

The Journal of the Royal Air Force College

 **ROYAL
AIR FORCE**



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Foreword

By Air Commodore Paul Oborn CBE ADC RAF, Commandant Royal Air Force College

Welcome to the Journal of the RAF College for 2012. As I sit down to write this introduction I am conscious that this is yet another task that I shall be performing for the last time. By the time you read this piece I will have moved on after an all too short period as Commandant of the RAF College. It has been a privilege to command this august organisation and to have the opportunity to work with such a dedicated group of people, both current staff and College alumni.

I mentioned in my foreword to the 2011 edition of the Journal that following SDSR the RAF is faced with considerable challenges as it adjusts to meet the new 'manning balance'. The turbulence caused by the redundancy process necessarily, but unfortunately, extends into 2012 and rightly continues to be a top priority for the command chain. In looking to address both personnel and longer-term organisational upheaval I felt it was vital to ensure that our own house was in the best possible shape to cope with future. Therefore, I decided it was necessary to carry out a review of the command and staff relationships between the RAF College and RAF Station Cranwell. The relationship between College and Station had always been close, friendly and productive; however, in order to meet the requirements of the post SDSR RAF, it became obvious that it was time to reap the efficiency benefits of cementing those relationships under a unified command structure. As a result, on 16 Dec 2011, both 'sides of the road' joined forces as the RAF College Cranwell under the command of the Commandant. Whilst I am in no doubt that this process was absolutely

necessary for our organisation to continue to thrive, I was hugely aware that this was yet another change management challenge for the staff at Cranwell. Whilst I am not surprised at the way our marvellous civilian and military staff accepted, embraced and adopted the reorganisation, it does not lessen my admiration and gratitude for their perseverance and persistence.

This year's Journal reflects that theme of cooperation for mutual benefit and progress. Alongside articles that specifically highlight the excellent work of RAF College Cranwell and RAF Halton are fascinating insights into our liaisons with wider military and civilian organisations. In times of stricture and austerity it is vital that we all reap the benefits that come from more coherent working practices throughout the military and civilian community and some of that sterling effort is reflected here. Finally, I would like to thank everyone who contributed to the Journal for their interesting and informative pieces. My thanks also to the 2012 editor Flt Lt Marshall. During a particularly busy period in her primary duties Katherine has willingly given up much of her own spare time to ensure the Journal continues to meet the high standards expected of such a prestigious publication.



*Air Commodore P N Oborn
Commandant Royal Air Force College and Director of Recruitment and Initial Training (Royal Air Force)*

Editorial

By Flight Lieutenant Katherine Marshall MEng RAF, Editor

"Whosoever desires constant success must change his conduct with the times." (Machiavelli)

As I pondered the theme for this year's Journal the pace of change was once again apparent. The upheaval created by the global economic situation has been shared by millions of people, with the Royal Air Force inevitably shouldering its share of the burden. Organisational change at the newly unified RAF College Cranwell has shown our willingness to adapt, but it has been our increasing engagement with the wider community which has best demonstrated our strength and readiness to evolve in line with the changing world. Hence, the theme is one of 'Engagement'.

The range of articles contained herein show that the importance of closer co-operation between the military and civilian communities is universally recognised. In particular, they demonstrate our commitment to the development of the future generation, whether that be through the Air Cadet Organisation, University Air Squadrons or Motivational Outreach Teams. Continued external engagement is crucial to the success of the

Royal Air Force, providing a platform from which we can nurture our future assets and promoting better understanding of the Armed Forces in general.

Further to this, this edition provides proof that the recruiting, selection and training systems continue to produce outputs of the highest quality, albeit with a reduction in volume. No matter the size of our Force the standards expected remain the same and it is our challenge to ensure that the calibre of our personnel, and the ethos of the organisation remain second to none.

In short, this year's Journal shows that Royal Air Force College Cranwell is working hard to broaden its outlook whilst maintaining its standards, striving to build a stronger, more secure future, not only for the Royal Air Force but also for wider society.



Flight Lieutenant Katherine Marshall

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BY APPOINTMENT
TO HER MAJESTY
QUEEN
ELIZABETH II
SWORD CUTLERS

WILKINSON
SWORD
LONDON
MADE
IN ENGLAND

In Memoriam

We record with regret the passing of the following Cranwell Graduates or Old Cranwellians whose deaths were notified to us during the last year.

Squadron Leader R Wallis Graduated 84 Entry	Died 22 March 2009	Flight Lieutenant S J Cunningham Graduated 184 IOTC	Died 8 November 2011
Group Captain (Retd) L Rose Graduated Jan 1933 Entry	Died 2 January 2011	Air Commodore (Retd) J A Sowrey Graduated 73 Entry	Died 30 November 2011
Group Captain T A Barrett Graduated 103 IOTC	Died 10 March 2011	Wing Commander (Retd) R M Furze Graduated 47 Entry	Died 4 December 2011
Squadron Leader (Retd) P J G Elton Graduated 50 Entry	Died March 2011	Squadron Leader A M Downing Graduated 182 IOTC	Died 23 December 2011
Squadron Leader T P Stockley Graduated 84 Entry	Died 16 April 2011	Air Commodore (Retd) C P James Graduated 62 Entry	Died 2011
Flight Lieutenant S Hulme Graduated 176 IOTC	Died 28 April 2011		
Air Commodore (Retd) R P Skelley Graduated 74 Entry	Died 14 June 2011		
Air Commodore (Retd) P H Cribb Graduated Sep 1936 Entry	Died 26 June 2011		
Air Commodore (Retd) I D Wilkinson Graduated 62 Entry	Died 15 July 2011		
Flight Lieutenant J Egging Graduated 187 IOTC	Died 20 August 2011		

Air Power In An Age Of Uncertainty

Air Chief Marshal Sir Stephen Dalton, KCB ADC BSc FRAeS CCMI RAF, Chief of the Air Staff
Extract from the Address to the RAF Air Power Conference 2011

We live in an age of uncertainty. Everywhere, the status quo is being challenged, and the comfortable assumptions that we've used to shape our view of the world are increasingly being called into question. Four broad trends are feeding this uncertainty: climate change and its global implications; the increasing multi-polarity of the global distribution of power; the global economic cycle of depression and recovery, set against a backdrop of large population growth, youth unemployment and inequality, especially in the developing world; and finally, the spread of popular uprisings driven by the desire by many populations for a greater say in their governance.

These trends are manifesting themselves in many different ways across the globe. In Europe, the seemingly smooth path towards ever-greater integration has been threatened by the economic crisis. Further afield, the eventual outcome of the Arab Awakening - foreseen incidentally, by almost no-one - is still unclear; it would be a brave man or woman who tries to predict with any assurance exactly what the Maghreb and the Middle East will look like in a year's time, let alone into the next decade. Meanwhile, the differential rates of recovery from the global recession have highlighted and heightened the shift in the balance of power between the Northern hemisphere on the one hand, and China and the other emerging economies on the other.

So what does all this uncertainty mean for air and space power? Well, it was Frederick the Great who said that conducting diplomacy without arms was like trying to play music without an orchestra. Recent events have demonstrated that the UK will continue to play an active and engaged role in international diplomacy; and this is entirely in line with the 'adaptive' posture set out in the Strategic Defence and Security Review (SDSR). But our nation's ability to continue to influence events depends, as that wise old Prussian king pointed out, on diplomacy being buttressed by credible military force. I would argue that air and space power is vital in providing exactly the kind of flexible, scalable and affordable military force that's required today; because only air and space power provides both the critical information necessary to cut through layers of ambiguity and uncertainty, and the speed of response to react quickly and precisely to the unforeseen. Indeed, the ability of the RAF, the French Air Force, the USAF and numerous other air forces to deploy combat-ready aircraft to support the conduct of operations over Libya four months ago proves just that point.

Just 18 hours after being ordered to deploy, RAF Typhoons were patrolling the airspace over Libya and very shortly afterwards RAF Tornados and French Air Force Mirage 2000s were conducting long range non-stop bombing missions.

In the case of the Royal Air Force, this involved some of the longest range offensive missions - over a 3000 mile round trip - to attack hardened targets with the long-range, stand-off, air-launched Stormshadow missile - an outstanding achievement. It is also worth noting that these air operations demonstrated a level of agility, precision and synchronisation that would not have been possible

without the up-to-date intelligence data, the assured communications and the positioning, navigation and timing solutions that space delivers for us.

RAF force elements are now committed to operations across all four of the enduring air power roles - Control of the Air, Intelligence and Situational Awareness, Mobility and Attack - either in Afghanistan, Libya, the Falkland Islands or in the United Kingdom. This means the RAF is as operational today, from top to bottom, as it ever has been at any point in its illustrious history - and this was amply demonstrated by our response to the Libyan crisis, where the benefits of the level of agility and adaptability that we've achieved over twenty years of constant exposure to operations has been displayed, in abundance, at every rank level.



Tornado GR4.

In just one week in April, for example, RAF Tornados flew 42 sorties totalling 139 flying hours, and repeatedly engaged enemy forces with Brimstone missiles. Our Reaper Remotely Piloted Air Systems (RPAS) flew 291 hours, and our Sentinel surveillance aircraft 55 hours. You might assume this was all achieved in Libya; but actually, this was in Afghanistan, and it's right to begin here, because while Libya is understandably the current focus of interest in the media, Afghanistan remains our main effort. With circa 10,000 UK personnel deployed, the 2011 fighting season well underway, and the campaign at a critical juncture, it could hardly be otherwise. This year is likely to be pivotal. Force ratios and densities, particularly in the South, are militarily coherent, and even before the death of Osama bin Laden - whatever his real influence on the Afghan Taliban may have been - there were encouraging signs of progress; for example, in terms of the increasing numbers of fighters seeking reintegration.

In Afghanistan, RAF Tornado GR4s have proved to be something of a capability of choice across the coalition. Like all fast jets, they offer a speed of response and level of survivability that the current generation of RPAS simply cannot match. The Tornado's uniquely flexible combination of sensors, including Litening 3 and RAPTOR (Reconnaissance Airborne Pod for Tornado), and the variety of weapons options available, from Brimstone to Paveway 4, makes it one of the best Combat-ISTAR platforms in theatre; capable both of finding and hitting the enemy, and delivering precise and proportionate effect when required. The capability of the Tornado GR4 detachment at Kandahar, and its status as a coalition asset, means the RAF is able to support coalition operations not



RAF Typhoon pilot through the green of his head up display.

only in Helmand, but also in northern and eastern Afghanistan. Other aircraft lack its reach and variety of payload and the Tornado's range of capabilities means that it is much in demand across the theatre.

Afghanistan has also proved the concept of deploying a complementary mix of manned and remotely piloted aircraft. What manned aircraft lack in terms of persistence is provided by RPAS, and the speed, survivability and variety of payload of manned aircraft mitigate the slow speed and vulnerability of current RPAS; the combination of GR4 and Reaper has been strikingly successful in this respect.



Sentinel R1.

Another great success has been the battlefield mapping provided by Sentinel. Over the past few months, 5 Squadron has undertaken a vast array of tasking across Afghanistan, with a particular focus on Counter-IED operations and the identification of suspicious vehicles to disrupt the flow of weapons and narcotics. Additionally, Sentinel has continued with the regular task of providing near real-time support to Combat Logistic Patrols operating within Task Force Helmand's AOR. One example of Sentinel's capability was recently provided when a United States Marines Corps unit took casualties from multiple IED strikes and was coming under sustained small arms fire. With bad weather inhibiting the use of other air assets, Sentinel extended its time on station to use its all-weather, synthetic aperture radar in an overwatch role, providing reassurance that there were no insurgent or local national vehicles moving around the marines' location, allowing them to concentrate on treating their casualties. Thereafter, Sentinel coordinated communications and identified a suitable Helicopter Landing Site to assist the Casualty Evacuation (CASEVAC) of the injured marines out of the combat zone.

In the first four months of this year, the strategic air-bridge successfully and highly professionally moved 25,000 passengers to and from theatre - on time with fewer delays than Heathrow - despite the age of the current strategic air transport fleet. Strategic lift also provides the medevac link between Afghanistan and hospitals in the UK, and the means of repatriating our dead, with a morale effect that should never be underestimated. Within Afghanistan, the combination of distance, terrain and enemy activity makes tactical air mobility absolutely critical. The C130 contributes to both the UK's hub-and-spoke operations and ISAF's fixed wing air transport mission, while, as always, the contribution of our support helicopters has been simply immense: from complex, multi-national air assault operations involving British, Afghan and US Marine Corps forces, the regular and routine movement of personnel and equipment, to the critical, first stage, 'golden hour' medevac mission - and all of these tasks are carried out under the most difficult and dangerous operational conditions imaginable. Their performance

Medical Emergency Response Team (MERT).

continues to be extraordinary, and I'll use just one statistic to illustrate their contribution. In 2010, the RAF Chinook detachment moved 96,000 passengers - a truly humbling achievement, and a magnificent credit to all of the ground and air crew involved.

Finally, before I move on from Afghanistan, I wish to stress one point. The level and sophistication of Air-Land integration we've now achieved both as the UK Armed Forces and as a coalition have been very hard won. As we begin to transition to a non-combat role in Afghanistan, the skill we've developed in integrating air-land operations is something we simply cannot afford to lose - the next time we need it, we might not have the luxury of several years in which to re-develop it. The same applies to Air-Maritime integration, and to littoral operations.

A couple of years ago, you may recall that many external commentators were forthright in the view that the only way the UK would ever fight in the future would be land-centric, low technology counter-insurgencies, so we didn't need to invest in balanced, contingent capabilities any more. So much for expert opinion; we're now into the fourth month of an air-centric, maritime supported and high technology operation in Libya. The precise timing of the political turmoil sweeping the Middle East came as a total surprise to the entire international community, and evokes Harold Macmillan's warning of the ability of 'events, dear boy, events' to challenge our assumptions and abruptly transform the strategic landscape. Libya has certainly done this, pitching us full-square into two separate operations: the first to evacuate groups of non-combatants, the second to enforce UN Security Council Resolution 1973. The way that airpower responded to these particular challenge should not surprise us as airpower exponents, on the contrary, we should be enormously proud - and the UK as a whole should be proud of what the Royal Air Force and Royal Navy have achieved. I think it's also helped some sceptics to finally 'get' what air power can do, and begin to understand the range of political choices and options it offers.

For the UK, the first operation, known as Operation DEFERENCE, was implemented to evacuate UK and entitled civilians from Libya.

The RAF used C130s to airlift civilians out of desert airstrips in some very hazardous operational conditions; in fact, it's now widely known that one aircraft was engaged by small arms fire and the co-pilot was struck on the flying helmet. These missions were supported by airborne Command and Control and ISTAR assets, including the E3-D Sentry.

The operation was a great success, and amply demonstrated the speed, reach and flexibility of air power; it also illustrated the quality and skill of our people.





RAF Hercules evacuates civilians as part of Operation Deference.

As the political situation changes around the world, I'm very conscious that there may be a requirement for further non-combatant evacuations, and you won't be surprised to learn that we've worked closely across Whitehall to make sure appropriate plans are ready if needed.

Operation ELLAMY is the UK operation to implement United Nations Security Council Resolution 1973 and aims to prevent Colonel Gaddafi's regime from attacking its own civilian population. The RAF deployed 10 Typhoons to Gioia del Colle as soon as it was agreed by Italian hosts that it could be the Deployed Operating Base and we were flying Combat Air Patrols over Libya just 18 hours after leaving the UK, a fantastic achievement resulting from some outstanding work at every level.

At the tactical level, control of the air was quickly secured through attacks on the Libyan air defence system. Attack operations were also mounted from RAF Marham by Tornados equipped with Stormshadow missiles. Each mission comprised a formation of 4 aircraft carrying 8 missiles, supported by a single TriStar tanker. The first and third missions successfully attacked key installations and weapons storage facilities. The second was aborted moments before weapon release, when intelligence suggested the presence of civilians in the area; an

illustration of the professionalism and discrimination available using air delivered weapons. These sorties were a notable achievement, with the 3000 plus mile round trips representing the longest air attack missions ever flown by British aircraft from the UK. In the round, the whole of the first phase of Operation ELLAMY provides one of the best possible illustrations of the range of political options that air power offers; in

particular, its ability to influence events quickly without a footprint on the ground through its inherent reach, responsiveness and range of capabilities.

In the second phase of the operation, our Tornado force was deployed forward to focus on direct action against Gaddafi's forces, primarily using the combination of RAPTOR and Litening 3 reconnaissance and targeting pods, and Brimstone missiles. The effects have been remarkable. Brimstone, as in Afghanistan, has proved to be a highly accurate, lethal and low collateral weapon. However, our Tornados and Typhoons, and the other NATO attack aircraft, haven't operated in a vacuum. RAF E3D Sentry and Sentinel R1 aircraft have been integral to the operation. Whilst the Nimrod R1 has now been

retired from service, co-manned RIVET JOINT aircraft are already deployed on operations, sustaining the UK's airborne signals intelligence capability and safeguarding the skills and core competencies of RAF personnel until our own Air Seeker aircraft enter service from 2014. The combination of SIGINT, airborne battle-space management and wide area surveillance, together with the Combat-ISTAR capability provided by Brimstone-equipped Tornado GR4s, means that the UK has been able to provide NATO with a unique capability - and one that is absolutely essential in identifying and engaging small, fast-moving targets in crowded, urban areas such as Misrata.

The key to success in this uncertain age has been the integration of complementary capabilities. While surveillance satellites are usually the 'first on the scene' of any global crisis, we have seen how Sentinel's wide area scan capability can be used to cue GR4 or Typhoon onto points of interest, where they can use their narrow field-of-view, high resolution targeting pods to positively identify and engage. In my view, the development of this SCAN, CUE, FOCUS methodology marks the coming of age of our Combat-ISTAR philosophy, and has also underpinned interoperability with US systems, such as JSTARs (Joint Surveillance and Target Attack Radar System) and Liberty. Ensuring the tactical utility of this capability in practice isn't simple; it requires the correct enabling 'electronic string' to tie a system of systems together, and some deft manipulation of Air Tasking Orders to ensure that an appropriate mix of capabilities is put in the right place at the right time. This isn't always easy, but it's worth the effort, because when layers of dedicated ISR



The Tornado line at night at Gioia del Colle.

(Intelligence, Surveillance and Reconnaissance) and Combat-ISTAR assets are used to cross-cue capabilities, a synergy of effect is achieved that's far greater than the sum of its parts. One important difference between Libya and Afghanistan – and a sign of the growing robustness and maturity of the Combat-ISTAR paradigm – is the proof that the capability can be successfully implemented in airspace potentially contested by an RF SAM threat.

So what has been achieved overall? In the first place, Libya has been a story of unparalleled airpower success – indeed, of tactical airpower excellence. Denying Gadaffi's cohort access to their own air power, armour and heavy artillery effectively removed the threat to the Libyan people in Benghazi. Predictably, this forced pro-regime forces to adapt. Confronted by overwhelming air power, they switched to using light vehicles and rocket launchers, creating the usual challenges of combat identification. However, as the example of Misrata demonstrates, persistent ISR and a concentration of high technology air power, enabled by space, can be used to create enough pressure over time to disrupt and deter even well disguised forces operating in the most difficult urban environments.

Even where one component predominates, warfare is inherently a joint business. Historically, the most effective examples of air support to irregular forces have depended on the deployment of key personnel to leverage the asymmetric advantage of air power into effect on the ground. For me though, this highlights one of the real strengths of air power; and that's the way that we can integrate international force elements seamlessly, even at a deeply tactical level, right down to mixed formations prosecuting single sets of targets. This is, of course, founded on a basis of common doctrine, training, and Standard Operating Procedures exercised repeatedly over the years, on both a bilateral and multilateral basis, within NATO and more broadly with other partners. The net result is a level of understanding that cannot be matched so seamlessly in other environments; and it means, for example, that Qatari aircraft have been able to slot straight into a NATO air C2 structure, and successfully operate with the minimum of 'friction' that can usually be expected in complex coalition operations.

I draw two key lessons for operations in our uncertain world. The first is that once again, the responsiveness, flexibility and effectiveness of air power have been demonstrated as a tool of political and foreign policy. As political crisis threatened to turn into humanitarian disaster, only air power, supported by maritime capabilities, could be deployed quickly enough to have the desired effect in the right timescale.

Second, the level of expertise that the RAF has developed over 20 years of continuous operations has been absolutely critical to the prosecution of the operation at an Alliance level. This reflects the professional links and relationships we've developed operating in the Middle East and within NATO, and is typical of the way airmen and women continue to punch above their weight in Joint and Coalition HQs.

But the RAF's portfolio is not bounded by altitude nor limits of aerodynamic control, and perhaps our motto, 'per ardua ad astra' – may be particularly apposite here. I am, of course, referring to space. Joint doctrine recognises space as one of the five operating environments, and it is one in which the RAF has played a leading role for almost 50 years. Today, the ballistic missile early warning radar at RAF Fylingdales in North Yorkshire tracks over 4000 satellite passes per day in support of both UK and US space situational awareness centres. Space is already a contested domain and, while ISTAR of space provides the necessary

indicators and warnings, we still need to be able to 'fight through' when our space enablers are degraded. To this end, the Air Warfare Centre has already done much to catalogue the space dependencies of air platforms and systems, and we continue to expose our airmen to GPS jamming during tactical training exercises.

I'd now like to look further ahead – and I believe that the future is very bright for air and space power in general and the RAF in particular. But I also need to set out the path we are going to have to follow to get there – and I make no bones about this – this will be difficult and, in some respects, painful.

What then, will the RAF look like in 2020? My strategy throughout the SDSR process was – within the financial realities of the MOD – to secure the principle of a modern, balanced and coherent RAF as an essential component of the UK's future defence capability. One clear focus was to embed the requirement to migrate to a long term Typhoon/F-35 Lightning II fast-jet force, giving us a durable and truly multi-role Combat-ISTAR capability delivered by two aircraft types. Technologically, this will provide an order of magnitude increase in capability over the Harrier and Tornado and, the complementary nature of the agility of the Typhoon fighter, that is now a combat proven bomber, and the stealthy F-35 Lightning II combat ISTAR aircraft will ensure that we are able to deliver both control of the air whilst simultaneously conducting attack, intelligence and situational awareness roles. This combination of platforms means that in the contested and challenging operational environment of the future, fewer combat aircraft will be able to deliver greater capability – but the key is to understand that whilst each aircraft can switch between bases and theatres relatively readily they can only be in one fight at a time, and this is where RPAS comes into the equation.



A pilot from 39 Sqn remotely controls a Reaper MQ-9 Unmanned Aerial Vehicle, during a training sortie over the west coast of America from Creech Air Force Base.

The success of Reaper has demonstrated the importance of Remotely Piloted Air Systems to 21st Century air power.

RPAS provide a key capability in current campaigns and will act as the basis for a persistent Combat-ISTAR capability in future conflicts. Consequently, the RAF will remain in the vanguard of the development of RPAS tactics and techniques, including the potential – subject to certain caveats – to move towards more autonomous ISR systems. But I've already highlighted some of the limits and weaknesses inherent in RPAS, particularly in terms of transit times and survivability, and there are also many other constraints. Therefore, if the technology continues to develop as we expect, my judgment is that it will be possible to move towards a mix of about one third remotely piloted Combat-ISTAR platforms to

two-thirds manned in the post-2030 era. But, we need to rapidly develop our thinking about the quite specific, but different, characteristics involved in Unmanned Combat Air Vehicles – fighting autonomously is very different to autonomously flying straight and level.

Intelligence is a key capability, particularly as it is the best way of reducing the uncertainty and seeing through the confusion inherent in the contemporary operating environment. Libya has reinforced the lesson that rapidly evolving and unexpected crises demand the ability for us to quickly gather, process and disseminate intelligence from a baseline of almost nothing. Our capability in this arena will be enhanced radically by the Air Seeker programme, which is able to span the full spectrum of electronic signals, intelligence collection and dissemination, from the strategic right down to the sub-tactical.

Our recent experience has reinforced the message that operationally focused and tactically effective air mobility is not an optional extra. Rather, it's absolutely core to the business of joint warfare. The last 10 years have seen a quantum leap forward in our ability to provide air mobility in the most demanding conditions, and our equipment is better protected - and our crews more tactically adept - than ever before: this has been demonstrated routinely in Afghanistan and most recently, and dramatically, during non-combatant evacuation missions in Libya. I am determined that we will maintain this level of excellence after the scaling down of combat operations in Afghanistan, founded on a fundamental recapitalization of our entire air mobility fleet.

The RAF will also be central to Defence's contribution to a national cyber capability. For airmen, this is, in any case, non-discretionary; our weapon systems depend on cyber defence to function, and this dependence means that we've already established a cadre of individuals with an expertise in cyber operations that can be leveraged more widely across the defence sector. Similarly, the Government has now recognised space as a National Security issue and the SDSR called for the development of a National Space Security Policy, which will coherently address all aspects of the UK's dependence on space both military and civil and assure our access to space.

In the future, space is likely to become more 'congested' in key orbital regimes; more 'cluttered' with debris; more 'constrained' through international regulation; more 'connected' through increasing reliance on, and interdependence between, space systems; and - most worryingly - more 'contested', through the proliferation of counter-space systems. Therefore, doctrinally, space must continue to feature in our military calculus - not just in the planning and execution of air operations - but also in the planning of Joint Campaigns. From a capability perspective, we will likely continue to rely heavily on allies but the advent of small satellites and service-based solutions may hold the key to more affordable options. Operationally, there are approximately 73 trillion cubic miles of space out to the geo-stationary belt and no sovereign borders, so only through collaboration will we be able to sense, warn, attribute and respond to events in space. In fact, we are already exploring concepts for combined space operations with the US, Australia and Canada, and NATO has begun work to define the space dimension of the Alliance. In the meantime, we may not own many satellites, but we certainly own the risk, so we will continually seek to mitigate risk through reversionary modes or, at the very least, through tactics, techniques and procedures.

Some of the risks that we have had to take in the current financially challenging times can be mitigated by partnerships with allies, and cooperation with industry. International collaboration is increasingly important in delivering training and capabilities in an era of fiscal austerity, and I very much welcome last autumn's Anglo-French Treaty

A Royal Air Force C-17 at RAF Brize Norton prepares to deliver a very large consignment of Libyan bank notes to the authorities in Benghazi.



for Defence and Security Cooperation, which committed us to a much closer bilateral Air, Land and Maritime relationship with France. We will work together to develop the next generation of RPAS as well as deliver, by 2016, a Combined Joint Expeditionary Force that will be interoperable and deployable. To deliver this we will conduct joint exercises and other training activities as well as develop joint work on military doctrine and the exchange of military personnel. We will work together to share and pool materials, equipment and services to create closer co-operation in contributing to and pooling forces and capabilities for military operations and employment of forces, which will cement the future of the Combined Joint Expeditionary Force. In many respects this compliments the vital work that we have already been doing with many other nations for many decades, without which we would probably not be the Air Force that we are today or will be in the future. Some would of course want to claim that subsequent events in North Africa vindicate the foresight of the these agreements; whilst I am not sure that I would go that far, we have already conducted a number of real enhancements to the Anglo/French mutual development of Air Power. What is clear is that the real gains from these relationships takes time and real world events to mature, through improved information sharing, genuine shared capabilities and equipment and strong relationships, from the bottom to the very top of our organisations. A good example of the success that can be achieved in working together, such as in NATO, is the effectiveness that has been demonstrated by the NATO E3 Force in support of operations over Libya, where the combined efforts of the individual countries has been greater than the whole. Meanwhile, we need to continue to expand our partnerships with industry. Real innovation will continue to be essential in driving down support costs and delivering affordable capabilities. However, despite all these efforts, in some areas we've had no option but to reduce to core, although we've sought to maintain seed-corn capabilities as a basis for future regeneration wherever this has had to happen.

The success of our transition to Future Force 2020 will require a ruthless focus on delivering value for money. Any delays or cost overruns will have an impact: both in terms of our reputation, and more practically. As the SDSR demonstrated, an expensive project which isn't working, or appears unlikely to be made to work, is vulnerable to cancellation; so in this sense poor delivery leads directly to the loss of capability. Similarly, the need to get the optimum output and performance from every element of our capability must drive innovation. For example, every airframe flown in an operational area has the potential to be an ISR collector. Off the shelf, modular capabilities exist that can make this happen and which can be integrated into current and future platforms. The secret here is to wring the last drop of capability out of all of our assets - and this includes sweating our headquarters and staff structures, and focusing them

on the operational output and adapting those arrangements to meet the daily supervision and management requirements.

The final, and by far the most important factor in our transition, is our people. Nobody is more conscious than I that the current degree of turbulence - generated by both ongoing operations and post-SDSR restructuring - is putting additional pressure on the very people that we're relying on to deliver operational success while managing the transition into the future.

In this environment, continuing to recruit and retain people of the quality we need and demand will be a challenge. This why I, and the RAF, embraced some time ago the principle of the Whole Force Concept, and will always ensure the optimum value for money balance of contractors, civilians and Reserves working alongside Regular personnel. However, the majority of the Royal Air Force will remain as Regular personnel as this enables the agility and responsiveness that we require for contingent operations such as Op ELLAMY. But, there are ways to do things smarter and more efficiently. For instance, the innovative use of Sponsored Reserves, where the contractor provides a proportion of his workforce trained to military levels and constituted as members of the reserve air force offers significant benefits which we are already realising on contracts such as the E3D Sentry Supply Support contract. We are also utilising our reserve forces: to help deliver the Command Support Air Transport task of 32 The Royal Squadron at Northolt and the outstanding Aero-medical evacuation mission; in intelligence fields; as movers on the Air Transport field; and throughout our force structure. These are a number of examples of the Whole Force concept in action and I would like to highlight that, wherever it is cost-effective, the RAF will always seek to use contractors and civilians ahead of Servicemen.

But, we must also remember that contractors are not always cheaper than regular manpower, especially when high-end technical or professional skills are required. As I stated before, it will be a continuing challenge to recruit and retain these personnel and I am absolutely determined to maintain this aspect of our operational capability right at the very top of the priority list. In the mid-term, initiatives such as the empowerment of me as the Chief of the Air Staff and the cascading of that empowerment down the command chain, the design of the New Employment Model all the way through to Project Sirius will provide our people with the confidence they need that they can enjoy a full, fulfilling and rewarding career, while in the short-term, necessary restructuring must be as swift, open and transparent as possible.

So what are my messages for the future of Air and Space Power in our uncertain world; well, I've outlined four main propositions.

First, I've argued that we live in an age of unparalleled uncertainty. The sheer number and variety of challenges we currently face, and the unpredicted and unpredictable ones that we'll face in the future - Donald Rumsfeld's infamous 'known unknowns' - means that the UK has little option but to continue to engage actively, on a global basis, to influence events, but must also retain sufficient coherent airpower to agilely attend to Harold Macmillan's "Events!"

Second, this sort of active diplomacy, the deployment of 'soft power', will have to be buttressed by credible military force, or 'hard power', which is exercised and demonstrated on a credible and global basis.



'Carefully does it' - A serviceman of 15 Sqn RAF Regt.

Third, to be effective, or to provide what Joseph Nye describes as 'smart power', this kind of force must be responsive, scalable, discreet and affordable. As we've demonstrated so forcefully in Libya - and hopefully as I've made clear today, particularly through the coming of age of Combat-ISTAR - only air power, enabled by space, possesses all these attributes in full measure.

Fourth and finally, the transition from our current structure to a more streamlined operationally focused and coherent force structure by 2020 arguably marks the RAF's own path through the 'Age of Uncertainty'. I do not underestimate the scale of the challenges involved, but as an air force we now know exactly where we're going; and while the RAF of the future will be built around F-35 Lightning II and Typhoon, a renewed Support Helicopter fleet, modern air transport fleets and ISTAR and Force Protection capabilities, the backbone of our capability will remain our remarkable and highly skilled and professional people, imbued with that unique 'will win' RAF ethos. These are the people who had the agility, adaptability and commitment - after over 20 years of continuous operations - to mount a major operation with just 18 hours notice to deploy to Gioia del Colle and mount Combat Air patrols in hostile airspace as well as those magnificent airmen and women who generated Hercules and Sentry aircraft from maintenance periods in amazing timescales so that the brave and noble aircrew could fly into hostile airspace to rescue entitled civilians safely and I am absolutely clear that our future as a fighting force depends on them in the most fundamental sense.

Operation ELLAMY: Air Power From The Air Component Headquarters

Squadron Leader N A Towers BEng ATT PGCL&M RAF, SO2 Targets, Joint Effects, J3 Permanent Joint Headquarters

Extract from United Nations Security Council Resolution (UNSCR) 1973, voted in by 10 votes (and 5 abstentions) on 17 Mar 11.

The United Nations Security Council, expressing grave concern at the deteriorating situation, the escalation of violence, and the heavy civilian casualties...considering that the widespread and systematic attacks currently taking place in the Libyan Arab Jamahiriya against the civilian population may amount to crimes against humanity...expressing its determination to ensure the protection of civilians and civilian populated areas and the rapid and unimpeded passage of humanitarian assistance and the safety of humanitarian personnel...reaffirming its strong commitment to the sovereignty, independence, territorial integrity and national unity of the Libyan Arab Jamahiriya, determining that the situation in the Libyan Arab Jamahiriya continues to constitute a threat to international peace and security, acting under Chapter VII of the Charter of the United Nations...

Demands the immediate establishment of a ceasefire and a complete end to violence and all attacks against, and abuses of, civilians;

Authorises member states...acting nationally or through regional organizations or arrangements...to take all necessary measures...to protect civilians and civilian populated areas under threat of attack in the Libyan Arab Jamahiriya, including Benghazi, while excluding a foreign occupation force of any form on any part of Libyan territory...

Decides to establish a ban on all flights in the airspace of the Libyan Arab Jamahiriya in order to help protect civilians... authorises member states... to take all necessary measures to enforce compliance with the ban on flights imposed...

Calls upon all Member States, in particular States of the region, acting nationally or through regional organisations or arrangements, in order to ensure strict implementation of the arms embargo established by...resolution 1970 (2011), to inspect in their territory, including seaports and airports, and on the high seas, vessels and aircraft bound to or from the Libyan Arab Jamahiriya...

The above text set the precedent by which I found myself sat in the back of a 32 (The Royal) Sqn BAe 125 with a handful of hurriedly packed clothes on my way to the United States Air Forces Europe (USAFE) HQ in Ramstein, Germany. An hour earlier I had been in a classroom at RAF College Cranwell, now I found myself en-route to support the UK contribution to enforcement of the UNSCR 1973. A number of states, including the UK, US and Arab states, had begun enforcing the UNSCR by projecting air power over Libya. Our contribution was Op ELLAMY¹ and at this stage, the UK was working as part of an alliance in advance of a formal NATO-led operation; the US were operating under the name Op ODESSY DAWN.



Below is an account of my experience during the time deployed in support of Op ELLAMY. Much of my contribution remains sensitive, in terms of the classification, operational security (OPSEC) and ongoing post-operational business. Hence, this is deliberately not an account of operational activity, rather, a perception of the relationships, dynamics and leadership witnessed from a personal perspective. That said, I have littered the article with operational accounts and events to enhance understanding of the situation. In order to further heed OPSEC, I have used available open source information regarding facts, figures, names, places and national contributions which are used simply to add context rather than confirm operational details.

Op ODESSY DAWN

In recognition of the immediacy with which UNSCR 1973 needed enforcing, as a result of the deteriorating situation due directly to Col Gaddafi's indiscriminate targeting of civilians, on 19 Mar 11 a coalition of the willing², began strikes on key assets within Libya using weapons delivered from naval assets and aircraft. Targets were selected to enable the enforcement of the No-Fly-Zone, including air defence assets, and Gaddafi artillery and armour to ensure the protection of civilians. The UK quickly deployed essential personnel as part of the UK Air Component Headquarters (UKACHQ) led by a RAF Air Vice Marshal (2 star). The US 603rd/617th Air and Space Operations Centre (ASOC) in Ramstein was the HQ for the Op providing the home to the coalition until command was transferred to NATO on 31 Mar.

So, why did I find myself on an aircraft on my way to Ramstein? A long answer would include operational commitments, harmony guidelines and a broken leg (the nominated individual had a stroke of bad luck and could not deploy). The short answer, was that I was the only qualified and available targeteer.

The days of Op ODESSY DAWN passed in a bit of a blur. Having landed at Ramstein on 25 Mar I was shown to my temporary accommodation and then immediately to the operations (ops) room. At the time I had

1. The UK conducted a Non-Combatant Evacuation Operation (NEO) known as Op DEFERENCE contributing to a wider force and extracting over 4000 Entitled Personnel (EP) from 38 nations. HMS Cumberland conducted at least 3 evacuations from Benghazi to Malta (by 7 Mar 11) with HMS York and HMS Westminster also extracting personnel and delivering aid to Benghazi. RAF C-130, supported by Royal Marines extracted EP from the desert in Libya. Over 130 UK EP were extracted by 7 Mar 11.

2. US (Op ODESSY DAWN), UK (Op ELLAMY), French (Op HARMATTAN), Canada (Op MOBILE), Norwegian.



Joint Operations in the CAOC.

been awake for 24 hours, was unshaven and was still wearing the clothes I had gone to work at RAF Cranwell in (there had been no opportunity to change). Despite this I soon realised that I was relatively fresh compared to the majority of personnel at the temporary HQ. And so began 6 days working at an incredible pace. Everything was divided into 6-hour chunks with updates to the UK Air Component Commander (UKACC) or Chief of Staff (COS) covering all of the Divisional areas from J1 (Admin) through to J9 (Media, Political, Legal) and it is surprising how quickly a campaign update can be delivered when it is provided every 6 hours and everyone is working at maximum effort. Of course, everyone had tasks and meetings to attend within the routine, with great use made of Video Tele-Conferencing (VTC) and face to face discussions. Working 2-hour days it was common to find personnel catching an hours sleep on a sofa or corner of a room. Indeed, not an eyelid was batted when someone woke up underneath the side chairs during a 2-star VTC! Quite honestly, it was exhilarating, if a little tiring. I thoroughly enjoyed the pressure and, along with the LEGAD (Legal Adviser), was able to contribute to the UK effort. Targeting is bound by the Law Of Armed Conflict (LOAC) and guided by the Rules Of Engagement (ROE). The LOAC principles of Military Necessity, Proportionality, Humanity and Distinction, and the ROE, provided the basis of the advice which the LEGAD and I would provide to the UKACC regarding the targeting of a particular object. Luckily, I was soon joined by another targeteer and a fellow Intelligence Officer with whom I could share the workload. This provided the much needed opportunity to sleep, eat and get in a much needed run.

On 30 Mar, I was given notice to pack my belongings and await pick up in 30 min to be taken to the air head. An hour later, I found myself on the back of another BAe 125 on my way to Poggio Renatico, near Ferrara in north east Italy, along with a Wing Commander and 4 Squadron Leaders, including the LEGAD. After a change into civilian clothes at the deserted Bologna Airport followed by a taxi ride we arrived at a hotel for a few hours sleep. It is worth adding that at this stage we had no J1 admin support and everything went on personal credit/debit cards (never have I thought more that JPA would have been a welcome luxury for an advance!). The morning saw a drive north to Ferrara and Poggio where the NATO Combined Air and Space Operations Centre number 5 (CAOC-5) was located. This would serve as the Combined Joint Force Air Component HQ (CJFACHQ) for the duration of the NATO-led operation.

Op UNIFIED PROTECTOR

At 0600 (GMT) on 31 Mar 11, NATO took command of the Op under the name Op UNIFIED PROTECTOR (OUP) with the Combined Joint Task Force HQ (CJTfHQ) at Naples in Italy. I, along with the 5 UK personnel that had travelled with me were initially there to observe and provide support to the mission as necessary, whilst remaining cognisant of the fact that CAOC-5 was an established HQ. Contributing nations included: Belgium, Bulgaria, Canada, Denmark, France, Greece, Italy, Jordan Netherlands,



Ballistic Missile Launcher.

Norway, Qatar, Romania, Spain, Sweden, Turkey, UAE, UK and the US. CAOC-5, and wider NATO was ready to conduct an Air-centric op at very short notice. Bear in mind that whilst NATO, through ISAF, have been conducting ops in Afghanistan for 10 years, theirs is a conflict of insurgency very much focussed on stability and building with a very rare need to generate deliberate Composite Air Operations. Furthermore, availability of resources for us meant that the larger proportion of training was conducted via computer programmes with no direct communication to the air assets. Why are these facts important? Because, in my opinion, having witnessing the events, the tempo of the op at hand-over was a little overwhelming for the ops room.

Leadership

Looking back now, it was unclear at the time what was missing. We had people in the right places, connectivity and computer systems were very good, everyone had a good grasp of a common language and the theory of running an ops room appeared sufficient. What was missing was experience and leadership. This is not a criticism; far from it, it is merely an observation. After all, the 6 of us Brits had spent the previous week building our operational tempo and focus on the fight. But it did become clear, given our extra capacity from the observing point of view, that we needed to integrate ourselves into the process and pull the CAOC up to the tempo of the op. I don't know if we were right to do that and am happy to be criticised for perceptible arrogance but, at the time, it was the right decision. Hence, the Wing Commander very audibly took control of the ops room and we inserted ourselves into the positions most needing assistance. This simple act, changed the dynamic of the team and productivity, or rather effectiveness, improved. There was initial resistance as we had come into a nice working environment and taken over, but our actions were effective. The down side was that this was the beginning of a very long shift. I don't really recall what time I handed back over to the original operator, having mentored him and then his shift opposite number but a well earned 6 hour sleep followed.

After about a week in Italy, we had moved between several hotels and as the number of UK personnel increased a more permanent solution was needed. Besides which, we were still using personal funds to pay for everything. By mid Apr, with the UK contingent at CAOC-5 numbering about 20, we moved into student accommodation in the city of Ferrara.

Challenges

I have indicated the early challenge above and should not dwell on what very quickly became a highly effective operation. My role varied but fundamentally I was there to provide targeting support to the UKACC (now 1 star) in conjunction with the LEGAD. By the time the first week was finished, we had gone from the initial 30 hour shift to a more workable shift pattern, with my fellow targeteer arriving from Ramstein. My

focus, was supporting the ISTAR³ tasking, assisting in the intelligence collection and assessment, and supporting the ops chief with tactical situational awareness. Again, our ISTAR officer arrived from Ramstein and took on that task with some vigour, leading the ISTAR cell in a manner well beyond expectation and earning considerable credibility, personal and national respect in the process.

Operationally, the challenges were plentiful. Imagine the situation: 2 people of different nationalities communicating in broken English; the radio comms being used are not directly linked and are being relayed by a 3rd person of different nationality in broken English; the messages being passed are coded and include mission critical information; the nationalities of the people communicating are influenced by NATO direction and command but also by their own national legal and operational caveats; one person is in a building looking at a map and the other is looking out of a cockpit at 20,000 feet where weapons were being fired in several different directions and there are no distinguishing marks between the people on the ground. The challenge, therefore, was making all of that work, achieving the desired effect (i.e. protecting the civilians on the ground from attack) whilst operating within strict ROE. So did we make it work? Absolutely. It is without question one of the most challenging and rewarding situations that I have been in professionally. But, and accepting the efforts of everyone from CJTFHQ to the pilots in the aircraft, the constant hard work at the CAOC was fundamental to the success of the mission.

A challenge which I faced directly was my ability to provide the Ops Chief, and therefore the Offensive Counter Air (OCA) with situational awareness. Furthermore, I had a responsibility to my National chain of command, who held the UK 'veto' to targeting in accordance with HMG direction, to provide the best information possible with which to authorise a kinetic strike from a UK asset. My ability to keep up to date awareness was proportional to the speed and tempo of the operation and was influenced heavily by not having ground troops to provide the ground picture. This really highlights the fundamental benefit of a joint operating environment where Air-Land integration is achieved. It became clear that the need existed for a permanent post to provide tactical situational awareness within the ops room. There was a balance to be struck as I had a conflict of interest by being 'sucked into' the tactical fight whilst providing targeting advice to the Dep ACC. Hence, I set up the Senior Intelligence Duty Officer (SIDO) post and left all targeting matters to my colleague. This did mean a return to longer shifts for us both and created a mentoring burden for me to provide redundancy in the SIDO post. Of course, I was also in a learning curve and maintained oversight of ISTAR and OCA dynamic tasking. I may be selling this as my single effort to win the war but, apart from relishing the pressure and feeling a sense of tangible contribution, it was as simple as asking 'what is the situation and how does it affect us' in terms of offensive action. I was allocated 2 personnel to help with the SIDO desk and spent the next couple of weeks working closely with my German and Polish colleagues. Given the space available at the desk, we could only use 2 chairs, with one person standing behind most of the time. This led to a Basil Faulty ('do not mention the war') moment whereby the Pole went to grab a coffee and found on his return that the German had taken his seat. To my horror an argument ensued about the German's right to 'invade' the Pole's space. Luckily this was a joke that anyone with NATO experience would have not risen to; I guess I had to earn my 'NATO wings' somehow. This made the



working environment extremely enjoyable, along with them bantering the Italian about who he would support if a fight broke out.

The personnel uplift

Whilst we continued to meet the necessities of ops within the CAOC, the learning process was iterative throughout and indeed it continues to this day. One of the major realisations was that our Intelligence analysis capability was limited and our ISTAR tasking was a cumbersome task. The problem was not necessarily training, experience or access to information, it was that the tempo of the op was too high for the capacity of the personnel within the intelligence set up. This was recognised and plans were put in place to solve the issue. Cue, the US 603rd AOC, UK and some of the contributing nations, who agreed a plan to increase the numbers of personnel significantly to enable intelligence aware, intelligence led and effects based ops. I won't go into numbers, but will say that the increase was notable and that the CAOC soon became too small. The support to the intelligence function was impressive and, whilst numbers increased, including UK and US, this was still a NATO lead. For my part, I was able to hand over the SIDO post. It is reflective of how important that post had become that I was replaced by 4 SO2s working the 24 hour shift with a 3rd pair being stood up shortly. Again, I am not suggesting that I won the war, it is merely to put into context that the amount of information that needed to be processed to maintain situational awareness (with very limited ISTAR) had outgrown my capacity.

Electric shocks

The move of some of the functions from Ramstein to Poggio, brought with it a new capability and building. It is prudent for me not to go into detail but, for context, this building undertook an ISTAR analysis function which needed to be linked up with the ops room. This became my next line of attack. I worked to build the capability and process for joining up these functions (with some extra information feeds included). After a fair amount of work and liaison, it was agreed that I would move into the building and set up some of the necessary systems to allow me to talk to the UK and the ops room, thereby providing that link in the chain. Whilst things continued to move at a fast pace at Poggio, installing a laptop into a secure area can prove difficult and time consuming (I absolutely support the need for the security protocols but still became frustrated). This frustration manifested itself in an incident which earned me the adopted-US callsign 'Sparky'. On the day that we were supposed to install the laptop, by running some cable through the wall, the UK Chief of Joint Operations (CJO) was due to visit and I was keen to demonstrate the joined up nature of our business. However, the hole through which

3. Intelligence, Surveillance, Target Acquisition and Reconnaissance

the cable was due to run was too small and we had to wait for a contract to be signed to drill a larger one. Anyone who knows me will understand that my impatience and willingness to take the odd risk can be either a very successful or dangerous combination. As I was drilling the hole into the side of the building, with a US Staff Sergeant asking if I knew what I was doing, I was subjected to a large bang, sparks and a strange force which sent the drill backwards. This was followed by lots of shouts from within the building as to why the power had gone. To draw this anecdote to an end, with one hour to go until CJO arrived, and having knocked out the power which supported some fairly vital information feeds for the op, the professionals (who's job it is to restore emergency power) stepped in and recovered power within 10 mins. The problem was solved, I got my system into the building and the comms guys got a very positive response from their Colonel for reacting so well to the situation. I would like to say that I was responsible for some good training for the communications personnel.

Steady state

By the op was running at 'steady state'. Not that it became dull or predictable, but the manning, equipment, information flow, infrastructure and organisation was capable of meeting the demands of the op tempo routinely rather than by operating flat out. The situation on the ground in Libya was difficult, as the fighting became almost face to face and the fighters made better use of cover from air attack. The number of heavier vehicles such as tanks reduced and fighting from crew operated weapons and 'technicals' was prevalent. Tactically, this presented a challenge to the employment of our weapons, considering blast radii and collateral damage concerns, but also meant that ISTAR needed to be used as smartly as possible with value added in the form of assessments critical to success. At this point, I was sent a couple of SACs relatively fresh out of training and with no experience. This was extremely welcome but brought its own challenges. If there is one thing that I have learned, and tried to teach, at the RAF College, it is the art of delegation and development of subordinates. This has traditionally been a hard task for me particularly with personnel of limited experience. The easy answer would have been for the SACs to fill in spreadsheets while I continued with the analysis and assessments. The alternative was to move from Directing to Coaching, then Mentoring to Delegation thereby enabling me to step back and developing the skills of the junior ranks. The obvious question was, 'is this the right time and place to be developing personnel?'. In fact it was the ideal time and place. We took up to an hour away from the desk within each 12 hour shift to discuss what was happening and note any changes that needed to be made to the battle rhythm. I encouraged the SACs to give me their opinion and assessments and we discussed the best way of supporting and 'packaging' that assessment. The SACs arranged their own shift patterns and organised themselves in order to meet my requirements. Within 2 weeks, they were producing fused intelligence products with their assessments which directly contributed to our success and brought much praise from the commander. From a leadership point of view, I was out of my comfort zone to start with as there is always risk that you are judged against any reduction in capability or output. But the benefits were obvious and rewarding. I built up a level of trust that enabled me to step back and work on other development areas whilst providing the advice, top cover and direction. Give your subordinates your intent and let them impress you; they certainly did.

Strategy and replacement

As I left the SACs providing situational awareness advice via chat to the SIDO in the ops room (under the watchful eye of a couple of USAF Loo-tenants) I moved into the strategy team, doing operational planning and 'red teaming'. The group, consisting of a RAF Group Captain, Wing Commander, Squadron Leader, a Canadian Colonel and myself, spent 4 days working through an operational estimate (6 questions rather than the tactical 7 questions) in order to produce a strategy based on Gadaffi's strategic aims. We conducted Centre of Gravity (CoG) analysis and identified Decisive Conditions (DC) over 4 lines of operation: Diplomatic,

Influence, Military and Economic. What does this mean? Basically, we used a process to frame our thoughts as to what we thought Gadaffi's aims were to come up with a strategy for countering those aims. This was an extremely useful project and informed the commander's direction for the future. Furthermore, I enjoyed the exposure to this planning process and the welcome break from the tempo whilst putting deep thought into the situation. Again, taking time to reflect and to plan is something that I had been teaching at the RAF College. I cannot emphasise enough the importance of taking the time to reflect and look at the bigger picture and plan for what is next. We often get so ensconced in our routine that we cannot see beyond the immediate and this, on reflection (ironically), means that we spend time doing work that may not be important or effective. I went from covering the SIDO for 2 shifts, to strategising and found the balance incredibly useful to my wider understanding and advice to the commander.

When I left the CAOC Gadaffi still had control of Tripoli and was in a reasonably stable situation; the anti-Gadaffi forces were maintaining their footholds in Misrata, Ajdabiya and Zintan with a stable Benghazi; fuel shortages amongst the population were critical and the fighting forces much harder to find and the UNSCR had only 30 days remaining putting pressure on the NATO mandate to operate. By the end of May my replacement had been nominated and deployed. Gone were the days of jumping on a BAe 125 and so I made my way to Bologna airport to complete my tour. I left him to make his own mark and face the challenges yet to come.

Conclusions

As I stated at the beginning, this was a personal account and was not meant to be a summary of operations in Libya. Whilst I added operational accounts for context, for me the deployment was about the lessons that I learned personally and the invaluable experience that I, the UK contingent and, undoubtedly, the NATO headquarters had in running this type of operation. One of the key points for me was articulated by a USAF Colonel during departure drinks who said that 'NATO is the greatest and most important alliance in the world today'. I have to agree with her. Any tone of criticism in this article at the way NATO managed the operation has been misinterpreted and is unintentional. I understand as well as anyone that experience and training are necessary to conduct ops. If you can identify these as shortcomings, good leadership and simple hard (and smart) work can overcome the issues. In the case of the CJFACHQ, that leadership came from someone already at operational tempo with an awareness of the ongoing mission. It called for boldness, a direct approach initially, developing to a coaching and mentoring role.

Given the limited ISTAR available, the UK was by far the most influential contributor of assets and effect. I have already cited our ISTAR officer as key to success and the SACs working for me had a definite impact in fusing and assessing the information. That would not have occurred without the assets in theatre and the quality and timeliness of the 'product' being received by us. The SENTINEL R1 proved its worth as did the late NIMROD R1 providing a ground picture which would otherwise have been limited to cockpit recollections. In a fight where situational awareness was key, particularly when assessing collateral damage concerns, the availability and quality of assessed ISTAR is fundamental.

I saw varying levels of leadership throughout the tour but can confirm that it was good when and where it was needed with a valuable blend of determination, decisiveness and risk aware decision making. The combination of a constantly changing environment, limited bureaucracy, a need for decisiveness; relative freedom of action, mission command and the ability to 'get in the mix' across many of the divisional areas played to my strengths. Working in an operational NATO HQ is a must if you are to understand how we work as a coalition; which is surely the way that we will be working in 90% of future operations. Furthermore, I compel all who have become Afghanistan-centric to look at the lessons from Op ELLAMY to understand, and be prepared for, this type of operation.

The MOD defines Wider Markets (WM) as:

"The commercial exploitation, for additional revenue and other benefits, of defence assets which need to be retained but are not fully used."

Following a review of the many facilities available at RAF Cranwell, the Station Commander, Group Captain D J Waddington, was keen to develop a WM programme that enhanced the Station's reputation, generated additional income from sources other than the Station budget and created links with high profile local and national organisations. WM is viewed as a complementary activity that supports the Station Engagement Plan, showcasing the RAF and its many facilities.

The rules and regulations governing WM activities are both myriad and complex, but a successful strategy was devised and implemented. This resulted in the Station hosting a number of highly successful events and developing initiatives to utilize spare capacity. An estimated £40K in additional income is likely to be raised this year alone. These efforts have also resulted in the Station being shortlisted as a finalist for a North Kesteven Council Business Development Award. What follows is a summary of some of the most successful WM and engagement events that have been hosted over the past year.

Initial steps into the WM arena began in October 2010 with the Station hosting the annual Lincolnshire Business Convention, working in partnership Lincolnshire County Council. As a WM venture, using



Diners at the Reach for the Skies lunch in Daedalus Mess.

Daedalus Officers' Mess, over 300 business people were hosted at a "Reach for the Skies" Lincolnshire themed lunch, which proved both an excellent networking opportunity and financially worthwhile. During the event the Station Commander gave an impromptu speech about Sir Frank Whittle as his son Ian, who was due to fly in and present, found himself grounded due to high winds. Other guest speakers included Professor Paul Stewart, the Founding Head of the University of Lincoln School of Engineering, and Richard Noble OBE, who spoke regarding his involvement in breaking the land speed record with the RAF's Andy Green in 1997.

In March 11, in preparation for the Four Nations Tournament, England's Rugby League Squad, along with their Head Coach Steve McNamara, were invited to RAF Cranwell for a three-day training event.

The programme included team building exercises at the Officer and Aircrew Selection Centre (OASC), field work, rehabilitation sessions and training in the swimming pool and College Gymnasium. The visit was also an excellent opportunity for the squad to pass on their training methods and rugby expertise and for personnel to meet and engage with international sportsmen. This was a further example of the growing relationship between the professional arm of the sport and the RAF, which has seen the likes of Halifax and the England Knights attend similar events over the last few years.



England's Rugby League Squad carry out exercises in the OASC Hangar.

"This event further cemented the great relationship between rugby football league, the RAF and RAF rugby league," said WO Damian Clayton, RAF rugby league secretary. "RAF Cranwell can be proud to have assisted in the inaugural gathering and preparation of the elite training squad, at the home for rugby league in the Service."

In April 11, an 'Aviation Past and Present' symposium was held at College Hall attracting over 50 enthusiasts from across the country to hear keynote speaker ITN war correspondent Michael Nicholson OBE. Organised by North Kesteven District Council Tourism Department, the visitors enjoyed a tour of College Hall before Michael, who did two years' National Service in Air Traffic Control at RAF Marham, talked about his 25 years work with ITN. As one of the world's most decorated foreign correspondents – he holds the Falkland Islands and first Gulf War Campaign medals – he has covered more wars and conflicts than any other British newsman and recalled some of his most memorable and dangerous assignments, including coming under fire from a MiG-21 during the Yom Kippur War in Israel, trekking with Unita rebels through the Angolan Bush and leaving Saigon at the end of the Vietnam War.

Other speakers at the event included the Station Commander, who recalled his experiences as a Prisoner of War (POW) in Iraq after his Tornado GR1 was shot down during the first Gulf War and former E-3D Sentry AWACS Fighter Controller Andy Johnson who talked about Lancaster PD259 which crashed in the Scottish Highlands in 1944.

RAF Cranwell has also been the location for filming activities. In Jun 11, actor Sir David Jason OBE visited RAF Cranwell to film part of an ITV documentary: David Jason's Greatest Escapes. Best known for his role as Del Boy in Only Fools and Horses Sir David's latest TV venture was a 60-minute documentary looking at great escapes carried out during the Second World War. Personnel from 45 and 55 (Reserve) Squadrons and

England Rugby League Squad .





Sir David Jason OBE with Air Commodore Oborn OBE and Group Captain Waddington.



16 Squadron were challenged to recreate a POW escape from Warburg, home of Oflag VI-B which was located in North West Germany for the first two years of the war and which housed hundreds of British and French officers. As part of the escape scaling ladders were built so they could be dismantled and concealed in the camp. On 30 August 1942, the night of the escape, four sets of ladders, each with a team of 10 men, were ready to go. With the electrics to the camp searchlights and exterior lights cut the men then had 90 seconds to erect the ladders, climb up and over two wire perimeter fences and make good their escape through nearby woodland. Sadly most of the men were recaptured, but three Dutch men made home runs.

Once RAF Cranwell personnel had reconstructed their ladder using similar tools and materials to those used in the original escape attempt, Sir David challenged the team to get 10 men up and over a perimeter fence in 90 seconds. While the team successfully completed the challenge, all acknowledged the bravery and determination of those men from Oflag VI-B who had risked their lives in their bid for freedom back in 1942.

During October 11 Civic dignitaries, head teachers and local businessmen and women from across the county visited RAF Cranwell for the Station's annual Civic Outreach Day. Hosted by the Station Commander and his executive officers, the event was an opportunity for leading figures from the community to meet with RAF personnel and to find out what goes on at their local air base. The visit started with a brief by Group Captain

Waddington on the role of RAF Cranwell and, after a buffet lunch at York House Officers' Mess, the visitors were given a tour of the historic College Hall. They then visited 45 (Reserve) Squadron where they met instructors and students to view the King Air aircraft. The afternoon was rounded off with a visit to the Station Learning Centre where they met both Service and civilian personnel who work on Station.

"The Civic Outreach day is an opportunity for the Station to develop our vital links with the region's civic heads, community representatives and business leaders," said Gp Capt Waddington. "It is designed to give them an oversight of what we do here, meet some of my RAF personnel and get to know a little more about RAF Cranwell itself. Aside from our purely Defence tasks such as flying and officer training, the Station is an important community hub, from the huge range of sporting events held here, to music concerts and youth development activities, so it is important that we maintain a very active dialogue with our civilian colleagues from all walks of life. The Civic Outreach day allows us to discuss and understand how RAF Cranwell can best support our local community and how our local community can best support us."

The events that have been highlighted are a just a few of the many that have taken place at RAF Cranwell during the past year. In times of financial austerity the RAF is actively seeking to derive income from sources other than the Station budget, whilst also engaging with the local community; WM has afforded us the ideal opportunity to achieve both aims.



Pictured with the Station Commander, Gp Capt Dave Waddington in the Rotunda of College Hall are the guests who attended RAF Cranwell's Civic Outreach Day.

Through Service Professional Development

Group Captain P J Sagar MBE RAF, Officer Commanding Generic Education and Training Centre

The Generic Education and Training Centre (GETC), under the guidance of Gp Capt Phil Sagar is the Training Requirements Authority for all generic training & education across the RAF. It is responsible for the Professional Military Development (Air) (PMD(A)) Programme which is the generic professional military education & training programme for officers and airmen endorsed by the Air Force Board. The GETC currently has teams working in the areas of Leadership, Air Power, Generic Training, electronic-learning (e-learning) and Force Development (FD) / Adventurous Training (AT) and will expand in early January 2012 to incorporate Human Factors training.

The curriculum for PMD(A) is articulated in the Generic Education and Training Requirement (GETR); a competency based framework covering 8 core competencies: Air Power, Leadership, Management, Communications, Ethos & Heritage, Military Skills, Force Protection and Organisation. For each core competence, the GETR specifies the sub-competencies and the minimum performance requirements, or effective indicators, by rank from Aircraftsman to Wing Commander. The GETR states the knowledge and skills to be acquired during a Service person's career, how and at what stage they should be delivered and is accessible via the Defence Intranet and internet on the World Wide Web. These 8 core competencies are delivered through a blend of residential courses, e-learning and FD delivered on Station.

There has been much work done to align and improve the various residential courses for both officers and airmen. However, much more of a Service person's time is spent on a Station than on residential courses so FD is crucial in ensuring that what is learnt on courses is contextualised to the individual's unit and remains current throughout a Service person's career. FD aims to improve operational effectiveness through a combination of individual and collective knowledge, training and skills across the 8 core competencies. FD encompasses any GETR aligned unit planned activity such as AT, Staff Rides (SRs), Green Days, leadership exercises, Air Power presentations and sport. These activities can be blended to simultaneously target a range of GETR competencies, through a variety of training media. For example, a SR can be undertaken alongside a physical activity, leadership exercise or team building event. AT contributes significantly to personal development in the areas of robustness and resilience, risk awareness, leadership and team work – all priorities for the operational effectiveness of the RAF. AT can be planned, organised and delivered through various Physical Education led channels: the centralized FD and AT activity 'EAGLE' Scheme, the FD Training Centres, Station / Unit minor and major expeditions and Joint Service Adventurous Training Courses.

The FD and AT Implementation Strategy was endorsed by the Air Force Board in September 2011, with funding being made available for the

centralized EAGLE Scheme. The EAGLE Scheme's primary target audience are those personnel who have no or limited experience of AT, organised sport and SRs and those Formed Units utilising FD and AT as pre and post deployment training. The scheme's exercises are an introductory package to both, which will hopefully foster further interest in the individual to go on and participate in a pure AT or SR activity. The Eagle Scheme's exercises currently focus on participation in summer and winter FD and AT blended activities both at home and abroad, but new for 2012 are EAGLE exercises incorporating wider PMD(A) activities and material which are akin to that studied and delivered on SRs. For further information on any aspect of FD, particularly the EAGLE Scheme, personnel should contact their Station's FD Sqn, PEd Fit or the GETC website.

Exercise Snow Eagle.



PMD(A) Online is the RAF's Virtual Learning Environment (VLE) which delivers elements of leadership and management courses for officers and airmen. A key task of the GETC is to develop appropriate content to ensure PMD(A) Online remains relevant, appealing and engaging to users; the portfolio of courses continues to expand, currently standing at 80. The PMD(A) Online Team are continuously engaged in the development of new courseware and are currently focussed on the People Campaign Plan objective to improve access to online courses for the whole Force, including reserves and civilians. They run regular training courses on course development and administration which has allowed PMD(A) delivery organisations (Station FD Sqns, Specialist Units and Technical Training Schools) to create their own distance learning courses on the site and engage with their students on PMD(A) Online. A current trial is examining the benefits of giving new recruits iPads that have been pre-loaded with relevant e-learning material.

As well as creating in-house leadership modules, the PMD(A) Online Team has worked with a number of contractors to introduce new interactive e-learning modules in subjects such as SRs, Mentoring, and Analysing and Communicating Effectively. The interactive SR package covers the history of SRs, as well as the principles and best practice of creating and running a stand. The module includes a video of an example SR stand presentation to consolidate student learning.

The Mentoring Management System is an internet based system to match mentors with mentees. It automates the process of matching and managing the mentor mentee relationship. In particular, mentors will help and encourage mentees to assess their own personal and professional needs, and to develop their career competencies.



Team Building Activity
Danesfield Watersport Centre.



On-line Mentoring Management System.

The PMD(A) Online team are also currently developing a Mission Command e-learning module and this should be available online in mid-2012.

The most recent development from the GETC Air Power Team has been the production of a Spotlight publication (edition 11-2) on Cyber. Engagement with the Development, Concepts and Doctrine Centre (DCDC) ensured that the Spotlight fused releasable elements of the draft operating concept with emerging government policy and information available in the academic environment. The aim was to provide some context and guidance for those delivering Cyber content at the Formal Training Establishments. The Cyber Spotlight, like its Space predecessor, provides specific rank related advice to training establishments, together with suggested lines to take. In addition the Cyber Spotlight provides discussion points, so that instructors can start syndicate room discussions on each of the 12 Air Power GETR areas. The Cyber Spotlight has been warmly received, particularly as an introduction to the issues surrounding Cyber activity and can be found on the GETC Defence Intranet site.

In July 2011 the first Virtual Leadership Conference was hosted on PMD(A) Online. This inaugural 'virtual' conference for the RAF was entitled 'Air Force Leadership in a Disconnected, Interconnected World'. During the 3 day period lectures and presentations were screened over the internet and a live online forum enabled conference attendees to pose questions. The flow of questions was extremely buoyant throughout the Conference, with the ability to interact with each presenter, 'live on-line', being a unique and highly impressive opportunity.

The Conference was introduced and officially opened by the CinC Air. The Conference then proceeded with 90SU's Tactical Communications Wing from RAF Leeming discussing NCO Leadership – Connecting the Disconnected, and the Thomas Telford School providing a case study of their experience of Leading Edge Learning using the latest technology. Day 2 saw Air Commodore Monkman giving his perspective of the Conference's theme in relation to current operations. The final day gave Wing Commander Hartford (PhD student of Leadership) the opportunity to discuss 'Panoptical Illusions' – Investigating the potential impact of NEC on Mission Command, and members of the Aeronautical Rescue Coordination Centre (RAF Kinloss) giving details of leadership in a Multi-Agency World. The final presentation was given by the Chief of the Air Staff, who also formally closed the Conference.

Air Commodore Monkman answering questions during the 'live' Question and Answer forum.



Mission Command e-Learning Package.

This unique RAF Leadership Conference was the first to give access to potentially all members of the Royal Air Force to join in and was very well received with an estimated 3000 participants over the 3 days, including those within the Diaspora and at out of area locations.

Planning for the next Leadership Conference is already underway which will have both an online and residential element.

King's College London, GETC's academic partner, is currently undertaking a Content, Coherence and Accreditation Review of the GETR. The aim of the Review is to assess the curriculum content of the GETR to ensure it is coherent across the PMD(A) programme and, where possible, align it with the Framework for Higher Education Qualifications. The review, which is due for completion in November 2012, will be carried out in three phases: Phase One - review the content in terms of academic level and competencies covered, Phase Two - check for coherency across the PMD(A) programme and Phase Three - recommend options for accreditation. The King's College London team will focus on the Air Power element of the GETR with further work on the other seven core competencies being conducted by GETC.

PMD(A) provides all ranks with coordinated generic education and training which will develop common levels of understanding in supporting the generation of air power. Through the GETR it ensures that the right mix of FD, residential and distance learning is delivered at the right time during a Service person's career. Station OC FD Sqns are the central point of contact for all career courses and will be able to provide advice and guidance on how to access e-learning material, apply for residential courses and participate in the many FD activities available.



Robustness, Readiness And Rising To The Challenge

Officer Cadet V H Garrad, D Squadron, Initial Officer Training Course 27, OACTU

Arriving at RAF College Cranwell on day one, I knew that the weeks that lay ahead would be testing. The physical challenge however, was what I relished most and, over the first few weeks, the IOT programme did not disappoint. D Squadron was marched from place to place, undertook military drill lessons, completed physical training (PT) and testing, and developed their fitness and robustness on exercise. D Squadron's constant activity and exposures to the rigours of military life has meant that each member has become fitter, stronger, more competitive and, in line with our Squadron motto, 'Determined' to succeed.

To enable us to cope with the relentless pace at the College, PT is part of D Squadron's daily routine. The programme is varied and has something that everyone can enjoy and excel at, from swimming circuits to cross country running, and for those who prefer training with a more military emphasis, Battle PT.

From the first day, the Physical Education (PEd) staff have taught us to push hard in order to get the best out of ourselves and to leave the gym, pool or field with a sense of achievement. For many, PT provides a release after a period of focused academic study. That is not to say that it does not have its own areas of focus and challenge. Every session has a military bearing and staff expect cadets to adhere to the strictest standards, especially when completing drill 'with a jump,' or catching breath after an effort.

Hands on hips will almost certainly lead to twenty press ups for the entire Squadron and cadets must thank the offending individual in unison, who is required to reply "you're welcome D Squadron!"

There are numerous opportunities for cadets to test their physical development throughout term one. After the first few weeks of PT, D Squadron was able to partake in the Inter-Squadron Sports afternoon and pitch their sporting talents against those of the C Squadron cadets. Following tradition, the intermediate Squadron carefully planned and selected their strongest sports – volleyball, swimming, the Orange Dash, cross country and superstars. With an all inclusive attitude, every member of D Squadron took part in the quest to beat the intermediate Squadron, but unfortunately, despite some impressive efforts in each sport, all out success was not to be and C Squadron took the victory.

The silver lining, however, was that D Squadron were able to claim the cross country trophy meaning that C Squadron could not celebrate a clean sweep.



The Superstars competition forms a crucial part of the Inter Squadron games.

Soon afterwards, cadets competed against those from the Royal Military Academy, Sandhurst and the Royal Naval College, Dartmouth at the Inter-Collegiate Games. The Army and Royal Navy cadets proved to be challenging competitors but overall victory was seized by the Royal Air Force cadets. All cadets showed support for their representative competitors throughout the day. The volume of the chants and claps from the side of the volleyball court belied the small crowd, and cadets and staff alike were animatedly cheering throughout the Orange Dash. The physical challenge of beating the Army and Royal Navy brought the RAF cadets from each term closer together, a point proven later in the bar as all cadets enthusiastically talked over the day's events and got to know each other better.

Physical challenges throughout term one have not only been present in the form of PT and sports days, but also in other areas of training. For those without any previous military experience, Exercise First Step was a short but nonetheless testing introduction to life in the field. D Squadron were formed up outside the block on a cold and wet October morning before first light, each individual waiting with anticipation for their meticulously packed Bergen to be inspected. Formed in a hollow square, each flight was instructed to empty their Bergen quickly, lining each item up in accordance with a photograph of ideal kit arrangement. The RAF Regiment staff gave the Squadron an insight into the standards expected of us over the coming days, and when we were not quick enough to remove our kit from our Bergen, we were required to re-pack them then re-empty them until the standard was met. By the time we were finished, daylight had crept in and the coach was ready to take us to Beckingham training area, where we were to undertake the Exercise.

The next 2 days would be D Squadron's opportunity to put into practice the skills that the RAF Regiment staff had taught us over the previous weeks, from weapons handling to land navigation. Without delay we began a one mile march to our base which set the pace for the rest of the day, and although difficult, each cadet worked hard not to lose the pace. The RAF Regiment staff had meticulously planned a variety of lessons to develop our military skills. With good humour, they taught us skills such as leopard crawling with our weapon, patrol formations, and how to camouflage ourselves and our kit. Covered in camouflage paint and pumped

RAF Cadets compete against cadets from the Royal Military Academy Sandhurst at the Intercollegiate Games.



with excitement, we completed a course in the woods in which we patrolled and took cover to fire when commanded to do so. It proved easy for cadets to get into scenario and by the end of the course, cadets were ferociously shouting commands at one another. Many of D Squadron had already experienced spending the night in a bivouac (bivvy), but for those who had not, Exercise First Step provided them with an opportunity to do so and to manage themselves in the field. After a tough day of physical exertion, cadets enjoyed preparing their ration pack meals and cleaning kit for the following day before climbing into their sleeping bags alongside their rifle.

Cadets were able to experience a slight change of pace when they were tasked with completing Adventure Training at the RAF Force Development Training Centre at Fairbourne in Wales.

For many, the activities undertaken provided huge mental and physical challenges, but nonetheless, the team had fun and were brought closer together through shared experience. Cadets were provided with the opportunity to go down into a mine and in complete darkness, locate one another before completing a realistic scenario in which they located and rescued a casualty.

Their initial inexperience with such tasks and methods used to locate one another provided much amusement for the instructors. Perhaps the most challenging training undertaken at Fairbourne was a two day expedition in which cadets navigated a route they had pre-planned, and scrambled, waded and walked over technically difficult terrain. The physical robustness of some cadets was put to the test when navigational inexperience led to them becoming lost in darkness and fog, and using head torches for visibility, struggling to locate the camping area where another team waited. After several hours of cautiously scrambling up and down crags through the harsh weather conditions, the site was reached and the team battled the elements to construct their tents. The following morning, a huge sense of achievement was felt when broad daylight on the crags demonstrated the difficulty of the terrain the group had taken on.



D Squadron Cadets canoeing at Fairbourne.

As we neared the end of term one, D Squadron could reflect and see that the physical challenge had been difficult but varied. The challenges laid out before each cadet had demonstrated what we as individuals are capable of achieving, but perhaps more importantly, how much more we are capable of achieving when acting as one strong unit. Mental and physical tasks are inextricably linked and, as a Squadron, we learnt that there is definite truth in the phrase, 'mind over matter'. Difficulties during physical tasks have inevitably brought us closer together, allowing an insight into the team spirit that the Royal Air Force fosters outside the training environment. During term one, the D Squadron cadets developed a sense of achievement and pride which will need to be carried through to term 2 in order for us to face the tasks and challenges ahead - and each cadet very much looks forward to doing so.

Cadets stretch off on the Orange.



The University Air Squadrons

Squadron Leader I Pallister BSc RAFR, SO2 Force Development, HQ 1 Elementary Flying Training School

The underlying theme of this year's RAF College Cranwell Journal is 'engagement with other agencies' and this is particularly pertinent to the 14 University Air Squadrons (UAS) whose National footprint is, perhaps, second only to the RAF recruiting organization. First established in 1925, the UAS have maintained a presence on university campuses across the country through World War 2 and numerous Defence Reviews. They remain as vibrant and relevant today as they have ever been, bridging the gap between youth organizations and the regular Royal Air Force and maintaining strong military ties with academia. This longevity has been achieved by moving with the times to ensure that the training and experience provided still sparks the imagination of high-calibre undergraduates to encourage them to commit to at least 2 years of service whilst studying for their degrees.

The history of the UAS organization was covered in some detail a few years ago in a previous issue of the College Journal, but to recap for those new to the publication, after starting quite informally with 'civilianized' squadrons at Cambridge and Oxford, the UAS establishment steadily grew to a peak of 23 units during World War 2, during which they also conducted formal Elementary Flying Training (EFT). The end of the War saw the closure of a number of the smaller squadrons but, apart for one or two amalgamations or mergers, the footprint has remained pretty constant through many Defence Reviews and ensuing drawdowns. Fourteen UAS remain, located from Southampton in the South to 'East of Scotland' at RAF Leuchars in the North, the latter resulting from the merger of the East Lowlands and Aberdeen squadrons. Each has its own unique history and it is worth taking a look at their individual stories which are available through the RAF Website. Several UAS are approaching, or have just passed, their 75th Anniversaries and these are being marked by various public events.

Whilst the squadrons act as mentors for RAF-sponsored students who have a bursary or cadetship, the majority of UAS cadets are recruited

locally from the squadron's catchment universities at freshers' fairs and, for many, this is their first experience of military life. They are attested into the RAF Volunteer Reserve (VR) as Officer Cadets for a nominal 2-year engagement, which may be extended for a third year on the recommendation of their squadron commander. Those taking up management appointments as flight commanders or senior students may be commissioned for one year as Acting Pilot Officers.

The delivery of formal EFT on the UAS ceased in 2006 when a new training syllabus was introduced. This has evolved further in recent years, both on the ground and in the air. Despite the reduction in the amount of flying available on the UAS, many students still achieve the important milestone of 'first solo'. Those who are particularly keen can, and do, go on to an applied phase of flying which includes aerobatics and navigation, with a significant number obtaining the coveted Preliminary Flying Badge having completed the UAS flying syllabus. Work is now in hand to recognise this achievement more formally with a shorter EFT course for those who enter the RAF as pilots and have completed a certain amount of UAS flying. The UAS ground training syllabus has been similarly modernised and the leadership elements are now accredited by both the Institute of Leadership and Management and the Chartered Management Institute for an Award or Certificate at Level 3 and Level 5 respectively. This is a particularly significant step in the current jobs market where an internationally-recognised qualification provides proof of relevant training and experience and can make all the difference in helping ex-UAS cadets land that all important job interview.

A major development this year has been the reintroduction of formal training for our UAS senior students prior to their being commissioned as Acting Pilot Officers. Close cooperation between the Officer and Aircrew Cadet Training Unit (OACTU) and Headquarters 1 Elementary Flying Training School (HQ 1 EFTS) staff enabled delivery of an intensive 8-day

course comprising selected elements of Initial Officer Training, adapted for the UAS environment. The course was universally well-received and, on 16 September, 33 cadets proudly received their Pilot Officer rank insignia from the Commandant following a parade and inspection in front of College Hall.

Delivery of this course was the first milestone in a wider initiative to adapt UAS training to meet the basic requirements to obtain a commission in the RAF Reserves. The continued evolution of the pan-UAS force protection 'STRIKE' exercises, organised by our own RAF Regiment Staff, is another significant step. Such is the success and popularity of these exercises that they have now outgrown the facilities of the local Beckingham Training Area and the deployed phase has been moved to Stanford Training Area (STANTA) near Thetford. During 2011, the final exercise had 88 volunteer trainees – more than twice the previous

HRH The Princess Royal attending the ULAS 75th Anniversary reception at the RAF Club.





Officer Cadets from Bristol and Wales UASs Ardeche Expedition, France July 2011.

was included in the Remembrance Sunday parade in Southport – prepared to a high standard by our own ex-Queen’s Colour Squadron RAF Regiment Officer, Flt Lt ‘Geordie’ Forster.

Whilst such high-profile events might steal the headlines, they represent just the tip of a very large iceberg of UAS engagement activities. Cycling from London to Paris and from the Blackpool Tower to the Eiffel Tower, rowing from Oxford to London, nearly 150 UAS cadets from 10 squadrons completing the Nijmegen Marches (with Liverpool UAS being nominated the best RAF team), not

average. The whole UAS training package has now been mapped against the RAF’s Generic Education and Training Requirement (GETR) and, not surprisingly, most of the objectives of Phase 1 training were already being achieved in one form or another. The next stage is to bring this onto a more formal footing by accrediting UAS training against the RAF Reserves basic training syllabus. UAS service will allow the cadets an easier transition to Reserve Service, for those that wish to retain their ties with the RAF, either directly after graduation or in the future. It also will provide a seam of high-quality personnel capable of entering the RAF Reserves.

to mention the numerous half marathons, charity abseils and other challenging activities; the ingenuity of students for fundraising knows no bounds and all show the RAF in a very good light up and down the country. Each year the individual squadrons raise many thousands of pounds for local and Service charities.

However, the UAS are about far more than providing training for personnel who might enter the regular Services or Reserves. As the Services reduce in size, the close links that many in society had with the Services, either through relatives or friends, is diminishing and in a democratic society it is important that people have a sound understanding of the Services, one which goes beyond the sound-bites provided by the media. By engaging and influencing some of the brightest and best from our universities, many of whom will go on to be leading lights in business and society, the UAS help ensure that influential elements within UK society understand the needs of our Services, including the Reserves, both as individuals and employers, the latter being particularly important as Defence moves towards a Whole-Force Concept towards the end of the decade which will see an increased reliance on Reserve Forces.

As we have seen, the UAS world does not stand still and neither are we immune from the severe financial constraints now affecting us all. Students are still able to experience and enjoy the challenge of military adventurous training, albeit that most of it is undertaken closer to home in the UK and Europe. Every cadet is also encouraged to participate in at least one Staff Ride to France, Belgium or the Netherlands to research and learn from past military encounters. Experiencing at first hand the sheer scale of courage, commitment and loss in the two World Wars has a profound affect on all those who attend.

Continuing the theme of engagement, this year has seen 3 squadrons involved in Freedom parades. East Midlands UAS was awarded Freedom of the City of Nottingham, and RAF Woodvale represented by both Liverpool UAS and Manchester & Salford UAS, received the Freedom of the Borough of Sefton. The latter was proudly exercised when an armed flight

Looking ahead, several squadrons face an uncertain future due to the planned closure of their parent units, but this is a situation that many have endured before and emerged from stronger than ever at their new home. And by the time this article is published, No 1 Elementary Flying Training School will have been absorbed into No 3 Flying Training School at RAF Cranwell on 17 December 2011. So the UAS will yet again come under a different umbrella organization. The one constant throughout the changes and turbulence being experienced in Defence post-SDSR is the enthusiasm and commitment of our UAS students which remains as strong as ever. The quality and strength of our UAS personnel bodes well for the future of the RAF as a whole.

Freedom of the City Parade.



Air Vice Marshal Green, Air Officer Commanding 22 Training Group meets UAS cadets on Exercise FIRST STRIKE, Beckingham Training Area, 15 June 2011.



RAF Officers Make Great Escape

Miss R Vernon, Corporate Communications Officer, RAF Cranwell



Frank Stone tries out the trolley.

For many it's a cult Christmas movie, starring Steve McQueen, but for six lucky RAF Officers Hollywood became a stark reality as they travelled to the former 'Great Escape' Camp, Stalag Luft III in Zagan, Poland, to re-enact activities which were carried out by Prisoners of War in their attempts to escape from the Camp during WWII. The visit took place over two weeks and was filmed by Wildfire TV and broadcast on Channel 4.

On the night of 24th March 1944 76 allied airmen escaped from the North Compound of Stalag Luft III, a supposedly "escape-proof" Prisoner of War camp. The prisoners, almost all of whom were RAF officers, escaped down a tunnel they had dug themselves under the noses of their German guards. Harry, as they called the tunnel, was seven metres deep, more than 100 metres long, and had taken a year to complete.

To get an insight into the ingenuity and sheer effort involved in the escape, the team of six serving RAF officers put their own skills and training to the test by attempting to recreate some of the key tools, mechanisms and structures created by the escapees; and by taking an active part in the excavation of a section of tunnel using replicas of the original tools and shoring. Flight Lieutenant Ben Russell now Squadron Leader, an Aerospace Battle Manager based at RAF Waddington, Lincolnshire who has recently returned from overseas operations, said:

"Having grown up with the "Christmas Movie" that The Great Escape has become, I have always been fond of the story. This became personally important when I chose to become a serving member of Her Majesty's Armed Forces, and furthermore when I experienced Escape and Evasion training. Serving in Afghanistan and over Libya certainly focuses the mind on PoW experiences. I particularly enjoyed seeing the artefacts recovered from the site and having the opportunity to solve some of the problems that these men faced. This brought a sense of reality to the events more than the "Hollywood" spin that the movie uses and gave me a real insight into their struggles."

In replica Hut 104 the team assembled to attempt to reconstruct equipment made and used by the PoWs, these included a tunnel ventilation pump, a tunneller's tool kit, a civilian uniform and briefcase, a passport and travel documents, a section of rail track and wagon using records, pictures and original artefacts for reference. Flight Lieutenant Jim Smith, an Intelligence Officer based at RAF Brize Norton, Oxfordshire said:

"Learning from the veterans was the unique element of this Force Development exercise; I was particularly fascinated to find out how they kept everything secret from the German guards. Actually re-creating the tasks ourselves proved how difficult that added level of security must have made their work. I was chosen to perform the role of 'The Forger', which seemed entirely appropriate given my methodical skills as an analyst, but also perhaps because the Forger portrayed in the Hollywood film worked in photo-reconnaissance! Intelligence is detailed work that must be accurate and timely, just like my work in Hut 104. Forging was equally painstaking and sometimes frustrating - by not creating perfect representations of original documents first time, I would waste hours of work. For example, after working all day crafting a rubber stamp it proved too unrealistic when tested, but more annoyingly I had not inverted the Swastika. To get the fine detail and accuracy, I had to improvise new tools, put those frustrations aside and begin again."

The team were very fortunate to be advised by original Prisoners of War; Frank Stone, who was billeted in Hut 104, and Canadian

Stanley 'Gordie' King who operated the air pump and was placed 140th out of the selected 200 prisoners to go through the tunnel during the Great Escape. Both men were on hand to provide guidance to the team as they recreated the Great Escape. For Flight Lieutenant Mikey Robertson, a GR4 Navigator at RAF Lossiemouth, who previously played a part in a



RAF Officers taking part in the recreation.

school play which dramatised the Great Escape, it was honour to meet the veterans, he said

"To listen to the veteran's stories of the missions they flew into Germany, with clouds of flack filling the skies, tracer from AAA lighting up the sky in every direction and the ever present threat from enemy fighter aircraft was awe inspiring. The reason for this was not just because they are incredibly thrilling and frightening experiences, but because the veterans told us how they didn't let fear affect them in conducting their mission. Not when they were fighting for their lives in the skies over Germany, or when they were under tons of earth in a small, dark tunnel trying to escape the PoW camp. They were simply determined to achieve the task at hand, whether that was bombing a target or escaping, and they put all of their energy, knowledge and ingenuity into achieving it. That is something we in the RAF today should also aspire to do in every challenge that we encounter."

Unfortunately out of the 76 men who escaped during the 'Great Escape' only 3 made it home. The others were all captured, many of them hundreds of miles from the camp. They'd travelled by train, boat and on foot. They'd triggered a search of gigantic proportions – tens of thousands of German soldiers and police were deployed to hunt the escapees. Of the 73 captured only 23 were re-imprisoned. The remaining 50 were all shot on direct orders from Hitler himself.

Group Captain Dave Waddington, himself an ex-PoW and now Station Commander of RAF Cranwell, Lincolnshire was approached to co-ordinate the RAF's involvement: he selected the willing participants from the many volunteers and oversaw their activities at Stalag Luft 3. He said:

"It was a tremendous opportunity for all of us to spend time with the veterans at the place where they made history. They were truly inspirational and this comes across in the determination of the team to successfully complete the challenges they were set. It was also very moving to see this respect reciprocated and the obvious pride of the veterans in their young successors of today's RAF."

The RAF personnel involved were selected to take part in this significant activity because of their links to the Great Escape or their interest in these historic events, for Flight Lieutenant Ryan Harris, an instructor at the Search and Rescue Training Unit based at RAF Valley, Anglesey the experience was very personal as he followed in his Grandfather's footsteps.

"I had always vowed that I would get out to Zagan in Poland to see the site of Stalag Luft 3 where my grandfather, Warrant Officer Ronald Skan was held as a Prisoner of War after he was shot down over the North Sea returning from a bombing raid in 1941. Being part

of the RAF Team during this exercise made the whole experience so much better. I was able to chat to researchers and veterans about life in the camp. By carrying out the same experiments that the PoWs did, you realise the ingenuity of the guys. You get to understand their determination and their sense of loyalty to the Service when it would have been so easy to just sit back and admit defeat. All in all, an incredible experience. Taking 6 RAF guys from 6 different air bases and throwing them together to see if they have still got what it takes. I think we can say hand-on-heart that yes we are still made of the right stuff!"

Flight Lieutenant John Le Cornu, a Tucano Flying Instructor based at RAF Linton-on-Ouse, North Yorkshire also had a Grandfather who was a pilot in WWII. For him the experience was about learning things from the past to take with him in his role as a modern day pilot, he said:

"I was brought up on Jersey until the age of 16. The Channel Islands were the only part of the British Isles to be occupied by the Germans and so the History of WWII has always been important to me. My Grandfather was also a Qualified Flying Instructor during WWII and was awarded the Distinguished Flying Cross whilst conducting a bombing raid over Normandy. He flew every aircraft the RAF had at the time including Hurricane, Spitfire, Lancaster and Halifax. I believe that the modern general public should be reassured that today's aircrew training would mean that ordinary RAF pilots could conduct the same heroic events. All should be reminded however, that these were ordinary people who did not want fame but later became heroes for doing what they believed in."

Project Officer for this exercise and keen historian, Flight Lieutenant Tim Barlow, a Merlin Helicopter Force Training Officer from RAF Benson, Oxfordshire previously led Project 104 which saw the replica hut 104, from which the entrance to Great Escape tunnel 'Harry' was concealed, rebuilt to scale at Stalag Luft III Museum in 2009. It now acts as a memorial to all those who were PoW's at Stalag Luft III and as an education centre for visitors. Flight Lieutenant Barlow explained why this experience was the highlight of his RAF career:

"This was truly a once in a life time event and something that will remain with me for ever. My involvement has always been extremely rewarding but the experience I had this summer was particularly special due to the presence of the veterans, my main motivation for doing this work. The veterans are true heroes, humble and honest about their activities which they saw as duty and nothing more. They made this event unique. Not only were we carrying out tasks to reconstruct 'Escape activities' but at the site of the escape and under the guidance of the veterans themselves."



The entrance to the tunnel.

Are You Hungry? Are You Sure?

Wing Commander M Allport RAFR, International Training Officer

These were the first two sentences that were addressed to Saman Ali Mohammed Al-Muktar on his arrival with his homestay family for his English language training in York in preparation for Initial Officer Training (IOT). Unfortunately his vocabulary did not stretch to hungry or sure so he politely responded no to the first question and an equally polite yes to the second question. He went to bed hungry that night!

That was over 4 years ago. Saman stayed in English language training at York St John University for two years before joining IOT as an Iraqi Air Force cadet in October 2008. He graduated in August 2009, having lost some 3 stones during the course! After completing his Elementary Flying Training (EFT) at RAF Church Fenton, he undertook the Multi-Engine Advanced Flying Training (MEAFT) course on 45(R) Sqn at RAF Cranwell. Lt Saman Al-Muktar was awarded his wings by the Commandant RAF College on 11 November 2011.



Lt Saman Al Muktar receiving his wings from Air Cdre Paul Oborn, Commandant RAF College Cranwell.

Fifteen Iraqis have followed this programme so far including Lt Arzang Zebari who passed MEAFT to a High Average with a Final Handling Test which was Above Average. Lt Zebari's father is the Iraqi Chief of Staff (equivalent to our Chief of Defence Staff). Lt Mustafa Saad Shukur Al-Henkawe was awarded the Overseas Students' Prize on IOT Course 10. He was ranked 32nd out of 124 on his course; a remarkable achievement by an international cadet, especially given that English is his third language, after Kurdish and Arabic. He was presented with the annual International Sword of Honour by Her Majesty The Queen in 2009.

Lt Aari Omar Othman Nanakali was awarded the Overseas Students' Prize at the same Queen's Review. His father, General Omer Osman Ibrahim Nanakali, Deputy Chief of Staff and Minister for Peshmerga attended his son's parade. I took this opportunity to advise him that the Iraqi students



Her Majesty the Queen presents Lt Mustafa Saad Shukur Al-Henkawe with the International Sword of Honour in May 2009.



Lt Al-Hazza (KAF) is pictured in a 16(R) Sqn Tutor.

had not been paid for 8 months. He immediately turned to the Iraqi Defence Attaché and berated him. His interpreter then translated for me as follows – the General has just said to him "I am going to kick your 'gluteus maximus (or similar!)" I am pleased to report that shortly after this intervention, the Iraqi students were paid in full.

International students have become increasingly important within IOT as the numbers of RAF candidates has reduced. During 2011 up to a third of places on each course were taken up by International Cadets.

The number of countries sending cadets to undertake courses at RAF Cranwell continues to increase, with China and Afghanistan the most recent additions to the list. Trinidad and Tobago continue to train up their emergent Air Guard with 17 candidates training over the last two years. The Royal Air Force of Oman also continues to send some of their best students to the College with Lt Salim Al-Adi being the most successful graduate of recent years. Graded as 10th out of 108 cadets on his IOT course he won the International Sword of Honour in 2011, presented by the Prime Minister, David Cameron.

It is anticipated that cadets from Algeria, Bangladesh, Japan, Indonesia, Malaysia, Sudan, Kenya, South Africa and Yemen will attend IOT at RAF College Cranwell during 2012.

International officers have also taken full advantage of the spare capacity in flying training at RAF Cranwell with all Kuwait Air Force (KAF) pilots having undertaken Elementary Flying Training (EFT) at RAF Cranwell over the last 12 years.

Three Kenyan officers have now completed their Central Flying School (CFS) course on 115 Sqn, whilst 10 Algerian officers have completed both CFS courses at RAF Cranwell and RAF Valley. After a one year break, 10 new international candidates will start Military English Language Training

in York in January 2012, before being offered EFT places in the following year. English Language Training is also undertaken at De Montfort University, Leicester for Algerian Navy students prior to their rotary wing training at RAF Shawbury and for Omani students who continue onto Air Traffic Control training, also at RAF Shawbury.

Finally, cadets from Oman, Saudi Arabia and Qatar have completed engineer and logistics training within the Defence College of Aeronautical Engineering, the Defence College of Communication and Information Systems and the Defence College of Logistics and Personnel Administration.



The first Chinese graduate takes a picture of his fellow Internationals from Jamaican and Belize.

RAF College Cranwell Royal Review

Miss R Vernon, Corporate Communications Officer, RAF Cranwell

On 16 June 2011 the Right Honourable David Cameron visited Royal Air Force College Cranwell to review the Graduation of No 23 Initial Officer Training Course (IOTC) and No 17 Specialist Entry and Re-entrant (SERE) Course.

On arrival, David Cameron was met by Air Commodore Paul Oborn, Commandant Royal Air Force College and Director of Recruitment and Initial Officer Training (RAF). *"It is a great privilege for the Royal Air Force and for the Royal Air Force College Cranwell to have the Prime Minister with us for our Royal Review,"* said Air Commodore Oborn. *"We are proud of our graduating officers and delighted that the Prime Minister has been able to see at first hand the sharp, bright, robust and operationally-focused young men and women graduating as officers into the Royal Air Force of the 21st Century."*

The Prime Minister moved to the Parade Square where, following a Royal Salute, including a fly past by the Royal Air Force Aerobatics team, the Red Arrows, he was invited to inspect the Officer Cadets on parade.

He then presented the annual prizes before giving a short speech, during which he said it was a huge privilege to be at RAF Cranwell representing Her Majesty The Queen.

"To me, this day is about three things: honour, duty and pride. For the Brits among you the honour of joining the RAF. By joining this air force you have pledged to do your duty to defend our country. But more importantly it's about pride. You should be incredibly proud of what you have done. You have come through a period of hard and robust training. You have proved yourselves to be the best of the best."

Over 80 cadets paraded in front of the Prime Minister, including three members of the Trinidad and Tobago Air Guard and two members of the Afghanistan National Air Force.

After the parade the PM met the graduating officers and their families before leaving the station.

Music on the day was provided by the band of the RAF College, under the baton of the Director of Music Flight Lieutenant Matt Little.

David Cameron is only the third Prime Minister to visit Royal Air Force Cranwell. In the summer of 1959 the Right Honourable Harold Macmillan visited the Station on the occasion of the 41st anniversary of the founding of the Royal Air Force. Margaret Thatcher was the Reviewing Officer at the graduation of Officer Cadets from No 69 Initial Officer Training Course.

Those receiving prizes on the day were:

International Sword of Honour

2nd Lieutenant Salim Sulaiman Al-Adi who is currently undergoing training at the Royal Air Force of Oman Academy.

Sword of Honour

Flying Officer Matthew Williams who is soon to commence flying training.

Queen's Medal

Flying Officer Laura Plackett who serves at RAF Lossiemouth.

Daedalus Trophy

Flight Lieutenant (Reverend) Craig Lancaster.

Prime Minister David Cameron presents Lt Salim Al-Adi with the International Sword of Honour in June 2011.



The Jack Holt Memorial Pace Stick For 2011

The Jack Holt Memorial Award is for the Senior Non-Commissioned Officer (SNCO) engaged in Initial Officer Training who has, by instruction and personal example, done most to instil into the cadets the qualities needed of an officer in the Royal Air Force. The nominees are assessed for instructional skills, personal standards, extracurricular activities directly linked to Initial Officer Training and personal standing and influence across the entire officer cadet body.

The Jack Holt Memorial Pace Stick for 2011 is awarded to:

Flight Sergeant Eddie Partyka

Flight Sergeant Partyka's experience and effectiveness as a Deputy Flight Commander has been outstanding, particularly during a period of unprecedented surge in course numbers. His commitment and professionalism is of the highest standard, always motivating others - cadets and staff, alike - to 'be the best'. Flight Sergeant Partyka is selflessly committed to his work, running back-to-back courses from Main Squadron to Remedial Training. Despite this he continuously volunteers for additional duties, such as No 1 Mess House Member, introducing initiatives that have directly enhanced the quality of life for cadets during their first term of training. Flight Sergeant Partyka has utilised his glass engraving, photography and video editing skills to produce trophies

and memorabilia that have influenced the ethos and camaraderie of the cadets across OACTU. He has demonstrated excellence on C Squadron, quickly becoming the 'senior Flight Sergeant' and, on Delta Flight, greatly assisting failed cadets in achieving success through his highly effective coaching and mentoring skills. As a result he has been selected to mentor the new Flight Sergeants for the first term of the next Initial Officer Training Course. Flight Sergeant Partyka is an exemplary role model to cadets and the other OACTU staff, naturally inspiring a new generation of junior officers and instilling them with the highest sense of excellence, ethos and camaraderie.

Flight Sergeant Eddie Partyka receives the Jack Holt Memorial Pace Stick from Sir Jock Kennedy.



Old Cranwellian Association Reunion Weekend 9–10 July 2011

Flight Lieutenant C Litster RAF, Aide-de-Camp to the Commandant, RAF College Cranwell

In the 91 years since its official opening on 5 February 1920, the Royal Air Force College has trained in excess of 14,000 officer cadets. Whilst each of these cadets has a story to tell about their time at the College, only a select few return each year to attend what many consider to be the College's best kept secret, the Old Cranwellian Association (OCA) Annual Reunion Weekend.

This year, association members travelled to the College from as far afield as New Zealand, Canada and the USA to catch up with old friends and to challenge the present cadet contingent in several sporting fixtures. Whilst members of 53, 54 and 79 Entry gathered to commemorate the 60th and 50th anniversary of their graduation respectively, a small but lively contingent of members from 95 Entry remembered their admission to the College in 1966. With 18 members attending the Reunion to commemorate the anniversary of their admission into the College, 85 Entry were officially the largest, and perhaps noisiest, entry.

Having located their rooms, settled their mess bills and shrewdly avoided the Treasurers subtle efforts to convince them to purchase an OCA tie, association members prepared to do battle on the sporting fields. Keen to retain the title of sporting champions, the current College sports teams had been practising hard and were keen to demonstrate their sporting prowess to the 'old and bold' OCA members. Whilst the weather did not look especially favourable, it soon became apparent that it would take more than a spot of rain and strong winds to deter the competitors!

Having reassured the OCA team that the unprecedented change of location of the golf match was not a clever tactic employed by the College team to win the upper hand, battle commenced at Belton Woods Golf Course. Having started out strongly with a win in the opening match, the OCA team looked to be the obvious winners, but the College soon struck back and took a 2-1 lead. In the end it all came down to the final match, with the OCA team taking overall victory, 3 matches to 2.

Eager to even up the scoreboard, and hoping that the temporary absence of the OCA croquet team captain would give them the advantage they needed, an inexperienced but enthusiastic College team headed for the Orange. Although it soon became apparent that perhaps the OCA team

had a little more experience than they had originally suggested, the College team remained hopeful that they could steal a win. However, even the addition of a conveniently placed refreshments tent was not enough to overcome the cunning tactics and expert skills of the OCA team, who glided effortlessly to a 3-1 victory.

At Royal Air Force Digby, the Clay Pigeon Shooting competition saw 2 evenly matched teams battle it out for the title. With members from both teams shooting exceptionally well during the first round, it soon became clear that victory would be won or lost during the second 'game shoot' round. After a well fought competition, Range Officer Kirk announced the final scores and the OCA team claimed victory by the narrowest of margins – 5 targets.

At a faster pace on the College tennis courts, the College team awaited Wing Commander Head's OCA warriors with anticipation. Having calculated the average age difference between the two opposing teams, the younger, and possibly fitter, College team remained quietly confident. After choosing to play club tennis, each and every point was fiercely fought. But even the introduction of umpires and ball boys could not break the focus of the dynamic OCA team, who after eight impressive games grasped victory 20–34.

As the day's sporting fixtures drew to a close, OCA members headed into College Hall to sample the delights of afternoon tea. Having achieved a clean sweep, OCA members celebrated their victory whilst sharing a few words of wisdom with their exhausted cadet opponents. While the lowering of the ensign signalled the end of a busy day at the College, association members made a few final adjustments to the dinner's seating plan, before drifting back to their rooms to change ahead of the evening's entertainment.

After a short, but well attended, Annual General Meeting in the Longcroft Room, OCA members were treated to a surprise bagpipe serenade during pre-dinner drinks, courtesy of 54 Entry.

With the arrival of the Guest of Honour, Mr Michael Nicholson OBE, the annual formal dinner commenced. Whilst the new, lighter menu chosen by the OCA Committee proved a resounding success, an ensemble of the

The OCA and RAF College golf teams.



The OCA and RAF College tennis teams along with umpires and ball boys.



Mr Michael Nicholson OBE; Guest of honour at the OCA Annual Formal Dinner.



band of the Royal Air Force College once again impressed with their musical accompaniment.

Mr Nicholson made a heartfelt speech about his 25 year career as a Senior Foreign Correspondent for ITN. During his distinguished career he reported on 15 separate conflicts and was awarded both the Falkland Islands and Gulf Campaign Medals.

His witty account of his many exploits impressed association members; however, for most the highlight of Mr Nicholson's speech was his emotional account of his

time in war-torn Sarajevo, where he courageously rescued a 9 year old Muslim orphan named Natasha. On retiring to the bar, Mr Nicholson regaled OCA members with further tales and was much sought after by those who hoped to find out more about Natasha.

On Sunday morning, not even a late night could deter the faithful and Saint Michael's and All Angels Church filled with association members keen to remember those they had lost along the way. Following a poignant church service conducted by Reverend (Wing Commander) Gatrill, cadets from B Squadron, Initial Officer Training Course 25, proudly paraded in front of College Hall.

The OCA President, Sir Thomas Kennedy, presented the Jack Holt Memorial Pace Stick to Flight Sergeant Partyka of the Officer and Aircrew Cadet Training Unit. The Pace Stick is awarded to the Senior Non-commissioned officer engaged in Initial Officer Training who has by instruction and personal example done most to instil into the officer cadets the qualities needed of an officer in the Royal Air Force.

With final farewells and plans to meet up again soon, the Annual Reunion Weekend drew to a close. Since the formation of the OCA in 1926, the format of the Reunion has changed dramatically, but as the last association member departed the College on Sunday afternoon, it is hard to imagine a better setting in which to bring together the past, present and future officers of the Royal Air Force.



The OCA Annual Formal Dinner.

RAF Officer First Woman To Complete Enduroman Event

Miss R Vernon, Corporate Communications Officer, RAF Cranwell

Flight Lieutenant Rachael Cadman is a training officer with HQ Air Cadets at RAF Cranwell. She has just completed the Enduroman Arch2Arc Challenge, the world's most demanding ultra-triathlon, comprising an 87-mile (140 km) run from London's Marble Arch to Dover, a 23-mile (37 km) swim across the channel, then a 187-mile (300 km) cycle from Calais to the Arc de Triomphe in Paris.

Flt Lt Cadman crossed the finish line at the end of the Champs Elysees in Paris at 1656 hours BST on Tuesday 23 August 2011 - a gruelling four days, one hour and 37 minutes (97 hours, 37 minutes) after setting off from Marble Arch on the previous Friday.

The first leg, from London to Dover, involved a 23-hour night run through Kent, arriving on Dover seafront at 1440 hours on Saturday for a tearful reunion with her mother and father, Wendy and Brian Cadman.

After an ice-bath and a much needed rest, during which her feet were tended to, Flt Lt Cadman started her swim to Calais on Sunday afternoon. As she dived into the waves off Shakespeare Beach in Dover, the ultimate good luck flourish was performed by a Lancaster Bomber of the Battle of Britain Memorial Flight, in the skies above her. Its four engines reverberated along the white cliffs as the historic aircraft circled the tiny figure in the water below.

During her 16-hour overnight swim Flt Lt Cadman battled a heavy swell and 25-knot (46 km/h) winds that came close to sinking her bid in mid-Channel. More than once the pilot of the support boat came close to calling off the attempt because of the weather. What should have been a 23-mile (37 km) crossing was turned into a 34-mile (55 km) swim by the changing tides.

for young women and for the RAF. She also represents Britons performing at the highest level."

Tearful mum Wendy said "I had no doubt that she would do it when she first mentioned it."

As part of her preparation for this challenge, Flt Lt Cadman has undertaken a number of other events, including winning the female category of the Enduroman UK Double Ironman contest, swimming 4.8-miles (8 km), cycling 224-miles (360 km) then running a double marathon without sleeping.

In February, Flt Lt Cadman became only the fifth person ever to complete the gruelling Enduroman Lanzarote Ultra and has been keeping herself in shape since by doing the occasional 50-mile (80 km) training run. Her Commanding Officer, Air Commodore Barbara Cooper said "Everyone in the RAF is extremely proud of Flt Lt Cadman. She has incredible determination and no shortage of courage to be undertaking a challenge of this magnitude. We all wish her every success."

Flt Lt Cadman started swimming at the age of nine and ran her first half marathon when she was a student at Leeds Metropolitan University. She completed her first triathlon season in 2004/5 and undertook the Ironman Germany in 2006. By this time the bug had truly bitten so, in the same year, she ran the London Marathon then embarked on the unbelievably daunting 160-km desert foot race, the Libyan Challenge, becoming one of only six women to finish. This was followed by an invitation to take part in a six-day adventure race in Tasmania. In 2010, Flt Lt Cadman completed the Ironman Switzerland, then won the UK Double Ironman before taking on the Lanzarote Ultra. Flt Lt Cadman believes that all of these events were ideal preparation for the Arch2Arc, the hardest challenge she has ever taken on.

Flt Lt Cadman celebrates with Mr Eddie Ette, the first man to complete the Enduroman Arch2Arc.



Air Cdre Maas congratulates Flt Lt Cadman on completing her challenge after she finally touches the Arc d'Triumph, just over four days after setting off from marble Arch in London.

As well as being the first woman in history to complete the Arch2Arc Challenge, Flt Lt Cadman is only the eighth person to complete the event. "It was pretty daunting," she said "but I have been working up to this for some time and raising money for Help for Heroes and ShelterBox disaster relief is a great motivation to see it through. The great thing about being in the Royal Air Force is that, as an organisation, it is committed to helping people reach their ambitions. I have had a great deal of support from the RAF with flexibility over training and competing."

Waiting beneath the Arc de Triomphe to offer his congratulations was the defence Attaché to France, Air Commodore John Maas. He said "[Flt Lt Cadman] has completed a great personal challenge which is also good



Air Vice Marshal Gray CB MC RAF Winning Essay: Decisive Edge

Officer Cadet D J Hopkinson, B Squadron, Initial Officer Training Course 22, OACTU

In 1815, after less than a year in exile on the Island of Elba, Napoleon Bonaparte returned to France and reinstated himself as Emperor. He quickly amassed a new army with the intention of reclaiming France, “before him did ever a man gain an Empire by simply showing his hat?”¹. After the battles of Quatre Bras and Ligny, Napoleon found himself facing an Anglo-Dutch army under the Duke of Wellington at Waterloo, with a lesser Prussian force he had little knowledge of to the East. The upcoming battle would be the only occasion the two greatest Generals of their era would come face to face. As such it provides an excellent opportunity to compare their leadership styles, and also to assess the effectiveness of the key decisions each made which determined the result of the Battle of Waterloo.

Napoleon Bonaparte had risen through the ranks from a common soldier to arguably the most powerful man in the world. Over this time he developed a unique, individual and undeniably effective leadership style. Although it is often sighted that he was ‘not himself’ at Waterloo, allegedly suffering ‘from a disease called acromegaly... said to induce both torpor and over-optimism’², Napoleon was still an effective commander. This can be seen in the comments of his aide-de-camp during the campaign, General Comte Auguste Flahaut de la Billarderie... ‘at no period of his life did the Emperor display more energy, more authority or greater capacity as a leader of men’³ and his men’s cries of “Vive L’Empereur!”. An officer in d’Erlon’s corps later wrote, “Never had those words been shouted with more enthusiasm”⁴. One particularly effective aspect of Napoleon’s leadership was his ability to inspire and motivate the individual French soldier; ‘Napoleon... possessed the useful gift of remembering names and faces, and would wander about the camp ground in the evening... to pick out old soldiers from the ranks and chat to them about the dangers they had shared together’⁵. In doing this Napoleon encouraged great loyalty among his troops, being spoken to on first name terms by their Emperor would have been incredible. Even more so would be the idea that they had ‘shared... dangers’ together and it was this behaviour which made him such an effective leader.

He did at times, however, show poor leadership, most notably with the ineffective use of his subordinates who had experience of Wellington. General Reille stated ‘we can beat them by manoeuvring; but was unwilling to tell Napoleon, ‘What’s the use? He wouldn’t listen to us!’⁶. When one considers that Wellington knew that manoeuvre was a weakness for his force, ‘Napoleon did not manoeuvre at all... He just moved forward in the old style, in columns, and was driven off in the old style’⁷, his dismissive approach to his subordinates advice was unwise. It would have been better to have empowered, rather than belittle them.

Wellington adopted a different style of leadership, more calculating and reserved yet equally effective. Unlike Napoleon, he did not appear to care for his troops on an individual level, ‘A strong thread of harshness ran through his character: Paddy Griffiths observed that he ‘could be a ferocious commander even by the standards of a ferocious profession in a ferocious age’⁸.

However with his great understanding of logistics they were well provided for, ‘war was, start to finish, a matter of logistics. It was here that his keen eye for detail was sharpest’⁹. He correctly judged their abilities and



temperament, stating after the Battle of Vitoria that they were ‘recruited from among ‘the scum of the earth’¹⁰ yet knowing that he could rely upon ‘the traditional stubbornness of the British soldier’¹¹. His troops repaid his trust with their loyalty, but it was Wellington’s ability to give them victory for which they were willing to pay with their blood. Another effective aspect of Wellington’s leadership was his personal bravery. He was to be seen everywhere on the battlefield, particularly where the action was heaviest, a factor reflected in the number of casualties suffered among his ‘sadly diminished staff’¹², ‘Wellington’s exertion was terrific, he was personally present at many of the scenes of the greatest crisis, as proven by the terrible toll among those closest to him during the battle’¹³.

Wellington, however, did have some similar failings to Napoleon. When Uxbridge asked the Duke what his plans were for the battle he offered his second in command a sarcastic remark, “Bonaparte has not given me any idea of his projects; and as my plans will depend upon his, how can you expect me to tell you what mine are?”¹⁴. Realising he was being curt with Uxbridge, he stated “There is one thing certain, Uxbridge, that is, that whatever happens, you and I will do our duty”¹⁵ in a bid to ‘smooth things over’¹⁶. Including his subordinates in his plans would have been a more effective form of leadership. Better informed they could have acted more independently and upon their own initiative and would also

1. Roberts (2001), p.170
2. *ibid*, p.186
3. *id*
4. Barbero (2003), p.87
5. Neillands (1994), p.45
6. Barbero (2003), p.73
7. *ibid*, p.216
8. Holmes (2003), p.xvii
9. *ibid*, p.88

10. Barbero (2003), p.28
11. Neillands (1994), p.44
12. Llewellyn (2007), p.279
13. Roberts (2001), p.209
14. Barbero (2003), p.18
15. *id*
16. *id*



Sir Arthur Wellesley, 1st Duke of Wellington.

have been in a position to continue the fight should anything untoward happen to the Duke.

Napoleon's key decision to use Grouchy in pursuit of the Prussians and Ney to fight Wellington would prove to be critical to the result of the Battle of Waterloo. 'It has been suggested by no less a Napoleonic scholar than Dr David Chandler that the emperor deliberately fielded his 'second team' of marshals in the Waterloo campaign because he desired an emphatically personal victory'¹⁷. However, as Andrew Roberts states, this is unlikely, 'Napoleon was unlucky with his subordinate commanders in the campaign and moreover made errors in placing them in the posts he did'¹⁸. When one considers the nature of the two Marshals one cannot help but question Napoleon's motives for assigning each their command. Grouchy was a cautious, 'unimaginative'¹⁹ commander, but one with experience of fighting Wellington. When it came to pursuing Blücher and the Prussians he was too hesitant and slow. He was also unwilling to act upon his own initiative, failing to march to the sound of the guns at Waterloo for fear of incurring Napoleon's wrath having disobeyed the order to pursue. Ney, on the other hand, 'the bravest of the brave'²⁰, was at times impetuous, rash and down right 'incompetent'²¹. His temperament would have been well suited to driving his troops in a rapid pursuit of the enemy. Instead Ney was selected to oppose Wellington, a man he was ill-suited to fight. Ultimately Ney confused Wellington's troop redeployment as a retreat. Rather than seeking confirmation of what was happening, Ney personally led Napoleon's cavalry in a disastrous unsupported attack. In the resulting action the Anglo-Dutch squares destroyed the French cavalry in an engagement which had an immense impact on the battle. It is interesting to consider what might have happened had Napoleon used his two commanders more effectively. Would Ney have caught the Prussians and prevented their arrival and could Grouchy have defeated Wellington? It is purely speculation, but it is reasonable to assume that the battle could have been an even closer run thing.

The effectiveness of Wellington's decision to fight at Waterloo, using that particular area of land, had a decisive affect on the result of the battle. A year earlier Wellington had noted the valley and ridges of Mont St Jean and La Belle Alliance as being ground suitable for fighting a battle in defence of Brussels, 'surveying it with the eye of a professional accustomed to evaluating the lie of the land wherever he found himself and filing away a mental note that it might prove useful in the future'²². This allowed Wellington to position his troops in a manner which suited both him and them, 'this was perfect Wellingtonian country... it certainly permitted him to practise his reverse slope manoeuvre of concealing his troops from too much direct artillery fire'²³ and also meant that the enemy could not see who or how many troops they were approaching. Wellington had employed this strategy many times against the French in the Peninsular to great effect. It also gave him a number of buildings in key positions in the valley which he could occupy, fortify, and use to harass any French advance. The chateau of Hougoumont anchored Wellington's army on his Western flank. It was bravely defended by troops of the British Guards Division under Lieutenant Colonel Macdonell. Held throughout the day, the chateau came very close to falling when a number of French troops managed to enter the building via the North gate. In later life Wellington stated that 'the success of the battle turned upon closing the gates at Hougoumont'²⁴. Similarly, the farmhouse at Le Haye Sainte was fortified in the centre of Wellington's line and was defended by a battalion from the King's German Legion. Finally, Papelotte on Wellington's Eastern flank offered him another fortification protecting his left. The selection of this shallow valley with its farmhouses and chateau proved decisive.

Napoleon and Wellington each adopted two very different and effective styles of leadership. These leadership traits were influenced by each general's character. It was both these characteristics and leadership styles that influenced their decisions at Waterloo and the effectiveness of these decisions determined the battles result, 'romantic Napoleonic genius versus prosaic Wellingtonian practicality'²⁵. It can also be seen that both commanders had weaknesses and at times made poor decisions. It is equally these ineffective decisions which decided the fate of Europe.

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17. Roberts (2001), p.171

18. id

19. McLynn (1998), p.181

20. ibid, p.550

21. Ibid, p.617

22. Barbero (2003), p.15

23. Roberts (2001), p.199

24. Roberts (2005), p.57

25. Roberts (2001), p.xxxvii

This past year has been a challenging one for the Officer and Aircrew Selection Centre (OASC). Within the context of the Strategic Defence and Security Review (SDSR) fallout, the OASC role has changed somewhat, from selecting officers, aircrew and Senior Non-Commissioned Officer Air Traffic Controllers (SNCO ATCs) to one of de-selecting the unfortunate trainee Weapon System Operators (WSOps) and pilots who were to be made redundant or, for the lucky few, rebranched as part of tranche 1. Of course, with the reduction in recruiting requirement came an associated downturn in boarding activity. While, we hope, only a temporary reduction in requirement, the resultant additional flexibility allowed OASC to take on wider market events; not only a good stream for potential revenue, but also an ideal opportunity for the Boarding Officers to keep their hands in. Initially, OASC was approached by an ex-IOT instructor who was looking to bring various companies along for team building and leadership training days. After a few events we started assisting the Station with their UK-wide outreach projects and have also attracted interest from the world of motor racing to possibly assist in selecting the F1 drivers of the future through our aptitude testing facility.

Our first event was with reed.co.uk, an online recruitment consultancy. The day kicked off at a very leisurely 0900 with the issue of green coveralls and, of course, the obligatory blue syndicate bibs. As very few of the group had any association with the military, and even less knowledge of the role of the OASC, their visit started with a brief on what we do and how we assess whether individuals have the qualities we are looking for and the potential for training. The group was varied in both age and physical ability, which posed a new challenge for the boarding staff. After the briefing came the usual Discussion Exercise, a bit of an ice breaker and the Group Planning exercise. The complexity of the planning task seemed to shock some of the group but they soon got to grips with it and, before long, most groups had formed some sort of plan to solve the problem. Following the planning task there was just enough time for a quick cup of coffee before it was off to the hangar for the familiarisation brief.



Before we embarked on a long afternoon of physical activity, our guests were treated to a buffet lunch in the Candidates' Mess. All fuelled up we headed back to the OASC hangar and started with the Leaderless Exercise. Some of our guests required a little extra help and encouragement to climb onto the highest obstacles but, eventually, all of them gave it a go. What was of most interest to the hierarchy of reed.co.uk was who actually came out of the group as the natural leaders. Unknown to them, one group had one of the company directors in their syndicate. It was in this group that one of the most junior staff members stepped-up and took control. The rest of the syndicate were quite shocked at the end, when he revealed what his role was within the company. It has also been very noticeable from the numerous events

Members of reed.co.uk take part in hangar exercises.



we have run since that the managers, who we would have expected to step forward and take control, sometimes appeared out of their depth and stood quietly in the background.

A quick debrief and it was time for everyone to have a chance to lead in the Command Situations. We started with one of the people who was more comfortable in charge and then encouraged others to volunteer. Not all of the group were initially keen to take charge, nor were they eager to brief their team from a distance. However, with a little encouragement, everyone took their turn and even those who were timid at first ere soon shouting at their team, swinging on the tyre swing and climbing to the top of the highest obstacle.

Exhausted after over 3 hours in the hangar, the group were relieved that they wouldn't have to complete the Individual Planning Exercise at the end of the day. There was just time for a quick group photograph in front of the Spitfire and they departed RAF Cranwell, laughing and chatting about the things they had done that they perceived were outside of their own ability.

This first visit must have been a success as we have since hosted a variety of companies and organisations. These have ranged from team building for the England elite Rugby League Squad, to personal development for Fight for Peace, which uses boxing and martial arts combined with education and personal development to realise the potential of young people in communities that suffer from crime and violence. Some of our visitors have found the day to be so inspiring that they are now arranging larger events here. More recently we hosted Selex-Galileo's Graduate Training Scheme for team building and an introduction to the military. The military are the company's main customer and they feel it is very important for their graduates to have a sound understanding of what we are all about. To give them a real feel for the military they stayed for 2 nights in the Candidates' Mess, with dinner on the second night being a black tie dining-in night affair. They were hosted by Group Captain OASC, the President of the Mess Committee (PMC) and, of course, some of the Boarding Officers. During the evening they were introduced to the rules of dining-in nights, with various fines being incurred, and to a few mess games, all of which went down extremely well with our guests. In true military style, we then had them up the next morning for an early breakfast ready for a tour of the prestigious College Hall Officers' Mess.

Hosting both corporate and outreach events has been a very new and exciting experience for all at the OASC. It has allowed us to interact on a less formal basis; moreover we can demonstrate what the RAF is all about. From the feedback we have received from our visitors it is clear that they are extremely impressed with the lengths to which we go to ensure we select the correct people as officers and aircrew for the RAF.

Where Have All The Cadets Gone?

Squadron Leader A R Sadler MBA BSc MIET MCMI RAF, Officer Commanding Leadership Training Squadron, OACTU

Generally the annual Officer and Aircrew Cadet Training Unit (OACTU) intake is about 1% of the RAF's strength. At present this equates to 480 officer cadets per year, or 4 intakes of 120. This reflects the number that Initial Officer Training (IOT) was designed to take back in 2005. However, 2009/10 saw a surge in recruitment so that intakes were approaching 150 cadets. Eventually OACTU should get 4 intakes a year of somewhere between 70 and 90 to reflect the new size of the RAF, but in the meantime course sizes are reduced severely: the current C Squadron, IOT Course 27 is running with only 21 cadets.

The aim of this article is to provide an understanding of the delivery of leadership exercises, the challenges small course numbers create and how OACTU has been able to overcome these challenges. OACTU's aim has been to maintain the quality of training and opportunities for practice.

IOT has a strong focus on leadership with cadets being taught leadership theory and undertaking practical exercises. Cadets are given around 30 hours of classroom instruction where lessons aim to cover a wide range of leadership theories, based around John Adair's theory of Action Centred Leadership, as well as methods of command and management used in the RAF and in the wider British Armed Forces. Each cadet needs to develop

their own effective style of leadership, but for them to achieve this they need practical experience in leading a team of personnel in a military environment. As a result far more time is devoted to practical leadership; cadets will spend about 30 days on practical leadership exercises during the course. Each exercise takes the form of a series of "leads"; a lead being a period of time which a cadet spends in charge of a team. During the course each cadet will undertake 12 leads, when added together these will total 4-5 days and this training is an essential part of the transition from civilian to military officer.

Each Squadron is divided into flights, which are sub-divided into sections of 8 cadets. The early exercises typically have one cadet leading their section with one cadet acting as an observer. The observer has the luxury of stepping back and watching leadership in action without the pressure of being in charge. Each section requires a member of staff to manage the lead and each lead, including a review period at the end, takes 2 hours. Thus for the early exercises OACTU can run 4 leads per section per day, giving each cadet one lead every two days. Unfortunately, it is unlikely that each OACTU course will be divisible exactly by 8; each section can have different numbers of cadets. To overcome this, the directing staff

Cadets taking part in Operation MUCRONIS.



reconstitute the sections daily or every other day so that everyone finishes their 2nd lead at roughly the same time. Often, at the end of an exercise, there is time for some cadets to have a third lead as a further training opportunity.

In addition to training the cadets, OACTU also needs to ensure that its instructors are well trained. Although the unit has reduced staff numbers it needs to maintain a core team that is sufficient to train current numbers and to be ready to respond to future demands; generally OACTU needs to train 40 to 50 personnel a year in order to maintain its establishment. In theory fewer cadets should lead to an increase in spare capacity amongst the instructors, but to maintain the highest standards of instruction, high levels of experience must also be maintained. To achieve this all staff need to be involved regularly in instruction. It is easy to see how, with fewer cadets, the number of leads reduces and the number of opportunities for instructors to manage leads and maintain proficiency reduces accordingly.



Air Marshal Andy Pulford RAF, Air Member for Personnel with cadets on Op MUCRONIS.

With a full complement of instructors and, in some cases, only 20 to 25 cadets on a course, there is a danger that cadets can feel like lab rats, under constant observation from large numbers of staff. Cadets and instructors must develop a professional rapport and maintain consistency in instruction; this is very difficult to achieve if instructors are changed regularly. To overcome this during Ex Active Edge, a term one exercise, OACTU ran 4 leads concurrently (rather than the usual 3) and bolstered cadet numbers by employing OACTU staff not normally involved (e.g. Physical Training Instructors) along with officers and sergeants waiting to start professional training. This ensured that instructors were able to maintain their skills without putting the cadets under excess pressure and whilst maintaining consistency of instruction.

Term 3 culminates in a final exercise, Operation MUCRONIS, a realistic recreation of running a Combined Operations Centre (COC) at a Deployed Operating Base (DOB). The Exercise is designed for groups of 25 to 30 cadets to take turns working in the COC for a period of 72 hours each, so that over the 9 days of the exercise all term 3 cadets are given a period of time in command. When not in the COC, cadets become workers around the camp. The Air Member for Personnel, Air Marshal Pulford, and Commander in Chief Air Command, Air Chief Marshal Sir Simon Bryant, visited the Exercise in September and November 2011 respectively; each commented on the realism of the scenario and that maintaining this realism is critical in ensuring that cadets are able to deal with the pressures of command and leadership in the RAF.

OACTU staff identified quickly that cadet numbers would make it difficult to maintain realism and provide effective training during Op MUCRONIS in November 2011.

In order to develop their skills, the cadets need work to do with most of the work being created by the cadets themselves (e.g. setting up accommodation, managing vehicle fleets, setting meal times, holding briefing sessions etc). With fewer cadets this workload reduced and the onus was on the instructors to provide sufficient stimuli for the cadets. In order to achieve this, the physical size of the exercise was limited and all 63 cadets involved (term 2 and term 3) were squeezed into a single area at RAF Syerston. It was then down to the instructors to ensure that the exercise was closely managed to maintain a high quality of training without compromising realism.

Eighteen months ago an assessment of OACTU concluded that IOT would not function properly if cadet numbers dropped below 60 per intake. In reality it has worked with numbers well below that without affecting the standard of the graduating officers. This is testament to the hard work, ingenuity and professionalism of OACTU staff of all ranks. In particular it has demanded considerably increased participation by staff during exercises, to replace the friction and pressure generated by larger numbers of cadets. That said, everyone is looking forward to the time when Whittle Hall once again resounds to the footsteps of nearly 300 cadets in training.

Complex World, Complex Challenges: The Operation Of Remotely Piloted Aircraft Systems In Afghanistan

Dr Peter Lee, King's College London Lecturer in Air Power Studies, RAF College Cranwell

On 25 March 2011 an attack from a Royal Air Force Reaper, a Remotely Piloted Aircraft System (RPAS) operated from Creech Air Force Base in Nevada, USA, was responsible for the deaths of four Afghan civilians and injuries to 2 others. This was the first Ministry of Defence-acknowledged killing of civilians involving the Reaper since the UK began remotely operating the equipment in Afghanistan in 2007¹. On a larger scale, American Reaper operations in Afghanistan, as well as in Pakistan, regularly result in civilian deaths. Available statistics are highly disputed, with a clear disparity between NATO-sourced reports and Afghanistan/Pakistan-sourced reports. However, it is likely that USAF-operated Reapers in Afghanistan and CIA-operated Reapers in Pakistan have resulted in many dozens, perhaps many hundreds, of civilian deaths.

RPAS operations represent only a small, though increasingly important, proportion of the overall military effect in Afghanistan: a military effort that supports the strategic aims

long-term regional stability. RPAS operations that result in the deaths of civilians make up only a small proportion of the sorties flown but attract a high media profile, both domestically and internationally. However, civilian deaths in this highly complex asymmetric war attract not only unfavourable headlines, but also prompt a number of questions. These include, but are not limited to: Why has the UK government deployed RPASs in Afghanistan? What are the strategic and personal implications of civilian deaths, so called 'collateral damage'? What psychological impact does remote killing have on the Reaper crews, as well as on civilians in areas of operation? To what extent do NATO allies, especially the UK and US, share culpability for each other's actions?

A brief exploration of these questions will highlight the difficulty of conducting complex air operations in a hostile and uncertain enemy environment in the twenty-first century. It will also indicate the degree of sophistication required in current and future RAF training if air force personnel, of all ranks, are to develop the critical analytical skills and global political awareness necessary to successfully support the UK government's strategic aims through the application of airpower.

War is as old as humanity itself and the essence of war through the ages has remained largely unchanged: the desire of one state, tribe or group to impose its political will on another. Technological advances enable killing in war to be conducted on an industrial scale, using weaponry

that would have been beyond the imaginings of scientists and military strategists even a century ago. The RPAS typifies the advances that have been made and present political and military leaders with the ability to kill enemies where covert infiltration on the ground would be impossible, at almost no risk to one's own airmen. However, before specific issues concerning the use of RPASs are identified, let us consider the basis on which they are currently being deployed.

On 12 September 2001, twenty four hours after the Al Qaeda attacks on New York and the Pentagon, President George W. Bush declared a wide-ranging and open ended 'War on Terror'. That same day, in response to a request from the US, NATO invoked Article 5 of its charter, thereby formally involving the UK in any military response:

The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the Party or Parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area².

The US and NATO sought no United Nations Security Council resolution authorising military action, adjudging that the principle of self-defence set out in Article 51 of the UN Charter legitimised their response to the attacks. In the weeks that followed, it emerged that the group responsible, Al Qaeda, and its leader Osama bin Laden had conducted their planning and training in Taliban-led Afghanistan. On 7 October 2001, after the Taliban government in Kabul refused to hand over bin Laden and other Al Qaeda personnel, US and UK forces launched an aerial bombardment and the fighting in Afghanistan began.

The extent to which the right to self defence justified the invasion of Afghanistan, when it was not the state itself but a group operating from within its borders that attacked America, continues to be a source of debate. The moral argument appears to be the most permissive and the right to self defence has sat at the heart of the just war tradition for millennia. International law, in the form of the UN Charter, was set out

An RAF Reaper of 39 Squadron.



in the context of inter-state activities and does not easily lend itself to actions between states and sub-state actors such as Al Qaeda. Despite this, on 20 December 2001, the UN Security Council authorised the establishment of an 'International Security Assistance Force' to assist the Afghan Interim Authority in the maintenance of security in Kabul and its surrounding areas³, authority that has been extended multiple times until the present.

Setting aside the intricacies of international law and military operations in Afghanistan, at no point has the UN provided any legal basis for the CIA's RPAS operations in Pakistan. Though mandated by the US government, American use of the Reaper across the Afghanistan/Pakistan border is in clear violation of Pakistan's sovereignty under Article 2 of the UN Charter which states:

All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the UN⁴.

While the UK currently uses the Reaper within the terms of the UN authority granted to ISAF, its close military alliance with the US over the past decade means that in many quarters, both at home and abroad, the UK shares at least some degree of moral culpability for their partner's actions.

At the level of tactical operations all military personnel operate under Rules of Engagement (RoE) that are authorised by their own governments, thereby locating armed forces personnel within their respective domestic legal frameworks. In addition, the UK is a signatory to the Rome Statute and all British Military personnel also fall under the jurisdiction of the International Criminal Court (ICC). Contrarily, the US, amongst others, does not submit to the authority of the ICC and would actively seek to prevent their soldiers, sailors, marines or airmen from facing trial at the Hague.

Further complicating matters is the nature of the insurgency in Afghanistan, fought as it is within civilian communities, with violence aimed at Afghans and ISAF personnel by other Afghans and foreign fighters. The 1977 Protocols Additional to the Geneva Conventions were compiled with the intention of protecting civilians in times of international armed conflict. Article 48 sets out the responsibility held by an attacker, a responsibility that complicates all allied actions, especially RPAS operations.

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives⁵.

In the murky world of insurgency warfare such as we find in Afghanistan today, even if the Taliban or Al Qaeda choose to fight from amongst concentrations of civilians, the UK, as signatories to the 1977 Additional Protocols, is not released from its legal obligation to apply lethal force in a discriminating manner. Interestingly, the US has not ratified the 1977 Additional Protocols, which raises an ethical dilemma when British military personnel are operating RPASs alongside Americans. For example, a British crew⁶ seconded to the USAF would still operate the Reaper according to UK RoE. However, if presented with a target that fell outside those rules there is nothing to prevent that British crew from temporarily being replaced by an American crew whose more permissive RoE might allow the use of lethal force. In such a circumstance no laws

would appear to have been broken, yet the moral underpinnings of the UK's legal position appears to be somewhat precarious.

There is also a potential moral hazard in the use of unmanned aerial systems. One of the preferred uses of the RPAS is for the 'targeted killing' of key individuals. The lack of physical risk to the crew of the systems can result in the political willingness to undertake operations that would otherwise be avoided because of a high risk of allied casualties and the accompanying opprobrium of the general public. Such thinking necessarily escalates the risk to 'enemy' civilians where operations by conventional forces would otherwise be avoided because of the potential loss of military lives. This moral hazard can only increase as technologically advanced governments and militaries strive for greater and greater autonomy of remotely operated weapons systems.

One final concern to be raised is for those who operate lethal weapons platforms from great distances. Unlike previous generations of aircrew who have faced the dangers of battle (as well as current crews of manned combat aircraft) from within a war zone. RPAS crews at Creech Air Force Base work in a relatively comfortable physical environment and at the end of each day continue a normal domestic existence with family and friends. Studies are already underway to assess the psychological consequences of living with an ever-present dichotomy of peace and war over an extended period. In addition, the RPAS crew can spend much greater time familiarising themselves with a target before killing him or her than is the case with the crew of a fast jet, who might only have a few seconds to acquire and strike a target before departing the scene equally quickly. Subsequently, the RPAS can spend much longer loitering overhead, its crew watching in great detail the physical consequences of the missile or bomb that they have just dropped.

From this brief consideration of events in Afghanistan over the past decade it quickly becomes apparent that complexities and tensions exist from the political justification of the use of force to the military application of lethal violence: exemplified here by the Reaper. There are no easy answers. Conventional warfare of the type seen thirty years ago in the Falkland Islands appears with hindsight to be almost straightforward when compared to the dilemmas posed on the ground and in the air in Afghanistan. Outright military victory against the Taliban appears as distant as Goose Green and Mount Tumbledown; the very notion of 'winning' is being redefined. The challenge that faces the Royal Air Force both now and in the future is to prepare its personnel to operate decisively and effectively in diverse and ambiguous situations, delivering effective airpower while maintaining the legal and ethical standards that the British people demand. RAF College Cranwell will continue to play a vital role at the heart of that endeavour and the Air Power Studies team is proud to make its small contribution.

1. <http://www.defencemanagement.com>, 6 July 2011, 'RAF Reaper strike killed civilians', accessed 15 January 2012.
2. Article 5, The North Atlantic Treaty, 4 April 1949.
3. UN Security Council Resolution 1386, 20 December 2001.
4. Article 2, Charter of the UN, 26 June 1945.

5. Article 48, Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977.
6. A Reaper crew consists of a pilot and a sensor operator. The former flies the aircraft while the latter controls surveillance equipment and the deployment of weapons.

RAF Recruiting – The Easy Life?

Group Captain I Tolfts OBE MA MCIPR RAF, Group Captain Recruiting

Many people see a tour in RAF Recruiting as a “cushy” tour. How wrong can they be?

Many would say that recruiting in the 21st Century should be easy. When you look at RAF Recruiting from the outside you perceive that the country is in recession and the age of austerity is with us. Unemployment is high. For many observers, this leads them to the conclusion that everyone will want to join the RAF, meaning Recruiting staff sit in the Armed Forces Careers Offices (AFCOs) while people flood through the door and that, in the summer months, RAF Recruiting staff swan around the air shows having a good time. How wrong! Having been Gp Capt Recruiting for 18 months I reflect that, in the current climate, recruiting is actually more difficult than ever for a number of reasons.

The stark reality is that many people outside the RAF community don't even consider a job in the RAF. Teachers, parents and careers advisors – often called the gatekeepers – can view the RAF with suspicion. They see the RAF as an employer that takes people away from home and deliberately place them in harm's way and possibly gets them killed – not exactly a great selling point! The media have highlighted redundancy programmes and perceptions of poorly procured equipment. The Public Sector has a pay freeze and the Armed Forces Pension Scheme, a big selling point for an RAF career with many gatekeepers, is under review. Internally, the RAF Recruiting organisation is shrinking post-the Strategic Defence and Security Review (SDSR) and there are many unknowns that may impact the way it operates such as the Army RPP (Recruiting Partnering Project), the New Employment Model impacting on Terms and Conditions of Service, the economy, marketing restrictions and many of the 20-plus MoD-led studies (as of 1 Oct 2011) that are currently running. All of the above does little to help when you are trying to promote a career in the RAF as an attractive option to potential recruits – and gatekeepers.

One question we are often asked is: why are you recruiting when you are making people redundant and the RAF is getting smaller? This is easy to answer. The RAF is a base rank-fed organisation that grows its own people and it needs a constant supply of new people. In steady state, it is assumed that you normally need to recruit about 9% of the RAF's strength per year to replace the annual outflow. Of course, during a period of drawdown, Recruiting is “throttled back” somewhat to assist with the process. But it cannot be turned off completely as to do so would create manpower black holes that create management problems and structural black holes in later years.

Growing our own ensures our people have our core ethos and values which also makes us very different from Barclays, Tesco or any other employer. If, for example, Barclays need a financial advisor they advertise and hire one. If the RAF needs a Chief Technician air frames it secures from within the Service by promoting someone or posting them in from another job – he or she simply does not exist outside the RAF. There are very few branches and trades in the RAF where we can recruit directly from outside – often termed lateral recruitment. Where we can do this, we do, but it tends to occur in niche branches and trades such as doctors, dentists, padres and musicians. As the lateral recruitment of civilians into Supply Officer posts during the 1980s showed such recruitment does not work well. Of course, growing our own presents a number of challenges. We are one of very few employers that will take someone on who may be unqualified for the job they applied for. RAF Recruiting must test them to see if they have the aptitude, interview them, provide a medical, get them to complete a fitness test and, in many cases, complete a specialist interview (such as climbing the Stenigot Towers to prove a head for heights for aerial erectors!). This rigorous process is necessary to ensure that the RAF only recruits quality personnel who are likely to pass training and enter productive service with the minimum wastage

rate along the way. Running this process takes time and personnel even though it has been trimmed down significantly and uses electronic processing as far as possible.

Did you know that AFCOs are inspected by the Office for Standards in Education, Children's Services and Skills (OFSTED) and are regularly quality checked by the RAF Recruiting internal audit team? Can you imagine the amount of personal data each office is required to manage in accordance with the Data Protection Act when for every job we have we require a minimum of 10 applicants to apply to get the right person? In a normal year, RAF Recruiting processes nearly 30,000 applicants to get 3000 people into the RAF. That's a lot of people and data to manage and protect! RAF Recruiting also does this for the RAF Reserves. All this takes manpower and resource.

Marketing

Marketing is integral to the recruiting effort as it opens many peoples' eyes to the possibility of a career in the RAF. Marketing is all about perception. In the RAF's case, where do we want RAF Careers to be positioned and how do we want people to view us as a Service? Advertising, PR, websites etc all form part of the promotional activities in the mix but they alone are not 'marketing'. Marketing is a state of mind rather than a series of functional activities. It is based on this theory that RAF Recruiting Marketing develops strategies and plans to challenge outdated perceptions of the RAF in order to compete for the best talent. This war for talent is fiercer than ever with huge scope for young people and their career options. Not only do we compete with our sister Services, but also large blue chip companies who look for the same traditional military traits such as leadership and motivation and can often offer more financial reward.

So how do we approach this task? In short, everything starts with research, be that into target audiences, their perceptions, their hopes and fears etc or the environment we're competing in and the opportunities and threats this presents. This data is used to inform a strategy and a plan which will traditionally comprise the full marketing mix such as advertising and outreach events. The plan is measured and evaluated and checks and balances are made to fine tune areas which might need more or less effort. Such a mix works well but the best advert for the RAF is its people. There are more than 30,000 people in the RAF and, by default, they are all marketing the RAF, good or bad. If everyone wore light blue uniform at every opportunity or told everyone they know what a career in the RAF is like in a positive way, just think what could be achieved! Maybe we could reduce the amount we spend on TV advertising?

Finally, just a little bit of information on the target audience of 16-24 year olds. Do you believe that today's 16 to 24 year old are the same as those we recruited 10, 20 or 30 years ago? The answer is they are not. They are digital natives; IT savvy - they communicate by text, email and social media and very occasionally speak by phone. They graze information and do not watch programmes when they are broadcast, preferring to watch on their laptops or iPads via Video on Demand. They want to know what the terms and conditions of service and pensions are. They increasingly want to know what's in it for them. They are less fit. Many are so focussed on achieving at school and university they do not have much in the way of a life outside these environments. Traits that are alien to much of what the RAF is looking for in a recruit. Hopefully, this gives you a sense of the environment into which RAF Recruiting deploys marketing and the challenges that have to be surmounted.

Engagement

Engagement and Recruiting are interlinked and one supports the other. Engagement also supports the overall marketing mix. How every member of the RAF engages with the rest of the country impacts on



RAF Careers Facebook page.

RAF Recruiting. Serving personnel are one of our best recruiting tools. Promoting the “brand”, as mentioned earlier, would help recruiting considerably. Just think how many people we could recruit if every serving member recruited one person every 5 years? We know that when someone from a school or college successfully joins the RAF, there is an upsurge of interest in that Education Establishment. RAF Recruiting tries to capitalise on this by visiting the establishment or by placing an article in the local press. RAF Recruiting also works hard with Stations and display assets (such as the Red Arrows) to better coordinate engagement and recruiting effort. This all helps with RAF Recruiting’s secondary task which is to raise awareness of the RAF in the round. RAF Recruiting’s Outreach Teams also form part of the engagement programme – staff visit schools, colleges, universities, ATC Sqns, youth organisations, careers and recruiting fairs to interact in a number of ways to generate interest in an RAF career. The activities range from a simple presentation through to interactive, hands on management, teamwork and communication tasks. These ‘seed-sowing’ and nurturing exercises help promote the thought amongst the participants that there might be a number of career opportunities for ‘me’ in the RAF. Overall, if the trinity of recruiting, engagement and marketing is not coherent we struggle to recruit.

Fit and robust

One of the biggest challenges in RAF Recruiting is ensuring candidates are fit for service life; a candidate now has to reach the full RAF Fitness Test standard for his/her age before they can join. When many candidates arrive at an AFCO they cannot do sufficient press ups and or sit ups and are overweight. Thus, part of their initial interview will be advice on how and where to get fit. This is a good test of commitment to join and many return well prepared to start the process of joining the RAF. What we are aware of is that by associating with and supporting certain sports we tend to attract fit robust candidates. Good examples of this strategy are rugby (both codes), netball, cycling (all types) and hockey (field and ice). There is no doubt that personal fitness is an area that will continue to represent a challenge into the future unless there is a fundamental culture change in the youth cohort. But RAF Recruiting will have to cope with it!

Other recruiting challenges

As the RAF draws its recruits from society, it is important that it should reflect that society as far as possible and there are Government targets to be achieved in certain areas. The UK population is very diverse and the RAF seeks to recruit from ethnic minorities (EM) and the lesbian, gay, bisexual and transgender (LGBT) community as well as having an

appropriate ratio of males and females. In many of these areas, the RAF has invested a great deal of time and money and is achieving outstanding results that have been recognised outside the military by organisations such as Stonewall. However, EM recruiting is still an area where we struggle. There are a number of reasons for this; some communities do not see the Services as a career of choice for their young people whilst, for others, a military culture is an anathema. Work undertaken by the Australian Defence Force (principally focused on Vietnamese Boat People) concluded that it would take 3 to 4 generations for communities to consider themselves sufficiently Australian to be prepared to serve in the Defence Force. Interestingly, the UK is now entering that period for many EMs who arrived in the UK post World War 2 – this may result in an upturn in EM recruiting if a targeted effort can be made to penetrate the communities. What is definite

is that RAF Recruiting will continue to engage with the EM and LGBT communities in order to recruit them into our Service.

The future

RAF Recruiting faces a number of challenges in the future. A need to maximise efficiency and reduce manpower and costs mean new ways of working are being adopted. All initial applications to join the RAF are now handled through a call handling centre, a Virtual AFCO has been established to sift all applications, electronic filtering and selection are being introduced, the traditional AFCO laydown is being changed for a regional “hub and spoke” operation, the Officer and Aircrew Selection Centre (OASC) is merging with RAF Recruiting to form a single Recruiting and Selection Organisation and greater emphasis will be placed on candidates deselecting themselves at a early stage of the application process. However, the main challenges are the unknowns. Whilst future manpower requirements are planned, what if the requirement in 2014/15 increases just as the country emerges from recession? When the country comes out of recession will the voluntary outflow increase thus increasing the recruiting requirement? What will the New Employment Model (NEM) and the new pension bring? If NEM decides that people will serve for shorter periods and then leave, RAF Recruiting will need to recruit more people annually. And the need to recruit RAF Reserves in the future will become increasingly important. What if one of our strong selling points, the pension, is changed and is perceived to be only the same as a civilian receives? What if the pay restrictions continue? All these are challenges that can and do alter the recruiting landscape. All that RAF Recruiting can do is remain flexible and agile enough to adapt to the changes and challenges to ensure that the right number of the right quality people continue to join the RAF now and in the future. In the interim, if you still perceive that recruiting is an easy option come and spend a day with us – we can change that perception!

Term 2 Reflections

Officer Cadet M A S Deri, C Squadron, Initial Officer Training Course 26, OACTU

Term one flew by. Even though I was there for 20 weeks due to injury it seemed to pass in a flash. Setting my sights on term 2 and the privileges that came with it, a room in College Hall, wearing "blues" and the permission not to march in the corridors in Whittle Hall seemed an unachievable goal, but now they were upon me and it felt good, a real feeling of progression.

The term started quickly. Having been fortunate enough to have 2 weeks at home, getting back up to speed had to be done fast, and the Directing Staff (DS) ensured that happened. Daily inspections, not all of which were announced in advance, were the norm and we jumped straight into preparing for deployment on Exercise Military Aid (Ex MILAID).

Ex MILAID was held at the Stanford Training Area (STANTA) and was very different from all of the other exercises that we had experienced up to that point. From the outset we were put into scenario receiving a briefing from the Chief Inspector of the Norfolk Constabulary. This role, played by a member of the DS, demonstrated that the enthusiasm and effort put in by the staff was going to be second to none. The Chief Inspector informed us that two (fictitious) local schoolgirls had gone missing and we were to be drafted in to help with the search. To reinforce the brief we were shown some BBC news footage that reported the story. From that point in, Ex MILAID had my full buy-in.

On the bus ride to STANTA I truly felt as if I was going to help the two girls and this helped me to conduct my lead successfully. I was appointed Bronze Commander, the overall commander to the cadet force. Unlike the previous exercises, Ex MILAID had no set timetable. We were not told when to eat, when to be ready to move and when the leader of any given section would change. As a result, I wasn't surprised to find that I'd clocked up 9 hours as Bronze Commander before the team was called in to review my performance. This type of lead had intrinsic advantages in that there was no forced leadership, what the DS saw was my natural leadership style coming through, enhanced by term one's 10 weeks of leadership tuition. By the end of Ex MILAID it was agreed by all of the cadets that this had been the best exercise by far and, although it had its lows - a covert Observation Point at 2am at minus 1°C springs to mind - it had also had its highs and everyone thoroughly enjoyed themselves.

Academics feature highly in term 2 and the information comes thick and fast. Defence Writing (DW) and Essential Service Knowledge (ESK) take up a lot of time and Air Power Studies (APS) lectures are delivered daily, in preparation for the second APS exam. Lecture topics range from terrorism to ethics and there are a number of case studies covering the Battle of Britain right through to Gulf War 1. This worked out nicely for me, as the information in one of the case studies on the Falkland Islands helped me to write my Bandar essay. The Bandar essay is a 1500 word piece of academic writing that has to be submitted exactly half way through term 2. Having already served a number of years in the as a Junior Rank, I had just come off the Basic Engineer Scheme at DCAE Cosford where I'd had some exposure to writing this style of essay. For this I was very grateful as it was a new experience to some of the cadets on the squadron.

The intensity of the Physical Training (PT) increased too. I always thought of myself as having a respectable level of fitness having always achieved a good pass in my RAF Fitness tests. However, the PT staff really put us through our paces here. Some minor side effects may include tired legs, a bright red face and the loss of a stone or two in weight! With all of this hard work comes reward and just after submission of the Bandar essay came our partners' day, which was an opportunity to show our friends, family and loved ones what we had learnt during IOT and how far we had come in 15 weeks. This felt really worthwhile as the pressures experienced during the course can't always be translated to the people around you, over the phone or on a weekend.

Unfortunately in life, we are always assessed, and RAF Cranwell is no exception to that rule. In a very short period during the term, multiple

exams, assessments and tests are set in order to determine the amount of information you can assimilate. As mentioned above, the APS and ESK lessons were daily, but now the tests begin. Add to that the most pivotal exercise, Operation MUCRONIS, which looms ever closer testing your time management and prioritisation skills as much as anything else.

The culmination of all the leadership lessons and practical exercises are tested over a 10 day period during which you deploy on Operation MUCRONIS 1, set in the fictitious country of Moltovia. The exercise is designed to be as realistic as possible and, having served on multiple operations as an Airman, I can honestly say it succeeded in its task. The basis of the exercise is to test your leadership over 2 six-hour shifts, or leads, during which you will command a patrol, guard shift, the Combined Incident Team (CIT) or the hub of the sector, the Adjutant role. I had to wait 3 days before my first lead came up. This had its blessings as well as its negatives. On one hand, it would have been great to just dive in and get



one 'under my belt'; however, it was really beneficial to get the lie of the land and settle in to the exercise before being assessed. I was appointed Guard Commander and, in nearly freezing temperatures, with up to 7 of my troops out on the Control of Entry points around the base I had my work cut out looking after the needs of the guards, whilst maintaining focus on the task and my commander's intent. After six hours of running around, planning and generally being in charge, the shift was over and my fate awaited me. The DS who had been testing me approached and I was asked to step over to somewhere a little quieter, this did my nerves no good whatsoever! Thankfully though, it appears the DS just wanted some peace and quiet because he started to read "Deri has produced a good performance and is awarded a pass." If I am quite honest, the relief started washing over me and the rest of the report didn't sink in at all. Luckily, I was due one of the 4 enforced meals per 24 hour period and this gave me time to read over the rest of the report.

I didn't have to wait long for my next lead, this time I was Patrol Commander. I saw this as a real opportunity to shine as we'd been given chance to have a go at this role before in a previous exercise. The lead went well, with the team managing to rescue a casualty, find an

Improvised Explosive Device (IED) and keep Dimitri, our host nation EOD expert, safe. All told, a typical 6 hours in Moltovia. Luckily I was again awarded a pass and for the first time in the 10 days, the pressure really felt as if it had lifted. Of course I still had to put in the effort as a follower for my fellow cadets' leads, so there was no time to relax in Moltovia. Towards the end of the exercise, I was offered the chance to take a third lead, completely un-assessed, so that I could further hone my leadership skills. I jumped at the chance and, to my surprise; I was offered the role of adjutant. I really enjoyed my time as the "Adj"; I'd even go as far as saying it was fun!

During this shift, one of the DS informed me that we had a scenario where we had to rehearse leaving the sector via helicopter. This was not a drill; a Chinook was due in 20 minutes and we would all get a flight. We transited to RAF Cranwell, practiced disembarking the aircraft, then re-boarded to fly back to Moltovia. As the DS said afterwards, "it's what we do, it's what the RAF is all about," and despite that fact I'd already flown in a Chinook during my previous service, it was a really good way to end an extremely good exercise.

Planning in the Field.





SATTs digging the trenches to full depth.

Life In The Trenches

Flt Lt A Claesens AE RAF, OC Trenches Project, RAF Halton

One of the lesser known areas on the RAF Halton technical site is the wooded area behind the workshops near to the range, where a section of World War One trenches have been painstakingly re-created as a memorial and tribute to those who fought and died in the maelstrom of the Great War. Originally dug by men of the 21st Division before going to France, there are scars in the ground all over the Halton Estate, hinting at the sites early pre-RAF role in training infantry and preparing them for trench warfare.

The recent "surge" in recruiting was very successful but resulted in many Phase One graduates waiting long periods before starting their Phase Two courses. At the same time, enthusiastic historical types were making noises about developing the heritage of RAF Halton including ideas for restoring some trench-works. Timing couldn't have been better and the Station Commander backed the idea for Servicemen Awaiting Trade Training (SATTs), to get involved.

Initially, trial excavations were made to establish the positioning of the trenches and then, utilising drawings from the 1918 and 1925 Manual of Infantry training, the trenches were dug to full depth and the sides shored up authentically.

An ecologically sound plan was developed to restore the land and make the best use of existing materials and resources on site and all through the project a historical perspective has been maintained in order to preserve the memory of the original WWI volunteer soldiers.

The young recruits who gave their time and effort to dig out the trench complex gained a unique insight into what the original diggers went through as they trained in preparation for war. The logistics of the task only serve to put the sheer scale of the Western Front into perspective. Taking approximately 30,000 man-hours to dig, the trench complex has used up 5,500 sandbags, 300 picket posts, 300 sheets of corrugated iron

and two miles of barbed wire, in an area no greater than 40m by 40m; a tiny area in comparison to the 460 mile front line.

Since the completion of the first main phase and the official opening by Lady Dalton, the wife of the Chief of the Air Staff, in May 2010, the trenches have become a popular and very useful public engagement tool for the Station. Media interest has been high, with the site featuring on both The One Show and Three Counties Radio. A steady stream of tours has been given to schools, cadets and other interested parties, highlighting the historical importance of Halton and giving a realistic feel of conditions at the Front. With the sad demise of the last of the Great War survivors the younger generations now see World War One as ancient history. The opportunity to experience the trenches environment provides solid reinforcement to their school curriculum as well as bringing home the harsh realities of life as a soldier on the Western Front.

During summer 2011, Officer Cadets from Initial Officer Training included a tour of the trenches as part of their syllabus. As well as understanding how the birth of military aviation helped to break the stalemate, this gave them an insight into what can be achieved by highly motivated troops.

So what does the future hold? The trench restoration project is a continually evolving beast and an on-going labour of love for a few volunteers and enthusiasts. The team's imagination is only limited by the reality of resources. The big project for 2012 is to build a dug-out display inside a buried ISO container. Additionally a more elaborate heavy machine gun pit, an observation post, a latrine trench (non-functioning!) and a further trench showing the range of shoring techniques and materials used are planned. Maintaining this wonderfully evocative piece of RAF Halton's Heritage requires consistent care and attention which is why the team are always happy to hear from individuals who feel they can give some time to help.



The first phase of the project near completion.

Steering Disillusioned Youngsters Back Into Education, Jul - Dec 2011

Sergeant S Raval, RAF Careers Motivational Outreach Team South East Region, RAF Halton

RAF Careers Motivational Outreach Teams (MOT), under the command of Group Captain Recruiting, work in the wider community to introduce, educate and enthuse young people and their gatekeepers in all aspects of the Royal Air Force. Our mission is to provide positive role models, individually as serviceman and collectively as members of the RAF. We are tasked to promote the service as a positive career choice to potential candidates, parents, teachers and youth leaders.

In June 2011 I was approached by Mr Neil Axe of the Master Axe's Foundation (MAF) on behalf of the Blueprint Pupil Referral Unit to produce a programme of motivational training to engage with the group of students in his charge. MAF is a social enterprise organisation based in Aylesbury, whose primary mission is to engage young people, enthuse them with a core of new moral principles and motivate them to adopt an ethos that is geared toward them recognising that their actions have consequences. This knowledge inspires them to take ownership of their behaviour which, in turn, leads to them recognising that just as their negative acts breed a negative response, so positive acts breed a positive response.

The foundation holds a 6 week course to reinforce their teachings and give the youngsters a moral foundation on which to base their futures. Given that the ethos, core values and standards of the Royal Air Force are the basis of our service, I sought assistance from Halton's Initial Force Protection Training (IFPT) Flight to produce the engagement programme.

The initial visit of the MAF students was an introduction to RAF Force Protection (FP), along with the skills and disciplines associated with those roles. The students took part in observational exercises, watching field

craft, weapons handling and the preparation of field rations by a team of RAF Regiment Non Commissioned Officers (NCOs). A tour of the World War 1 trenches exhibition was next. This activity had an emotional effect on the students, who described a feeling of empathy with the young men of similar age who had gone to fight in France.

During their visit the students were also given an introduction to the principles of weapon marksmanship, carrying out basic simulated range practice in the Dismounted Close Combat Trainer (DCCT). Corporal Cameron Kinveg, an IFPT instructor, explained why the military workshops were particularly beneficial.

"The biggest problem these youngsters have is a lack of clear direction. They come into our environment and see clear discipline and boundaries. This environment is out of the ordinary to them; they are out of their comfort zone and positively respond to the military discipline, seeing us as authority figures. The ones who don't always shine in the classroom respond positively to our personal development training. The lads arrived with a good attitude and were well behaved throughout their visit, rising to the challenges set to them".

Following the MAF visits I was asked to present certificates of achievement to the students at the formal end of course reception held at Blueprint. During this evening I had the pleasure of meeting parents, family members and teachers of the students who described the transformation they had witnessed in the attitude and outlook of their youngsters following the course. Indeed, since their time at RAF Halton, some of the students are now considering careers in the RAF Regiment.



Participants from the Master Axe's Foundation.

Wideawake On Ascension

Group Captain J Price CBE RAF (Retd)

When getting my drill kit up to standard to pass muster was the be all and end all for me and the rest of No 76 (Flight Cadet) Entry four months into our training in April 1957, never could we have imagined that precisely 25 years hence our country would be countering the forces not of the Warsaw Pact, but of Argentina, and that my preoccupation would be on a far higher 'plane'.

As Station Commander of RAF Marham I was detached to Ascension Island (RAF Wideawake) as Senior RAF Officer, arriving on 18 April 1983. Much has been written about the role of Ascension Island as the Forward Operating Base (FOB) supporting British Forces in the South Atlantic and the air operations mounted from Wideawake airfield. However, little attention has been directed to the nature of Ascension Island, the background to the community, the facilities that existed when the first deployment arrived, the limited resources available and the measures taken to mitigate shortcomings and to develop RAF Wideawake as the operating base for Operation Corporate (Op Corporate).

Ascension Island

Ascension Island lies almost midway between the UK and the Falkland Islands. Approximately 34 square miles in area, it is a peak rising some 10,000 feet above the ocean floor. Thrown up by volcanic activity over thousands of years, were it not for its position it would probably have remained uninhabited.

Discovered by the Portuguese in 1501, it was the Royal Navy that established the first permanent settlement in 1815 when Napoleon was exiled to St Helena some 750 miles to the south-east. The settlement, now called Georgetown after the monarch George III, is located on the north west coast. The only naturally arable land is on the eponymous Green Mountain which rises to 2,817 feet above sea level and dominates the island. The climate is tropical maritime, pleasantly warm with a prevailing south-easterly wind which can reach 30-35 knots during the day. Cloud forms readily over the Mountain with, on occasion, heavy, blustery showers developing in the late morning/early afternoon. Such wind and rain combined with the pervasive volcanic dust, can make for uncomfortable conditions. The anchorage off Georgetown is affected by a heavy, unpredictable swell often rendering the pier head unusable for up to three days a week.

The beginning of modern Ascension came in 1942 when United States Army engineers constructed Wideawake Airfield as a vital staging post between the United States and the theatres in North Africa and Southern Europe, the base holding as many as 4,000 servicemen at one time. The airstrip fell into disuse when troops were withdrawn at the end of the war, but in 1965 an agreement was signed by Britain and the US permitting the use of Ascension as a tracking station for the US Air Force (USAF) Eastern Missile Test Range. The airfield was improved and its runway extended to 10,000 feet with a new base built together with radar and telemetry facilities.

Ten years later NASA introduced a satellite tracking station 1,800 feet up at Devil's Ashpit in the south east of the island. Come April 1982 the airfield had, in addition to its excellent runway, a large dispersal capable of accommodating 24 large fixed-wing aircraft and, on one occasion, 36 helicopters. Wideawake was commanded by a Lieutenant Colonel USAF and manned under contract by Pan American Airways (Pan Am) to provide support for up to 285 aircraft movements a year.

Administered by a British Resident Administrator, at the time of the build up the island existed with two shops, a 14-bed hospital, two civilian doctors, a dentist, a padre and sufficient accommodation and public works capacity adequate to support the population of some 1,000, including 58 European families. This population consisted entirely of British Foreign and Commonwealth Office, BBC and Cable & Wireless

expatriates, and American USAF, Pan Am and NASA personnel, South Africans working for the South Atlantic Cable Company and a general work force from St Helena. All supplies were either air freighted in by a weekly USAF C-141 Starlifter or shipped in by the small supply ship RMS St Helena, calling bi-monthly during her round trip UK – Ascension – St Helena – South Africa and return. Such limited resources were to come under increasing pressure as Op Corporate got underway.

Operational resources

The number of military personnel that could be absorbed was dictated by the limited water supply and the capacity to feed and provide suitable accommodation for an unpredictable requirement.

The most significant of these was the availability of fresh water as the island has no natural water sources and the two distillation systems, by-products of the BBC and USAF base power plants, had limited spare capacity. As the number of personnel increased, so the supply became marginal. The capacity to produce fresh water could support a maximum population of 2,800 with reserves for approximately 21/2 weeks. Allowing for maintenance and the uneven distribution of water reserves, numbers on the island soon approached the practical limit of the production capacity. For a while, water conservation measures were imposed and the maintenance of the distillation plants delayed until production was boosted when reverse osmosis plants were flown in and brought on line. The consequences of a breakdown at either of the distillation plants were a daily concern but fortunately, both units stayed on line throughout Op Corporate.

Suitable accommodation was determined by the availability of buildings, water supply, sanitation, food and transport. Without evacuating civilians there was sufficient roofed accommodation, all sub-standard, for nearly 700 military personnel. Once all practical buildings had been renovated and the infrastructure improved at various camps, just over 1,500 could be accommodated for a short period in overcrowded conditions, mostly in tents. This 'maximum' could be achieved only by accepting standards at severe risk to hygiene and fire safety. For

example, the sewage system for the tented camp at 'English Bay' was sized for 100 but supported 400 and the overcrowding at the 'Two Boats' camp resulted in the same problem. In the event, the total of servicemen accommodated, including those in transit, peaked just below the 1,500 mark. 'Bivvying' was acceptable for many but aircrew, some of whom were flying sorties of between 14 and 24 hours' duration, required conditions offering undisturbed rest. In the early days, the USAF authorities provided bed spaces for aircrew on the base and allowed a degree of overcrowding which was to cause problems in the medium term. The use of this accommodation could not be guaranteed for, although Pan Am administered the base, other agencies, NASA and Military Airlift Command (MAC), owned the accommodation. A 'space event' or increased MAC flights could create demands by these agencies having first call on their buildings. The number of bed spaces could not, therefore, be taken for granted. The very fluid situation was made the more difficult as differing RAF aircrew arrived and departed on an almost daily basis, each wave adjusting beds, furniture and fridges, to suit their particular fads.

The situation was improved in late May/early June when the USAF flew in 32 twelve-man modules. However, a potential 384 bed spaces were, in effect, reduced by half by the necessity to allocate aircrews of eight or less to each module. Affectionately known as 'Concertina City' the modules provided all mod cons, but the whine of the supporting generators was most disturbing and although the problem was alleviated by throwing up deflector earth mounds, getting adequate sleep was difficult. Eventually the drug Temazepam was officially prescribed.

This was accepted enthusiastically, proving very effective and making a significant contribution to the success of the long-range operations from Ascension.

The USAF Mess Hall provided catering and 3 field kitchens, one each at English Bay, Two Boats and the airhead. The in-service catering teams worked marvels and with the provision of storage being sufficient to cater for 1,000 men for 21 days, only once were rations reduced to a single day's supply. Early on, the menus were restricted to whatever could be created from very basic ingredients but later the field kitchens produced excellent multi-choice meals with fresh vegetables. Throughout, the patient, cheerful St Helenians manning the US Commissary produced high standard meals for a significant percentage of the British servicemen in addition to their normal clientele. The field kitchen equipment proved reliable and robust but the tents deteriorated rapidly in the prevailing conditions and it became clear that, in the longer term, occupation of the sites without adequate sanitation would be hazardous to health.

The airhead

Although there was the runway of 10,000 feet and the aircraft parking apron (the apron) for 24 large fixed-wing aircraft, the geography of the airfield and its facilities had a significant impact on the mounting of air operations. In particular, the access to the runway, the nature of the surrounding areas, the supply of aviation fuel (avgas), the lack of permanent buildings, and the routine need of our Pan Am hosts had to be taken into account.

The layout of the airfield provided only one access from the apron to the threshold of Runway (Rwy) 14 suitable for the launch of multi-aircraft formations. If the wind direction had required the use of Rwy 32 it would have been impossible to launch formations of Black Buck proportions because to reach the loop at the threshold of Rwy 32, aircraft had to back track along more than two thirds of the runway length. Fortunately the prevailing wind throughout Op Corporate favoured Rwy 14.

The pervasive volcanic dust of the surrounding areas dictated the arrangement of the aircraft on the apron and the intervals between take-offs on the runway. Because of the dust, great care was needed to avoid the jet exhaust of one aircraft blowing debris into the intakes of another. The operating areas were swept continually, but even so, taxiing power was enough to vacuum debris from the surface into the engine intakes and in a short time the engine compressor blades developed a mirror-like finish. An early priority was the delivery of a 'Lacre' sweeper, similar to those used on roads, to supplement the hard pressed Pan Am vehicle, and one was flown to Ascension in an ex-RAF Belfast of HeavyLift Cargo on 1 May. The two vehicles were worked ceaselessly but it was a case of King Canute attempting to hold back the tide! The apron was surfaced in both concrete and tarmac which fuel spillage caused to soften and to generally degrade. Even partially refuelled Victors tended to settle into the softened surface and to reduce the amount of power needed to get a fully laden stationary aircraft moving, they were routinely 'tugged' a few feet out of their ruts before engine start. It was clear that tarmac surfaces would require attention to maintain the intensity of operations for an extended period but they withstood the wear and tear during the hostilities.

One bulk fuel farm was sited near Georgetown some five miles from the airfield. Avgas was supplied by US Navy tankers discharging their cargo through a floating pipeline to the fuel farm. Initially the fuel was then transported by road to 'ready use' tanks on the airfield. The critical factor was the speed at which fuel bowsters could be filled and driven from Georgetown to Wideawake. Although a dozen RAF bowsters were

imported to supplement the Pan Am fleet, the fuel farm could dispense fuel to only one bowser at a time and the system was under continual pressure to meet the demand for fuel at the airhead. One unforeseen problem was the very high rate of bowser tyre wear caused by the extremely abrasive surface of the linking road; 3,000 miles was a useful life. In late April the fuel supply to the airhead was improved when, in a matter of days, the Royal Engineers assembled and commissioned a temporary pipeline from the bulk fuel farm to the 'ready use' tanks at Wideawake where fabric 'pillow tanks' were installed to increase the capacity to 1,000,000 US gallons. Although the pipeline required continuous maintenance and the repeated filling of the pillow tanks accelerated wear and caused leakages, it significantly improved fuel availability at the airfield and reduced the time taken to prepare an aircraft for its next mission. At the end of the hostilities, air operations from Ascension had consumed 51/2 million US Gallons of Avgas.

Permanent buildings were few, the main ones being a nose hangar and the Pan Am ground equipment building. There was no alternative but to accommodate all detachment support under canvas or in inflatable buildings, the latter providing a 'clean', or at least a 'cleaner', environment to store and service sensitive equipment. Sunlight, wind and abrasive volcanic dust soon took their toll while exposure to UV radiation degraded material and equipment serviceability.

With the hectic pace of events, it was easy to overlook the needs of our hosts who were exceptionally accommodating. Their knowledge and experience of managing the airfield proved invaluable and greatly speeded the bedding in process. For the first month, the tempo of the build up, together with the frequency of both helicopter and fixed-wing movements for an airfield manned for only 285 movements a year, took the only two Pan Am air traffic controllers by surprise, but they did a magnificent job. On one day late in April they handled over 500 movements making Wideawake one of the busiest, if not the busiest, airfields in the world. Frequent, sometimes hourly, meetings kept relations on an even keel. On an already overcrowded apron, the unannounced arrival of any aircraft caused consternation and a rapid reshuffling to make room for the likes of a USAF C-5 Galaxy.

The Apron at RAF Wideawake during April 1983.



Victor bombers were jigsawed together in a corner of the apron together with Nimrod aircraft and a pair of Harriers (later replaced by Phantoms) on Quick Reaction Alert (QRA) in case of an airborne Argentine coup d'etat. This created the impression of a junk yard.

Our hosts were not at war and until Alexander Haig's efforts at mediation ceased on 30 April, some practices such as 'hot refuelling' helicopters (i.e. with engines running) were prohibited on safety grounds. Such restriction slowed the transshipment of personnel and materiel from the airhead to ships of the Task Force but once Mr Haig's 'shuttle diplomacy' ended we were left to our own devices much to the relief of the helicopter operators.

Non-Commissioned Aircrew Initial Training Course Charity Work

Flight Lieutenant A C Gill BA RAF, Officer Commanding NCAITC, OACTU

Non-Commissioned Aircrew Initial Training Course (NCAITC) 248 has been very busy over recent months. Aside from completing an extremely intense course, NCAITC 248 managed to raise over £8000 for various charities as well as aiding the community with various projects both before and during the course. Over the period of approximately 22 weeks, NCAITC 248 integrated with the community displaying the Royal Air Force's selfless nature whilst encouraging the cadets to develop teamwork; a trait paramount to the future of any potential aircrew or air traffic control cadet.

Due to a delay to the start of NCAITC 248, the direct entrant cadets were all brought to Royal Air Force Cranwell to begin a pre-course programme set up by the course instructors not only to begin the course bonding process, but to introduce the cadets to the intensity and expectations of the NCAITC they were soon to embark on. Concurrent with this pre-course programme were various community projects, including a weekend helping Lincoln's local Butterfly Conservation. Here the cadets cleared, cut down and burnt large areas of bush and small tree growth to allow sunlight and warmth into the forest. This work encouraged breeding of the rarer species of butterfly in and around the conservation area.

Part of the pre-course programme involved a week at Royal Air Force Akrotiri, Cyprus. Although an enjoyable experience, it wasn't all sun and sand with the cadets getting stuck into helping out the station saddle club. Very well run, but relatively short staffed, the RAF Akrotiri Saddle Club struggle finding time to carry out miscellaneous tasks, so help from the cadets was greatly received. Jobs completed by the course included painting field fencing, weeding, general repair work and an ingenious shelf contraption designed and made to save room and help organise the different horse food and medication requirements.

Having completed a pre-course programme all NCAITC cadets were moved into Jackson Block to prepare for the start of their course. Cadets



Cadets of NCAITC 248 clear an area of forest.

were nominated for certain roles and the cadet in charge of Charities (Aircrew Cadet Tempest-Roe) created a committee to help distribute workload, thus increasing the efficiency of the course charity project.

The first challenge facing the committee was to find a suitable subject for fundraising. It soon transpired that College Hall Officers' Mess (CHOM) was hosting an 'Anthems in the Park' event during which special guests Brian May and Kerry Ellis were to perform. Liaising with the event management, the charities committee secured one tent intended for a private auction and a second tent housing event programmes and glow stick products, of which profits were destined for the Royal Air Force Association (RAFA) and Royal Air Force Benevolent Fund (RAFBF). The charity committee were only too aware that in order to host an effective



Members of NCAITC 248 at the 51 Sqn Memorial Garden, Snaith.

NCAITC sell programmes during the Anthems in the Park event.



private auction at the event, they would need to attain items both suitable for auction and also aimed at the audience due to attend. Fortunately, NCAITC 248 managed to utilise a community working weekend at the RAF Waddington air show, where they seized the opportunity to appeal to the public and the multiple businesses who attended, for donations to the private auction. The response turned out to be extremely supportive and the NCAITC left RAF Waddington with some superb gift donations for the up and coming Anthems in the Park event.

Before the event however, NCAITC travelled to Yorkshire to visit the 51 Sqn memorial garden in Snaith. This superbly maintained memorial commemorates those who lost their lives with 51 Sqn during World War 2. The cadets found this a fantastic, very worthwhile visit and were more than happy to do their part helping such a worthy cause. The memorial secretary Mrs. Renee Ounsley donated some fascinating books she herself had written regarding some of the varied lifestyles and jobs of aircrew who served on 51 Sqn. In the memorial garden community project, NCAITC 248 trimmed hedges, painted fences, weeded the borders and helped to clean the garden.

NCAITC 248 helped out the running of the RAF Waddington Air Show as part of another project weekend. The event was inevitably hectic but project weekend IC (Aircrew Cadet Leivesley) liaised well with event organisers. Cadets helped event organisers with parking, clearing FOD, setting up stalls, erecting tents and assisting security.

With RAF Waddington Air Show over, and Anthems in the Park rapidly approaching, Cadet Bullas worked around other course commitments to produce a brochure illustrating the different items available for the private auction. These were inserted into the event programmes to

encourage as many people to view the auction tent as possible. As the Anthems in the Park began, cadets focussed on selling event programmes and glow stick products to the public. Other cadets were placed in the careers hut, on security and in the private auction tent. Programme and glow stick selling was slow initially, but as the event went on, more and more were sold; a similar trend followed in the private auction tent. By the end of the concert, the private auction tent had received some very respectable bids amounting to an impressive £2103. Programmes and glow stick products sold amounted to a superb £2830.81, making a grand total of £4933.81.

The NCAITC were certainly in high spirits after this valiant effort, but the push for course charity fundraising was far from over. Items left over from the private auction needed to go and there was no better way to do this than to organise a charity social evening. The social evening had a cocktail theme and was limited to NCAITC cadets and staff only. Aircrew Cadet Tempest-Roe's enticing auction skills lead to a further £670 being made by items ranging from the quirky to the high-end, with the top seller being a signed Red Arrow print which went for £370; a very successful evening!

As a result of all their fundraising efforts, NCAITC 248 amassed over £8000, an extremely impressive amount of money given the intensity of the course and relatively short period of time. Beneficiaries of the funds were RAFA, the RAFBF, Rothbury House, St Clement Danes Church, the 51 Sqn Memorial Garden and the Lincolnshire branch Cystic Fibrosis Trust.



Legendary rock star Brian May performs with the Band of the RAF College at 'Anthems in the Park'.



Musician from the Band of the RAF College.

A Year In The Life Of The Band Of The RAF College

Corporal D Jones, Band of the RAF College

During a 12 month period the Band of the RAF College covers many thousands of miles up and down the country performing various engagements, ranging from full band concerts to small ensemble work and parades. The wide variety of work covers occasions from the most solemn to the most joyous. A large number of the concerts have raised considerable funds for charities including the RAF Benevolent Fund (RAFBF), Help for Heroes and the RAF Association (RAFA).

The Band of the RAF College also has its own big band 'Swing Wing' who travel the country performing more lively engagements, in venues that do not have the capacity for the full military band. When not performing, the band spends its time rehearsing for upcoming events. As members of the band are still required to fulfil military commitments, including out of area detachments time is also spent undergoing standard military training to cover guard commitments and war roles.

The usual start to the year is with school liaison concerts, not only in the local Lincolnshire area but also as far afield as Scotland. Whilst entertaining the children these concerts provide them with an insight into what the Royal Air Force has to offer and gives them the opportunity to speak to an RAF careers advisor. During January or February the band also covers a month of guard commitment.

Concerts are a major part of the band's schedule and are a highlight for all band members. In recent years the band has taken part in a cathedral tour, performing in the cathedrals of many cities including Coventry, Lincoln, Southwell and Litchfield. These buildings are of phenomenal stature and offer incredible acoustics making them an absolute honour to perform in. Band concerts contain a rich and varied programme of music and are always extremely well attended and enjoyed by all.

At RAF Cranwell, Whittle Hall is a recurring venue with Summer, Autumn and Christmas concerts, all open to the local community. These offer a good opportunity for the families of band members to come and see their loved ones perform, making the evening valuable for families and band members alike.

Massed band concerts, involving all 3 of the bands of the Royal Air Force, are annual events used to raise funds for the RAF charitable trust. These events are popular with band members as they allow musicians to perform together in some of the best concert halls in the country, including, amongst others, the Symphony Hall in Birmingham and the Sage in Gateshead.

May 2011 was an exciting time for the Band of the RAF College as it was their turn to record a long awaited compact disc. 'American Legends' was recorded to celebrate the rich and varied music of the United States, ranging from the film scores of John Williams to the rousing marches of Phillip Sousa. The CD was recorded in RAF Cranwell's own St Michael's Church.

In July 2011 the band performed in front of the RAF College at 'Anthems in the Park'. This proved to be an experience not to be forgotten by the many thousands of people who turned out to see the legendary Brian May and West end vocalist Kerry Ellis who performed several numbers with the band.

The day included a combination of concert band and rock music topped off with an impressive fireworks display above the College.

Overseas trips are a part of band life, visiting countries such as Cyprus, Germany and Gibraltar with new and exciting places coming in each year. These tours consist of concerts and parades, be them military or civilian. In 2010, the Edinburgh Military Tattoo was taken to Sydney Football Stadium in Australia for 4 nights. Here the band performed to 27,000 people each night alongside other military and pipe bands from around the world. A truly awe inspiring event for all those lucky enough to be involved.

During a typical year the band supports many parade occasions including sunset ceremonies, freedom parades, homecomings, remembrance parades, closure ceremonies, graduation parades at RAF Cranwell and passing out parades at RAF Halton and RAF Honington. With the recent reorganisation of the RAF as a whole, the band has been involved in several ceremonial retirements and closures. Two of note have been the retirement of the Harrier force at RAF Wittering and the closure of RAF Kinloss, which was attended by HRH the Duke of Edinburgh. These are difficult times; as a chapters end it is always an honour for the band to be involved in such momentous occasions where the proud and rich history of a station can be remembered and celebrated.

September to November, with its Battle of Britain celebrations and various remembrance services, is a part of the year that never fails to be a hectic time for all military bands. These occasions are of high importance and are meaningful to all who attend, including the band personnel who find it an honour and privilege to be involved.

Sunderland is thought to be the second largest remembrance parade that takes place in Great Britain and in 2011 the band performed alongside the Band and Bugles of the Royal Air Force, Bear Park and Esh Colliery Band and the pipes and drums of Strathclyde Fire and Rescue Service. More than 200 serving members of the Armed Forces and 100 members of the emergency services took part in the parade which ended with a march past by veterans and serving troops.

Towards the end of the year the band undergoes military Common Core Skills (CCS) and guard training ready for the allocated commitments at the beginning of the following year along with the Whittle Hall Christmas concerts. With December being the festive season the opportunity is taken to have a little fun and merriment. With 'willing' volunteers the band gathers players and singers performing Christmas Carols around RAF Cranwell. This is always enjoyed by those taking part and, whilst travelling around the camp, a collection is made with proceeds going to charity.



Flt Lt Little.

An Opportunity To Learn

Flight Lieutenant M R Taylor MSc BA RAF, Head of Exercise Design Team, OACTU

The RAF has a long and proud history as an established and respected centre of excellence for the teaching and instruction of Military Leadership. But what can civilian industry learn from us, and what can we learn from them?

Since Nov 2008, OACTU (Officer and Aircrew Cadet Training Unit) Leadership Instructors have delivered a 4 day leadership course for BAE Systems (BAES). Eleven courses have been run so far, resulting in over 80 BAES personnel receiving leadership instruction. Each course consists of 8 BAES personnel who are selected from a broad range of employment, including higher level management, junior management and those on fast track schemes. In return, OACTU Staff visit BAES Warton and Salmesbury, looking at work practices and how BAES develops and mentors its leaders within their workplace.

This article focuses on the courses run by OACTU and outlines what the courses involve. Simply how do 8 BAES civilians cope with the demands of such a high intensity leadership course; what do they take away and what is in it for the RAF?

One of the aims of the BAES exchange is to show that the RAF, and the Military in general, have moved on considerably from the stereotypical view of tell and do. We are recruiting extremely capable, highly driven individuals whom, with the right instruction, can deliver in the most demanding of environments.

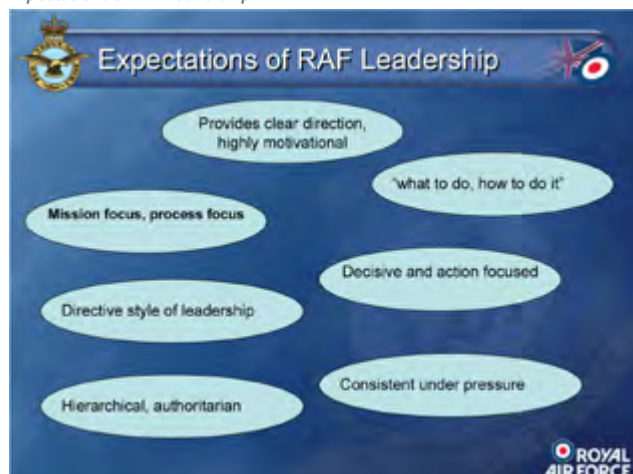
The course

After arrival, the OACTU instructors host the BAES personnel and settle them into their new surroundings. It is usual that none of the BAES staff know each other - not surprising as, at 100,000 personnel, BAES is a global company nearly three times the size of the future RAF.

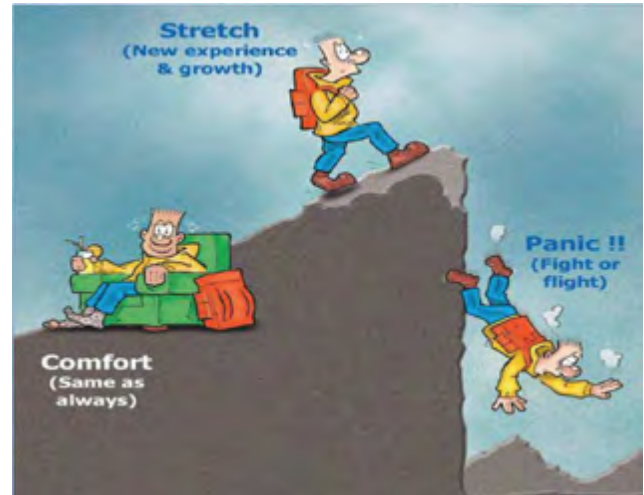
After an early start, we use existing exercises and lessons delivered to cadets in term 1 of their Initial Officer Training Course (IOTC). After an initial briefing about leadership principles we openly chat about what the BAES staff expect from the RAF and from the course. What becomes apparent is that the RAF is viewed as a very professional and effective, yet dictatorial organisation. What is also clear from these initial discussions is that many of the same problems, such as communication issues, limited resources and manpower are shared by both organisations.

The course is only 4 days long, with 3 of the days being dedicated to practical activity. The aim is to get the personnel involved with practical elements as soon as possible as people learn the most from doing, reviewing then applying what they have learnt. This model, known as the Kolb Cycle, is used early with the IOTC cadets as it engenders effective experiential learning; they need to try something, reflect, and develop a

Expectations of RAF Leadership.



plan in order to move forward and improve on their results. This is why all leadership exercises at OACTU are practical in nature. You cannot train to be a leader without actually doing it; experiencing what it is like and what works for you.



Comfort, Stretch, Panic model.

The course is designed to be demanding and to put the BAES staff into stretch, but not into panic. Personnel in stretch learn the most, if a task is too easy no learning takes place, conversely if it too hard the person will shut down and performance will deteriorate.

Pillars of leadership

There are 3 main pillars of leadership: Situational Leadership, the Qualities Approach, and Functional Leadership, also known as Action Centred Leadership (ACL).

Situational Leadership proposes that people possess certain skills that enable them to get a job done in their area of expertise. For example, Sir Ernest Shackleton showed excellent leadership to recover personnel in dire circumstances.

Qualities (Traits) based leadership proposes that people are born with inherent leadership skills. For example, Joseph Stalin had an impoverished background but was noticed for his abilities/traits.

Functional Leadership is based on John Adair's proposal that leadership is a function of balancing 3 areas of need - Task, Team and Individual and that these 3 areas are not mutually exclusive.



John Adair's Function Leadership model

OACTU uses Functional Leadership as the means of testing a cadet's leadership ability. Cadets are tested against their ability to appropriately balance the 3 areas of need.

During the BAES course we introduce the concept of Functional Leadership and show how the areas of need can increase and decrease in importance depending on the mission. Ultimately, the RAF needs leaders who can show flexibility to switch priorities depending on the circumstances they face whilst trying to achieve objectives.

Team dynamics – getting to know each other

After the initial presentation and discussion, we progress outside to tackle team dynamics and low ropes. Team cohesion is usually stifled initially but, after some close team bonding, the team soon relaxes and starts



The Communication Triangle.

to work together. Slowly, we introduce communication; a fundamental principle of leadership as taught to the IOT cadets. The importance of effective communication skills is easy to demonstrate during the first activity. The communication triangle demonstrates that any group will start at the lower echelons of communication. Only when confidence grows does a group progress upwards into the higher bands of the triangle, a process which can take many months.

Low ropes – putting theory into practice

The low rope exercises provide an excellent platform to demonstrate the principle of good communications, effective teamwork and cooperation. The team are split into two groups. The mission is to get both teams to cross each other; it takes time but eventually the two teams will discuss what works and they will then be more able to complete the task. Initial tasks are leaderless, but slowly the requirement for effective briefings and honest and open feedback, or reviews is introduced. We use the principle of SMEAC, the acronym that enables cadets to deliver effective briefs to the group when undertaking missions whilst on IOT. SMEAC stands for Situation, Mission, Execution, Ask Questions and Check understanding.

Time to lead

The group progresses to the Officer and Aircrew Selection Centre (OASC) hangar to undertake a number of activities. The tasks are identical to those used to test potential Officer Cadets. We also use these activities in term 1 of IOT to develop the basic principles of leadership in cadets.

The first exercise is leaderless; the brief is given to all, with little direction or advice from the staff. The group usually realises quickly that the key to success is the establishment of one person as the leader, who can make the decision and control the activity.

The next activity is undertaken with one of the group being placed the lead. Considering they have had very limited leadership instruction the team usually performs quite well, using their experience and problem solving skills to nearly complete all the exercises. After each exercise we introduce more of the SMEAC, so that by the end of the exercises the participants are delivering good briefs, clear enough for all to understand. This is often new to the BAES personnel, who are not used to giving formally structured briefs with little preparation time. However, they often say they will use this type of brief again, modified for their workplace, as it covers the essentials needed when briefing a group.

Review and feedback

The real learning happens during the review (feedback sessions). Reviews are conducted with the staff saying as little as possible and the feedback coming from within the group. OACTU Staff are there to turn the steering wheel whilst the horsepower comes from the participants. The best ideas come from those who were involved. Having your peers tell you face-to-face how they think you performed and what you need to work on is a very powerful tool. The leader takes away 3 points for development, which they can work on for the future. The BAES personnel are asked to record these points on action plans that they can take back to their workplace and reflect upon. One BAES participant commented:

'The OASC exercises were excellent by design. Improved feedback and reflection time to assess the time performance against the theory leadership models underpins the exercises and improves learning.'



OASC Hangar Exercise - Transporting important materials.

College Hall evening

During the evening IOT cadets host the BAES personnel at College Hall Officers Mess (CHOM). Participants are taken on an historic tour of the building, which is always well received. The informal evening allows BAES personnel to get a different perspective from term 2 and term 3 cadets on the principles of leadership and on the training they receive.

Ex Sharp Edge – dynamic leadership

The course also sees the BAES personnel take part in Exercise Sharp Edge on the North airfield at RAF Cranwell. This is a term 1 exercise and is the first opportunity the cadets have to display their leadership skills in a dynamic outdoor environment. The BAES staff observe the cadets first, to see how they perform and how they control their team. They look at their ability to appropriately balance the three areas of need (team, task and individual). During each lead one of the cadets is taken out of the exercise and is allowed to observe proceedings with the instructor. The importance of observation during leadership exercises when not under pressure was commented on by one of the BAES participants.

'The opportunity to observe from the outside the role of a leader and the pros and cons of different approaches is something that really struck home with me and is something personally that I took into the subsequent tasks and will do back in the workplace - it's rare we have the time to observe how other teams / leaders behave in our workplace so this was really valuable perspective.'

The group then undertakes 4 leads, splitting each lead so that everyone gets a chance to be the leader. These leads give the BAES personnel a chance to display what they have learnt in the OASC hangar in a dynamic environment. They often show good leadership, with improved briefings, better control, good communication and good support. On most occasions, team, task and individual needs are appropriately met. The reviews are open and honest allowing individuals to take away tangible development points which they can apply to their everyday jobs. I am always thoroughly impressed by the performance and overall positive attitude of the BAES staff.

Team work on Ex Sharp Edge.



Ex Sharp Edge - Carry and move.

The goodbye –time to reflect and put into practice

Finally we return back to the briefing room to conduct course feedback. The BAES staff are always full of praise for the RAF and how it delivers leadership. Their view changes from one where the RAF is a dictatorial/tell organisation to a one where the RAF delivers first class training and instruction from very competent instructors in an environment that fosters learning and development. The course meets its objectives; showing an outside agency how leadership training is delivered in the RAF, allowing personnel to experience what cadets undertake and, ultimately, for the participants to experience leadership activities with the aim of improving self awareness and taking away development points that can hopefully improve them as a leader.

OACTU instructors learn a lot from the participants as they bring a different perspective on leadership. We become better informed on different management practises and ways of achieving results.

A few comments from BAES participants:

'It was one of (if not the) best courses I've attended in my 10 years in the company and it led to me embedding a number of key points about my leadership approach into my personal development plan for the future.'

'Across the short period of the course I learnt a wealth of techniques which are directly relevant to my role in BAES, and in fact any leadership role. It has given me a confidence in leadership, instruction and understanding the needs of my team in achieving the best outcome on any given task.'

'I am fairly new to management & leadership so learnt a lot from the courses. I intend to use a lot of the tools & techniques in the workplace and change some of my behaviours as a result.'

'I came into the course with what I felt were some quite big uncertainties about my leadership skills and how best to apply them in the company, but through the effective mix of theory / practical exercises and the excellent instruction I have taken away 3 major learning points that I'm confident will stick with me personally for many years to come in my leadership roles.'

Korean Air Force Academy International Week

Officer Cadet P S Vickers, B Squadron, Initial Officer Training Course 25, OACTU

In late October 2011 Officer Cadet Tracey Lewis and I were fortunate enough to attend an International Week hosted by the Korean Air Force Academy (KAFA) in Cheongju, Chungbuk, South Korea. This was the second event of its kind in South Korea, with the purpose of promoting closer military ties and cultural understanding between South Korea and the other 13 participating countries which, together, represented all global continents.

Upon flying into the country's Incheon Airport we were greeted by officers and senior cadets from the Academy and, although we were operating at 0700 UK time after an eleven hour night flight, we were taken straight to an Outback Steakhouse restaurant for a meal worthy of kings. The Academy itself is situated in the countryside about 100km south of Seoul, the capital city. After being introduced to our host cadets, with whom we shared a room with for the duration of our stay, we finally got our heads down for a much needed night's sleep.

The following morning, after a slight issue with the Korean to English language barrier, I was surprisingly awoken at 0545 to parade with the rest of the Academy. Cadets do this every morning in sports kit; the national anthem is sung very patriotically while the national flag is raised and then the entire parade partakes in a 1.5km 'double' around the grounds of the academy. It was an enjoyable start, even if a little unexpected and jet-lag ridden. After a rice and kimchee based breakfast in the main cadet canteen, the first day of activities began.

We donned our No1 service dress for the first day and were taken by coach to meet the Academy Superintendent, a Lieutenant General. From this first meeting it was clear that the South Korean people are very proud of their heritage and, in turn, very grateful to those countries that fought alongside them in the Korean War from 1950-53. The Superintendent outlined to us the KAFA mission brief which is to "cultivate the elite Air Force officers who will lead the aerospace era and devote themselves to the national development [of the Republic of Korea]".

At KAFA cadets study for four years in order to achieve a degree level qualification alongside their military education. South Korea spends approximately 2.7% of its GDP on defence; a proportion almost identical to that of the UK. However, the facilities at KAFA far outweigh what is required at UK military academies due to the increased length of the course and the level of educational study. We were given a tour of the academy's facilities in an action-packed first morning. It came as a great surprise to me that the academy had its own museum, acoustically designed theatre and a supersonic wind tunnel of a greater specification to that of many UK universities.

That afternoon we were taken by coach on a trip to operational military establishments. This started with a tour of 20th fighter wing, which hosts the South Korean Quick Reaction Force (QRF) F16 aircraft. Their main role is to react to the threat from North Korea. We were then privileged to visit the 2nd Fleet Command Naval Base where the sunken remains of the Cheonan Warship are docked. Remarkably, in what seems to represent the commitment and work ethos of the South Koreans as a whole, an entire museum has been built from scratch in 18 months to honour the 46 sailors that lost their lives on the warship.

On day two, our extensive tour of the academy and its facilities continued. All visiting cadets were given the chance to fly an aircraft in KAFA's state of the art flight simulator. The result of my flight unfortunately reinforced the Officer and Aircrew Selection Centre's belief that I do not boast the aptitude to be a pilot, much to the amusement of the South Korean pilot trainer in the seat next to me! Thankfully the program then included something within my comfort zone; a chance to sit in on an English lesson. KAFA is keen to train all cadets to a high standard of English to enable them to operate efficiently in the international military environment.



To facilitate this they only recruit English teachers from native English speaking countries, such as the UK and USA.

That afternoon, Officer Cadet Lewis gained an opportunity to see the academy from a bird's eye view as she went paragliding, a popular cadet hobby. She was astounded to observe some of the locals enjoying the sunny weather with a round of golf on KAFA's own 18 hole golf course - this place was full of surprises. I, on the other hand, embarked on something that it seems most of the world enjoys, a game of football. As a keen Manchester United fan, I was happy to be compared to Wayne Rooney by some of the South Korean cadets, until I realised this was for my looks as opposed to my playing ability!

The evening of the second day was taken up by an International Cadet Seminar. This was a chance for each country represented to introduce their own colleges or academies to the audience of South Korean officers and around 150 cadets. It was at this point that I learnt that we, in the UK, are one of the few exceptions in that we offer a specific IOT course as opposed to a full four year educational/military mix. Fortunately for us, the common language of all the visiting cadets was English, so we gained a lot from the presentations. Credit must be given to all those visiting who had to present in a language other than their mother tongue.

The next three days were spent away from the academy on a cultural and historic tour around the rest of the country. We first travelled to the De-Militarized Zone (DMZ) - the official border between North and South Korea - which has stood since the end of the Korean War in 1953. The DMZ serves as a buffer zone around the actual border; the Military Demarcation Line (MDL). Being 250km long and approximately 4km wide, the DMZ is the most heavily militarised border in the world. Inside the DMZ is a place called Panmunjeon, home of the Joint Security Area (JSA), where all negotiations between North and South have been held since 1953. The MDL even divides the buildings in the middle of the JSA. Several small skirmishes have occurred within the JSA since 1953. The Axe Murder Incident in August 1976 involved the attempted trimming of a poplar tree and resulted in two deaths; the tree blocked the view between two South Korean guard positions. Another incident occurred on 23 November 1984 when a Soviet tourist who was part of an official trip to the JSA, hosted by the North, ran across the Demarcation Line shouting that he wanted to defect. North Korean troops immediately chased after him opening fire. One South Korean and three North Korean soldiers were killed. To observe such a place was truly surreal. The line represents much more than a border; the people on either side are the same culturally, but, the stark contrast between the countries is clear to see, even at the JSA. The tour of the DMZ finished with a tour into the '3rd Tunnel'. Between 1974 and 1990, the South discovered a series of four tunnels which the North had dug to infiltrate into the South. It has been estimated that if used, it would have only taken one hour for more than 30,000 soldiers and heavy weapons to move through.

The remainder of the day included an excursion to Seoul, where we stayed overnight in an Air Force Hotel. This serves a similar function to that of the RAF Club in London, but was one of several dotted around Korea and resembled the size of a small Hilton hotel, quite remarkable. In Seoul we visited Gyeongbuk Palace which was built when the Yi Dynasty moved the country's capital from Gyeongju to Seoul. Gyeongbuk means 'Shining Happiness'. Built in 1395 by King Taejo, it was destroyed during the Japanese invasion in 1592 and left in ruins for 250 years. Today, only a dozen structures remain compared with a total of nearly 200 when originally built. When the sun set over Seoul we ascended by cable car and the world's fastest elevator to the top of the famous Seoul Tower. The views from the top are staggering, rivalling those of any famous skyline in the world. Again this represents the progress that has been made in South Korea in only 58 years since the country was ravaged by war.

The following day continued to impress; we travelled from Seoul to Busan on the south coast on a train that was quick and predictably efficient. While in Busan we were given a tour of the world's largest department store and the largest car manufacturing plant, the Hyundai factory and port. The development in Busan has apparently accelerated since the FIFA World Cup was hosted in the country back in 2002. Large apartment complexes dominate the landscape but the beauty of the area is not spoiled because by looking out to sea you can witness the astounding tranquillity of the Islands appearing out of the water in the Korean Straights.

Our final full day in the country began with a sombre trip to the UN Memorial Cemetery for the Korean War which honours UN soldiers from 16 countries killed in battle during the conflict. The UK makes up the largest contingent in the cemetery.



UN Memorial Cemetery at Busan.

Some 885 UK personnel out of approximately 1200 who lost their lives during the three year conflict are buried there alongside their comrades. We were fortunate enough to be visiting when UN soldiers were conducting the daily flag raising ceremony. The tour of the cemetery concluded with a moving 15 minute video presentation in which, again, it became apparent how proud the South Korean's are of their history and how strongly they feel about the international bond built between themselves and allies during the Korean War.

Upon returning to Kafa before leaving for the airport and the journey home, more surprises were still in store. Every year the cadets organise the Sungmu Festival, essentially a chance for families and partners to visit and experience the academy. We were invited to an evening of entertainment which was spectacular, especially considering it was organised in the little spare time the cadets have - one of the similarities to IOT!

Looking back over an exceptional week in the Far East, living the life of a South Korean cadet and experiencing the history and culture of South Korea, it can be said that the Republic of Korea is a country that really can be admired. South Korea has achieved so much since the war that crippled it and has developed into a country that is World leading in many sectors and industries. It focuses on its future without ever forgetting its past.

Graduation Ceremony at the South Korean Air Force Academy.



If You Do What You've Always Done

Flight Lieutenant K Westoby-Brooks BA (Hons) RAF, Officer Commanding Delta Flight, OACTU

"If you do what you've always done, you will get what you've always gotten." (A.Robbins)

This is the mantra of Delta Flight, which provides bespoke leadership training to at risk or failed OACTU cadets. The opportunity to undertake remedial training is an important aspect of training at OACTU. It is recognised that there are many reasons why a cadet may struggle in training and why some individuals may take longer to reach the standard of becoming a credible junior officer within the RAF. Prior to March 2011 those cadets that were unsuccessful on the formal leadership assessment, namely Exercise Decisive Edge in Term 2, or those who had not reached the standard required for graduation in Term 3, were transferred from their squadron to Delta Flight for a 7 week remedial training programme. The result of this recourse in training inevitably meant that a cadet would not graduate with their friends and colleagues.

An addition to the remedial training package was introduced during March 2011, which attempted to keep as many cadets on the main course as possible. The new elements of the remedial training package allowed additional bespoke training to be introduced in-between term time, to give at risk cadets the best possible chance of performing to a higher standard in the following term. For those cadets who failed the leadership assessment, the remedial training conducted in-between term time introduced an opportunity for them to remain on course by immediately addressing their areas of development before retaking the leadership test in the final term. This became known as the Delta Flight reinforcement and remedial leadership training packages: R1 following term 1, R2 following term 2 and R3 following term 3, the latter remaining the full 7 week recourse programme. The remedial training aims to identify the root causes of a cadet's failing, which may rest within a lack of skills, self-belief or self-awareness.

The challenge to the Delta Flight staff is to find the appropriate training opportunities to give their cadets the best possible chance to address and develop these areas of failing.

The R1 package lasts for 5 days and has been designed for cadets who are behind with the militarisation phase of the first term and who are, most commonly, lacking in confidence in elements of the course. This package reinforces leadership theory, which can be immediately applied on Exercise Delta Dynamo conducted on the North Airfield. The cadets undertake a topical military debate, which aims to improve their analytical and communication skills under pressure. Improvement of self-awareness and emotional intelligence is addressed through the use of the Strength Deployment Inventory (SDI) and on exercise, reinforced through frequent feedback sessions.

The R2 package lasts for 10 days, with the cadets acting as mentors to the R1 cadets for the first 5 days of their programme. The R2 cadets also undertake a personality awareness session using the Myers Briggs Type Indicator (MBTI).



Cadets apply leadership theory on the North Airfield.

The MBTI sessions give the cadets the opportunity to explore and understand the perspectives of others, which improves communication and teamwork – essential skills for becoming an effective leader. This awareness is reinforced during Exercise Delta Prime, which takes place at the Stanford Training Area (STANTA) on the remaining 5 days of the course. Ex Delta Prime focuses on developing practical leadership ability which, combined with improved self-awareness, encourages cadets to become more effective leaders. On completion of the R2 package cadets rejoin their main course for Term 3 and retake the leadership test on the next Exercise Decisive Edge.

The R3 package lasts for 7 weeks and therefore results in a full recourse for the cadets. This course overlaps with the R2 package and continues into the following term for a further 5 weeks of self-awareness training, confidence building, improving self-belief and 2 more trips to Thetford for practical leadership exercises. Upon successful completion of this package cadets rejoin the senior squadron for their pre-deployment training prior to Exercise Decisive Edge 2. The decision will then be made alongside their colleagues about whether they had shown enough improvement to meet the standard required to commission into the Royal Air Force.

The variety of personalities received on Delta Flight ranges from shy and under confident, to arrogant and over confident. We help the cadets to become more aware of how they are perceived by others and give them the necessary tools to help them modify their behaviour to a more appropriate and effective command and social presence.

How? – As mentioned we use MBTI on R2 and R3, we also re-visit the Strength Deployment Inventory (SDI) and discuss motivational value systems, why people react in certain ways depending on external influences. We talk openly and honestly and use straightforward language to pinpoint problem areas and then elicit from the cadets a way forward that could help them improve their performance on the main course and into the future.

Force Protection (FP) is used as a tool to build confidence and instil a more positive and authoritative command presence. During one particular FP session one cadet once said "All I've learnt so far is how to shout louder, I'm not going to need that as an Admin Officer". During that afternoon, when she was under fire with rounds, smoke and simulated grenades exploding around her she soon realised that raising her voice was the only way she would get her orders heard and actioned. A reminder to the cadet that she was in the military and had signed up as a 'Warfighter first'. A shock to her but one that brought about reconsideration to the attitude she would take forward in her future employment.

Another more gentle method employed is to encourage talents the cadet already has. At one morning inspection a guitar was noticed in one of the cadet's rooms. Through questioning of his colleagues it was found that this shy, under confident individual was a bit of a singer so, that evening, he, with 2 others, were allowed to collect their instruments for an hour and entertain the other cadets around a Hexi stove campfire in the woods. We then helped the cadet to transfer this confidence to his time in command.

Exercise Delta Prime is one of the most physically challenging exercises undertaken at OACTU. The cadets are given difficult leadership tasks to carry out under specific time pressures. Coupled with the physical challenge of covering a large exercise area the cadets are tested, not only in their decisiveness under pressure, but also on their physical and mental robustness, remaining as the leader over many hours and in some cases days. An important aspect of remedial training is to have real consequences for actions. Therefore, if the rations are not found the cadets will not eat and if the task is not completed the cadets will not rest. These are real and immediate consequences that really bring home to the cadets the implications of their decisions and actions.

The Curatorial Year At The RAF College

Mrs H Crozier, College Curator

The College's long history ensures that there is a wealth of priceless treasures in its collection. However, the age of the artefacts and document collection means that they are slowly deteriorating and, therefore need constant attention to maintain their stability and prevent their condition from worsening.

The largest collection held by the College is the archives and art collection. Of this the best artworks hang in College Hall Officers' Mess (CHOM). These collections are constantly increasing and earlier this year the College acquired an oil entitled "To Be A Flight Cadet", the original of which was a pastel exhibited in the 2010 Guild of Aviation Artists exhibition. The College commissioned the artist, Mr Tim Jenkins, to paint another in oil and this superb painting now hangs in the bar. It depicts an archetypal 1930s English village scene with an Avro 504 flying low over a cricket match. A young man driving a sports car is looking wistfully up at the aircraft.

With the impending closure of RAF Cottesmore, the College has been very fortunate in procuring some of the original oils from their Officers' Mess, which now hang in CHOM. These artworks include an oil by G Lea of a Harrier taking off in a forest and another of a Spitfire in flight over the coast. A further acquisition from RAF Cottesmore is a large wood framed oil depicting a mountain scene in Norway, painted in 1865 by German artist August Wilhelm Leu. It is planned for this to hang in the Trenchard Room.

Among the numerous additions to the College's artworks this year is a superb three-piece decanter set in crystal glass, wood and silver. Not only is this piece pleasing in itself, it has a provenance that is interwoven with

the history of HMS Daedalus and RAF Cranwell. Between 1916 and 1976 three generations of the Robinson family owned and ran the Post Office at Cranwell. The donor, Mr Nick Robinson, is the grandson of the first postmaster, Mr John William Robinson, who managed the Cranwell Post Office from 1916 to 1945. The decanter set, known as "The Tantalus", was presented to Mr John William Robinson in 1919 and cost the RAF £1,000 to purchase. The engraved silver plaque on the base reads:

"Presented to Mr JW Robinson, Postmaster Cranwell by the officers RAF Cranwell as a mark of appreciation of his services rendered during the war 1916-1919."

In his position as postmaster, MR JW Robinson of course met many people and, among them, he befriended two well-known Station personnel. One of these frequent visitors to the Post Office was Aircraftsman T E Lawrence. The other was Prince Albert, later King George VI. From February until August 1918, Prince Albert was Officer Commanding (OC) the Boys Wing and also OC 4 Squadron on West Camp. As OC of the Boys Wing, the Prince would regularly converse with Mr JW Robinson on matters concerning the boys' welfare. On several occasions in 1916 both gentlemen used their own money to cash postal orders for the boys when there was a shortage of change to pay the apprentices. After the Second World War, King George VI visited RAF Cranwell to review a graduation parade and asked if Mr Robinson was still at the Post Office. On the assurance that he was, the King visited Mr Robinson and together they spent fifteen minutes reminiscing.

The next owner of the Post Office was Mr Stanley Robinson, 1945-1965, who was equally involved with the life of the Station. A good pianist, Mr

The Tantalus.





Members of the Robinson family, Cranwell Postmasters 1916-1976.

S Robinson founded, and led, what was to become the RAF College Band. "The Tantalus" has returned to the College and is on permanent display in the Rotunda in CHOM. It is pleasing to know that the RAF College is considered a fitting location for donations to be made in the knowledge that they will be cared for and that future generations will see them.

While it is always a pleasure to accept new treasures into the College, it is also important to remember that the current collection requires continuing attention. The Curator's work is wide-ranging and only a small part of what has been achieved this year can be described here. Two major aspects of curating are conservation and cataloguing, and these processes have now been started in earnest for the College archives. A slow but rewarding process it inevitably unearths very interesting documents. Starting with the First World War, many interesting Royal Naval Air Service (RNAS) photographs and documents have been found. These include photographs of the South Airfield hangars under construction in 1916, together with the discovery of a set of Headquarters Royal Flying Corps (RFC) Reconnaissance reports dated 1914.

One particular conservation project this year has been to sort, catalogue and pack conservationally the collection of photograph negatives from courses and visits to the Technical College at RAF Henlow between 1958 and 1973. These items were previously stored in envelopes within boxes of similar vintage. The acidity of envelopes and boxes of this era has caused damage to the negatives, which are made of glass or acetate. Degradation of acetate negatives can be recognised by the tell tale smell of vinegar. Modern, acid-free envelopes, tissue paper and boxes are now being used to protect the artefacts from acid pollutants in the air. By placing them loosely into the new boxes, with acid-free tissue paper placed around the edges, the negatives are kept steady whilst not being pressurised against each other. In the past these negatives were stored so tightly that many of the glass negatives were broken and many of the acetate negatives were crushed. They will now be handled as little as possible to prevent further damage. When they are handled it is with purple nitrile gloves, rather than with the usual white ones. This protects them from the acid in one's hands and gives the handler more

dexterity so that accidental damage does not occur. The eventual aim is to have all of the negatives made into prints so that they do not need to be handled again.

Ultra Violet (UV) light is a cause of serious deterioration in paper and textiles as it causes more fading than visible light. To protect the College's collections, UV filters have therefore now been placed on all of the cabinets in College Hall that hold textiles or documents.

The College is now one year into the Integrated Pest Management Plan. This is a monitoring process whereby insect pest traps are set at particular points around College Hall to assess whether there is a problem with insect pest infestation. The three main insect pests that attack artefacts are: Silverfish, Clothes Webbing Moth and Woolly Bear (also known as Carpet Beetle Larva). Ideal harbourage conditions for the survival of these species are the presence of an abundant source of food, high relative humidity and warmth. CHOM provides these conditions nicely and the trapping programme has shown that there are active infestations of Silverfish and Woolly Bear breeding in College Hall. This is detrimental because, even if the main harbourage is in an area where there are no artefacts, insects will crawl, walk or fly to the food source, causing irreparable damage. Thankfully there are methods available to control insect pests. One of these is to freeze all old textiles entering CHOM. Forty-eight hours at -18°C will kill all insects and prevent any new infestation. This is an ongoing project to prevent insects entering, breeding and attacking the collection in the future.

This article provides only a brief illustration of what has been a very interesting curatorial year; the highlight of which has been the return of "The Tantalus" after 93 years. For an artefact such as this to have a clear link to the RAF College and such a full provenance is really special. There is still much to be done to bring the RAF College's collection of historic treasures up to complete conservation standards of storage, documentation and preservation, a task which we plan to complete over a 5 year period.

Hope Springs Eternal For The Air Cadet Organisation

Mrs D Parker Housby, Head of Media Communications, Air Cadet Organisation

*"Hope springs eternal in the human breast
Man never is but always to be blest
The soul, uneasy and confin'd from home
Rests and expatiates in a life to come"*

Alexander pope "an essay on man" epistle 1 (1733)

Hope springs eternal. For the Air Cadet Organisation (ACO), Alexander Pope's words more than ring true. The ACO is one of the eight pillars of the RAF's No.22 (Training) Group and, in a time of moving sands, Commandant Air Commodore Barbara Cooper has had to think more strategically than ever before in the organisation's 70 year history.

Not least is the appointment of British business supremo Sir Stuart Rose, former chairman of Marks & Spencer, as the ACO's first ever vice patron - thus providing an essential link with the retail sector. Sir Stuart was brought on board by Air Commodore Cooper after she decided the ACO simply had to take external engagement more seriously, a viewpoint firmly endorsed by the then Air Officer Commanding Air Vice Marshal Mark Green.

Sir Stuart says he welcomes the chance to help the ACO and will strive to provide opportunities for the organisation which today has 60,000 members, made up of 45,000 cadets, 10,000 volunteer reserve officers, senior non commissioned officers, civilian instructors and padres and 5,000 civilian committee members. His support is vital as the ACO endeavours to strengthen its position as a national voluntary youth organisation and aims to increase its cadet numbers to 50,000.



Sir Stuart Rose, Vice Patron of the ACO.

Bolstering the work of Sir Stuart, the Commandant's Action Group (COAG) and the embryonic ACO Industry Forum, with representation from Rolls Royce, British Aerospace and a wide range of other key blue chip industries, help the permanent and volunteer staff to engage more effectively with industry.

The ACO is sharing the pain of severe defence cuts and, as a result, is facing budgetary cutbacks. In particular, 20 members of staff have already been lost following the Ministry of Defence's redundancy programme for MOD civilians. The true impact of the redundancy programme and the freeze on recruiting has yet to be felt but will become more obvious in the months to come as delivery of activities and support services are affected.

At the helm, HQ Air Cadets, based at RAF Cranwell, is developing plans to backfill empty posts wherever regulations permit but the reality is that the Commandant has some difficult decisions to make in liaison with the Air Cadet Management Boards and Heads of Branch who have to deliver more with less.

As the organisation forges ahead, trying to expand cadet numbers whilst contracting the strength of its permanent staff, restructuring and re-brigading, all levels of this geographically diverse national youth organisation are having to remain flexible to the inevitable challenges caused by the myriad of Government, MOD and RAF restrictions placed upon them. Key is the fervent believe of all to retain what is known as the "cadet experience"; ensuring that young cadets aged 13-19 still have every opportunity to thrive and take advantage of the structured programme of activities and the highly acclaimed academic syllabus which has put the ACO second to none. In addition, the ACO has to keep its adult volunteer numbers buoyant and thus retention of those committing their time to running cadet units is imperative.



Air Cadet aircraft through the years: Left to right, Tiger Moth, Chipmunk, Bulldog, Grob Tutor.

70th Anniversary celebrations

All of the above has provided much reflection during the last 12 months as the Air Cadet Organisation celebrated its 70th anniversary and was, as usual, fully engaged with communities up and down the country and abroad.

The 70th anniversary was marked in style at the RAF Fairford Royal International Air Tattoo (RIAT) with a spectacular flypast of the aircraft which have quite literally trained cadets to fly since its inception in 1941. For the first time in the history of the Air Cadet Organisation a 14-ship of aircraft, the heavy metal of the cadet's flying programme, demonstrated its strength, longevity and importance in producing professional aviators both for the RAF and civil aviation. Led by the Tiger Moth and the venerable Chipmunk the flypast was slow but serene and received a fantastic round of applause from the hundreds of air minded enthusiasts at the Gloucestershire-based airshow. Rolling back the years and bringing back memories for those in the crowd who were once air cadets themselves, the fly past continued to roll-out classic aircraft, including the Sedbergh glider and the modern day Grob Tutor and Viking T1.

Sharing stories of yesteryear

Taking in the historic spectacle and enjoying the ambience of the occasion were not only the 750 cadets working at the show but also seven original members of the Air Training Corps – octogenarians who revelled in the opportunity to clamber aboard a glider once more and avidly recount stories of the early days. Two of these octogenarians, Ted Smith, 85, and Jack White, 87, both from Portland, Dorset, first met when they joined the Air Training Corps and have remained friends to this day. The ACO veterans from the 1940s and 1950s made their way to the airfield in bright sunshine and shared nostalgic stories of their time with the Air Training Corps following its launch in 1941.

Each veteran pored over current aircraft used by today's cadets, including Vigilants and Vikings, which were on display for the duration of RIAT 2011. The opportunity to explore today's flying machines was of particular interest to the veterans, including 83 year old John Cooper, of Newton Abbott, who first joined the Air Training Corps in 1943. John, who was accompanied to the event by his proud son said: "It is marvelous to see what today's cadets fly in. Things have changed so much compared to when I was younger, but the spirit of the Air Cadets is very much still there."

Later in the day the veterans were escorted to the RIAT Jubilee Garden, where they were hosted by Flt Lt Trishia Welsh, a member of the Training

Branch of the RAF Volunteer Reserve from London & South East Region, who is a member of staff at the popular flight line viewing platform. As the tempo of the airshow began to build, so did the excitement of the veterans, who were less than 100 meters from crowd centre. The veterans took in the awe-inspiring sight of fast-jets and classic aircraft and, towards the end of the day, they witnessed the ultimate teamwork and daring displays of some of the world's finest international air crews, including Italy's iconic Frece Tricolori.

Jaw-dropping roar

Overall RIAT 2011 proved to be a huge success for the ACO, with a number of milestone achievements. Once again the 750 young air cadets played their part in ensuring that the world's largest military airshow was a huge success, as approximately 250,000 visitors passed through the gates of the two day event.

With the jaw-dropping roar of fast-jets overhead, back on the ground cadets and volunteers made history by welcoming royal visitors to their exhibits; HRH Prince Michael of Kent and the Duke of Gloucester both signed the ACO's commemorative "wall" and chatted with cadets.

This year's highlights also included the one millionth glider flight of the ACO's Glider Instructor Course with Cadet Leah Lewis, 13, in the cockpit. Leah, a cadet on 2478 (Abergavenny) Squadron in Wales, was selected to take part in the flight due to her hard work and constant commitment in helping the team build the Air Cadet camp during the lead-up to the airshow. The flight became more symbolic as it was the first time that Leah had ever flown in a plane.

At 1030hrs on the morning of Friday July 15, Squadron Leader Peter Mockeridge lifted off from the RAF Fairford tarmac in a Vigilant T1 motor glider with Leah onboard. After soaring over the showground for half an hour and allowing Leah to take in the busy surroundings below he landed and an ecstatic Leah had literally grown a foot in height from her new found confidence.

Amongst those awaiting their arrival was Group Captain Bill Walker Volunteer Reserve (Training), 82, who joined the organisation in 1942 and had been flying for more than 70 years. Group Captain Walker, president of Air Cadet Gliding had also taken to the skies that morning, flown down the flight line at 200 ft and recounted his numerous sorties across the generations.

Swarm of light blue

Elsewhere in the country the 70th anniversary was marked in style. In February 750 cadets marched through the town of York and in May the streets of Liverpool swarmed with light blue as cadets paraded through

the city centre to be awarded the Freedom of the City. From the South West to Scotland cadets found innovative ways to celebrate. In Kent they took to the skies at RAF Manston and there was a poignant ceremony as mother, Flight Lieutenant Sue Routledge, handed the baton of command for 1026 (Ormskirk) Squadron to her son, Flying Officer Jon Routledge.

Also celebrating a milestone this year was the ACO's patron HRH The Duke of Edinburgh whose 90th birthday was marked by a very modern electronic birthday card full of memories of his time within the ACO.

With only four years to go until the 75th anniversary planning has already begun for a coin and medallion. In the meantime, during 2012 the ACO will join in the celebrations for the Queen's Jubilee and the Olympics. In particular the ACO is following the progress of former Manchester Air Cadet and 2012 Olympic long jump hopeful Abigail Irozuru. Abigail recently had the honour of having a train named after her. Virgin Trains, who in the past have sponsored the travel of a number of sportsmen and women hoping to represent their country in sporting events, have continued to highlight their sponsorship by naming their trains after a selection of athletes.

The Pendolino train named after Abigail was unveiled in an exclusive ceremony at Wolverhampton Station, where she was able to demonstrate her impressive long jump skills.

Flight Lieutenant Mark Elliot, Officer Commanding 1832 (North Manchester) Squadron said: *"Abigail came to us at the age of 13 and wasn't really interested in athletics at that time. She was a willing cadet prepared to have a go at anything, so we put her in for some races at the Wing athletics event. Half way through the 200 metres she was so far in front that we instantly knew we had a really special athlete on our hands."*

Abigail also felt that her time as an air cadet had opened up many avenues for her in later life. She said: *"I can't say enough about how fabulous the Air Training Corps was; it was the main driving force behind getting me into athletics. Whenever I am questioned about how I started I always mention that I was at an event for my squadron and was introduced to my first ever coach there. The Air Cadet Organisation gets you involved, not just in things like aircraft and drill, but also in activities that you wouldn't normally be involved in, from flying, gliding and orienteering to performing with a marching band, playing in a five-a-side football team and of course athletics. As well as all of those activities, you also get taught respect for hierarchy of rank and structure. It gave me the opportunity to get involved in so much and opened all of the doors for me."*

Pennies and pounds

As the ACO follows Abigail this year, it also aims to build its alumni base by launching a campaign calling on former cadets to get in touch via Facebook and Twitter. The belief is that former members can help keep the organisation strong through the years and offer opportunities to the next generation. In parallel with this is the ACO's new fund raising strategy which is requesting all cadets and volunteers, past and present to support.

Plans will be more developed in the coming year but, for now, if you wish to help the ACO raise money log on to www.easyfundraising.org.uk and register with the Air Cadets so that every time you spend money in your usual online stores a percentage will go to the ACO's charitable fund. As grandma used to say:

"look after your pennies and the pounds will look after themselves!"



2012 Olympic Hopeful and former Air Cadet Abigail Irozuru with the Virgin Pendolino train that has been named after her.

A Year In The Life Of An Instructor At Airmen's Command Squadron (ACS)

Sergeant P Young, Training Development Flight, RAF Halton

Induction process

I arrived at ACS in October 2009 on promotion to Sergeant. To be honest I had no idea what to expect but I was very quickly put at ease by the Training Development staff. The first week was spent discussing the Squadron's ethos, looking at the various learning styles, working through the various lessons and training models that we deliver, and of course general arrival administration. It was a fantastic week as it gave me a manageable insight into the Squadron's structure and function without overloading me with information. Unlike previous jobs where being 'thrown in at the deep end' was the norm, this was both relaxed and comprehensive.



Observing students on the 'spider web'.



Discussing delivery of the exercise.

Walk-throughs

The next stage in the process was to shadow an instructor through a complete two week Junior Management Leadership Course (JMLC). Again, similar to the induction week, there was no pressure on me whatsoever. The course agenda was set entirely by me and the goals were agreed upon with the instructor. I largely spent the two weeks observing and making notes on the lesson content. The instructor was excellent as he mainly drew upon the students' experiences and opinions to shape the lesson, whilst still driving home the key learning points. I come from a medical background and this facilitative style of teaching was something relatively new to me but I could see the benefits as the students had a high degree of ownership for their own learning. Observing the course only enhanced my enthusiasm to deliver the course and become a part

of the squadron. During my second walk-through I got more involved in the sessions due to my increased confidence. The instructor I was with was very different to the first, but this was great as it showed me an alternative style of delivery.

Going live

Being left alone with eight of my own students for two weeks was a daunting but exciting prospect. Having observed two full courses, delivered by two very different but competent instructors, I felt more than equipped to deliver the course independently. The course itself is a broad spectrum of sessions including outdoor leadership tasks, air power lectures and syndicate-based discussions. An instructor is responsible for the personal and professional development of their students and for ensuring that they reach the training performance standard during the assessment phases of the course. Furthermore it is essential that any welfare needs are met and that the students actually enjoy the experience as we are passionate that learning takes place whilst they are here. There is always a strong sense of achievement at the end of each JMLC due to the intense nature of the course.

Walker's course

As a new instructor I had the benefit of completing two walk-throughs prior to 'going live' and after six months in post I was given the opportunity to gain qualification as a walker. This was a three day





course focussing on giving the new instructor as many 'tools' as possible for them to take away and utilise. It's great to think that only six months ago I was starting out at the squadron and now I am responsible for the training of new instructors.

CMI Certificate and Diploma

ACS is an accredited centre for the Chartered Management Institute (CMI) and part of an instructor's Continuous Professional Development (CPD) is to complete a portfolio, which works towards achieving a Certificate followed by a Diploma in Coaching and Mentoring (level 5).

These qualifications usually take up to 12 months to accomplish. The portfolios mainly consist of lesson evaluations, personal development plans and various feedback documents produced by students and Training Development Flight. The qualifications show the CMI that an ACS instructor is able to coach and mentor students and fellow Directing Staff whilst simultaneously taking ownership of his/her own development by setting goals and recognising their own areas for development.

Training Development Flight

Having just completed the Diploma and after 12 months in post I now find myself in the Training Development Flight (TDF). We are a small team of three SNCO's and a Flight Lieutenant. Our role is to manage the development of all squadron personnel. We achieve this by delivery of the initial induction course, the walker's course and any training weeks that arise. Furthermore we also assess the portfolios for the CMI and guide the instructors through the process. We also provide session feedback at regular intervals, which is then used as evidence. It is largely a supportive role and in my view an extremely important one as we have regular contact with the instructors throughout their tour.

The future

The most valuable aspect of what we do here is that we can transfer it to the workplace at a later stage. On arrival back in trade, which should be in one or two years time, I can categorically say I will be a much more rounded individual with a more positive outlook to personal development. The inter-personal and communication skills I have acquired here have given me a real sense of purpose and I look forward to the future where I can use these skills to help develop others.



Royal Air Force College Cranwell: The College Warrant Officer's Perspective

Warrant Officer C Mears, College Warrant Officer (CWO)

As the College Warrant Officer (CWO), I feel privileged to be able to use this forum to address as many people as possible in an effort to increase the corporate image of the Royal Air Force College Cranwell, both from an airman's perspective and from that of the CWO. An officer once told me to always take an opportunity when it arrives as you never know when the chance may be offered again. I have tried to remember that piece of advice but it is only later in life that I realise how good that advice was. I often reflect on missed opportunities throughout my career. There have been many reasons why I was unable to capitalise on advice given by others; but in my early years fewer opportunities were available because I wasn't in the correct place or did not have the correct rank. It can be argued of course that if I had really wanted to find the opportunities they would have presented themselves.

As acting CWO, I believe I am in a privileged position; not only for becoming a Warrant Officer (WO), even though it is for a short period of time, but also to be at the College where I have the opportunity to shape tomorrow's officers. It is an opinion shared by all the staff here at the Officer and Aircrew Cadet Training Unit (OACTU), that the cadets must understand the important role they are about to undertake. As an airman, I have always looked to an officer to be able to provide both the correct guidance and an example. In recent times, whilst on Operations, some unfortunately have not provided that example as they feel it is not important. I have spoken to some whilst in theatre who argue their point; they are paid to be an engineer or a pilot, or whatever their particular branch may be, but appear to forget that they are an officer first and should be proud of the status they hold. One of my opening statements to the Officer Cadets when they arrive at Cranwell is that they should never underestimate the potential of changing the professional outlook of their subordinates by the way they behave and how important it is to provide an example in every area of military life, not just at work.

I received an email from WO Lister before he left for Afghanistan with reference to discipline and standards. I appreciate that he didn't actually write the statement but I thought it provided the impact that was required at OACTU. It stated:

'Enforcing regulations may be unpopular but it demands a degree of integrity and moral courage to enact; a walk on by' culture is unforgivable in a disciplined Service. It is expected that Joint and Single Service regulations are strictly enforced by Officers and Senior Non-Commissioned Officers and, in particular, that Junior Officers and Non-Commissioned Officers set an example regardless of their Service or Unit. Ignorance and failure to enforce regulations is a failure of leadership and moral courage and can result in disciplinary action being taken against individuals who contravene or fail to uphold Service standards.'

I have had this statement mounted on boards and placed within every area of OACTU and I try to enforce its content where and when it is needed, to both cadets and staff. It underpins everything that is written within Air Publication 1 (Ethos and Core Values of the Royal Air Force) and not to understand its true meaning not only devalues AP1, but undermines our ability as a military force, particularly as we need discipline and direction as well as the soft skills of managers and leaders. I can remember reading a paper from the Equipment Capability Manager (Deep Target Attack) back in 2004 which stated to the effect that by 2020, as a military force we will be able to produce 10 x the effect, with 50% less manpower at 30% of the cost of ownership. Whilst I am not in a position to measure the effect, I am certainly feeling the effects of the other two parts of the statement. This to me, means that the officers who graduate from the College must be capable of providing an example for their subordinates to follow in accordance with the RAF Leadership Centres' attributes of a leader, with an effort to inspire the airmen and women under their command.

This is where I, as the CWO, do what I do. I have used the expression 'if you want a friend, buy a dog' on a number of occasions since I have been in post as I have to say things that are not always popular. I believe the position of CWO is to sit outside the bubble of both the staff and cadets and look at the College from a more strategic viewpoint; measuring cadet behaviour and critically analysing the results. The part after that is to inform the Wing Commanders and, in consultation with the OACTU Executive Officers, produce a tweak here and there in an effort to improve our training. This is at the same time as trying to ensure all Squadrons measure by the same standard. That is harder than it appears as each Officer and Flight Sergeant is allowed an element of flexibility, through the principle of Mission Command, to deliver the OACTU mission statement which is to:

'Contribute to the operational effectiveness of the Royal Air Force by producing competent junior officers and non-commissioned aircrew capable of undertaking initial specialist training.'

Having been given the rank to do the job, I found the transition from Flight Sergeant to WO quite challenging in some respects. Firstly, when patrolling the grounds I noticed how many people acknowledged me. Secondly, I noticed that my view point is given greater credibility. I found this initially difficult as I felt under a greater amount of pressure. If I produce poor results here at the College, then my annual appraisal, quite rightly, would say, 'when given the opportunity to fulfil the role of acting CWO, Mears wasn't able to'. If I was substantive in rank I would have had a greater level of confidence, knowing I was at least safe in my career and already promoted. However, the RAF Leadership Centre states one of the attributes of a leader as having willingness to take risks. I've heard an officer state 'If you can't take risk in the boardroom, it will be difficult to take risk on Operations'. I have stolen that quote and used it on a few occasions.

A Wing Commander once gave me his philosophy on life as a leader and it is from within his words that I now understand the difference between taking a risk and a gamble. 'Be prepared for the risk not to pay off, and if it doesn't, be prepared to be castigated for it.' Everyone makes mistakes, it is the way we learn which sets us apart from the animal kingdom. Einstein stated, 'insanity, is repeating the same thing time and time again and expecting a different result'. It can be argued that the ability to take risk is different from willingness to take risk, but if you can't learn from the mistakes, expect the trouble that follows.

I have almost completed my first year of an MBA which has opened my eyes to a different style of leadership and how academic knowledge has its place within the military. It has broadened my horizons and I now use academic references to back up my foundation of an argument. No longer is it because Mr Mears says so, which I based many of my previous decisions upon, Now I can quote an academic as a reference to back up my thought process.

The ability to conduct deeper analysis has benefited the Service in ways other than for personal development. I have greater confidence when discussing their Kings College studies with cadets. I am clearly not in a position to discuss subject matter in detail, but I do enquire about which topic they are researching and have been known to give an abstract point of view to create a different angle on the subject. A number of cadets have informed me how they have used our conversations as a foundation for their essays.

A number of people are surprised I am doing this level of academic study, considering my lack of a personal academic background. The College is a great place to broaden your mind and the ability to use the facilities College Hall has to offer again is also a privilege. I have spent many an hour in the evening using the library as there are fewer distractions there compared to home. The academic rigors have given me a new lease of

life and enhanced my capacity for growth in many different ways that are useful here. *'The most powerful tool any soldier carries is not his weapon but his mind'* (Patraeus). I am now beginning to understand the benefits of that statement.

Having re-read this piece of work, I have noticed the number of times I have been offered advice from officers or used their quotes throughout my career. It does prove one thing for sure; whatever training is delivered and at whatever level, the officer corps does provide our airmen and women with good advice and inspirational behaviour. But, like the 'outstanding' OFSTED report recently received by the College, we should all be mindful of relaxing because we have been told we are good. At OACTU I believe we are continuously looking for ways to improve our training in an effort to produce even better officers capable of handling the many diverse and varied problems life in the Service now gives it workforce.

I have enjoyed my experience as the CWO enormously and have strived for excellence in all areas. It has given me an insight into a role in which I believe the incumbent requires fire in his belly and must be prepared not to sit back and allow time to pass by. It is equally important that he is fanatical about producing the best possible standards in order to turn out the best possible officers for the agile and adaptable RAF, that being the challenge of today's graduating Officer Cadet. I hope I have conducted myself appropriately and have done the role proud.

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70th Anniversary Of Jet Powered Flight In Great Britain

Miss R Vernon, Corporate Communications Officer, RAF Cranwell

2011 marked the 70th Anniversary of the first official flight of the Gloster E.28/29. Powered by Sir Frank Whittle's pioneering W.1 jet engine, the flight took place at RAF Cranwell on 15 May 1941.

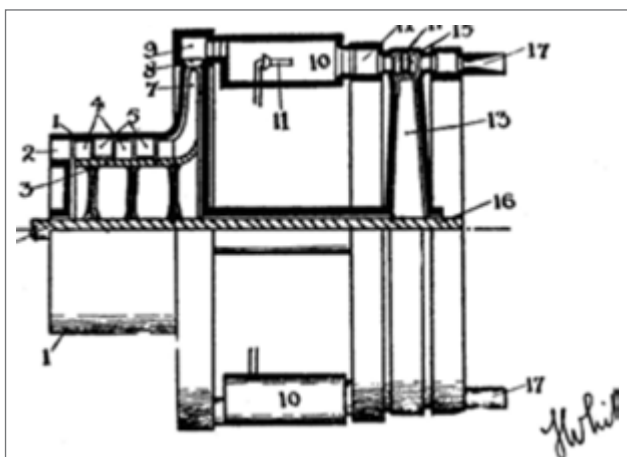
It was fitting that this historic event took place here at Cranwell as just 13 years earlier, Frank Whittle, then a Flight Cadet at the Royal Air Force College, had written his thesis entitled "Future Developments in Aircraft Design". At a time when the latest RAF fighters were propeller-driven biplanes with a maximum speed of about 150 mph, the young Frank set down his early ideas for a radically different propulsion system that would allow aircraft to fly at speeds of 500 mph.

After graduating from the College, he became a skilled pilot, but continued to develop his ideas for jet propulsion. Despite rejection of those ideas by the Air Ministry and scepticism from many others, he went on to patent his design for a true turbojet engine, the first of its type anywhere in the world.

The Royal Air Force recognized his engineering talent and allowed him to take the Mechanical Sciences Tripos at Cambridge University and continue working on his innovative ideas.



Sir Frank Whittle.



Sir Frank Whittle's first design of a jet engine, patented in 1930.

In 1936 he was approached by Rolf Dudley-Williams, a former RAF cadet that he had known at Cranwell, and his partner, J C B Tinning, also a former RAF pilot, with the prospect of financial support. This resulted in the formation of Power Jets Limited and, in April 1937, the Whittle WU engine became the first jet engine in the world to run.

Steady improvements finally resulted in Air Ministry support and, in 1939, specification E.28/29 (E for experimental) was issued for the design and manufacture of an aircraft in which a jet engine could be flight tested. A contract was placed with the Gloster Aircraft Company and the aircraft was designed by George Carter, the company's chief designer. The Gloster E.28/29's first official flight took place at RAF Cranwell at 7.40 pm on 15 May 1941 with Gloster's chief test pilot, Gerry Sayer, at the controls.

RAF Cranwell had been chosen because of its long runway, flat surrounding countryside, which gave a clear approach, and its location in rural Lincolnshire, which would help maintain secrecy. However, the strange-sounding aircraft without a propeller aroused great interest amongst station personnel and local residents.

It was a triumphant achievement and 16 more flights were made before any inspection of the engine was deemed necessary, testimony to its reliability and integrity. Unknown in Britain at the time, a version of the jet engine had also been developed by von Ohain in Germany following the release of Frank Whittle's patent. In August 1939, the Heinkel 178 had

been the first jet engine to fly, but the engine used was in an embryonic state of development and was subsequently found to be unsuitable for sustained aero-propulsion. Further development was abandoned at some point in 1941 or 1942, by which time the German Air Ministry had turned its attention to more promising turbojets under development at Junkers and BMW. The flight of E.28/29 was thus made by the world's first viable turbojet-powered aeroplane.

Frank Whittle's invention of the turbojet engine is one of the most important milestones in aviation. Since that historic flight 70 years ago, the jet engine has gone on to change our world. The single Whittle W.1 engine that first powered the E.28/29 was capable of producing about 1000lbs of thrust, allowing it to reach a speed of 370 mph. Today the two EJ200 turbofan engines that power the RAF's Typhoon fighter each produce a thrust of over 20,000lbs with afterburner, allowing it to fly at 1350 mph, twice the speed of sound.

RAF Cranwell marked the 70th Anniversary of this historic flight with a programme of events which included presentations by Captain Eric 'Winkle' Brown CBE DSC AFC RN, dubbed the greatest test pilot to ever live; Mr Roy Fowkes CEng FRAeS MIMechE FEI, personal friend of Sir Frank Whittle and Mr Ian Whittle FRAeS, son of the pioneering engineer. Guests on the day were also treated to a Hangar Exhibition containing, amongst other things, a replica of the Gloster E.28/29 and a fly-past by Gloster Meteor aircraft.

The Gloster E.28/29, powered by the Whittle W.1 turbojet.



Royal Air Force Cranwell - Prizewinners 2011

Initial Officer Training Course Annual Awards

The Queen's Medal

The Queen's Medal is awarded to the RAF officer who, during Initial Officer Training, proved to be the most outstanding cadet of the year.

Flying Officer L K Plackett RAF

The International Sword of Honour

The International Sword of Honour is awarded to the International officer who, during Initial Officer Training, proved to be the most outstanding International cadet of the year.

Second Lieutenant S S S Al-Adi RAFO

The Ecole De L'Air Trophy

The Ecole De L'Air Trophy is awarded to the RAF officer who, during Initial Officer Training, produced the most distinguished performance of the year in academic studies.

Flight Lieutenant G M Dickson MA MSc RAF

The Prince Bandar Trophy

The Prince Bandar Trophy is awarded to the RAF officer who, during Initial Officer Training, submitted the best essay of the year on a Defence-related topic.

Flying Officer E A Muldowney BA MA RAF

The John Constable Memorial Trophy

The John Constable Memorial Trophy is awarded to the RAF officer, under the age of 21 at entry to the RAF College, who, during Initial Officer Training, demonstrated the greatest potential for further development by producing the best overall performance in both leadership and professional studies during the year.

Pilot Officer J S Roy RAF

Initial Officer Training Course Awards

The Sword of Honour

Awarded to the cadet who, has demonstrated outstanding ability, leadership and other officer qualities and potential for further development.

IOTC No 22	Officer Cadet J B Vaughan BA
IOTC No 23	Officer Cadet M A Williams BSc
IOTC No 24	Officer Cadet J Munro BSc
IOTC No 25	Officer Cadet A P Hadfield MInstLM MCMi TIFireE

The Hennessy Trophy and Philip Sassoon Memorial Prize

Awarded to the RAF cadet who, during Initial Officer Training, has proved to be the best all-round cadet, other than the Sword of Honour winner.

IOTC No 22	Officer Cadet A J S Bull BA
IOTC No 23	Officer Cadet K J Steed
IOTC No 24	Officer Cadet N G P Bartram
IOTC No 25	Not Awarded

The MacRobert Prize

Awarded to the cadet who, during Initial Officer Training, in the opinion of his peers, has made the greatest contribution to the course.

IOTC No 22	Officer Cadet J N Eatherton
IOTC No 23	Officer Cadet C P Chapman
IOTC No 24	Officer Cadet M J Webster
IOTC No 25	Officer Cadet C Giles

The King's College London Trophy

Awarded to the cadet who, during Initial Officer Training, has demonstrated consistent academic excellence.

IOTC No 22	Officer Cadet A J S Bull BA
IOTC No 23	Officer Cadet I G Brooke-Bennett BSc MSc
IOTC No 24	Officer Cadet E J S Owen MEng
IOTC No 25	Officer Cadet C Giles

The BAE Systems Trophy

Awarded to the RAF or International cadet who has attained the highest marks for professional studies on the course.

IOTC No 22	Officer Cadet J E Morris BA
IOTC No 23	Officer Cadet R Dean BSc
IOTC No 24	Officer Cadet S W Martin MEng BA
IOTC No 25	Officer Cadet P S Vickers MEng

Overseas Students' Prize

Awarded to the International cadet who, during Initial Officer Training, has attained the highest marks for professional studies on the course.

IOTC No 22	Not Awarded
IOTC No 23	Officer Cadet M J Hypolite of the Trinidad and Tobago Air Guard
IOTC No 24	Officer Cadet M A A Al Rabaani BA of the RAFO
IOTC No 25	Officer Cadet N A H Al Zahli of the RAFO

The Group Captain Williams Memorial Trophy

Awarded to the RAF cadet who, during Initial Officer Training, has shown the greatest improvement.

IOTC No 22	Officer Cadet M K Eldred BEng
IOTC No 23	Officer Cadet A A Wright
IOTC No 24	Officer Cadet J A Thomas LLB
IOTC No 25	Officer Cadet T A Lewis BEng

The Sarah Moland Prize

Awarded to the RAF cadet who, during Initial Officer Training, has demonstrated outstanding qualities of courage and fortitude.

IOTC No 22	Officer Cadet L T Lloyd
IOTC No 23	Officer Cadet R E Hackwell MEng
IOTC No 24	Not Awarded
IOTC No 25	Not Awarded

The Longcroft Trophy

Awarded to the cadet who, during Initial Officer Training, has contributed most to sport.

IOTC No 22	Officer Cadet D S Turnbull
IOTC No 23	Officer Cadet R E Hackwell MEng
IOTC No 24	Not Awarded
IOTC No 25	Officer Cadet B I Duncan

The RAF Club Prize

Awarded to the RAF cadet who, in the eyes of the Directing Staff has, throughout the course, shown grit and unwavering perseverance, meeting every challenge with enthusiasm.

IOTC No 22	Officer Cadet N C Laurence BSc
IOTC No 23	Officer Cadet F D Price BSc
IOTC No 24	Officer Cadet T O Macer
IOTC No 25	Not Awarded

Specialist Entrant and Re-Entrant Course Awards

The Daedalus Trophy

Awarded to the student who, during training on the Specialist Entrant and Re-Entrant Course Officer, has proved to be the best all-round cadet.

SERE No 16	Officer Cadet R J Sutherland BSc MCSP
SERE No 17	Officer Cadet C Lancaster MA BD
SERE No 18	Officer Cadet M D C Stevens BTh
SERE No 19	Officer Cadet E K A M Mans BM

The Chapman Trophy

Awarded to the Specialist Entrant and Re-Entrant Course Officer cadet who, by showing strength of character, has succeeded despite adversity and who inspired others on the course to reach the exacting standards required to graduate.

SERE No 16	Officer Cadet G D Firth CertMin
SERE No 17	Officer Cadet G P Parry BA RGN
SERE No 18	Officer Cadet C E Crichton MSc BA MCSP
SERE No 19	Officer Cadet J C L Q Blackadder-Coward MBChB BSc

Non Commissioned Aircrew Initial Training Course Awards

The Air Gunners' Association Trophy

Awarded to the cadet who, during NCA Initial Training, attained the highest overall academic performance.

248 NCAITC Sgt Mason

The Butler Trophy

Awarded to the cadet who, during NCA Initial Training, has demonstrated outstanding team support.

248 NCAITC Sgt Shannon

The Bowering Trophy

Awarded to the cadet who, during NCA Initial Training, has demonstrated the greatest determination, effort and enthusiasm in physical education.

248 NCAITC Sgt Dixon

The Training Poignard

Awarded to the cadet who, during NCA Initial Training, has achieved the best overall performance in leadership and SNCO qualities.

Reserve Officers Initial Training Course Awards

The Trenchard Trophy

ROIT 49 Officer Cadet N S Knowles BA

Defence College of Logistics and Personnel Administration Annual Awards

The BAe Systems Prize

Awarded to the student on the Defence Logistics Staff Course, latterly the Air Logistics Staff Course, who achieves the highest overall academic average throughout the duration of each Cohort.

No 5 ALSC	Squadron Leader C M Grigglesstone
No 1 DLSC	Lieutenant Commander S Forge RN

The AgustaWestland Prize

Awarded to the student who submits the best individual academic essay throughout the duration of each Cohort.

No 5 ALSC	Squadron Leader G D Holyland
No 1 DLSC	Lieutenant Commander S Forge RN

The Chartered Management Institute Prize

Awarded to the student who achieves the highest aggregated mark, across 2 Cohorts, measured against 4 discrete academic management essays.

No 5 ALSC Squadron Leader C M Grigglesstone

The Chartered Institute of Purchasing and Supply Prize

Awarded to the student who submits the best Masters level dissertation during the academic year.

No 4 ALSC Flight Lieutenant H T Wilkinson MSc (Distinction)

Air Warfare Centre Cranwell

Andrew Humphrey Memorial Gold Medal

Awarded to the Aerosystems Course member who is assessed by the staff as having achieved the highest overall standard throughout the Course and made the greatest personal impact upon the overall success of the Course. The award takes into account both academic and personal qualities.

No 43 Aerosystems Course Flt Lt D Higgins RAF

The Aries Trophy

Awarded to the Aerosystems Course member who, in the view of the staff, submits the best personal project.

No 43 Aerosystems Course WO2 E Brown AAC

The Edinburgh Trophy

Awarded to the Aerosystems Course member who is assessed by the staff as having achieved the highest overall standard in the computer and communications related subjects on the course.

No 43 Aerosystems Course Flt Lt K Bissett RAF

The Royal Institute of Navigation Trophy

Awarded to the Aerosystems Course member who is assessed by the staff as having achieved the highest overall standard in the navigation-related subjects of the Course.

No 43 Aerosystems Course Sqn Ldr R Drum RAAF

The QinetiQ Trophy

Awarded to the Aerosystems Course member who is assessed by the staff as having contributed the most in the Flight Trials module of the course.

No 43 Aerosystems Course Flt Lt D Higgins RAF

SELEX Trophy

Awarded to the Aerosystems Course member who has achieved the best overall standard in the Sensors module.

No 43 Aerosystems Course Lt M Humphries RN

Old Crows' Award

Awarded to the student who has submitted the best Electronic Warfare project.

No 43 Aerosystems Course Flt Lt K Hemlin RAF

The Thales Trophy

No 43 Aerosystems Course Flt Lt D Higgins RAF

No 1 Elementary Flying Training School

The R M Groves Memorial Prize and Kinkead Trophy for 2011

Awarded annually to the best all round Royal Air Force graduate from Elementary Flying Training.

Winner Flying Officer B Withington
Runners-up Pilot Officer M Pilbeam

The Michael Hill Memorial Prize for 2011

Awarded annually to the Royal Air Force graduate from Elementary Flying Training with the best proficiency in applied flying.

Winner Flight Lieutenant R Curran

The Bryan Memorial Trophy

Awarded to the Royal Air Force student who has delivered the best performance during Groundschool.

EFT 153 Cancelled
EFT 154 Fg Off Cooper
EFT 155 Flt Lt A D Lamond
EFT 156 Fg Off J Pippet
EFT 157 Fg Off R A Curran
EFT 158 Plt Off T P Rodgers
EFT 159 Flt Lt P H James
EFT 160 Fg Off D R Hodgson
EFT 161 Flt Lt L Stewart
EFT 162 Fg Off A Davies

The VT Aerospace Trophy

Awarded to the Royal Air Force student who has displayed the best performance in the air.

EFT 153 Cancelled
EFT 154 Fg Off Withington
EFT 155 Fg Off J A Gelly
EFT 156 Plt Off M H Pilbeam
EFT 157 Fg Off R A Curran
EFT 158 Fg Off R W Gould
EFT 159 Plt Off A L Richardson
EFT 160 Fg Off C M MacCormack
EFT 161 Plt Off T Stratton
EFT 162 Plt Off P Kiczma

The Dickson Trophy

Awarded to the Royal Air Force student who gives the best overall performance in the air and on the ground.

EFT 153 Cancelled
EFT 154 Fg Off Withington
EFT 155 Not Awarded
EFT 156 Plt Off M H Pilbeam
EFT 157 Fg Off R A Curran
EFT 158 Fg Off M J Lynch
EFT 159 Fg Off J A Lillington
EFT 160 Fg Off N A Buffery
EFT 161 Flt Lt L Stewart
EFT 162 Fg Off C Richards

The Midshipman Simon Trophy

Awarded to the Royal Navy student with the best results in Groundschool.

EFT 153-162 Not Awarded

The Hargreaves Trophy

Awarded to the Royal Navy student with the best overall results in flying.

EFT 153-162 Not Awarded

The British Aerospace Trophy

Awarded to the best overall Royal Navy student.

EFT 153-162 Not Awarded

The CO's Trophy

Awarded to the Royal Navy student displaying the best fortitude, character and individuality during EFT and 'The man you would wish to have on your Squadron'.

EFT 153-162 Not Awarded

The Martin Trophy

Awarded to the Army student who demonstrated the highest skill and ability in aircraft piloting.

EFT 153-162 Not Awarded

The Chief Groundschool Instructor's Cup

Awarded to the Army student who achieved the best overall Groundschool result.

EFT 153-162 Not Awarded

The Horsa Trophy

Awarded to the Army student who has demonstrated the greatest determination and courage.

EFT 153-162 Not Awarded

No 3 Flying Training School

The No 3 Flying Training School Sword of Merit

Awarded to the student, at each graduation, who has produced the best overall performance during training, irrespective of whether they are an officer or senior non-commissioned officer; however, grades of high average or above average must have been achieved both on the ground and in the air.

Not Awarded.

No 45(Reserve) Squadron

The Serco Trophy

Awarded to the student pilot who gains the highest overall marks in Ground School studies on the multi-engine course, providing the student achieves an above average Ground School assessment.

No 196 MEAFT Flt Lt Reidl
No 197 MEAFT Not Awarded
No 202 MEAFT Flt Lt Edmondson

Glen Trophy

Awarded to the student pilot who gains the highest overall marks for flying, provided that the student has achieved a high average assessment.

No 196 MEAFT Not Awarded
No 197 MEAFT Not Awarded
No 202 MEAFT Flt Lt Dunkley

Radley Trophy

Awarded to the student pilot who gains the highest overall standard in academic studies and officer qualities, provided that the student has achieved an overall high average assessment.

No 196 MEAFT Flt Lt Reidl
No 197 MEAFT Flt Lt Mason
No 202 MEAFT Not Awarded

Dacosta Trophy

The Dacosta Trophy is awarded at the discretion of the Officer Commanding No 45 (R) Squadron, to the student who has shown the best overall improvement during the course.

No 196 MEAFT	Fg Off Barnard
No 197 MEAFT	Fg Off Hopkinson
No 202 MEAFT	Not Awarded

No 55(Reserve) Squadron

The Navigation Cup

Awarded to the best graduate on each fast-jet Weapons Systems Officers' Course, provided that the student has achieved at least a high average assessment overall.

Flt Lt HJ Phillips BEng (Hons)

The Sutton Sword

Awarded to the Weapons Systems Officer who achieved the highest standard in navigation, academic subjects and personal qualities, provided the student has achieved a high average assessment.

Flt Lt SJ Baker BSc (Hons)

The Royal Institute of Navigation Trophy

The Royal Institute of Navigation Trophy is presented to the weapon systems officer who achieves the highest overall standard of air navigation, academic studies and personal qualities of all graduates over a 6-month period.

Flt Lt SJ Baker BSc (Hons)

The George Holderness Memorial Trophy

Awarded annually to the student SNCO who has displayed the highest standards throughout training, both in professional studies and personal qualities. The recipient is selected from all weapon system operators who have graduated during a 12-month period,

Sgt A Harrison

The Townsend Trophy

Awarded to the best overall Weapon Systems Operator who has undergone both generic and specialist training at 3FTS.

Sgt D Sear

The Acoustic Studies Trophy

The Acoustics Studies Trophy (formerly the Air Electronics Air Merit Award) is awarded to the weapons system operator (acoustics) student who achieves the highest standards during professional training, provided a high average overall assessment has been achieved.

Sgt R Montgomery

Royal Air Force Central Flying School, Cranwell

Wright Jubilee Trophy

The Trophy is retained by the Central Flying School at RAF Cranwell and is permanently displayed in York House Officers' Mess. It is now awarded to the display pilot from 22 Group who gives the best flying displays through the season. Competing aircraft types are Grob, Tutor, Shorts Tucano, BAE Hawk and Beechcraft King Air.

Not Awarded

Trenchard Memorial Prize

Nominations for the award of the trophy are for any individual or organisation that has made a noteworthy contribution to the art of flying instruction. The terms of the competition were set deliberately very broadly as its inception and the wording of the inscription on the trophy leaves plenty of scope for nominations. Operational as well as the training arms of the 3 Services are invited to submit nominations; the "art of flying instruction" is deemed to include instruction in a wide range of flying disciplines, for example specific weapon delivery techniques or operations tactics.

RAF Benson Lt Cdr Neill Parrock.

Gross Trophy

Awarded on each Central Flying School course to the student who has achieved the highest marks in groundschool.

428 Course	Flt Lt M Shipley
429 Course	Flt Lt M Thompson
430 Course	Flt Lt C Pearson
431 Course	Wg Cdr P Wharmby

The Bulldog Trophy

Awarded on each Central Flying School course to the Tutor Qualified Flying Instructor who has achieved the highest average marks and assessments.

428 Course	Sqn Ldr B Ervine
429 Course	Lt J R Hagg RN
430 Course	Maj M S Farah (Kenyan AF)
431 Course	Flt Lt M P Dunstan

The Bulldog Cup

Awarded on each Central Flying School course to the student who was judged to give the best aerobatic display on the Tutor.

428 Course	Flt Lt D J C Sharpe
429 Course	Flt Lt C E Nash
430 Course	Sqn Ldr C Melen
431 Course	Flt Lt R A Lee

The Hopewell Trophy

Awarded on each Central Flying School course to the Tucano student who has achieved the highest assessments, during the flying phase, for ability and instructional technique.

428 Course	Flt Lt M Shipley
429 Course	Flt Lt E K Cox
430 Course	Not Awarded
431 Course	Not awarded

The Clarkson Trophy

Awarded on each Central Flying School course to the best Tucano aerobatic pilot.

428 Course	Flt Lt M Shipley
429 Course	Flt Lt J P Ryder
430 Course	Not Awarded
431 Course	Not awarded

The Hawk Trophy

Awarded on each Central Flying School course to the best Hawk instructor.

428 Course	Flt Lt E Williams
429 Course	Flt Lt R Bradley
430 Course	Not Awarded
431 Course	Flt Lt J W Rigg

The Indian Air Force Trophy

Awarded periodically on Central Flying School courses for effort and determination.

428 Course	Flt Lt J P Ryder
429 Course	Flt Lt M Thompson
430 Course	Not Awarded
431 Course	Not awarded

The CFS Trophy

Awarded periodically when merited, on Central Flying School courses to the best all round student.

Not Awarded

The Folland Trophy

The Folland Trophy is awarded to the Hawk student who demonstrated the best navigational skills throughout the course.

428 Course	Flt Lt C P Rugg
429 Course	Flt Lt R Bradley
430 Course	Not Awarded
431 Course	Comdt M Bouhila (Algerian AF)

The Top Hat

The Top Hat is awarded to the student who achieves the lowest marks in ground school.

428 Course	Flt Lt P T Surtees
429 Course	Flt Lt C G Birkett
430 Course	Flt Lt N P J Lambert
431 Course	Flt Lt R Dennis

Air Cadet Organisation Annual Awards

Lees Trophy

Awarded annually to the Squadron which is judged to be the best in the corps in overall achievement and efficiency during the year of assessment, having regard to its size, location and facilities.

215 (Swansea) Squadron

Morris Trophy

Awarded annually to the Squadron which is judged to be the 2nd best in the Air Cadet Organisation.

1855 (Royton) Squadron

The Commandant's Special Award

This year Air Commodore Barbara Cooper introduced a new award, The Commandant's Special Award, to be presented each year (if warranted) to an individual, a squadron or unit – indeed anyone that, in the Commandant's opinion, merited formal recognition.

282 (East Ham) Squadron

Dacre Sword

Awarded annually to the best male cadet, based on all-round performance.

Cadet Warrant Officer B Gilbert,
378 (Mannock) Squadron

Dacre Brooch

Awarded annually to the best female cadet, based on all-round performance.

Cadet Warrant Officer A Dutch,
London & South East Region

The Ganderton Sword

Awarded annually to the officer who, on the recommendation of the Adult Training Facility Directing Staff, has performed best in all aspects during the Officers' Initial Course.

Pilot Officer R McElligott,
451 (Stourbridge) Sqn

The Quinton Memorial

Awarded annually for the top academic results on the Senior Non-Commissioned Officer Initial Course held at the Air Cadet Adult Training Facility, Royal Air Force College, Cranwell.

Sgt G Bradbury,
121 (Nuneaton) Squadron

The Shackelton Trophy

Awarded annually to the Region, Wing or Squadron which mounts the most successful, imaginative and adventurous expedition.

Middlesex Wing for their expedition to Borneo
led by Flt Lt 'H' Tanner.

Air Squadron Trophy

Awarded to the best CCF (RAF) unit.

King's School Grantham.

Sir John Thomson Memorial Sword

Awarded to the best CCF (RAF) cadet.

Cadet Warrant Officer (CWO) C Bull,
Wellingborough School.

Royal Air Force College Senior Appointments

Commandant Royal Air Force College and Director of Recruitment and Initial Training (Royal Air Force)

Air Commodore Paul Oborn was born in Auckland, New Zealand and educated at Auckland Grammar School. He was commissioned into the Royal Air Force in 1980 and, after 2 years of officer and flying training gained his wings as a pilot on the C-130 Hercules aircraft. Thrust into the aftermath of the Falklands War, his operational experience over 2 decades have seen him involved in humanitarian relief missions around the world as well as involvement in both Gulf Wars. A Command pilot and Flight Instructor with over 5,000 flying hours, he was finally wrestled from the flight deck in 1994 and posted to Toronto to attend the Canadian Joint Command and Staff Course. On his return to the UK in 1995, he was employed at Strike Command as a project officer for the introduction to Service of the new Hercules aircraft, known as the C-130J.



Air Commodore P N Oborn
CBE ADC RAF

On promotion to Wing Commander, he returned to RAF Lyneham to command No. 24 Squadron. Between 2000-03, he was the Personal Staff Officer to the Commander-in-Chief Strike Command before finally returning to his 'roots' and taking command of RAF Lyneham in 2003. He graduated from the Royal College of Defence Studies in 2006 and was posted, on promotion to Air Commodore, to be the UK Air Component Commander in Al Udeid in January 2007. He was made CBE in the New Years Honours List in January 2007 for his command of RAF Lyneham during a very busy operational period which included the loss of Hercules XV179 and her crew. On his return from the desert he was posted to HQ 2 Group as the Air Officer Air Transport and Air-to-Air Refuelling.

Responsible for the safe delivery of the Airbridge into Afghanistan, his duties also included being Director for the Future Brize Norton Programme, the closure and amalgamation of RAF Lyneham's assets into a single AT/AAR hub at Brize Norton. He took up his current role as Commandant RAF College Cranwell & Director of Recruitment and Initial Training (RAF) on the 3 June 2010.

Air Commodore Oborn is married to Sarah, a chartered surveyor and conservation officer, and they have one son, Nicholas.

Chief of Staff & Deputy Commandant Royal Air Force College Cranwell

Group Captain Martin Killen graduated from St Andrews University in 1980 with a Bachelor of Science Degree in Physics and Mathematics. After flying training, he served in a number of Royal Air Force squadrons in the air defence role and in training. He has commanded at flight and squadron level and has accumulated over 4500 hours on Phantom F4K and F4M, Hawk, and T-38 aircraft. Gp Capt Killen was a Qualified Flying Instructor (QFI) on the F4 and the Hawk, and was an Instructor Pilot on the T-38. He served as Sqn QFI on 56 (Fighter) Sqn and 74 (Fighter) Sqn, and as OC 1435 (F4) Flight in the Falkland Islands. His last flying appointment was as Wing Commander Central Flying School where he was responsible for assessing flying instructional standards in the



Group Captain M F Killen
BSc MA RAF

Royal Navy, the British Army, the RAF, and foreign and commonwealth air arms by invitation. Staff appointments have included Personal Staff Officer to AOC TG, a tour on the Air Staff in the Ministry of Defence, Head of Air Component and Division Director at the Joint Services Command and Staff College, and RAF Advisor to Commander Air University at Maxwell AFB, Alabama. Before taking up his current appointment he commanded the Officer and Aircrew Training Unit at the RAF College.

Gp Capt Killen is a graduate of the RAF Staff College, the Joint Services Command and Staff College, and the Air War College, and holds a Masters Degree in Strategic Studies.

He is President of the RAF Equitation Association and he is a British Fencing Association Level 2 coach. He plays racquet-ball (badly), sails (in light winds), and enjoys messing around on one ski on the water and on two skis (preferably) in the snow. He is accompanied by his wife Sheila, and children Matthew and Anna.

Group Captain Officers and Aircrew Selection Centre

Group Captain 'Harry' Hyslop served his first 2 tours as a Buccaneer navigator with 208 and 12(B) Sqns at RAF Lossiemouth in the maritime strike attack role. As a QWI with 12(B) Sqn, he served in Operation GRANBY (Gulf War 1). A staff tour within HQ 18 Gp, phasing out of service the Buccaneer and introduction of the Tornado GR1B, was followed by a Flight Commander tour flying the GR1B on 617 Squadron where he commanded the Squadron over Northern Iraq. After a short tour as the air advisor to the CG of EUCOM (Heidelberg) and JSCSC, a tour at PJHQ followed, responsible for oversight of the ongoing Operations in the Middle East: an excellent precursor for 4 months as the DCFACC and DCBF at Incirlik, Turkey, again in support of NORTHERN WATCH. Returning to the newly formed UK JFACHQ, he was involved with several Operations including PALLISER (Sierra Leone), MAGELLAN I and II (Balkans reinforcements and elections) and ENDURING FREEDOM (Afghanistan) before completing his tour as Chief Combat Operations within the CAOC for IRAQI FREEDOM (Gulf War 2); for which he was awarded the Bronze Star Medal. In June 2003 Group Captain Hyslop took command of 55(R) Squadron, responsible for all RAF rearcrew training, before moving to HQ 22(Trg) Group, Innsworth, in January 2006 to oversee all multi-engine pilot and rearcrew training, and the Transition Team responsible for the introduction of MFTS. In August 2007 he deployed to Baghdad as part of the Coalition Air Force Training Team, where he served as the Senior Advisor to the Iraqi Air Force and leader of the Coalition Air Force Advisory Team for which he was awarded a further Bronze Star Medal. Returning to the UK in December 2007, Group Captain Hyslop was appointed DACOS J3 Ops Spt at PJHQ, responsible for all J3 Air and Operational Support to UK forces deployed on ongoing Operations, principally in Iraq and Afghanistan, before taking up his current appointment of Group Captain Officers and Aircrew Selection Centre in November 2009.



Group Captain R M Hyslop
RAF

Married to Sue with 2 children, Harry and Lucy, Group Captain Hyslop lives in his own house in Kettering, Northamptonshire. He is a keen golfer (7 Hcp) who enjoys all sport, reading, gardening and classical music.

Group Captain Inspectorate of Recruiting (Royal Air Force)



Group Captain I R Tolfts
OBE MA MCIPR RAF

Group Captain Tolfts joined the Royal Air Force in 1984 as an Administrative (Secretarial) (now Personnel Branch) officer. He completed junior officer tours at a variety of locations including the RAF College Cranwell, RAF Coningsby, RAF Headley Court and RAF Honington. On promotion to squadron leader in 1995, he was posted to RAF Marham as Officer Commanding Estate Management Squadron and was heavily involved in the planning for the rebasing of Tornado squadrons from RAF Bruggen. Following nearly 3 years at RAF Marham, the Royal Air Force Infrastructure Organisation beckoned where he was responsible for property management issues across half of the RAF. Group Captain Tolfts attended Number 4 Advanced Command and Staff Course in September 2000 and was promoted wing commander in January 2001. Following completion of the course, during which he gained an MA in Defence Studies, Group Captain Tolfts was posted to the RAF's Directorate of Corporate Communication in the Ministry of Defence where he was responsible for day to day news management, forging links with the national and international media and development of the RAF's Corporate Communication Strategy. From January to May 2003, he was deployed to the Permanent Joint Headquarters and then the Gulf Region on Operation TELIC where he acted as SO1 Media Ops for the National Contingent Headquarters. He assumed command of Base Support Wing at RAF Brize Norton in August 2003 and during his 2 years there he handled many repatriation ceremonies as well as developing the Station's community facilities extensively. Following 18 months as SO1 A1 Operations at Headquarters Air Command, Group Captain Tolfts assumed his current rank in May 2007 and was appointed as DACOS Media and Communication - a return to his "media roots" - charged with the delivery of the RAF Engagement Strategy. He started his current role as Group Captain Recruiting in July 2010.

Group Captain Tolfts is married to Jo, a freelance consumer and financial journalist. They have a house in the Cotswolds with their 2 (rescue) dogs - Bob, a black Labrador and Benson, a Boxer cross English Bull Terrier - but also a house at RAF Cranwell. Group Captain Tolfts enjoys scuba diving, mountaineering and dining out as well as the enforced interest of trying to keep the garden under control.

Group Captain Officer and Aircrew Cadet Training Unit

Group Captain Jones was born and raised in Swansea and joined the RAF directly from school in 1979. Following officer and flying training he joined 12 (B) Sqn in 1982 flying the Buccaneer. In 1987, after 2 Buccaneer tours, including completing the Qualified Weapons Instructor Course, he converted to the Tornado F3. Tours followed on both the Tornado and Buccaneer and to date he has accumulated 3500 flying hours. Gp Capt Jones undertook flying command tours as CO Falkland Islands Air Wing and in the dual role of Stn Cdr Mount Pleasant Airfield/COS HQ British Forces South Atlantic Islands.

Group Captain Jones has completed ground tours at the former Strike Command Air to Air Missile Establishment, NATO Air HQ at Ramstein, as DS on ACSC and at the Air Warfare Centre.



Group Captain P J Jones MA RAF

The Group Captain flew operationally on Op Pulsator (Lebanon-1983/4) and Desert Storm/Shield (Iraq-1990/1). He has also completed operational deployments in Kosovo, Afghanistan and the Falklands.

The Group Captain is married to Barbara and between them they have four children. His hobbies are cricket, cooking and photography. He also spends much time contemplating why he has so many children, when all he actually wanted out of life was a Ferrari.

Group Captain Jones has just returned from a 1 year course at the USAF Air War College, where he was awarded a Masters in Strategic Studies.

Officer Commanding No1 Elementary Flying Training School

Group Captain Lee began his flying career on the University of Wales Air Sqn whilst studying for a Bachelor's degree in Marine Biology and Oceanography at Bangor University in North Wales. After completing flying training he was posted to No 201 Sqn RAF Kinloss flying the Nimrod MR2. Catching the closing years of the Cold War, he was able to hone his anti-submarine warfare skill frequently on Soviet nuclear and conventional submarines. During Gulf War 1 the Nimrod switched to an anti-surface role and Flt Lt Lee was the pilot in command of the first Nimrod to patrol the Persian Gulf.



Group Captain Lee
BSc MA RAF

A CFS tour followed with a posting to the Tucano at RAF Cranwell, where Flt Lt Lee became an A2 flight commander and the Unit Test Pilot. Returning to the front line Flt Lt Lee flew as a captain and AAR pilot on No 206 Sqn RAF Kinloss on the Nimrod, before being promoted into a flight commander position on No 120 Sqn, where he became an Aircrew Checking Officer and IRE.

A ground posting finally arrived with a posting to No 3 Group at Northwood in the post of SO2 Nimrod. A place on ACSC, an MA and promotion followed and in 2003 Wg Cdr Lee was appointed Commanding Officer of No 32 (The Royal) Sqn at RAF Northolt where, although specialising in the BAe 125, he was also able to fly the BAe 146 and Twin Squirrel helicopter.

Following this Wing Commander Lee was posted to the Directorate of Air Resources and Plans in MOD, before being promoted into the role of Group Captain Air RP. Group Captain Lee assumed the post of OC No 1 EFTS on 22 Oct 09.

Group Captain Lee is married to Alison, a dentist and has 2 children, Jonathon and Susannah. They live in their own house in Amersham. Hobbies include motorcycling, classic cars, sailing (dinghy and offshore) and skiing.

Commandant Air Cadet Organisation

Born in Canada, Air Commodore Barbara Cooper was commissioned in the Royal Air Force in 1978 as an air traffic control officer. Following her first tour at RAF Finningley in Yorkshire (during which she attained her private pilot's licence), she was selected to become an instructor at the military air traffic control school at RAF Shawbury, Shropshire. She moved on to control at an Area Radar unit in East Anglia, where she completed her 7 year short service commission in 1985.



Air Commodore B Cooper CBE RAF

There followed a brief interlude out of uniform during which she gained qualifications in property management. However, having greatly missed Service life, in 1987 she regained her commission, this time choosing the Administrative Branch. There followed a number of personnel tours in Germany and the UK, including staff officer to the Chief of the Air Staff. Between 1998 and 2000 she commanded the administrative wing of RAF Lyneham in Wiltshire and was appointed as an Officer of the Order of the British Empire for her work there. She attended the first Advanced Command and Staff Course (ACSC 1) and returned in 2000 as Directing Staff on ACSC 4 and 5. She left on promotion to group captain and assumed the role of Deputy Director Service Personnel Policy (Operations and Manning), which included responsibility for operational welfare and the UK's Prisoner of War Information Bureau. In October 2003 she was recognised in the Iraq Operational Honours List for her role in support of the operation, as a Commander of the Order of the British Empire. In 2005 she assumed the appointment of Director Royal Air Force Division, within the Defence Academy at Shrivenham, Wiltshire. She was selected as a Member of the 2007 entry of the Royal College of Defence Studies, of which she completed 6 months before being posted on promotion to Air Commodore as Assistant Chief of Staff Manpower & Personnel Capability at HQ Air Command. Air Commodore Cooper assumed the appointment of Commandant Air Cadets on 1 June 2010.

Air Commodore Cooper is married to William, a happily retired Royal Air Force officer; their home is in Cirencester, Gloucestershire. Since 2003 she has enjoyed the role of reviewing officer at a number of Combined Cadet Force biennial inspections. She is President of the RAF Netball Association and the RAF Theatrical Association. Her interests include horticulture – she enjoys growing more vegetables than can be consumed by the family, is a recreational walker and cyclist, and will take any opportunity to visit the theatre.

Commandant Central Flying School

Group Captain Simon Blake joined the Royal Air Force in March 1981. Following the usual Fast Jet training route, he took the slightly longer than usual method of getting to the front-line, via a tour flying Canberras in the ECM trg role with No 360 Sqn and a tour as a QFI at No 4 FTS at RAF Valley. Following Jaguar training, he arrived on No 6 Sqn at RAF Coltishall in Oct 1991 to commence a long association with the Jaguar Force. An extended tour saw him promoted to become a Flt Cdr, and subsequently the ExecO on No41(F) Sqn.



*Group Captain S Blake
OBE MA RAF*

During this period at Coltishall, Blake saw operational service in both Iraq (OP WARDEN) and Bosnia (OP DENY FLIGHT, DELIBERATE GUARD) in support of the respective No-Fly Zones imposed in both theatres. Achieving some 180 operational sorties, he also deployed in support of the Harrier Force in Aug-Sep 95 during Op DELIBERATE FORCE; He subsequently led the return of the Jaguar Force to the Bosnian theatre, vice the Harrier Force, in early 1997.

A tour in the Aircraft Programmes and Airworthiness division of the Directorate of Air Operations followed where Blake was responsible for associated issues with the Jaguar, Canberra and Hawk fleets. He successfully completed No 4 ACSC, the first at the then new JSCSC at Shrivenham, during 2000-1, gaining an MA in Defence Studies. Promotion and a relatively short tour as SO1 Jaguar/Canberra/Recce at HQ No 1 Gp was followed by a final tour at Coltishall, this time as OC Operations Wg from Oct 2004 to Apr 2006, the last four months of which saw him act as the Stn Cdr and effectively supervise the closure of Coltishall as a flying station. He was promoted to Group Captain in December 2006 to

assume the post of DACOS A3 Ops at HQ Air Command. On 1 Oct 2009, he assumed his current post as Commandant of the Central Flying School.

During his career, Blake has amassed almost 4000hrs, deploying widely on both operations and exercises. His interests include renovating and maintaining the garden of his home in Norfolk, social golf and trying to keep fit.

Officer Commanding Royal Air Force Generic Education and Training Centre (GETC)

Group Captain Sagar joined the RAF as an aircraft technician in 1978 and was employed servicing Vulcan and Harrier aircraft in Lincolnshire and West Germany respectively. Commissioned in 1983 he has enjoyed a full and diverse career in the administrative branch of the RAF dealing with recruitment, property management, HR management, personnel policy and, latterly, training. Immediately prior to his current appointment, he ran the Equality and Diversity Training Centre for the Joint Services and specialised in importing accelerated learning techniques to the course material in order to make it more engaging, memorable and more accessible to the students.



*Group Captain P J Sagar
MBE RAF*

His current post is as OC GETC at Cranwell, overseeing the introduction of the new Professional Military Development (Air) programme, which for the first time will provide a coherent through career delivery of generic education and training to RAF personnel in order to enhance their agility and better understand the wider aspects of their Service.

Phil Sagar is married to Karen, they have 3 young children, and live in a small village on the banks of the River Avon near Tewkesbury. He is currently undertaking a part-time MA in Leadership Studies with Exeter University. He lists sailing, playing the electric violin and church bell ringing as his hobbies.



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Windsor Herald and Registrar

