



The Air League Newsletter

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(Photo RAF Crown Copyright 2015)

FINAL VULCAN TRIBUTE TO BOMBER COMMAND

Veteran aircraft of past and present RAF combat missions paid tribute in October to the memory of Bomber Command by performing a spectacular mid-air link-up over Lincolnshire. Tornado GR4 fighter bomber crews, whose colleagues are currently taking part in the campaign against Islamic State militants over Iraq, flew in formation with former Cold War V-Bomber, Vulcan XH558, to mark the unveiling of the Bomber Command Memorial spire in Lincoln.

A 12 (Bomber) Squadron pilot who flew on the sortie said: "It was a real privilege to fly one last time with such a historic and magnificent aircraft. It was a fitting tribute that the RAF's current bomber, the Tornado GR4, escorted the old Vulcan bomber, a once in a lifetime opportunity which we were very proud to be a part of."

The RAF Marham-based squadron, which this year celebrated its centenary, has a distinguished list of battle honours including combat operations in Iraq, being the first GR4 unit to operate in Afghanistan, and supporting long-range bombing raids against Gaddafi-regime targets in Libya.

Britain's only flying Vulcan, which this year completed its final flying season, was the first B2 bomber delivered into RAF service on 1 July 1960 and at 55 years old is the last and oldest of its type anywhere in the world. Despite 24 years' service in the RAF the Vulcan was only once used in anger – against Port Stanley in

the Falklands in the famous 'Operation Black Buck' mission to deny the Argentines use of the airfield.

Vulcan pilot Wing Commander Bill Ramsey (retired), who flew the delta-winged icon for nine years, said: "I am really pleased the RAF and Vulcan To The Sky team came together to set up a Vulcan and Tornado 'Past and Present' flight; especially on the occasion of the dedication of the new Bomber Command Memorial in Lincoln that commemorates the service and sacrifice of so many brave people."

In addition to the formation spectacular, October saw a final farewell tour by XH588 over the weekend of 10th and 11th, passing over many of the locations associated with the V-bombers and over aviation museums and airfields where the "big tin triangle" became such a unique and popular sight during its revived preservation years. Many thousands of onlookers appeared all over the country for one last glance as it gracefully passed overhead. The "Vulcan Draw" worked its magic to the end.

In this issue...

Sir Andrew Humphrey Lecture P2-3 • ISTAR WARS P4-5
Industry News P6 • Members' news and Diary events P8

This year's Air League Sir Andrew Humphrey Lecture was presented by former Defence Minister and active pilot, Sir Gerald Howarth, Member of Parliament for Aldershot. This is an edited version of his thought-provoking and wide-ranging review of Britain's defence stance in an increasingly challenging global environment. The original lecture is available on the Air League's website, and we recommend all readers to take advantage of this.

William Hague said before the 2010 General Election that under a Conservative Government there would be no strategic shrinkage and that Britain would seek to help shape the world in which we find ourselves, not simply be shaped by it. The Conservatives did not win that election and even had we done so the 2010 SDSR was never going to deliver a strategic vision. It had to be Treasury driven as the country stood on the brink of a financial catastrophe - our budget deficit stood at more than £150 billion and represented 11% of the nation's entire output. Our failure to check it would have resulted in the loss of confidence in the international financial community, so we had to act fast. I made clear to the then Secretary of State, Liam Fox, that I thought we should be finding savings from elsewhere, but we were in coalition with the Liberals and therefore not completely in command. Today, there is no such excuse as we approach the SDSR and the CSR due to be announced on the 25th November. We have had 5 years for the MoD, No 10 and the FCO to study the current international situation. Indeed, as the Minister for International Security Strategy, I had a hand in developing the Defence Engagement Strategy which took the first steps in our search to apply a political context to today's defence needs. So how has the strategic context changed from 2010? Clearly, the turmoil created by the Arab spring, the Syrian uprising, the Libyan campaign, Russia's annexation of The Crimea and the rise of ISIL have transformed the international landscape. Significantly, in the space of barely three years those assumptions made in 2010 were blown apart. None of those events was remotely foreseen.

Budget deficits across the western world have seen large cuts in defence spending, including in the U.S, and the principal western democracies have witnessed a decided reluctance among their electorates to sacrifice any more lives on foreign excursions. That has manifested itself most obviously in the UK in a Parliamentary defeat for David Cameron which has instilled in him a greater degree of caution than he had hitherto shown. However, the vote in the House of Commons infected the U.S. Congress too. I submit that the combination of those cuts and that reluctance have not gone unnoticed around the world and accordingly increased the potential for serious conflicts. As we look forward, it would be a brave man who relied upon the assumption that Putin's Russia was now content with its current status. Above all, ISIL and other associated Islamic extremist organisations drawing growing support from young men and women brought up to respect a completely different set of values now pose the greatest threat not just to the Middle East but also to Europe and beyond as we witness the largest flow of migrants since WW2, generated by the civil war in Syria. Surely the lesson of Iraq and Libya is that before you seek to remove a disliked or even murderous regime you have to calculate whether there exists a competent alternative, and if there is whether that alternative would deliver a more acceptable and stable regime.

To these sources of international turbulence I would add two others: Iran and China, whose relentless construction of airfields and port facilities on a range of disputed atolls in the South China Sea has gone virtually unnoticed. Britain

has a stake in the region which we should not forget - we instigated the Five Powers Defence Arrangements in 1971 under which we, Australia and New Zealand would seek to protect the interests of newly-independent Malaysia and Singapore. It gives Britain a valuable position. Add into this potentially toxic mixture North Korea and the continuing simmering pot of nuclear-powered India and Pakistan and we can see a potentially very dangerous world. Indeed, the new world order is disorder. The trouble is that today's policy is driven by a belief that a key way to respond is to increase our intervention 'upstream' so that by providing aid to poor and dysfunctional countries we reduce the causes of tension and thus our need for hard power. There seems to be a quaint idea that soft power offers an alternative to hard power. But without hard power your soft power is non-existent. Better to carry a big stick and you can then speak softly.

The 2%

Last year at the NATO summit at Newport our PM rightly reprimanded those member states who failed to adhere to the NATO commitment to spend a minimum of 2% of GDP on defence. However, throughout the entire General Election campaign we Conservatives refused to commit to the UK spending 2%, despite the most clear exhortations from our U.S. ally from the President downwards. We really cannot afford to ignore this kind of warning. This profound reluctance to commit to the NATO 2% was thrown into even sharper relief by the Conservative leadership's decision to enshrine in law that the UK spends at least 0.7% of GNI on overseas aid. Leaving aside the fact that so bloated has this budget become that over 60% of it is dispensed not by the Department itself but through international agencies such as the EU and the World Bank, it can never be a substitute for strong defence. We need to spend what is necessary to deliver the defence posture required to meet the threats we face both at home and to our wider international interests. Sadly, rather than step up to the plate and recognise that on current plans the UK risks falling below the 2% figure in the next year or so, the Government has chosen to re-jig the formula for calculating the figure. The Chancellor's 'extra' 0.5% pa is no more than a rearrangement of the PM's commitment at the time of the last SDSR to a 1% real terms increase in the procurement budget which of course accounts for about half of all MoD spend. If the economy is growing at around 2.5% UK NATO eligible expense would fall from 2.08% in 2015/16 to 1.85% of GDP in 2020/21 so we would need to spend an extra £1 billion just to keep pace. It looks as though the gap will be filled by including expenditure on the intelligence agencies from a new 'Joint Security Fund' which will rise to £1.5 billion by 2020 although it is unclear how the allocation of money from this fund will be calculated.

State of the Armed Forces

What do we need from SDSR 2015? First, we need to disabuse ourselves of the idea that sophisticated technology, essential as it is, is a substitute for numbers. In the Falklands War we lost 6 ships - 2 Type 42 destroyers and 2 Type 21 frigates, the RFA Sir Galahad and of course, most critically, the Atlantic Conveyor with its precious load of helicopters. In 1980, we had a complement of 48 frigates, destroyers and cruisers, but imagine today - the loss of two Type 45 destroyers would cut the fleet by one

DANGEROUS WORLD

third. If a further third were in maintenance that would leave just two to provide one carrier with air defence. Those who argue that the days of Britain 'going it alone' are over and that all future operations will be in coalition are wittingly consigning our country to a position where we would be unable to act in a sovereign fashion if the need arose. Who knows how a future U.S. administration may respond if, for example, our current strategy for defending the Falklands failed?

We need to reassess our force structure. Whilst I am critical of the mass of our armed forces I do not want to suggest that all is doom and gloom. I accept that our range of capabilities is not insignificant. We have our nuclear deterrent and will be investing in the successor; the aircraft carriers are in build; the army is receiving 589 new Scout SV vehicles; Warrior is being upgraded and individual soldiers carry some of the most sophisticated equipment. Meanwhile, the RAF has two fleets of hugely capable aircraft with the F35 JSF on the way, world-beating missile technology, a range of sophisticated ISTAR assets and a modern tanker and transport fleet. As a seafaring nation the UK needs a strong Royal Navy. 90% by value, 95% by volume of our trade goes by sea. Yes, we have a commitment to the continuous-at-sea-deterrent we have the two 65,000 ton carriers in advanced production, however, a fleet of 6 destroyers and 13 frigates is already insufficient to meet our standing naval tasks, let alone respond to a serious emergency. Rebuilding the Royal Navy's surface fleet is imperative. In opposition, we had made clear we wanted to prioritise numbers rather than sophistication, as we were not prepared to see a repeat of the Type 45 procurement where the cost of each ship ran into £1 billion a copy. Thus, we originally conceived a Type 26 ship of around 5 - 5,500 tons, prioritised for anti-submarine duties but I understand the latest specification involves a displacement of 6,900 tons which compares with 7,350 for the Type 45s and 4,200 tons for the Type 23s the ship is intended to replace.

A standing Army of 82,000 is highly questionable. For all the welcome advance in technology, you ultimately need boots on the ground to hold territory. The proposals for the Army Reserves will deliver valuable back-up capability but they cannot be a substitute for full time soldiers, partly because their motives for joining up are different and, crucially, they - and their families - lack the wrap-around support of the regular Army establishment. Indeed, the entire recruitment exercise has been a struggle. In opposition, we had made up our minds that further salami-slicing operations such as had been witnessed in Front Line First were not to be the way forward. We would have to take out whole capabilities, painful though that would be. Thus, with no apparent threat across the plains of Northern Europe, a reduction in heavy armour seemed appropriate so tank numbers were cut.

Turning to the RAF, the loss of the Maritime Patrol Aircraft was a serious loss, although the Nimrod MRA4 was not the solution, suffering cost overruns of some £750 million and a delay of nearly 10 years. This was the cut I found hardest to take, bearing in mind its significance for the deterrent as well as its long range patrolling capability. In answer to my concerns I was assured that the members of the NSC were fully seized of the consequences of this cut. So it was embarrassing when several months ago we had to call on allies when it was suspected that the Russians had driven a submarine down the Irish Sea close to the Faslane facility. The MoD must reinstate this capability urgently.

We are down to 7 frontline combat jet squadrons and it would have been six if the Secretary of State Michael Fallon had not ordered a temporary reprieve for 12 Sqn. Whilst

the F35 is nearing full operational capability we have as yet no indication from the Government as to how many will ultimately be ordered. In the meantime, the withdrawal of all Tornados by 2019 and early Typhoon aircraft means we shall be down to 127 front line combat jets by 2020 before numbers increase with the acquisition of the F35s. With CAS, ACM Sir Andrew Pulford, observing that 'the requirement for fast jet precision strike and intelligence gathering showing no sign of diminishing' and CDS General Sir Nicholas Houghton warning that the very limited operations in the Middle East and the combat air patrols in the Baltic were placing the RAF 'at the very limits of fast jet availability and capacity' how on earth could we cope with a greater threat? Fortunately, recent conflicts have not posed serious challenges to the RAF in dealing with high rates of attrition. However advanced or stealthy an aircraft is, if it is shot down it's out of the game. A further development since 2010 has been the maturing of UAV operations with Reaper making a valuable contribution. I have no doubt that their role will continue to grow, but they cannot be a complete substitute for manned flights which provide the situational awareness needed.



ABOVE - Russian intercept RAF Crown Copyright 2015

Cyber

If heavy armour was cut in 2010, a key increase was assigned to cyber and a team was established to manage a budget of £650 million over the 5-year Parliament. That was a wise move, as was the decision to recruit specialist reserves from the rich pool of talent Britain has in computing technology but which is probably less keen on square bashing. Furthermore, offensive cyber was part of the agenda. However, there is an additional benefit in my view, namely that we have served notice on potential enemies that we take cyber warfare seriously so that, as with the nuclear deterrent, if you threaten us we have the means to retaliate. Clearly, this is important in dealing with rogue states or even our new found friends in Beijing who are systematically attacking western interests. The risk of cyber attack is of course not confined to nation states. A recent analysis of 75 million raids on international businesses between May and July this year showed the UK to be the favourite target, followed by the US, with UK online lenders and financial services losing some £2 billion a year to hackers.

Industry

There are siren voices which regularly invite us to abandon our industry and buy off the shelf, a euphemism for 'Buy American'. Others, who seem consumed by a rather unattractive bitterness accuse British industry of ripping off the taxpayer. I regard the Anglo-US alliance as being of paramount importance. Despite all, we do have shared values and a willingness to fight for those values, as two world wars and a number of conflicts since bear witness. But Suez and the early stages of the Falklands War remind us that there are occasions when the relationship is challenged by different perceptions or different interests.

continues on page 6

News that RAF Waddington would not be hosting any more public air shows for the foreseeable future was greeted by many local people, and enthusiasts from all over the country, with great disappointment, fearing perhaps that this was just one more example of the Royal Air Force's shrinking public footprint following on from the reduction in front line squadrons and air bases throughout the country. However, the truth lies in a more operational reason, as this vital Lincolnshire base has now become the epi-centre of the UK's ever-increasing involvement with, and commitment to, ISTAR - Intelligence, Surveillance, Target Acquisition and Reconnaissance. It is consequently becoming a very busy base indeed, and a highly security-conscious site.



Above - An MQ-9 Reaper (General Atomics photo)

With the UK's forces having been involved in continuous operational activities since the start of this Century, and nearly all of it on overseas deployments from Iraq and Afghanistan to Libya and West Africa, the availability of specialist ISTAR assets has enabled decision-makers to base their plans on up-to-the-minute information that in most cases only airborne platforms can provide. The assets now comprise manned and unmanned air vehicles (or Remotely Piloted Air Systems as some prefer to call them) as well as access to space-based platforms for observation, tracking and communications.

RAF Waddington received much publicity when it was announced that it would become the second operating base for the RAF's fleet of ten MQ-9 Reapers, previously controlled only from a cabin in the Nevada desert at the USAF's Creech base. These aircraft can be operated from ground control stations situated anywhere and rely on highly-trained pilots, sensor operators and mission intelligence co-ordinators. The big advantage of an unmanned aircraft is that, with others, it can provide a persistent 24/7 surveillance capability in all weathers. The Reaper can also carry missiles and precision bombs in order to provide a quick-reaction attack capability against a confirmed target which might otherwise escape if a delay was expected calling in an attack aircraft. It is not a substitute for conventional attack aircraft but can work alongside combat assets to exploit air power to the maximum. As the Reaper and other current turbo-prop powered unmanned aircraft are slow, they would be vulnerable in a more hostile, opposed,

air campaign, and that is why such platforms will probably never replace fast jet attack aircraft. But as they are stable, slow-cruising, and out of reach from most ground forces, they provide a very appropriate surveillance sensor platform. In use over Afghanistan and Iraq this capability has made a big difference, contributing results out of proportion to the comparatively small size of the deployed numbers. The government recently stated that it intended to update the fleet and increase it to 20 aircraft.

RAF Waddington is also the home of the Raytheon/Bombardier Sentinel R1 Wide Area Surveillance aircraft operated by No 5 Squadron. With its advanced dual-mode radar, on-board operator displays, advanced mission and communications systems, Sentinels provide a unique long distance overland WAS capability within NATO, apart from



Above - A Sentinel R1 (Raytheon photo)



Above - A Boeing RC-135W Rivet Joint (RAF Crown Copyright 2015 photo)

the USAF which uses the much larger JSTARS platform. Sentinel has been the RAF's workhorse platform for locating, identifying and tracking thousands of potential targets over vast surface areas. In continuous use since becoming operational in 2008, the Sentinels have now clocked up over 25,000 operational hours and can fly with none of the restrictions that apply to UAVs in European and other controlled air spaces. Collected data on surface movements can be distributed to commanders on the ground, or in the air for further analysis, or can be further analysed by the on-board specialists.

RAF Waddington had hardly signed for the first of three Boeing RC-135W Rivet Joint electronic intelligence aircraft in 2014 when it was deployed to the Middle East operational theatre to work alongside other coalition surveillance and attack assets. The second has now arrived at Waddington and these aircraft, and their highly specialised crews are dedicated to the "black arts" of Electronic Intelligence and Communications Intelligence and are identical to RC-135W aircraft operated by the USAF, with whom they work closely. These three Rivet Joints are replacing the retired Nimrod R1s which performed similar duties from the late 1970s, and which performed outstanding, but unseen, electronic intelligence missions in Europe, the

Falklands Campaign, the two Gulf Wars and more recently over Afghanistan.

The equally rarely-seen Beechcraft King Air Shadow R1s provide specialist electronic warfare capabilities in a compact air package, and were added to the Waddington inventory as the Afghanistan conflict grew in intensity, just as the withdrawal of the Nimrod fleet removed a very important overland ISTAR capability. This fleet also illustrates one aspect of current UK ISTAR operations that is under close scrutiny – having very small mixed fleets, which each have their own training and support needs but little in common as air platforms, apart from communications and some sensors. This is why MOD has been considering a joint Multi Mission Aircraft replacement that is more flexible and adaptable as the name suggests. The problem is, the current ISTAR aircraft are doing the job very well, if inefficiently because of their small numbers, but would sufficient new MMAs be procured to adequately replace them all, or would they be too much of a compromise in capability - yet still be expected to do everything and be everywhere at the same time? We can probably guess the answer.

The other Boeing 707-based surveillance asset at RAF Waddington is the E-3D Sentry Airborne Early Warning and Control System (AWACS) which carries on the tradition of long-range airborne detection and tracking, searching the skies for targets and helps direct fighter aircraft to intercept any that are unidentified. As with all the station's aircraft the E-3Ds are in high demand, and are frequently deployed overseas, including to Cyprus, the Gulf and across the Atlantic on exercises with RAF fighters. Thanks to Mr Putin's build up in long-range probing flights towards our shores, and along our coastline, Waddington's E3Ds are being kept busy, and thankfully helping to highlight the need for, and importance of, maintaining an adequate RAF air defence capability. This six-strong fleet is now in urgent need of modernisation to bring them up to the standard of E-3s serving with the USAF, NATO and French Air Force.



Above - A Beechcraft King Air Shadow R1 (Raytheon photo)

continued from page 3

To preserve the mutual respect we both want we need to be clear how that is to be achieved. It will not be enhanced by the UK placing itself in the position of supplicant. We already rely on the US to help us maintain our maritime patrol skills with one P8 Poseidon being crewed almost entirely by UK personnel. I have no doubt that if we were to become reliant upon the US for our defence equipment we would initially receive what we wanted at a favourable price. But could any of you here this evening envisage a situation in which the UK were told that yes we could have the equipment but not quite to the specification we wanted and at a higher price than we were expecting to pay? And the delivery date would not be quite the one we wanted. Even more critical, we could be denied sovereign operational control which would be unacceptable.

Whilst the UK purchased Rivet Joint, C-47 Chinooks and C-17 transports, there has not been much traffic in the other direction despite the value we could bring to the US with the Hawk to replace the T38, dual mode Brimstone missile for precision attack and Foxhound for an agile armoured patrol vehicle. Worse, the Department of Justice raised a number of bribery charges against BAE resulting in fines of more than £250 million part of which involved allegations relating to the Al Yamamah contract between HMG and the KSA. Whilst BAE was understandably keen to protect its key business interests in the US and its unique Level 1 partnership on the F35 I personally objected to what I regarded as US interference in our sovereign business with the Kingdom. So, for many reasons I strongly believe that every effort must be made to ensure a thriving British defence industry remains to provide the nation with sovereign operational capability. A successful UK industrial base provides not only the impetus for technology advance in pursuit of battle-winning equipment but generates substantial wealth and political influence. In 2013 UK defence exports were worth nearly £10 billion.

A key component in the industrial endeavour is defence research. To ensure we have the battle-winning equipment we need for the future we have to invest today. Alarming, investment in UK Defence R&D has fallen from about £4 billion in 1990 to less than £2 billion in 2011. Taranis represents the kind of technology demonstrator we need to promote. This UCAV programme is at the cutting edge of military technology, underlining our capacity to innovate

and deliver advanced capability, showing that we remain world leaders. Furthermore, being ITAR-free, it gives the UK unfettered control.

One area where it appears we continue to contribute is in the field of intelligence, but if we cease to contribute in other areas of defence will that weaken even the defence intelligence relationship? And it would be wrong to ignore the Defence Growth Partnership which is a welcome effort by the Government to work together with industry to maintain a sustainable defence industrial base.

Conclusion

We need to be honest. We have suffered some strategic shrinkage, we have caused our principal ally to warn of our potentially diminished status, we have prioritised aid over defence, and our Armed Forces personnel are stretched despite the end of combat operations in Afghanistan. Although I warmly salute the recent deal for an enhanced Naval base hosted by our close ally, the Kingdom of Bahrain, and the military assistance to Sierra Leone to help solve the ebola crisis, we are nevertheless in danger of failing to capitalise fully on our historic connections around the globe where Britain continues to be held in high regard. We do not have to be in this position. Politics is about setting out your priorities. We need to devote a higher priority to defence than we are currently doing. The means are at hand to deliver it. Simply by reordering our national spending priorities we can boost defence expenditure without undermining the Government's entirely correct drive to eliminate the budget deficit. The overseas aid budget has risen by some £5 billion pa since 2010. Take half that annual increase and divert £2.5 billion to the MoD, and another £ 500 million to the Foreign Office which needs a boost in manpower.

As I have done on past occasions, I shall leave the last word to the OC 617 Sqn, Wing Commander Guy Gibson VC, DSO and bar, DFC and bar, who posed the question in 1944: 'Why must we make war every 25 years?.... After many years they (the people) will probably slip and ask for disarmament so that they can do away with taxes and raise their standard of living. If the people forget, they bring wars on themselves, and they can blame no one but themselves.'

The answer lies in being strong and it is strong defence which delivers both influence and security.

News

After four decades of service with the RAF and Royal Navy, the familiar shape of the Westland Sea King will no longer be seen around the nation's coastline and remote mountain regions, with the withdrawal of the last Search and Rescue helicopters in military service. The UK SAR cover is now being provided by Bristow Helicopters under government contract, and in place of the yellow RAF and grey RN Sea Kings, the contractor-supplied aircraft will carry Bristow or Coastguard colours. SK's replaced the Westland Wessex in the 1970s and once operated from 20



ABOVE - The SAR Sea King bows out.

sites. In addition, a detachment operated in the Falklands post-1982, until that commitment was also turned over to contractor-operated services.

The government has announced (in advance of any decision) that if Heathrow Airport is allowed to build a third runway, the airport authorities will be expected to fund all the associated road and rail infrastructure changes that would be associated with it. The Airports Commission estimates that this would cost up to £6 billion. The airport operator has commented that its own estimates suggest that only around £1 billion would be needed from public funds to upgrade access, while Transport for London is forecasting new road and rail links would cost £20 billion. The Aviation Minister, Robert Goodwill, is reported to have said that all surface access costs would fall on Heathrow.

BAE Systems has won an F-15 electronic warfare upgrade contract for the US Air Force F-15 fleet worth up to \$4 billion. This covers the supply of new digital EW sensors and processors and new cockpit displays and will be fitted to over 400 F-15C fighters and E model multi-role attack/fighters. As a result of delays to the F-35 programme, the USAF is modernizing its F-15 Eagle fleet with new AESA radars and other sensors to extend their in-service lives to at least 2040.

Youth in Aviation initiative – five years on

Report by Scott Pendry and Andrew Perkins

The now annual Youth in Aviation Parliamentary Reception has been running for five years and in that time the initiative has achieved a huge amount, not least highlighting the role of the participating organisations and how they are supporting today's youth through a multitude of schemes associated with aviation and aerospace. The Parliamentary Reception acts as an essential way of showing MPs, Peers and industry what is happening at a grass roots level and all of the organisations involved have benefited not only from increased exposure but also from the opportunity to collaborate with one another. Guided by the Air League's role as the 'aerospace network' we have sought to develop the Youth in Aviation initiative as a powerful tool for collaboration. Certainly for the Air League, the number of joint activities with other groups has increased significantly in recent years and we're now working much more closely with organisations like Aerobility, the HCAP's Young Air Pilots, the Aero Society's (RAEs) Young Members, Air Scouts and partners such as the Aviation Skills Partnership.

The Parliamentary Reception is not just an opportunity to say hello to some MPs over a cup of tea but it's also an opportunity to highlight how things could improve and it is right that we continue to highlight some of the barriers that are holding us back. In recent years we have: highlighted the painfully slow processing of CRB checks; sought to increase interest in Science, Technology, Engineering and Maths; willed the Government to increase R&D funding and encouraged greater links between the aerospace industry and the education system.

A key feature of this year's event will be highlighting the role women can play within the scientific, technology, engineering and maths domains and while great strides

have been made to increase female participation, it's no great secret that more can be done to truly unlock the potential of an expanded female workforce. During the course of the Parliamentary Reception we'll be hearing from a number of young women who have a passion for aerospace and it will be a great way to highlight to industry, ministers and officials what they have achieved and what they are seeking to accomplish.

The UK's leadership in aerospace is by no means guaranteed and it is vital that time, experience and financial support is invested in young people, who - whatever their role in the aerospace industry - will rise to the challenges in the decades ahead, ensuring the UK remains an aerospace world leader.

Members News

Jonathan Davies, 2015 The Prince Philip NPPL Flying Scholarship, I would like to take this opportunity to thank you for the opportunity to complete the Prince Philip Flying Scholarship. It was a tremendous honour to be awarded this prestigious scholarship and to be awarded the scholarship by HRH Prince Philip in person is something I will never forget.

Since I had already logged approximately twenty four hours of flying from my Air Cadet Flying Scholarship and my previous Air League Flying Scholarship, I was able to use this scholarship to achieve my Private Pilot's Licence and used the remaining eleven hours of the scholarship to work towards an IMC rating. I thoroughly enjoyed my time at South Warwickshire Flying School, the staff, instructors and members were fantastic and we were always made to feel welcome.

I hope to continue with my IMC training in the future and to continue to build on the experience that this scholarship has given me. I would once again like to express my gratitude to you for giving me this opportunity.

James Millar 2015 Engineering Scholar, (Placement at Marshall Aerospace), I am writing to thank you for the Air League Engineering Scholarship and my recent work experience at Marshall Aerospace

and Defence Group. I thoroughly enjoyed both weeks at Marshall. The opportunity gave me great insight into Aerospace Engineering, particularly during my time with the design department.

Overall the experience has confirmed my ambition to be an engineer in the aerospace industry. I also feel that the past two weeks will really add weight to my university application.

George Coe 2015 Bristow Flying Scholarships, Looking back a year from now, I wouldn't have dreamt of being sat here as a qualified private pilot! In fact, I'm still coming to terms with it as we speak...

I've had the most amazing time over the course of the year learning, training and progressing from step to step towards my Private Pilot's License. From the application to the selection right through until my final skills test I have made sure that I have given my all toward the scholarship and I wouldn't have been able to do it without the administration, skills and assistance from everyone involved. From Tayside Aviation, The Air League and Bristow Helicopters, everyone I have met (and haven't met!) has taken part of the responsibility to get me where I am today.

I think the scholarships are a fantastic opportunity for others like myself to achieve something amazing,

a lifetime passion, which otherwise wouldn't have been possible to achieve independently. Being able to tell my story and inspire others makes me proud to say I am a member of such fantastic organisations, and I endeavour to do my utmost to give something back so one day someone else can be sitting here feeling on top of the world!

I plan to continue to work towards my eventual goal of becoming a commercial pilot and I cannot express how thankful I am to everyone who has helped me get this far. I have made many new friends along the way and hope to remain in contact with everyone to share experiences and progression.

I look forward towards the next step in my career and I am excited to see where this new license can take me!

Once again, thank you for everything, I look forward to remaining in contact into the future!

Ashleigh Harvey 2014 Sir James Martin (Martin Baker) Flying Scholarship, I have always had a fascination around aviation and flying. After joining the air cadets at the age of 15 to fuel this passion my love for flying grew even stronger. I come from a small town called Canvey Island where not many people share the same interest and with flying

continued from page 7

being an extremely expressive hobby I never thought I would have the opportunity to gain the experiences I have through both the air cadets and the Air League scholarship scheme. This scholarship gave me 12 hours air experience which has enabled me to successfully complete the practical element of my Private Pilot's Licence. The scholarship was a fantastic experience to have the ability to spend two weeks with likeminded individuals and develop my aviation skills. South Warwick Flying School and their instructors are amazing. My favourite memory was my first land away. To take off and land at another air field completely by myself was such a serial and humbling experience. When I landed I distinctly remember two children standing waving at the gate and as silly as it may sound I felt a bit like a celebrity. I now only have a couple of exams to complete which I anticipate in achieving by the end of the year. My aim next year is to then to apply to the Royal Air Force to

become a pilot or to pursue a career as an Air Traffic Controller. Whatever I decide I now know that due to the generosity of this scholarship aviation will always be a big part of my life. I want to take this opportunity once again to thank my sponsor Sir James Martin (Martin Baker) for giving me the opportunity to pursue a career and hobby that I once thought would be only just a dream.

Katherine Pound 2015 Swire Charitable Trust Flying Scholarship, I am writing to express my thanks to the Air League and the Swire Charitable Trust for generously offering me a flying scholarship this summer which I completed at South Warwickshire Flying School during the final two weeks of August.

The scholarship was a truly incredible experience, thanks in part to the other scholars on the course, but especially thanks to the friendly staff and excellent teaching of South Warwickshire Flying School. During the fortnight I built on my previous

limited flying experience, firstly by adapting to flying a Cessna, then by flying solo, before advancing further through the syllabus. This was my first opportunity to experience regular lessons, and the continuity really helped me progress and become comfortable and confident in the plane.

My aim for the 12 hours was to complete my first solo navigation flight. Unfortunately the weather was not quite suitable; however this gave me the chance to learn more in further lessons and I thoroughly enjoyed the challenge of completing a wide range of new exercises, including steep turns, instrument flying, low level navigation and radio navigation.

All in all this was an invaluable opportunity that has really helped boost my confidence in overcoming challenges. Successfully passing 3 of the theoretical exams in my final week at the school, I now feel well on the way to achieving a PPL – my aim for next summer!

Air Cadet's Career Takes Off

Melissa Bartlett 2015 Sir Arthur Marshall Flying Scholarship

Melissa is a Cadet Warrant Officer with 1378 (Mold) Squadron Air Training Corps (the Air Cadets), and she is the most senior Air Cadet in North Wales. In late 2014 she earned a place on the Cadet's most prestigious course, the Air Cadet Pilot Scheme. This involved travelling to Tayside Aviation in Dundee, Scotland, for a 2 week course of flying instruction with a total of 12 hours' flying, leading to a first solo.

Melissa caught the bug, and in 2015 she was awarded a sought-after scholarship from the Air League. This included another 12 hours' flying instruction sponsored by Sir Michael Marshall of Marshall of Cambridge (Holdings) Ltd. This scholarship took her back to Tayside, and she followed it up by completing her Private Pilot's License – scoring 97.5% average on

the written exams and passing her flying test first time.

Following on from this excellent showing Melissa has decided to train as a commercial pilot. After stringent testing and selection interviews she has been accepted onto the Middlesex University's Professional Aviation Pilot Practice BSc (Hons) degree course, which involves training at Tayside and ends with a full Air Transport Pilot's License (ATPL) and hopefully a job with Loganair who partner with Tayside for the course.

Melissa is very grateful to the RAF and the Air Cadets for the start of her flying "taster" and to Andrew Brookes of the Air League and Marshall of Cambridge for their faith in her and the huge boost they have given her, as well as a strong direction in life. She intends to repay them by doing her very best on the ATPL course!



ABOVE - Melissa after her first solo in a Tayside Aviation Grob Heron Training Aircraft



The Council, the Trustees, the CEO, the Editor, Emma and everyone at The Air League wish all our Members and Readers Seasonal Greetings and Best Wishes for a Happy and Prosperous 2016.



New Members

Individual Members: Nigel Bairsto, Emily Beatson, Harry Bell, Callum Brunton, Hannah Cliffe, Shannon Copeland, Anthony Davies, Joshua East, Ksenia Gusseva, Paul Jamieson, Engil John, Umar Khan, Charlotte Kerr, Emily Kerr, Gregory Nocentini, Fred Parker, John Whalley

For up-to-date information on all our activities please visit our website at www.airleague.co.uk where you can register for changes to be sent to you by email as they are announced.



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