Sir Frederick Tymms Memorial Lecture

to the Guild of Air Pilots
and Air Navigators at
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presented by

The Chief of the Air Staff
Air Chief Marshal Sir Richard Johns
GCB CBE LVO ADC FRAeS RAF

I was most grateful and indeed honoured to receive GAPAN's invitation to give the Guild's autumn lecture in memory of Sir Frederick Tymms, a founder member of the Guild of Air Pilots in 1929 and himself a Master of the Guild in 1957/8. Sir Frederick is also well remembered as a driving force in obtaining livery status for the Guild, which was achieved in 1956. All this was a culmination of a most distinguished career in aviation, which started when Sir Frederick joined the RFC in 1917. Thereafter he played a most important role in opening up international air routes in Africa and India before he was appointed as the UK representative on the Council of ICAO in 1947.

Sir Frederick was an airman in the truest and broadest sense of that distinguished designation and in his memory it is my privilege to give you an airman's appraisal of where air power stands today as we approach the end of the century. A century much scarred by war and within which air forces have grown from an almost insignificant auxiliary to the land and sea services into a decisive factor in the conduct of all contemporary joint operations throughout the spectrum of conflict.

I also do welcome this public opportunity to offer my own professional comments on some of the major criticisms levelled at air forces – and in some instances my own Service – involved in recent operation in the Balkans. I have to say that much of what was written and said by commentators and military analysts gave me a sad feeling of déjà vu, as a predictable litany of prejudices and fixed ideas received a ritual airing.

In giving my response, subjective perhaps in places but at least with the merit of being professionally well informed, I do hope that together we can make a more balanced judgement on the contemporary utility of air power and in the process identify one or two signposts which point the way forward to the next millennium.

Perhaps the most predictable of all recent outpourings during Op Allied Force was that the Royal Air Force should be split asunder and returned to its parent services. So before I consider the contemporary and future employment of air power in our much troubled world let me reflect briefly on why the Royal Air Force was born of a merger of the RFC and RNAS each with its own brief but dazzling history. A merger, as I never tire of reminding people, decided by statesmen, industrialists, generals and admirals, with no Air Marshal yet available to assist their deliberations.

It came about because the Germans were the first to twig that aircraft had a military utility beyond control of the airspace over and near the battlefield – that it could be used to strike directly at the heartland of an enemy. With attacks on British mainland targets, principally London, in the summer of 1917 by Zeppelin airships and fixed wing bombers, the Germans were the first to exploit this new concept of air warfare. These attacks provoked a public outcry that gave much of the impetus to the formation of an independent air force. This outcry was the primary consequence of the inability of the RFC and RNAS to co-ordinate their operations in order to provide effective air defence of London. But there were other reasons too, particularly the need to resolve disputes between the army and the navy over the supply of aircraft and engines for two competing air arms. In 1917 the two services had placed orders for 76 new types of airplane and 57 new types of aero-engine much to the delight of their French manufacturers who were the principal suppliers.

The creation of the RAF was the right thing to do but it was MRAF Sir John Slessor's opinion that it would probably have never happened had it not been done when it was. Sir John Slessor was of course an early apostle of what we today call jointery and it was he who first made the very pertinent point that had the RAF not been created in 1918, it is at least a fair bet that the RFC in the years between the wars would have suffered the fate of the tank corps – and then what would have happened to Britain in 1940?

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Largely due to the quite extraordinary foresight, vision and determination of such men as Trenchard, the RAF was adequately prepared to fight and win the battle that saved us in the heroic summer of 1940. And in the years that followed that great victory the men and women of the RAF truly swung into their stride. In conjunction principally with the air arms of the United States, they eventually secured that extraordinary degree of air supremacy in the new age of joint warfare that enabled the allied armies and fleets to win their great victories on land and sea.

Even the most cursory examination of the early history of The RAF reveals three themes of contemporary relevance. First and foremost, the RAF must never be distracted from the raison d'être of its existence. Our Service was conceived in war at a time of great national peril as a fighting service. That is what we still are and must remain because no warfighting operation on land or at sea anywhere within the spectrum of conflict can be satisfactorily concluded without control of the air. We need to be quite clear that air power in warfighting concerns in the first instance the achievement of air superiority to permit the conduct of surface operations. To proceed at a given time and place without prohibitive enemy interference.

Control of the air is achieved by defeating an enemy's air power, which requires a dedicated campaign to suppress his air force. In this context, the relationship between offensive and defensive air operations is dynamic. They are complementary not alternative elements and the balance between them will depend on a range of factors. This is not straightforward, as the fight for air superiority is a highly complex operation with no absolute finality in it as long as enemy aircraft are operating. The tragedy of Sir Galahad in the Falklands war only six days before the Argentine surrender serves to underline my point.

The second theme to emerge concerns the importance of technology. In the 1920s and 1930s men of vision within many national air forces had concluded that air power is essentially dependent upon scientific and technological superiority. But for various reasons we in this country underinvested in R&D and for this omission we paid dearly in the early years of World War II. Moreover this act of omission undermined the judgement of the early air power theorists which put in train a tradition of over-expectations and inflated claims that mark almost every development on air power technology or capability up to end of World War II.

To illustrate my point, in World War II, to hit a target as big as a standard football pitch from medium level took over 9000 bombs and almost 3000 aircraft

At that stage, air power, once perceived by many theorists as a military scalpel, was, in truth, a cudgel and a ruthless one at that as epitomised by the emergence of the air delivered nuclear bomb. That said, we must recognise that our Second World War commanders had the foresight to appreciate what air power could achieve for them. But what they lacked was the technological capability to apply air power with precision and certainty. To illustrate my point, in World War II, to hit a target as big as a standard football pitch from medium level took over 9,000 bombs and almost 3,000 aircraft. Today with precision guided munitions we can

achieve the same certainty of effect with just one aircraft. So with increased precision, the cudgel is redundant albeit I think we still need to be careful in using the analogy of the scalpel. While the arrival of a 1,000lb bomb spot on target may represent precision, the consequences for the target are normally dire.

But rapid advances in technology have done much more besides improve our weapons aiming capabilities. With parallel improvements to range, reliability and endurance and advances in air-to-air refuelling, aircraft can be quickly brought to readiness at their home bases or deployed to an operational theatre. Alternatively where a high level of responsiveness is required, they can be held in the air close to the area of political or operational interest and with maximum visibility, under tight political control and in cadence with other measures of inducement or coercion. Air power thus provides a wide spread of options to governments wishing to exert military pressure short of the risks and costs of committing ground forces in circumstances where a ground presence can sensibly be avoided.

But perhaps the most important area of technology – both now and in the near future – is that of information. This should come as no surprise. It has become the critical issue in many fields of endeavour, not just the military. We have the ability to reach distant targets and to hit them precisely and decisively. But we need to locate and identify them first. And crucially, we have to get the relevant information to the attacking forces before the target can move out of the weapon footprint. Precision and timely, accurate information go very much hand-in-hand. We have of course recognised this for some time, and are making great strides in the fields of information, surveillance, targeting and reconnaissance – or ISTAR, as we call it. The recent announcement on the future ASTOR system is one example of the progress we are making in this area. But we recognise that there is much still to do, and information superiority will be a key priority for us in the years ahead.

The third theme is the importance of our people. They must of course have the right equipment and logistic support. But so often in the past, it has been the quality of our people that has made the difference. Their bravery, foresight, imagination, and their powers of objective analysis have been fundamental in ensuring that we are prepared for crises and that, once committed to operations, we win. We need all those qualities and more in our people both now and in the future.

We are therefore determined to put people at the heart of our forward planning, and one of the key strategic objectives for the RAF is to recruit, train and maintain the commitment of all of its people. This is more challenging than ever before. First of all we are not talking about just regular RAF personnel; we must include our reservists, our civilian employees and, in some cases, contract staff.

Secondly, they are not all employed in a direct RAF chain of command; many are in joint organisations and defence agencies. We therefore have to work all the harder at maintaining their

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sense of identity and looking after then in the round. For while we welcome enthusiastically the introduction of joint organisations, we have to remember one overriding imperative. We are in the business of winning battles, and to do that you need people to do difficult and dangerous things; things that test not only the quality of their inner steel but also their loyalty and commitment to their fighting unit whether it be ship, regiment or squadron. The motivational and other reasons that persuade people to put their lives on the line are complex, but ethos and 'tribal' identity are certainly vital factors. And because of our history and the way we are organised, our ethos and identities in the British military are based on the single services. We therefore have to operate jointly where it makes operational sense in terms of military effectiveness and efficiency, while maintaining a clear sense of belonging and loyalty to the parent service.

At the same time, of course, we have to satisfy the demands of our people. Striking a balance between operations and training, between time deployed and time at home, is becoming increasingly difficult in this new era of expeditionary operations. If we are to retain our people for the time we need them – to develop and exploit their expertise and experience – we have to understand and be sympathetic to the aspirations of not only the men and women of the service, but also their families. Moreover, it remains a fact of life that a force that is continually being employed – even on relatively small scale operations – will need far more people than one which is only used occasionally for large scale conflicts. This was of course a key strand of the Strategic Defence Review, and it is increasingly conditioning our thinking on the balance of regulars, reservists and contract personnel. And we must get this right, because the need for us to respond rapidly and effectively to crises is as great as ever.

Turning from themes may I touch briefly on the enduring characteristics of air power? If you believe as I do that the world will continue to witness clashes of group interests that will from time to time erupt into collective violence, then the ability rapidly to constrain the ambitions of an enemy will remain an invaluable option to the resolution of crises. And if

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diplomacy and deterrence should fail, resulting in conflict at whatever level of intensity, we airmen must be prepared first to shape the ring for our ground forces and secondly to provide direct support to their activities within it. We must be ready to respond to their requirements by removing an enemy's operational options and by reducing his capacity to fight – in effect denying him the initiative and dictating the conditions of confrontation.

In practical terms this means first achieving and sustaining control of the air space – remember the first and vital responsibility of the air force – before then denying the enemy the capacity to concentrate, manoeuvre, deploy or prepare an ambush without fear of detection and, if appropriate, attack. In doing so we must continue to expand our ability to exploit the fundamental and long established characteristics at the decisive time and place.

So much for theory. Let me now turn to experience and practicalities. A moment ago I mentioned shaping the ring for our ground forces and of course there is nothing new in air power moulding the environment for the benefit of surface units. This is exactly what the allied air forces did before the Normandy landing in 1944 and incidentally what the Luftwaffe failed to do for the German army in the face of our air defences in 1940. And it is also what the coalition air forces did in the Gulf War at least to my airman's eye. The other side of the Gulf War story is given by General Kroesen, US army retired who wrote in 1994 and I quote: "The recent air campaign against the Iraqi forces gained not a single one of the US or UN objectives in the Persian Gulf War. Four days of land combat aided immeasurably by the air campaign achieved every goal and victory".

For my money however, it was the coalition air forces that denied Saddam Hussein the strategy of his choice. This was achieved through the immediate establishment of control of the air, which allowed General Schwarzkopf to authorise attacks on both strategic and tactical objectives. Saddam's army was thus cut off and progressively cut down. Battlefield surveillance by Joint Stars and other systems took place with impunity and total information dominance was achieved. Coalition ground forces could thus re-deploy for the key flanking attack without detection or disruption. With powerful land forces exploiting the impact of air power, the coalition imposed its strategy on Saddam Hussein. And happily 18,000 hospital beds proved largely superfluous to requirements while in the land fighting the US Army 7th corps used only 10 to 15% of the 70,000 tons of ammunition allocated to it.

Almost inevitably, the end of the war lessons learned exercise immediately provoked an endless debate as to how the war was won. In my view, this was a sterile exercise, some of it certainly provoked by defence contractors with their own commercial interests to satisfy, and all of which cloaked more serious issues and assessments from public scrutiny and debate. We should be quite clear that the evident success of air power was dependent on the use of Saudi air fields, the early achievement of air superiority following a gutless performance by the Iraqi air force and of course terrain and climatic conditions which were

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generally conducive to the conduct of air operations. On the debit side, inherent limitations in aircraft sensors needed to guide PGMs placed some inhibitions on the total effectiveness of air power. Pilots found that infra-red electrical optical and laser systems were seriously affected by cloud, rain, smoke and high humidity.

The point I want to make at this stage is that within all levels of warfare, whether on land at sea or in the air, there are few if any absolutes. Balanced judgements within the joint arena of warfare can only be made through the abandonment of prejudice and by dispassionate consideration of first, military facts and second, political sensitivities which condition the use of military force.

Perhaps the experience of Bosnia-Herzegovina will help serve to underline my point because the shaping of the operational environment in the Balkans provides a most illuminating contrast to that of the Gulf War. You will recall that for many months in a very complex operational environment, air power was not brought fully to bear. It was applied irregularly and in small doses as

timing, in relation to the diplomatic initiatives and operational and humanitarian constraints, was critical. Moreover, given the widespread dispersal of small and often isolated detachments of multi-national ground forces caution had to be exercised.

In retrospect, we can identify problems with confused political objectives, the often contradictory requirements of peace enforcement and humanitarian relief, and difficulties ensuing from extended and duplicated chains of command. But procedures were improved and the perceptions which may have been created in 1993 and 1994 as to the relative impotence of air power were abruptly shattered as UN land forces were re-deployed for self-protection and the weight of NATO air power was unleashed in Operation Deliberate Force.

You may recall that the air campaign was specifically authorised by the London Conference which allowed both the UN and NATO command keys to be turned. Under the leadership of General Rupert Smith and with a carefully orchestrated planning of NATO air chiefs, the precise application of air power made its decisive contribution to the totality of pressures which forced the Serbs to accept the demands of the international community.

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Of course this success was not due to air power alone. Over a long period ground forces had held the ring while international leaders and aid agencies played out their hands. The Croat offensive in the Serb Krajina was important in weakening Serb resolve as was the presence and support of UNPROFOR's rapid reaction force artillery. But I share the view of Admiral Leighton-Smith, the NATO theatre commander at the time, that it was the relentless pressure and precision of up to

7 NATO air attack packages a day that finally persuaded the Serbs that the international community really meant business. Some 48 target complexes within which there were 338 individual aiming points were attacked with 1,026 munitions of which some 708 were precision guided. More than 80% of the targets were destroyed or suffered serious damage.

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Despite many differences between the environment of the Gulf and Bosnia-Herzegovina the contribution of air power towards the achievement of the respective strategic objectives had some commonalities. In both instances air power responded flexibly to the needs of the moment and it was employed within an overall strategic plan. Air power was both available to support the tactical activities of lower level commanders and free to pursue higher level strategic objectives. But most importantly, while the limitations of some aspects of air power technology were demonstrated, both operations provided a proving ground for advanced weapons systems that our air forces had been incorporating into their inventories over the previous decade. The consequence was that air power's offensive potential began fully to match its earlier promise and hopefully all the critics of air power will come to understand that imposing the characteristics of past bombing campaigns – notably the bomber offensive against Germany in World War II and North Vietnam 25 years later-on to present day air strike capabilities represents a classic case of trying to compare apples and oranges.

This brings me to Kosovo. Let me kick off with some incontrovertible statistics. Over 78 days of the air campaign NATO air forces flew some 38,000 missions of which about 1/3rd were strike sorties that delivered some 10,000 tons of ordnance. From a purely national perspective, 100 air defence sorties were flown by RN Sea Harriers and over 1,000 bombing sorties by RAF Harrier GR7 and Tornado GR1s. RAF VC-10 and Tristar tankers and our E3D Sentry AWACS aircraft flew a further 500 combat support missions while hundreds of sorties were flown by air transport aircraft in support of our deployed forces.

And while all this was going on in the Balkans do not forget that we flew a further 700 missions over the Iraqi no-fly zones where Saddam continued to mount a sustained campaign against coalition aircraft in his attempts to shoot one down. Since the end of Operation Desert Fox in December 1998, our aircraft have faced 325 direct threats from Iraqi ground-based forces, including SAMs and anti-aircraft artillery. In response, coalition aircraft have been forced to take defensive action on 104 days during the past 39 weeks, and for their part, RAF Tornado GR1s have dropped laser-guided bombs on 32 occasions, hitting 41 separate targets.

From a purely national perspective, 100 air defence sorties were flown by RN Sea Harriers and over 1,000 bombing sorties by RAF Harrier GR7 and Tornado GR1s

But to return to Kosovo, throughout the course of operation Allied Force, NATO air operations were subject to continual critical analysis from a number of media and military 'experts', whose reports gave the impression that NATO aircraft had operated from a safe haven above 15,000 feet raining down bombs on a largely defenceless Serbia. Furthermore, they suggested that many of these bombs missed their targets and no real damage was done to the Serbian military machine, apart from the destruction of dummy tanks, because NATO air crew would not come down to low level to close with the enemy. Then, when the cease-fire was secured and offensive operations at an end, these critics implied that the 78 days of the air campaign was largely nugatory effort, and that it was the growing threat of a land invasion which had caused Milosevic to bend to NATO's will.

Let me give you an airman's view on these points. First it is absolutely true that the NATO chain of command placed a high premium on the safety of its aircraft and aircrew – and as the professional head of my service I say a good thing too because I would not want the men and women entrusted to my care ever to feel that I or my senior commanders would be tempted to be profligate with their lives. That said, had we given the Serbs greater opportunity to shoot down our aircraft by consistently flying within the range of their man portable SAM systems and light AAA, and had they succeeded in knocking down some NATO aircraft every time they flew over, I can think of nothing which would have given a greater boost to their morale.

Moreover we have to ask whether the cohesion of NATO, the centre of gravity of the alliance, would have been sufficiently strong to accommodate a steady flow of aircraft losses. I think a lot of otherwise well informed and intelligent people, albeit totally lacking in military experience, cannot get to grips with the fact that war is not an exercise in chivalry in which honour demands an even handed and fair contest. War is and will remain a nasty and brutal business in which the aim is to achieve political objectives with the least possible loss to one's own side. This requires you to concentrate your strengths and advantages on the enemy's weaknesses and no prizes are awarded for manufacturing an evenly balanced fight let alone for sustaining unnecessary casualties.

I should also point out that the airspace above 15,000 feet was not a safe haven. While the Serb air force quickly threw in the towel – and incidentally lost 115 combat aircraft, including helicopters, in the course of the war – their GBAD fired over 700 SAMs at coalition aircraft…

I should also point out that the airspace above 15,000 feet was not a safe haven. While the Serb air force quickly threw in the towel – and incidentally lost 115 combat aircraft, including helicopters, in the course of the war – their GBAD fired over 700 SAMs at coalition aircraft and engaged with heavy AAA on numerous occasions. We did not lose aircraft because we first won the battle for control of the airspace. Thereafter, the effectiveness of our counter measures, the skills of our aircrew and a large slice of luck brought home all but 2 of the 829 airplanes from 14 countries that were chopped to NATO control.

Serb SA3 GOA missile battery

RAF aircrew flew 10% of the offensive missions and on numerous occasions when the weather was against us, they penetrated Serb air defences to get to their targets. But because they were unable to identify positively their aiming point or because conditions would not

Destruction of radar facility in Pristina, Kosovo

permit a consistent aiming solution they brought their weapons all the way home. It takes guts to do that because an airplane without its weapon load is far more manoeuvrable when under threat. But apart from guts it also represents a discipline within the ranks of our operational aircrew of which I am deeply proud.

It is also no secret that NATO placed strict limitations on targeting in order to avoid collateral damage, which meant it was much easier to strike effectively at fixed installations than at fielded forces in Kosovo. And with that in mind may I make one further practical point on the issue of altitude. Given reasonable weather it is much easier to attack a target from medium level than at low level. You have more time to acquire a target, to identify it positively, and then to achieve the best weapons aiming solution – all of which is vital if you are to minimise the risk of collateral damage. On the other hand the lower you go the smaller your field of vision and the less time you have to acquire, identify and aim at a target, all of which increases the risk of collateral damage.

Low level operational flying is the most difficult and demanding of military flying disciplines and that is why we train so hard at it. Moreover to persecute a successful low level attack requires one of two pre-conditions. Targets must either be sufficiently large to permit acquisition in time to permit an attack or the aircrew must have very accurate co-ordinates of the target's position. As the Serb army had the time to disperse and camouflage all their significant fielded equipment, low flying operations in Kosovo were not a realistic option. That said, had NATO land forces been committed to an opposed invasion, close air support from low level would have been provided around the clock with our aircraft benefiting from ground-based laser designation of their targets.

As to the effectiveness of the campaign 467 static targets were attacked and less than 20 of these missions involved incidents of significant collateral damage. More that three-quarters of these targets suffered moderate to severe damage. Against fielded targets, you will have seen what SACEUR, Gen Milosevic's security forces and restricting their operations in Kosovo. The figures which he quoted were not materially different from those issued at the end of the campaign. But war is not a matter of pure statistics. No figures can show the extent to which the Yugoslav military had to keep tanks and other assets hidden and inoperative to avoid them being hit. And as Gen Clark said:

"The conflict ended on NATO's terms. The Serb forces are out. The refugees are home. Peace is in place".

The real issue, then, is not what was destroyed – although Serb propaganda claims are very wide of the mark – but why did Milosevic capitulate? Only Milosevic himself knows for certain but given the opportunity to ask him the question we have to face the probability that on past form his reply would not be the whole truth and nothing but the truth. In my opinion his decision was certainly prompted by a number of factors.

The indictment of Milosevic and four other senior FRY figures by the International Criminal Tribunal for the former Yugoslavia exercised a most unsettling effect on his personal morale. His increasing international isolation, culminating in Russian involvement in the diplomatic process of pursuing the G8 principles of 6 May was a further pressure point, and an important parallel activity to the military campaign. Also of importance was the build-up of forces for KFOR after the Washington Summit, and the announcement that NATO would be updating its planning for ground options. This must have played a part in convincing Milosevic that waiting for NATO's will to break was not an option.

But I do believe that these three factors either individually or collectively would not have exercised sufficient pressure to explain why Milosevic, a master of unscrupulous brinkmanship, should so suddenly accept NATO conditions in early June. So that leaves us with the coercive effect of the air campaign within which I think we can make three informed judgements.

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First, even if we destroyed less fighting equipment in Kosovo than first estimated, it is clear that when the Serbs came out of hiding to counter UCK activity they suffered serious losses to air attack. It would therefore have been apparent to the Serbs that their operations against the UCK were being rendered largely non-effective by NATO air power. Second, perhaps more critical, is the effect of the attacks on Serbia itself. Apart from the damage to military infrastructure, there is considerable evidence that NATO's air attacks were seriously damaging the wealth of the industrialists and fat cats who underpin Milosevic's hold on power. Third, what is undeniable other than by distorting facts beyond recognition is that had we not bombed we would not be in the position today where the majority of refugees have been able to return home.

Although the air campaign was the decisive element in Allied Force this is not to say that success was achieved by air power, let alone by air forces, acting in isolation. Operation Allied Force was a joint operation within which alliance navies and armies as well as air forces made their own contributions. The navies provided launch platforms for aircraft and cruise missiles while land forces contributed recce drones in support of the air campaign and made an invaluable contribution to humanitarian relief. And by their very presence on the ground land forces undoubtedly helped prevent further regional destabilisation and conflict spillover.

Taking an overview of Kosovo, Bosnia and Gulf operations, I think we can safely conclude that when joint operations are considered air power will usually be the primary instrument of initial reaction. Air power is attractive because it can be quickly deployed and returned

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and it demands less human and material commitment to achieve political objectives while involving fewer political risks. But every conflict is unique and air power will not always provide the best solution and is unlikely ever to be a panacea.

Looking to the future, I think one can be certain in restating the fundamental military truth that control of the air will remain a fundamental pre-requisite for the successful conduct of any surface campaign. Air power will continue to shape the battlespace to allow naval and land forces to exploit the impact of air operations. And while sometimes, as in Kosovo, it may be possible to achieve strategic objectives without the committal to action of surface forces, we must continue to aim to achieve the most efficient application of military effort through the harmonisation of both surface and air operations. This will only be achieved across the whole spectrum of defence if the effectiveness of our armed forces is based on an appropriate balance of mobility, fire power, and manoeuvre capabilities.

So before I conclude, let me attempt briefly to draw together the main arguments I have advanced on the role and status of air power in the course of what I acknowledge to be a fairly discursive scene-setter for our subsequent discussion this evening. I believe I have advanced 4 main propositions.

•1. First, that since its inception, the primary role of the RAF – indeed of any air force – is to win and sustain control of the air. •2. Second, that such control is and will remain essential to the success of military operations in the joint environment of today and tomorrow. •3. Third, that air power, with its inherent characteristics of height, speed and reach enhanced by technological advances in weapon precision and target acquisition, have made it the capability of first choice in the containment of crises or, in the event of conflict, as the primary tool for shaping the battlespace to permit the effective and battle winning employment of surface forces. •4. Fourth, and last but by no means least, the fundamental importance to the continuing success of the Royal Air Force of recruiting and retaining highly trained and motivated men and women all trained to operate in a joint environment, but imbued with the ethos, history and pride of their parent service.

If in the process of demonstrating these propositions, I have also succeeded in answering many of the unjustified criticisms of air power in recent operations, then I shall regard my time as well spent!

In offering an airman's appraisal on the contemporary state of air power and its strategic and operational significance, I have done so in the spirit of that great airman Sir Frederick Tymms whose life this lecture commemorates. I have covered a broad canvas in variable detail but hopefully with a style and some sense of balance that will have provoked your interest as well as your comments and questions. I also hope you will have got some feeling of the fierce pride I have taken in the courage and discipline of RAF aircrew who continue their operations as I speak over Iraq, in their helicopters supporting KFOR, and in other places besides. So as we face the future let me conclude by saying that I am very much aware of the challenges that face the RAF and that I fully recognise that it is my task as CAS to ensure by personal example the service responds to these challenges, with determination, resourcefulness and, dare I say, good humour and confidence.

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