helmand, Lashkar Gah, combining previously infiltrated suicide bombers with a conventional attack by several hundred fighters. In October 2008, attack helicopters were used against 2 groups of Taleban approaching the town (killing 90) to deny a substantial propaganda victory in a conflict where public perception – both Western and Afghan - is all important. In May 2009 a similar threat temporarily fixed the British ground forces, which were insufficient to both secure Lashkar Gah and extend control to the Babaji area in preparation for the Presidential election. Air presence (a near constant audible and visible fast jet presence overhead) was used to prevent the deployment of enemy forces towards Lashkar Gah. Concentration of Intelligence, Surveillance and Reconnaissance (ISR) assets, including REAPERs remotely piloted from thousands of miles away, was used to locate Taleban commanders in the area, which ultimately resulted in a successful operation against the Taleban district commander. This removed the momentum from the Taleban at the beginning of the 2009 fighting season, and re-established the initiative with Task Force Helmand.

I could go on. But for now, my emphasis is on the links between these events - speed of reaction, significance of the effect and the agility of air commanders quickly interpreting COMISAF's intent and exploiting the inherent advantages that air power affords. Contemplate, if you will, the consequences in any of these examples of air capabilities being absent and of the scale of effort – in theatre and at home – to ensure its provision.

Our experiences in Iraq and Afghanistan have led to the development of the Combat ISTAR concept, with the addition of 'Targeting' and 'Acquisition' referring to the ability to not just watch,

but also prosecute targets. Aloft in the air provides a unique vantage point for ISTAR assets above the battlefield and gives airmen the ability to act rapidly, or even concurrently, through the delivery of both kinetic and non-kinetic effects. Combat ISTAR is currently provided by multi-role platforms, such as Tornado GR4 and Reaper, and in the future by F35 Lightning II, Typhoon and future remotely piloted air systems. For today, what is important is that Combat ISTAR actively facilitates delivery of the commander's intent and engenders a palpable, high level of confidence in ground forces, without infringing the doctrine of "courageous restraint". At its heart is the adaptability of our airmen and women - an adaptability that is borne of some of the most consistent, intelligent and enduring training of any air force in the world – affording the RAF the ability to switch seamlessly between roles, including ISR and attack, which both, incidentally, increasingly make a significant contribution to the Counter-IED fight.

The United Kingdom

Looking closer to home, let me spend a minute or two on the RAF's commitment to the security and defence of the UK.

You would be surprised if, on the 70th anniversary of the Battle of Britain, I didn't remind you that a primary responsibility of the RAF is to still to provide defence of the UK's airspace. The Air Surveillance and Control Systems Force is responsible for compiling a Recognised Air Picture, monitoring the airspace around the UK and providing tactical control of the Quick Reaction Alert (QRA) Force - Tornado F3s and Typhoons that are held at a continuous ground readiness posture 24/7.

The QRA Force is vital to protect UK territory and reassure the population and it is well used. Without such an air defence capability, the UK would not be able to guarantee security of its sovereign air space and we would be unable to respond effectively to a 9/11 style terrorist attack from the air. Some argue that in this day and age, with no specific existential threat to the UK, such a posture is unnecessary and wasteful – I would agree, as long as somebody can predict the timing and nature of any future threat, or emergency – an emergency that , were it to occur, is highly likely to require a response in minutes and flawless execution in a potentially fast moving and immensely complex, confusing and highly charged political environment. Otherwise, underwriting such a response cannot be achieved by occasionally dipping into the command and control and training of the required forces, despite what amateur theorists might assert from their armchairs!

Further Afield

Looking further afield, the RAF's commitments routinely extend to the UK's Overseas Territories and our global interests

Falkland Islands. A robust deterrent force is maintained on the Falkland Islands, which can now also be reinforced quickly by air, should the need arise. That deterrent force comprises a wide range of land, air and maritime assets which collectively maintain our defence posture. The RAF provides permanent security and defence for the Falkland Islands from Mount Pleasant Airfield. The aircraft that are currently deployed in the Falklands include Typhoon, VC-10, Hercules and Sea King helicopters.

Global Reach. The RAF also has global reach capabilities that allow for the rapid deployment of personnel and equipment through air mobility and lift, and is ready to deploy to provide combat air, surveillance and other support as and when required. Within 72 hours of the Iraqi invasion of Kuwait in 1990, the RAF had offensive and defensive air capabilities ready to commence operations and in position to deter any Iraqi attack on Saudi Arabia's eastern oilfields. The effectiveness, often across an entire region, and speed of such a response is unique to the Air environment.

Humanitarian assistance and disaster relief

The RAF has regularly been called upon to assist with Humanitarian and disaster relief efforts on behalf of the UK. The most recent example was that of flood relief to Pakistan. On 17 August 2010, a request from DfID was received by MoD for support in transporting flood relief supplies to Pakistan. These supplies were being held at Minhad in the United Arab Emirates. Due to the urgency of the situation, speed of delivery was a critical factor in the planning of the UK's response. Moving the supplies by sea from the Persian Gulf to Karachi, followed by an internal move north to the area of flooding, was discounted due to the length of time this would take. Moreover, a road move north, through Pakistan would increase the risk to the convoy of not making it too its destination at all. Therefore, moving the supplies into the relief area by air was the only COA open to the UK. Military airlift was selected for several reasons: the RAF has an excellent and established reputation for success in Humanitarian relief operations on the global stage; we were heavily involved in relief operations in Pakistan in Oct 05; and our aircraft and crews are ideally suited for operations into austere airstrips, where there may be little or no supporting infrastructure. Thus, only 24 hours after the initial request from DFID, the first of several loads carried by RAF transport aircraft arrived in Pakistan.

But what does all of this say to us about the future and the RAF's role in it?

Contested Air Space

The MOD's Future Character of Conflict paper, notes that all future conflicts are likely to be 'cluttered', 'congested', 'contested' and 'connected'. This has important implications for the 21st

Century professional airman. Moreover, before we learn too many lessons from the past, there are significant features in both the Iraqi campaign post 2003, and the current Afghan campaign, that must be acknowledged. The ability of insurgents in Iraq and the Taliban in Afghanistan to contest control of the air effectively has been very limited. But, this is not something we can safely transpose to other potential 21st Century conflicts.

In Iraq and Afghanistan, control of the air has enabled a flexibility in operating inherently vulnerable air transport aircraft and helicopters, as well as large manned ISR and remotely piloted air systems such as Reaper and Hermes 450 – all of which would certainly, and as a priority, be denied by more effective opponents. As the Soviet experience after Stinger surface-to-air missiles were provided to the Afghan Mujahideen in the 1980s illustrates, control of the air is seldom a given, and a relatively small tactical and technical change can create disproportionate strategic effect. It is instructive to recall the significant effect the Serbian air defences – highly competent, but by no means state of the art – had on the freedom of action of NATO air forces, not that long ago. In that case, freedom of manoeuvre was indeed secured, but not without the employment of the full gamut of high-end capabilities, and the intense collective training that underpinned their use. In future conflicts, were similar conditions to pertain, many of the more fragile ISR systems to which, today, we are increasingly wedded, if not addicted, would simply not be available, with all of the profound implications that would have for a doctrine centred around light and agile forces conducting "war among the people". The fact is that high end air capabilities are not synonymous with Cold War 'white elephants', no matter how many screeds of populist copy profess otherwise! They are an essential component of any effective fighting force that aspires to operate in anything other than comparatively benign environments.

There is a need, therefore, to assess carefully the challenges of the future, in order to ensure we have the capabilities necessary to operate effectively in future campaigns. In 2006, Hezbollah demonstrated the effectiveness of hybrid organisations: those non-state actors with capabilities more normally possessed by states. In addition to overmatching Israel's ISR capability with widespread rocket attacks, it deployed 2 capabilities that surprised the Israeli Defence Forces. The first was an advanced anti-ship missile which disabled and almost sank the Israeli frigate Hanit off Beirut. The second was 4 Iranian manufactured armed RPAS, three of which crashed, one of which was shot down by an F16. Non-state actors are thus already actively seeking to act in the air dimension. They are also resourced and connected in ways that are much more likely to achieve effective air defence capabilities than the Afghan Taleban.

Moreover, whilst the potential for major war between nation states does not baulk large in the current public discourse on Defence and Security, it is of course not something that we can ever rule out. The level of investment in high end combat aircraft and air defence systems by, for example, Russia and China, and the increasing proliferation of such equipment to the Middle East and Latin America indicates that the essential requirement for control of the air has not been lost on nations whose future interests and political orientation may not necessarily be well disposed to the United Kingdom.

Space and Cyberspace

I am very pleased, even relieved, to note the increasing acknowledgement of the UK's reliance on space, not just in defence, but also in terms of the broader national security. Space is not just about surveillance, it also affords the precision navigation and timing functions that underpin every one of the nine critical elements of national infrastructure, ranging from financial transactions to the 'just in time' re-supply system used by our supermarkets.

As we strive to provide a truly joint, all-source intelligence and operating picture, including access to satellite sensors, we will need to ensure that the supporting network is available, if we are to maintain our freedom of action in cyber- and physical space. The MOD's Future Character of Conflict paper, notes that all future conflicts will partially be fought through the media and by the use of cyberspace. This suggests that domination of the information space will be critical to the delivery of military effect. Both hybrid actors and nation states are also likely to exploit cyberspace, and as the cyber attack on the Estonian banking system in 2007, and denial of Georgian internet services during the Russia-Georgia conflict in 2008 indicate, sophisticated, developed societies and economies are particularly vulnerable to such activity. Cyberspace is thus an arena that is already increasingly fiercely contested, and we must strive to guarantee that our systems and processes afford the resilience needed to enable us to continue to operate effectively in the future. The nature of the RAF's business, our implicit understanding of the cyber terrain, our technical culture and training all point to the Service having a pivotal role to play in the understanding, defence and exploitation of cyberspace, now and in the future.

Value for Money

It would be remiss of me not to acknowledge the absolute requirement for the Royal Air Force to provide value for money. Military air and space programmes have high research and upfront capital costs. It should be noted, however, that they represent long term investments, and because of the inherent characteristics of the equipment we buy, offer long term flexibility to UK Defence. Some of the Hercules we are operating in Afghanistan entered service in the early 1970s. Having been bought to operate as tactical transports in a relatively benign environment, they have proved capable of adaptation to mount a strategic airbridge, as air-to-air refuelling tankers for the Falklands war and, latterly, by the addition of sophisticated defensive aids, in Iraq and Afghanistan. The Tornado GR4 aircraft currently operating in Afghanistan entered service in the early 1980s as a nuclear strike and conventional attack aircraft designed to operate at low level, at night, in central and eastern Europe. It was, if you like, the ultimate Cold War weapon. It was never used operationally in the theatre and role for which it was primarily designed, although the first phase of Gulf War 1 did involve low level conventional air attacks.

During its 30 year life, Tornado has served operationally as a precision attack and reconnaissance and surveillance aircraft during 20 years of continual RAF operations in Iraq, as a precision attack aircraft during the Kosovo conflict and, in 2003, armed with the Storm Shadow cruise missile, offered a unique capability to the Coalition in Iraq. We now use it as a

sophisticated and highly capable, if not pre-eminent, Combat-ISTAR platform in Afghanistan, operated by crews deeply imbued with an understanding of the need for careful judgement in a highly sensitive operational environment, carrying and deploying a potent mixture of high-resolution reconnaissance and surveillance sensors, and precise and low collateral damage weapons. Having started life as a single role weapons system, its inherent flexibility and adaptability has thus, over its considerable life to date, provided a highly geared, cost effective and multi-role return on investment.

The same is true of Typhoon. Having been initially optimized as an air-to-air fighter, its core performance attributes, which are truly world class, have provided, and will continue to provide, a strong foundation for the adaptation that not only naturally occurs over a prolonged service life, but which is uniquely enabled by digitized air systems and their freedom of expression in their native environment. Thus, Typhoon already has an attack and ISR capability, and it will be further developed to provide a very flexible and very high quality multi-role capability, able to operate effectively in the most hostile and demanding environments for the next 20 years, or more.

Of course, cost-effectiveness touches on a wider issue: not every future conflict will be a re-run of Afghanistan and air power offers a highly scaleable and flexible political and military tool, whose use is often less expensive in terms of blood and treasure than the large-scale commitment of ground forces.

From 1991 to 2003, the combination of air-power and economic sanctions was used to contain Saddam Hussein's Iraq. Just how successfully, though, only became plain after the 2003 war. It transpired that, after Operation DESERT FOX in 1998, Iraq's nuclear, chemical and biological weapons programmes were physically dismantled, whilst Iraq's conventional military strength was so weakened as to be unable to provide a credible regional threat. Moreover, and equally significantly, in northern Iraq, under the umbrella of American, British and French air power, the Kurdish Autonomous Zone developed as a sustainable social and political entity, which has remained consistently stable throughout the traumatic convulsions which affected most of Iraq after the invasion. The Iraq no-fly zones involved 300 000 individual sorties, and cost the US and UK together just under a billion dollars per year, without a single loss of British, American or French life to hostile action. Since the invasion of 2003, the financial cost to the US alone has run at 12.5 billion dollars per month, and in excess of 4000 coalition personnel have been killed. Indeed, used as it was in Iraq from 1991-2003, Air Power could be said to epitomise Joseph Nye's concept of smart power, deploying a range of soft and hard effects quickly and economically.

Ladies and gentlemen, as Sir John Slessor would have clearly recognised, in the complex and contested world in which we live, and will live, effective and flexible air power, used in support of a coherent political strategy, not only continues to offer a viable option to British policy makers, but is in many cases likely to be the most responsive, effective and favoured option. It is, therefore, profoundly important to the defence and security of this Nation that it continues to be substantive, credible and available. Thank you for your attention - I would now be delighted to take any questions you might have.

About Sir John Slessor

Sir John Slessor was a military airman, commander and thinker whose career spanned the years 1915 to 1952, and whose breadth of experience encompassed operations on the Western Front in the First World War; in Egypt, Sudan and Waziristan (for which he won the Distinguished Service Order); who commanded a bomber group during the most difficult period of the Second World War; who was closely involved in planning the strategic bomber offensive against Germany; and who then commanded RAF Coastal Command during the most critical phase of the Battle of the Atlantic. After the war, his intellectual skills were put to use as Commandant of the Imperial Staff College, before, as Chief of the Air Staff, he was instrumental in promoting the development of a British nuclear deterrent.

I mention this because it occurs to me that much in Slessor's professional life strikes a contemporary chord. His service fighting a Pashtun insurgency in Waziristan would be familiar to the current generation of airmen and women who are engaged in countering a Pashtun insurgency in Afghanistan, the roots of which encompass Waziristan. Similarly, the contemporary debate over the relevance of a nuclear deterrent would be familiar to Slessor. However, to my mind it is Slessor's writing on the subject of the integration of Air and Land operations which really stands out. From his time as a pilot on the Western Front in the First World War, through acting as RAF Directing Staff Officer at the Army Staff College, to his authorship of Air Power and Armies in 1936, Slessor was a thinker, writer and tireless advocate of the effective integration of Air and Land operations. And I am certain that he would be proud of the way in which his contemporary professional successors have performed in this particular area in Afghanistan.