

LORD TRENCHARD MEMORIAL LECTURE RUSI 4 OCTOBER 2017

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LORD TRENCHARD – INSPIRING THE NEXT GENERATION AIR FORCE

'I am not a good speaker; But I can talk to those who are paid to listen to me'. So said Marshal of the Royal Air Force **Hugh Trenchard**. I realise you have not been paid to listen to me which makes me all the more grateful, if not surprised, to see so many of you here this afternoon.

'He can't write, he can't speak, but he is a very great man, incidentally he is the RAF', said Lawrence of Arabia about Trenchard. Whatever his communication skills, there is universal agreement that Trenchard was a great man and was known variously as the father, architect, patron saint, prophet of the RAF and it has been a great pleasure to look at the challenges of the Next Generation Air Force through the lens of Lord Trenchard.

This pleasure was not unadulterated, however; after all there is always the element of threat and opportunity when speaking in public. So I approached the task with care and consulted widely on what to say. The advice received fell into 2 categories: the first group, let's call them the historians, advised me to concentrate on the lessons from history and when bridging to the present day I should avoid tenuous links to my in-tray or any particular hobby horse I may have. The members of the second category, let's call them the Twitterati, advised me not to spend too much time in the past but to focus on the more interesting challenges of today.

Well I fear I may disappoint the historians and the Twitterati because my remarks reflect the advice of both groups and will be based on three themes; the first is what Trenchard described as *the extreme importance of training*. Critical to this were the 3 pillars of the Cranwell cadets, the Trenchard brats and the staff college. This enduring importance of training and education is why the legacy of RAF100, our centennial celebrations, will include a number of new and exciting training and education initiatives brigaded under the banner of what we have called, appropriately, the Trenchard Group. ,

My second theme will be affordability; for many, the words efficiency and economy belong to the lexicon of 21st century accountants, but it is interesting to examine Trenchard's view on this. Throughout his writing and speeches he consistently referred to the need for both efficiency and economy in a way that is relevant to the delivery of an affordable Next Generation Air Force.

Lastly, Trenchard recognised that the formation of the RAF offered new ways of employing force. Today, I will argue, we also need new ways if we are to realise the ambition and opportunity that sits within the Next Generation Air Force.

CONTEXT

The strapline for RAF100 is Commemorate, Celebrate, Inspire. But like any notable birthday or anniversary, our centenary also provides us with an opportunity to reflect and to reimagine what the future RAF, or the Next Generation Air Force, should be. The Air Force Board view on this is laid out in the RAF Strategy, published earlier this year. The aiming point of the strategy is an Air Force, part of Joint Force 2025, and with the ambition of undertaking the most difficult missions, across the spectrum of potential conflict, alongside our NATO and other Allies.

The more I researched Trenchard, and a particular thanks to Seb Cox, the RAF Museum and RAF Cranwell for help with this research, the more I realised that Trenchard's challenges resonated with those faced by the Air Force Board today.

But first some context to Trenchard's challenge. His landmark 1919 memorandum was published just months after the announcement of Lloyd George's 10-year rule, which instructed the armed services to plan on the assumption that they would not face a major conflict for ten years. For Trenchard, this meant that the RAF established during the Great War would not be suitable or sustainable in the post-war era.

He characterised the RAF challenge thus: *The necessities of war created it in a night but the economies of peace have to a large extent caused it to wither in a day, and we are now faced with the necessity of replacing it with a plant of deeper root.*

Trenchard's objective was to plant the seeds of an organisation that would sustain a small front-line but then also provide a foundation for the expansion of a much larger force. In overcoming this challenge he famously said,

"I have laid the foundation for a castle: if nobody builds anything bigger than a cottage on them, it will at least be a very good cottage."

TRENCHARD'S OBJECTIVES

Trenchard's approach was founded on 3 principle objectives: first to keep the RAF independent, second to raise the standards of efficiency and training and lastly to foster and develop a RAF spirit.

I will not consider the need to protect an independent Air Force. Whilst it was a significant threat for Trenchard and it does make for interesting study; today it is a redundant topic of discussion, in which only those many years distant from Defence occasionally indulge.

It is redundant because the Royal Air Force has a well-earned reputation for delivering relevant air power. Working independently or alongside the other Services, we offer political choice, global agility and value for money.

As the man responsible for the RAF's frontline, I can assure you that the RAF continues to make an operational contribution that is significant, respected, and valued. The Secretary of State said recently that the RAF is busier today than it has been for over 25 years; and his comments were made before the recent Hurricanes in the Caribbean. Where, yet again, the responsiveness of the RAF was in evidence with Voyagers, C17s and A400Ms rapidly deploying men and materiel, including the RAF Puma and Chinook helicopters, a distance of over 4000 miles. It is at this point I could easily bridge into my inbox, but I will avoid this temptation and will leave current operations to questions, if you wish, and conclude this section by observing that those who understand the nature of operations and the RAF's diverse and significant contribution to them, refer to the 100-year celebration not experiment.

THE EXTREME IMPORTANCE OF TRAINING

In building the Air Force, Trenchard highlighted the extreme importance of training. He said that the whole future of the Royal Air Force depended on the training of its officers and men, arguing that the Cadet College at Cranwell and the School of Technical Training at Halton would be the *making or marring* of the future of the Air Force.

He recognised the RAF was a technical service in need of pilots and engineers, and knew from the Great War it was often the lack of engineers that limited operations and the lack of technical knowhow that caused accidents

Churchill agreed the need for technical skills, commenting that, *the complications of the Air Force, the many sciences which united the Air Service, the varied arts and crafts, and the varied forms in which they had to be acquired, required a greater ability and a greater knowledge.*

At the time, all officers were pilots, and I discovered an interesting article in the RAF Cranwell Magazine of 1920, which said, *an officer who could not fly was useless to the Air Force.* If all officers had to be pilots today, I suggest the RAF presence in the building next door would be much reduced.

Talking of which, when presenting this lecture 2 years ago, ACM Sir Stuart Peach argued convincingly that Trenchard's approach to apprentice training merited the accolade of social visionary. In 1918 free education stopped at 14 and most apprenticeships had to be paid for. The RAF apprentice scheme thus proved to be attractive and competitive with up to 20 applications for each apprenticeship. The nation benefited because the system was a virtual extension of state education and the RAF benefitted because it was cheaper to recruit and train boys rather than compete with civilian employers who paid higher wages to qualified apprentices. And for the more ambitious and capable apprentices, like Sir Frank Whittle, there was the opportunity to become Cranwell Cadets, underlining the RAF's belief in, and contribution to, social mobility.

The schools also provided the opportunity to instil and foster the RAF spirit that Trenchard considered so important to the independent identity of the new Air Service.

Today we continue to rely on the spirit and technical skills of our people and recognise that the national skills shortage related to science, technology, engineering and mathematics (STEM) means the recruitment market is going to become increasingly competitive. This is part of the reason we have decided that the RAF100 Legacy will focus on training and education and will sit under the banner of The Trenchard Group. The Group is inspired by Lord Trenchard and his vision and aims to engage and encourage the next generation of the Air Force. The Trenchard Group has 3 main elements: Ideas, Scholarships and Pathways, and involves an array of diverse initiatives designed to connect with the young and ignite interest and excitement in the RAF, aviation and the STEM subjects. Through this Group, we will transform our approach to training and education for the good of the nation as well as the RAF, working closely with industry to promote interest in careers across the air, space and cyber sectors. By doing so we also aim to grow a more diverse workforce, one that better reflects the society from which we are drawn and which we protect.

Under the heading of Pathways, we will establish a number of Academies, including the Aaron Aerospace Academy and the Whittle Engineering Academy. Both are exciting new initiatives being developed together with industrial partners. The Air Cadets are an exceptional group and the Aaron Aerospace Academy at RAF Syerston, delivered in collaboration with the Aviation Skills Partnership, will provide the Air Cadets, alongside other 16-20 year olds, with a national hub to develop their technical skills and understanding of a range of aerospace and cyber subjects. Through the Whittle Engineering Academy we will develop Cosford as our centre for STEM, delivering world-class engineering training to our people and to international and industrial partners.

The initial training of both airmen and officers continues to be critical to our success and through Programme Portal we will revitalise and expand the facilities at RAF Cranwell, establishing a single point of entry for airmen and officers at the RAF's spiritual home, delivering training fit for the Next Generation Air Force.

These and many other activities within the Trenchard Group will deliver an RAF100 legacy of a transformed and world class training and education system that inspires the next generation.

AN AFFORDABLE AIR FORCE

Ambition and affordability are of course 2 sides of the same capability coin. Post the 2015 SDSR, the Government announced an ambitious future for the RAF; our challenge is to turn this ambition into an affordable and deliverable plan.

To those who thought efficiency and economy was not the language of battle-hardened warfighters, Trenchard made his views clear in a speech to the RAF Staff College,

No officer who aspires to be in a high position on the staff or in command can exercise to the full his powers and capabilities if he does not study economy and the power of money to provide what is required.

Trenchard believed that delivering efficiency and economy was not just the business of those in higher headquarters and that to avoid the 'Geddes axe' there was a need to promote a culture at all levels in the RAF that sought a maximum of efficiency at a minimum of cost. He told squadron commanders,

Your pilots may fly in better formation than anyone else's pilots. Ask yourself, are you running them at less cost than anybody else.

Today, a good example of this would be the Typhoon Total Availability Enterprise agreement, which should enable some £500 million to be reinvested in upgrading Typhoon's capabilities through efficiencies delivered in Typhoon support and maintenance activity. This shows that under the Levene model we have both the authority and opportunity to deliver and benefit from greater efficiency.

Also, in what might be considered foreshadowing of what is known today as 'cross D-LOD trading', Trenchard highlighted the need to fund a significant infrastructure spend by, and I quote,

Exercising rigid economy over personnel and technical equipment in order to free as large a part as possible of the total sum provided towards the provision of barracks.

It was this approach that made the plans for Cranwell, Halton and Andover affordable and deliverable and an approach that is needed today throughout our organisation, and across our activities, if we are to ensure our ambitious plans for the Next Generation Air Force are realistic and affordable. Trenchard's words then resonate today:

You should at all times apply your thoughts and brains to the expansion of materiel and personnel without increasing either.

DELIVERING THE NEXT GENERATION AIR FORCE

Let me now expand on what we mean by the Next Generation Air Force. First we avoided using the term 5th Generation Air Force to emphasise that our ambition for the future extended beyond simply operating 5th Generation aircraft. ,Also by using the term Next Generation we wanted to reinforce the sense that the future state aspired to was different to the current state.

As the strategy says, our Next Generation Royal Air Force will fly and fight in an environment that will be contested by agile and more capable enemies, who will be more able than we have seen for a generation and will challenge our strengths and exploit our vulnerabilities. Our aircraft and systems must, therefore, be seamlessly integrated to allow the swift transfer and exploitation of information, rapid decision making and timely delivery of effects.

In sum, the Next Generation Royal Air Force is about Information, Integration and Innovation, enabled by imaginative and motivated people.

5th GENERATION CAPABILITY

Whilst we avoided using the term 5th Generation Air Force, one should be in no doubt that the 5th Generation technology of the F35 will herald a step change in the potency and utility of our Air Force. In the same year we celebrate our 100th Anniversary we will welcome back to the RAF front-line, 617 Sqn, the Dambusters. Trenchard emphasised the importance of the Squadron, the RAF's fighting unit, as a way of fostering the Air Force spirit. The feats of Guy Gibson and 617 Sqn in the Second World War, not only epitomise the fighting spirit of the RAF but they support Trenchard's view of the aircraft as an inherently offensive weapon. Armed with the F35, 617 Sqn will be ready to operate in the most contested of battlespace. But the old language of fighters, bombers no longer applies. The F35 defies use of such labels. Simultaneously it can fight, bomb, control, deliver understanding and threaten even the most capable foe. It can influence his cost-benefit calculus by holding at risk that which he values most, whether being flown from ship or from shore. But F35 and the Next Generation Air Force needs more than a change of lexicon, we also need to transform our thinking and the way we train, exercise and prepare for operations.

Today's Air Force is more combat experienced than it has been for generations. Whilst this is a strong starting position for us, there is a danger that our excellence at the tactical level blinds us to shortfalls at the operational level. As CAS said last year:

We need an Air Force which matches outstanding tactical delivery of air power with its thinking lifted also to the Operational-level, and with its future Command and Control capabilities developed accordingly.

THINKING TO WIN

This need to lift our thinking to the operational level is one of the objectives of the RAF's Thinking to Win Programme. We want to create an environment where innovation is ingrained, our thinking at the operational and strategic levels is transformed, and we better understand and promote air power. In short the aim is to sharpen our intellectual edge and to reinvigorate the conceptual component of fighting power.

This will enable us to better integrate with other domains such as space, cyber and sub-surface. It will ensure we synchronise effectively our operations with the other Services and with the other levers of national power. In a mix of old and new speak this is about Networked Enabled Capabilities delivering a Full Spectrum Approach.

HOME AND AWAY

The Next Generation Air Force will challenge a number of orthodoxies, not least that which draws a distinction between forces at home and those on deployment. We already see a blurring of the terms home and away, not least at RAF Waddington. The Reaper crews operating from cabins in Lincolnshire make a critical, daily contribution to operations in both Iraq and Syria. Our other ISTAR assets, the eyes and ears of the RAF, launch every day from RAF Waddington into Europe, providing invaluable insight and understanding for the UK, its allies and NATO.

While maintaining the integrity of the United Kingdom's airspace will remain our primary role at home, we believe that new capabilities like Protector, can play a part in homeland security, notwithstanding the cultural, legal and regulatory challenges that will have to be addressed.

We continue to develop the National Air and Space Operations Centre at High Wycombe, from where we can command and control operations at home and away independently or in concert with other Joint HQ and Allied partners, and as an alternative to, or an augmentation of, a deployed HQ. This surely is the efficient and economic approach Trenchard would have encouraged and is one of many opportunities offered in this Information Age. But we still have some way to go to integrate, exploit, support and recognise people operating at distance from the battlespace.

FRONT LINE TRAINING

As well as developing how we think, we will also transform how the front-line trains. Whilst my focus earlier was on the training and education of individuals, I believe that similar energy needs to be invested in transforming the way we train collectively. The Defence Operational Training Capability for the Air environment will deliver a step-change in how we train, exercise and prepare. It will span the live, virtual and constructive environments and offers economic and efficient training at home and when deployed, including on-board the new Queen Elizabeth Class carriers.

We must also continue to exploit the synergies that exist in the potent F35-Typhoon partnership. Our experience to date of the fusion of 4th and 5th generation capability has given us but a glimpse of the enormous potential available, potential we will continue to unlock nationally and along with our NATO partners.

Critical to the Next Generation Air Force will also be our ability to integrate with those at sea and on land, when on operations and when training, in both the live and virtual environments.

We must not fool ourselves that the kind of operations we have conducted together in the recent past will necessarily prepare us well for the potential operations of the future. As Gen Mattis warned recently, *'When our soldiers hear the noise of aircraft they no longer look upwards, assuming the jet aircraft to be friendly; this will not always be the case'*.

The Air-Maritime seam is in particular need of attention. Unlike with the Army, recent operations have not provided the Navy and Air Force with opportunities to operate together in any significant way. But the entry into service of both the F35 and the P8 provides the imperative and opportunity for us to address this shortfall.

CONCLUSION

As we build towards the Next Generation Air Force we would do well to remember Trenchard's challenge:

'The test of every fighting Service is war. Its organization, training, distribution, systems of command and administration must always be primarily governed by this consideration'

At a time of significant operational tempo, we must not forget that the challenge posed by the JF 2025 headmark is significant in terms of both ambition and affordability. But as it was 100 years ago, so it is today. The extreme importance of training endures and the Trenchard Group promises to be an exciting and ambitious legacy of our centennial celebrations. As we move into our second centenary our ambition is to become an Air Force that has information as its lifeblood, and has the people, equipment and doctrine to allow us to respond rapidly and decisively to changing threats across the spectrum of conflict. We will do this by: Focusing on our people. Delivering on operations and growing our front-line.

This is a formidable challenge and one that will require us to think deeply, broadly and differently.

I am grateful to you Professor Chalmers and to RUSI for this opportunity to speak today and for enabling me to see for myself the evidence that Lord Trenchard was a social visionary, a great man and a man to inspire the Next Generation Air Force.