June 2024 ISSUE 63

A R P L OT

INSIDE FLYING INTO ANTARCTICA HUMAN FACTORS PRINCIPLES ARE YOU OVER-CONFIDENT?





THE HONOURABLE COMPANY OF AIR PILOTS incorporating Air Navigators

PATRON: His Majesty The King

MASTER: Richie Piper Esq BSc(Hons) FRAeS

CLERK: Paul | Tacon BA FCIS

Incorporated by Royal Charter. A Livery Company of the City of London.

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The Honourable Company of Air Pilots, Air Pilots House, 52A Borough High Street, London SEI IXN EMAIL: office@airpilots.org www.airpilots.org

EDITOR:

Allan Winn BE(Mech), FRAeS EMAIL: editor@airpilots.org

DEPUTY EDITOR: Chris Long FRAeS EMAIL deputyeditor@airpilots.org

EDITORIAL CONTRIBUTIONS:

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website via this QR code, or follow us on X, @AirPilotsCo



DIARY 🖹

Applications for Visits and Events

Details and application forms for Company events and visits are now available only online - either on the website or via links in the electronic newsletter and events bulletins.

JUNE 2024

5 th	APFC Fly-in	Compton Abbas
9 th	GP&F	APH
20 th	APFC Fly-in	Berrow
27 th	T&A Committee	APH
30 th	Master's Garden Party	Brooklands Museur

JULY 2024

3 rd	ACEC	APH
10 th	Company visit	J M W Turner's House
th	GP&F	APH
th	Court	Cutlers' Hall
17 th	Gun Salute	Tower of London
23 rd	APBF	APH
24 th	Company Visit	RAF Northolt

AUGUST 2024

6th	APFC Fly-in	Popham
l 8th	APFC Summer BBQ	White Waltham

Cover photos: Assistant DJ Gibbs displaying the Grob Tutor at the Bournemouth Air Show 2023 (DJ Gibbs); RNZAF Boeing 757 at Phoenix Airfield, Antarctica (NZ Defence Force)

Guidelines for submissions to Air Pilot

Please submit contributions as follows:

- Text in word document, including your name below the title of the piece;
- Photos as separate attachments, not embedded in emails;
- All images to be sent as jpeg files with a file size of at least 2MB;
- Attachments totalling more than 15MB to be sent via WeTransfer only.

AIR PILOT lune 2024

A MESSAGE FROM YOUR EDITOR...



The commemorations in early June marking the 80th anniversary of the D-Day landings of 1944 give not only an opportunity to remember, honour and celebrate the bravery, skill and sacrifice of those who took part in the greatest

airborne invasion of all time, but also the chance to reflect on whether, and how, such a feat could ever be repeated. That nearly a dozen of the hundreds of the very Douglas C-47 Dakotas which dropped parachutists into Normandy on the night of 5/6 June 1944 would not only still be flying but be available to recreate their tasks of 80 years ago is frankly remarkable. What is even more remarkable is that so many of these warhorses and the hundreds more of their type which were to carry on delivering paratroops, gliders and supplies into the battlehead (alongside glidertowing RAF Handley Page Halifaxes and Shorts Stirlings) survived despite being unarmed, flying low and slow through both aerial and ground enemy fire. It was not without justification that Gen Dwight D Eisenhower listed the C-47 alongside the Jeep, the Bazooka and the atomic bomb as the four 'tools of victory' of World War II.

In these days of satellite surveillance and ever-observant social media, it would be nigh-on impossible for an invasion force of the scale of the 1944 one to be assembled and deployed outwith the sight and knowledge of an enemy. It would also be impossible to match the C-47's staggering build rate (10,000 in six years) with today's highly sophisticated and complicated transport aircraft - albeit their greater size and speed would mean fewer needed anyway – or to modify today's vast existing fleet of airliners to satisfy the trooping and logistics demands of a modern-day invasion.

For all those reasons, what will have been shown by the time this issue appears is something that could never be repeated. Even though examples of the Lockheed Hercules and Boeing B-52 will almost certainly still be flying 80 years after their types first flew (and even a re-engined B-52H flying for its centenary in 2063...), there is a vanishingly small chance that the actual C-130As and B-52Bs airframes of the 1950s will be available to re-enact their operations in the 2030s. Even those types are, of course, outliers in an age when many of even the most advanced transport aircraft are unlikely to still be in service on their 20th birthdays. So this June we should look on in awe and admiration of the remarkable C-47 and those who flew, and flew in, it.

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Allan Winn - Editor

NEWS ROUNDUP





LUNCHEON CLUB, 24TH APRIL

By The Editor

The Air Pilots Luncheon Club was treated to an entertaining talk by Liveryman Tom Eeles on "The Folland Gnat – Petter's Pocket Rocket" at the RAF Club on 24th

April. Tom, who co-authored the book *Gnat Boys* with PM Rick Peacock-Edwards, and is clearly an enormous enthusiast for the Gnat, began his talk with a summary of the career of "Teddy" Petter, the Gnat's designer.

Petter was responsible for the Lysander, Whirlwind and Welkin at his family firm Westland, before joining English Electric, where he designed the Canberra and the P-I, which was to become the Lightning. Feeling that fighters were becoming too big and too complicated, Petter moved to Folland to pursue his vision of a small, agile fighter costing one-sixth of the price of a more sophisticated aircraft.

The result was the Midge prototype, powered by the Armstrong-Siddeley Viper from the GAF Jindivik target drone, which led to the Bristol-Siddeley Orpheuspowered production Gnat F1, bought by Finland and India and later licence-built in India as the Hindustan Ajeet. The Indian aircraft achieved fame as "Sabre Slayers" for their combat successes in the various conflicts between India and Pakistan in the 1960s.

The Gnat was later adopted by the RAF in two-seater form as an advanced lead-in trainer to replace the de Havilland Vampire T.11 and Gloster Meteor T.7, featuring conventional ailerons in place of the F. I's flaperons, an enlarged fin and an integrated flight instrument system instead of the F. I's 'black hole' traditional instrument layout. Overall, 449 Gnats and Ajeets were built.

"A COMPLEX LITTLE AEROPLANE"

Much of Tom's talk concentrated on the challenges of flying what was a technically complex little aeroplane, saying that while he and other pilots loved it: "Those who couldn't cope with it, hated it." Much of the complexity revolved around its hydraulic longitudinal control system which managed the changes in trim resulting from the use of the landing-gear doors as air brakes, through autocontrolled small elevators on the all-moving tailplane. This complexity led in turn to a lack of reliability and availability, resulting in the RAF adding the Hawker Hunter to its training fleet at RAF Valley.

The Gnat achieved its greatest fame in RAF service as a display aircraft, initially with the Yellowjacks (as featured on the front cover of *Air Pilot* April 2024), quickly renamed the Red Arrows as: "Their Airships didn't like yellow". After the Gnat's retirement from RAF service in 1979 (one was kept by the Royal Aircraft Establishment for research work) several found homes in with private operators, most notably the Aviation Heritage Trust at North Weald, which has now also acquired a single-seat Ajeet which it hopes to return to flight. All in all, this was a thoroughly enjoyable talk by Tom on what was eloquently described as an aircraft "...too good for the students."

NEWS FROM AFFILIATED UNITS

RAF BATTLE OF BRITAIN MEMORIAL FLIGHT

The 2023-24 winter servicing period saw extensive maintenance on the BBMF aircraft, especially the Flight's Avro Lancaster PA474. In addition to the 'Lanc' having its 'Annual' servicing, two of its Rolls-Royce Merlin engines have been changed and the engine bearers renewed. Most significantly, the Lancaster's tailplanes had reached the end of their safe life as recommended by BAE Systems and, in the culmination of a 10-year project, brand new tailplanes have been manufactured by the Aircraft Restoration Company at Duxford, and fitted to keep the aircraft flying into the future. This is the first time that



the BBMF Lancaster gets its upgrades (Clive Rowley) Lancaster tailplanes have been constructed since 1945 and it has been a massive engineering challenge. Whilst the Lancaster's tailplanes were removed, the tailwheel support

housing was also replaced with a newly-built item. Meanwhile, Supermarine Spitfire Mk XVITE311 has returned to the Flight in new markings after a 'Major' maintenance programme at Biggin Hill, which took almost two years. Spitfire PR Mk XIX PM631 has also emerged from a 'Major' conducted by the BBMF technicians, a first for the Flight, which has taken over 2½ years. The BBMF expects to be at the forefront of events for this year's D-Day 80 commemorations, although unfortunately the Flight's Douglas Dakota will not be available whilst its 'Major' servicing is completed at Duxford. This is the final year in command of the Flight for Sqn Ldr Mark 'Suggs' Sugden, and he is planning to present some larger BBMF formations at major air shows this year, to provide a unique visual spectacle combining the Flight's many national icons.

UNIVERSITY OF LONDON AIR SQUADRON ANNUAL DINNER

The Master and Assistant Seb Pooley, the Company's Liaison Officer with the University of London Air Squadron (ULAS), attended the Squadron's annual dinner at the Royal Air Force Club on 21st March.

The Guest of Honour at the dinner was Air Marshal Clare Walton CB KHP, Director General Defence Medical Services, who had come through Oxford University Air Squadron before being commissioned into the Medical Branch in 1987.

The highlight of the evening was the presentation of awards to the top performing cadets. The Honourable Company of Air Pilots' new trophy for best pilot was awarded to Officer Cadet Alex Howells, the announcement of which was greeted with huge applause from his peers. Officer Cadet Howells will also receive funding towards some gliding hours as part of his award from the Company.



Alex Howells (I) receives the Air Pilots Trophy from The Master, overlooked by AM Clare Walton

■ In our News from Affiliated Units (April, p7) we incorrectly referred to the University of London Air Squadron in our headline as "London University Air Squadron", and compounded the error later in the article by using the acronym "LUAS", which actually is the identity of the Liverpool University Air Squadron. We apologise for the error, and thank Liveryman Nick Wilcock (himself a former Senior Student of ULAS) for pointing it out.



RAF MUSEUM On 12th April, the UK Prime Minister, Rishi Sunak, and Johnny Mercer, Minister for Veteran's Affairs, chose the RAF Museum to hold a question-and-answer session with veterans on the Government's pledge to support veterans. During the three-hour visit Freeman Maggie Appleton, CEO of the museum, introduced the PM to some of the organisation's veteran staff and volunteers, and highlighted some of its extensive collections.

GASCO UPDATE

By Upper Freeman Stephen Hayman

It has been announced that the CAA has awarded the General Aviation Safety Promotions contract for the next three years to Astral Aviation. GASCo had tendered for it but was unsuccessful.

Because of the inclement weather there has not been a great deal of news or flying for that matter. Having said that the first GA fatality of the year occurred on 26th March at Duxford which was widely publicised in the press. It was a Cirrus SR22 flown alone. Our thoughts are with the pilot's family and friends. This was the first fatality of the year, in fact for six months.

The CAA advises that there are several updates on its web site including Skywise and CAP413.

Infringements are still of concern and of particular note

is the increase in military airspace and aerodrome zone infringements. It was suggested that in training pilots, greater attention should be given to take-off stalls, or highpowered stalling, the cause of several accidents recently.

There are also concerns over complicated noise abatement procedures in some airfield circuits. I brought up the use of *what3words* app should any pilot come into difficulties, as all the emergency services now use this as their prime navigation to an incident. If you haven't tried it, do so. It's great.

This year sees the 60th anniversaries for GASCo and the Vintage Aircraft Club. The GASCo AGM is to be held on 3rd July and not the 24th because of a clash with the Farnborough Air Show. □

THE AIR PILOTS FLYING CLUB

By Liveryman Rob Owens, Chairman

The Freddy Stringer Lunch took place on 14th April and the Start of Season Lunch on 21st June, both at White Waltham.The two lunches were very well attended, with a full complement of 26 on the 14th June.

As always, the backdrop of the quintessential airfield and some sunny weather on both Sundays combined to make

the lunches most enjoyable. With the good weather, a few of the attendees chose to fly in to enjoy the excellent three-course meal.

Once again a mention must go the airfield catering staff for the hospitality and very good service that they continue to provide.

GAZETTE APPROVED BY THE COURT 16 MAY 2024

ADMISSIONS

As Upper Freeman Matthew FLEET (AUS) Nicholas Bruce GIBB (NZ) Iain Robert HANSON (OS) Thomas Lawrence KRAWINKEL (HK)

David Martin LEWINS Janet PATTON (NA) Konstantinos PECHLIVANIS (OS) Andrew Edward VIALL Danielle Sally WELCH

As Freeman

Christopher James BANNOCKS John Lester CLARKE (AUS) Paul Frederick FRAMPTON Jason David SANDEVER

As Associate

Liam DOHERTY (AUS) Callum Andrew FIGGINS

James HALE

Thomas Lawrence Bernard HALLORAN Jack Benjamin JENNER-HALL James David MARSHALL Darcy Andrew McGOUGH (AUS) Samuel Ryan MIMMS

Kyle Copeland STEYN (AUS) Alegra Elizabeth TAYLOR (AUS)

ACKNOWLEDGED BY THE COURT 16 May 2024 REGRADING

To Livery

Stephen WALLACE James WINSPEAR Deborah EVANS RESIGNATIONS

Philip BASS David BATCHELDER James BROOKS Pierre COTE Jain ELLIOT James GAGGERO Aaron GALLAGHER Alexander GURR Malcolm HUMPHRIES Jan HUNTER Patrick MORDECAI Mark PONTING

FORFEIT ALL BENEFITS

Harry BUTLER Constantin DARANUTA Tim GIBSON Michael JONES Ian LETHBRIDGE Travis LUDLOW Roy MANN Andrew MUTTITT Aoife O'SULLIVAN Peter ROYCE Kevin SIMMONDS Oddvar STRAND Benjamin WARD Shaun WEIDEMAN **DECEASED** Martyn FIDDLER Roger KENWARD

Mark PETRIE



AIR PILOT June 2024



THE MASTER'S MESSAGE By The Master, Richie Piper

You may remember that in my initial Master's Message, I declared that the theme for my year would be the three

pillars of **Extend**, **Encourage** and **Enjoy**. This time of the year is certainly a key period when we Encourage young people to get their start in aviation with the culmination of the Scholarship selection process. From the thousands of applications we receive in the New Year, the dedicated team of sifters and interviewers whittles those down to the final number who are awarded their scholarships. My thanks go to all the team involved, for not only the time and effort they put in, but also the quality of the scholars chosen. The quality and talents of these young people are proven year after year by their subsequent success in the industry, in which we can justly feel proud to have played our part.

As well as the Company and our charities funding an array of the scholarships, we have a number of valued sponsors whose generous support means we will be able to help over 300 young people this year. The sponsors range from individuals, companies to other livery companies and it is pleasing that the Worshipful Company of Gold and Silver Wyre Drawers and Skydemon have joined this esteemed sponsors group.



Visiting Masters at the Woodmongers Banquet

AIR CADETS AWARDS

I have recently had the pleasant task of attending various Air Cadets and University Air Squadron events to present awards. One was the London Wing Air Cadets Jack Petchey award ceremony where three of us presented 170 awards and were entertained by a squadron choir and also a drum display. I was pleased to present a leadership award to the CO Wg Cdr Cameron Braddy-Green with whom we have built a stronger affiliation. The Qualified Aerospace Instructor Course is a sixmonth programme to train some of the top Air Cadets in how to deliver training in aerospace subjects such as aerodynamics, using 3D-printed aerofoils in wind tunnels, flight and ATC simulation, and various aviation subject lectures. It culminates in syndicate presentations to senior air force staff on subjects such as the importance to the UK of having our own space launch capability or whether the Lockheed C-I 30 Hercules should have been withdrawn. The leading cadet on the QAIC receives a poignard from the Air Pilots. It is a great pleasure to meet Air Cadets and to see how membership has benefitted their personal development.

COBHAM LECTURE

You will read elsewhere that we had an exceptional speaker for our Cobham lecture, Wg Cdr Richard "Dicko" Beaton of the Royal New Zealand Air Force, talking about Antarctic air operations. The talk covered a subject a long way away geographically and also far removed from most people's aviation experience. We learned so much about the continent (who knew that most of it was 8,000ft of ice on top of rock, and that parts of it are the driest place on earth, without any rain for years?). The geopolitical uncertainty of the region mirrors that of space. As the Editor's report details, the lack of alternates and the extended distances involved present many challenges. To put it into context the Airbus A350XWB has an ETOPS approval of 370min, but Antarctica is still the one place in the world over which it cannot operate.

"Dicko" came over at his own expense and was accommodated by fellow Liveryman Rob Edwards, to

whom I give my appreciation, and made the most of his visit. He took part in the ANZAC commemorations at the Bomber Command memorial at 4am on 25th April, and



Wg Cdr Richard Beaton (I) and HRH The Duke of Edinburgh (centre) Iay ANZAC wreaths

later laid a wreath at the Cenotaph along with the Duke of Edinburgh. It was my pleasure to take him to visit the RAF Museum at Hendon, and appropriately I took a picture of him in front of a Hercules, a type on which he has many hours.

A further example I witnessed in **Encouraging** young people was our careers team's attendance at Pilot Careers Live at Heathrow. Led by Assistant Steve Durrell, a team of over 15 manned two stands providing advice, running aptitude tests and - a new addition - running a practice group assessment exercise to prepare for that used in airline pilot selection. This is another example of the work that Freeman Will Wright and Assistant Peter Taylor have put in to enhance our offerings.



A very busy Pilot Careers Live

The visits team has been hard at work with the first of two visits to NATS completed, and a visit to the London Air Ambulance was due to have happened by publication. The Army Air Corps visit has had to rescheduled for reasons beyond our control. The e-newsletter provides details of all visits, as does the **www.airpilots.org** website under the Company Calendar section, where you also can book for these events.

AIR AMBULANCE

You are probably aware that the London Air Ambulance is in a race to fund two new helicopters. The two new aircraft have arrived and are being equipped, and the LAA is commencing crew training to be ready for October this year. Whilst fund-raising has been well supported, there is a long way to go and there is a real risk that the LAA will have to eat into reserves to cover the shortfall, thereby jeopardising future projects.

It should be noted that the LAA not only runs a highly valued service for Londoners, it also pioneers new techniques and represents the state of the art in its discipline, passing on training to other air ambulance operations in the UK and abroad. The LAA actually only carries patients on fewer than 6% of its flights, as its main purpose is to get doctors and paramedics quickly to casualties and perform life saving procedures at the scene. Transfer to hospital once stabilised is usually carried out by road ambulance whilst the helicopter is made ready for re-tasking. The need for a final push for funding is one of the reasons why it is one of my Master's charities for the year. If you would like to support the LAA direct, please follow the link **https://www.londonsairambulance.org. uk/up-against-time-appeal**.

I remind you that the Trophies and Awards committee is in the process of reviewing nominations for awards for the T&A in October. If there is a person or organisation you would like to nominate for an award, time is running out, so please complete a submission with the details for a citation. Again, the website has details of the awards and how to submit nominations.

EXTENDING ENJOYMENT

Covering the joint themes of **Enjoy** and **Extend**, the Master's Garden Party, for which bookings will soon open, is a chance hopefully to have an enjoyable event whilst Extending an invitation to your aviation friends and colleagues to come along and enjoy the day with us. There will be a lunch in the Member's suite and, of course, a chance to see the aviation and motoring history associated with Brooklands. I know some of the aircraft will be well known to members, as they flew them when in service. Don't forget there will be the chance for eight people to have 'Silver' simulator sessions with a Concorde pilot and make a contribution to the Master's charities.

The Airspace Technical Group, in consultation with the DAA, recently decided to change its name to the Airspace Innovation and Research Technical Group, to more accurately reflect the scope of the work it is undertaking. One area I would like to highlight on which it will be looking for input soon is Runway Incursions. There have been a number of lucky escapes in the last year and research has shown inconsistencies in international rules implementations, together with potential for procedural and technology-based improvements.

It certainly has been a busy and enjoyable start to my year. It provides an excellent opportunity to get to know other livery companies and their Masters and Prime Wardens, while being able to explain what the Air Pilots is about. However, if I think I am busy, the Lord Mayor significantly raises the bar with his work for the City. His theme of the City of London as 'the world's coffee house', and delivering' Knowledge Miles' in so many sectors beyond finance, is in full swing. He has chosen to highlight the fact that the number of scientific jobs in the City (with over 125 scientific institutions withing the Square Mile) outnumbers those in finance and insurance,.

Finally, may I take this opportunity to thank all those who have expressed their good wishes for the year. It has exceeded my expectations so far, and it is a pleasure to be an ambassador for all the good work that the Company's members undertake.

REGIONAL REPORTS

Regional Report: Hong Kong



By Immediate Past Chairman Liveryman Valerie Stait

When I took over as Chair two years ago, it was a very different time for Hong

Kong. Some have asked me why I put my hand up in the depths of a pandemic and I admit it has been challenging, but also extremely rewarding being at the helm during this unique period. As Hong Kong gradually recovered, we took opportunities as they emerged, and have taken concrete steps to bring the Air Pilots into a new chapter, more focused on connecting with aspiring aviators and developing talent. The demand for air travel in Hong Kong is coming back rapidly and it is an exciting time to start a flying career here. The Asia region, particularly transit traffic, is rebounding and boosting aviation worldwide, as cited in 2023 Heathrow traffic figures, most encouraging for Hong Kong.

This is quite in contrast to the start of my term as Chair. We were barely flying. Arduous restrictions, severe quarantine measures and a large outflux of pilots from the region made for incredibly challenging times for aircrew and for the Company. It is a testament to the Hong Kong crews and the aviation industry here that we managed the circumstances so stoically and professionally. This period also highlighted how vital air transport is between Hong Kong and the rest of the world. We are the links and supplies that keep the region going. The situation also prompted us to look at ways of offering more support, and three members underwent Peer Support training kindly undertaken by Past Master Nick Goodwyn.

SOCIAL ACTIVITY RETURNS

Social activity and networking are fundamental to so much of what we do: however, social events were difficult or downright impossible for the better part of three years and we sadly missed several Masters' visits. That made it all the more heartening when restrictions started to lift, with former members coming back from other regions and new members joining. Finally, we were able to renew old links and friendships in person and talk flying over a drink again! Despite the large outflux, we have been gradually gaining new members and numbers remain steady now. It was very fitting that Jonathan Legat, with his long affiliation with Hong Kong, was Master at the same time as I was Chair. One success during this time was to renew ties with the Air Cadets for the first time in 10 years, with members giving lectures and holding joint industry visits. Our hope for the future is to connect with, and inspire, the next

generation of young people interested in aviation. We have been leveraging social media and extending open invitations to social events such as our 'Bar Squawk' evenings - informal flying-themed meetups. Originally aimed at training, these expanded to include young people aspiring to get into aviation, several of whom have gone on to be offered positions at airlines within just a few months.

RENEWED LINKS

Further afield, I was keen to renew our links with other aviation bodies post Covid-19. We collaborate regularly with the Hong Kong Observatory, offering expert advice and input from the 'sharp end' to its innovative projects and developments. We also continue to



New Hong Kong Chairman, Liveryman Rob Jones

be represented on various Air Pilots Forums. The Master's visit last year was a great boost to the region. It renewed our links with London and reminded us of what the Air Pilots is all about. Most of all, the week brought people together, with the largest gathering of members we have seen since the pandemic.



Renewing links with the Air Cadets has been a major success for the Region

Although there is still much to do, I hope my tenure has provided a foundation and direction for new Chairman Liveryman Rob Jones and Vice-Chairman Upper Freeman David Sampson to take the region into its next chapter and promote the growth of the Air Pilots as a whole. I will continue to be involved with the Air Pilots on the social side and in various working groups. Hopefully, I will catch up with some of you in person somewhere around the world over a glass or two. Despite the challenges (or perhaps because of them), it has been interesting, uplifting and a privilege to serve the Honourable Company as regional Chair, as reflected in a few pictures that capture the memories of the past two years.



Regional Report: Australia

By Liveryman Capt Adrian Young, Chairman

In March, the Australian Region held its Annual General meeting resulting in me

being elected as the new Chair. I thank Liveryman Spencer Ferrier for his efforts and contributions over the past two years in leading the Australian region.

I have been a member of the Air Pilots since I was a teenager, and for the past 30 years have held numerous roles in the Australian Region including Technical and Air Safety Director and Deputy Chairman of the Australian Region. For the past 10 years I have served on the Australian Region's Trophies and Awards Committee. I am a professional pilot with over 35 years' experience, with the past 25 years with the Qantas Group where I have held various leadership roles such as Head of Flying Operations, Head of Safety and AOC Accountable Manager. I also sit on numerous aviation industry boards providing advice. One of my key passions is giving back to an industry that has provided me with so much.

The Australian Region Executive Council and I are working through a three-tier strategic plan namely – Engage, Inspire and Support.

Engage is focused on the Australian region's membership and improving the value proposition through enhanced communication, engaging the membership more broadly and ensuring a "seat at the table" to represent a voice which is balanced across all facets of aviation and aerospace. One key element of Engage is providing an Australian footprint of Working Groups across all states to ensure members can participate. opportunities for mentoring and career support in the Australian industry.

Upper Freeman Capt Brian Greeves, the Technical and Air Safety Chair, has been actively responding to Australian industry matters including:

- Western Sydney Airport Airspace and the impact on General Aviation;
- Improvement of weather forecasting by the Bureau of Meteorology through the Aviation Industry Forum;
- Australian Government inquiry into aircraft noise;
- Australian Civil Aviation Safety Authority's (CASA) proposed new guide to building a safe vertiport.

Over the coming months, an Australian Region Technical and Air Safety Committee will commence leveraging the variety and extensive experience across the Company's membership base.

Upper Freeman Wing Commander (Retd) Arnie Morscheck, the Aviation Careers and Education Chair, and his committee have been busy managing the Australian Scholarship program. Several aviation businesses have indicated future scholarship support which will result in more potential scholarships and expansion of the program in 2025.

Planning has commenced for the Master's visit later this year: the Australian region is looking forward to the visit and hopefully the visit will allow the Master to engage with a new Working Group in Western Australia (WA), for the first time in the Australian Region's history.

Inspire is concentrating on establishing a Young Air Pilots (Australian Region) which will provide a voice for Young Air Pilot members. This in turn will drive more opportunity to encourage future Young Air Pilots to join.

Finally, the **Support** pillar is driving more industry support for the Australian Region's scholarships, events both formal and informal for Australian members, and

10

The Australia Region is addressing the impact of the new Western Sydney Airport on the surrounding airspace and nearby Bankstown and Camden Airports (Google)





Regional report: New Zealand

By Liveryman Capt Allan Boyce, Chairman

As recorded in the February issue of *Air Pilot*, the New Zealand Region hosted an extremely successful visit by the then-Master, Capt Jonathan Legat and his wife Dominique in late October/early November 2023. The visit embraced meetings with the Director of the CAA, the Chief of the Air Force the CEO of the Aviation Industry Association and the CEO and the Chief Investigator of Transport Accident Investigation Commission. A wide range of topics was canvassed at each visit and some



pretty meaty proposals put to us to contemplate and digest. The Master also attended two industry symposia and formal and informal dinners in Wellington and Auckland.

In February I

Air Cdre Andy Scott (I) presents the Air Pilots Sword to Sqn Ldr Ben Woodhouse

attended two meetings of the New Zealand Aviation Federation (NZAF) and an official dinner. We are continuing to develop a strategy to encourage other organisations to unite with us in our desire to get a review of the Health and Safety at Work Act 2015 as applied to the Aviation Industry, because of the devastating effect the Act is having on the flow of information to the Regulator.

Some of our technical work is ongoing, if somewhat frustratingly. The Civil Aviation Act has been sent back to a Parliamentary Select Committee for further amendment, and the 'Enabling Drone Integration' proposals have not progressed any further. On a happier note, our Technical Director, Liveryman Mike Zaytsoff, is continuing to facilitate a series of interesting technical webinars, with increasing attendance each month.

Our annual Scholarship to help a promising pilot with Instructor Re-Categorisation was awarded at the Walsh Memorial Scout Camp in January 2024, but not formally presented due to an outbreak of Covid-19 at the Camp (no visitors were permitted to attend the awards evening). The Scholarship winner, Erin Mead, was officially acknowledged at the webinar on 13th Feb.

In April two Regional Chair Zoom Meetings were held to introduce the new Master, Richie Piper, who had been duly installed in March and who will make an official visit to New Zealand in November.

In 2011, in support of strengthening ties between the Air Pilots (then GAPAN) and the Royal New Zealand Air Force, the Air Pilots presented the RNZAF with a sword to be presented at its discretion for an outstanding contribution to the delivery of air operations. The 2023/24 award was made to Sqn Ldr Ben Woodhouse for his exceptional work in support of the introduction into service of the Boeing P8A Poseidon. The sword was presented on 2nd November 2023 by the Air Component Commander, Air Cdre Andy Scott.



North American Harvards prepare for Auckland's Battle of Britain flypast

PROFESSIONAL DEVELOPMENT WEBINARS

Our Technical Director has continued managing a series of professional development webinars each month. The April webinar was joined by the new Master, and featured a presentation by Matt Robinson, President of the Southern California Safety Institute. His presentation on underwater location and recovery following aviation accidents was extremely interesting.

During the then-Master's visit late last year he attended a presentation on RNZAF Antarctic Operations by Wg Cdr Richard Beaton. The Master was suitably impressed and invited Wg Cdr Beaton to deliver the presentation as the 2024 edition of the Cobham Lecture, held annually in the RAF Club in London. In late April Wg Cdr Beaton (a recently accepted Upper Freeman) travelled at his own expense to London to deliver the presentation. In recognition of the *mana* (esteem) this provides to the NZ Region, the committee provided a modest grant to offset some of the associated travel costs.

CORRIGENDUM

In the April issue of *Air Pilot* it was mistakenly stated that that the examination and assessment-services company ASPEQ is owned by the New Zealand Aviation Federation (NZAF) and Flying NZ: in fact, ASPEQ is owned by NZAF and the Aviation Industry Association (which had been known until 1st March 2024 as Aviation NZ). We apologise for the error.



HELPING DREAMS TAKE FLIGHT

By Upper Freeman David Burns

From a young age, my fascination with flight was kindled by my family's

involvement in the industry and my own global travels. Despite leaving school early, my determination to realise my dream of becoming a pilot never wavered.

I worked odd jobs, from fast-food restaurants to car sales, all while keeping my eyes on the horizon. Starting with my private pilot's licence and hour-building in the Midlands, I then pursued my commercial flight training in Bristol. My perseverance and commitment were rewarded when I landed my first pilot position with Susi Air in Indonesia, a Part 135 operator which featured prominently in various television documentaries, flying as a First Officer and later as a Captain on the Cessna Grand Caravan. Susi Air's role in providing crucial air transport services to remote areas across the Indonesian archipelago was indispensable.

Since my time with Susi Air over a decade ago, I've flown the Boeing 737 for various European airlines, transitioning from a First Officer to a Captain, and now a Type Rating Instructor. Alongside my flying career, I'm a proud member of the Royal Aeronautical Society and the Honourable Company of Air Pilots.

THE WATCH

In 2023, I co-founded The Flyer Watch Company, a British family-owned brand that deeply values aviation. With over 25 years of experience in the industry, our mission goes beyond watches; it's about supporting dreams and making a meaningful impact in the lives of aspiring pilots.

Watches have always been associated with particular passions such as space, motorsport, diving and aviation. I have always been fascinated by watches from a young boy. Many people remember their first watch. I remember the first watch my parents and grandparents each bought me. I have kept them to this day. In a more recent milestone, I acquired a watch when getting my command on the 737, as a symbol of my achievement.

It was important that The Flyer Watch Company was not just about watches, but our ethos of giving back. With a portion of the profits from each purchase allocated to scholarships and charitable causes, we're not just a business; we're a beacon of hope for those with aviation aspirations.

When I think back to my childhood, watching an aircraft take off, witnessing a pilot strolling through the airport, or catching a documentary about aviation and imagining being in their shoes, I was one of the lucky ones. For many, that dream still lingers in the background, but life often gets in the way, especially when it comes to finances. The dream of obtaining a pilot's licence, for example, can seem financially out of reach for so many. I always think of the quote from J M Barrie's Peter Pan: "The moment you doubt whether you can fly, you cease forever to be able to achieve it".



The Zulu is one of an initial series of Flyer watches

OPENING DOORS

By supporting organisations such as the Honourable Company of Air Pilots, we aim to open doors for aspiring pilots, turning dreams into reality. It's a commitment to nurturing talent, fostering innovation, and ensuring that the sky remains limitless for those who dare to reach for it. Twenty percent of the profits generated from our watch sales, with the exception of our Aerobility watch, will be allocated towards funding Company and other funding scholarships. I'm also enthusiastic about offering a listening ear and providing support to any aspiring pilots as they navigate their own journey.

This year we launched the Aerobility watch, with each purchase providing a life-changing flight experience for a disabled individual through a partnership with Aerobility, a UK-based charity dedicated to empowering disabled people through aviation. I always remember the statement from Freeman Mike Miller-Smith MBE, CEO of Aerobility: "If I can fly an aeroplane, what else can I do?"

My journey is just one example of the transformative power of perseverance and passion that the industry can achieve. Through The Flyer Watch Company, I do not only want to leave a mark on the aviation industry but also to inspire others to dream big and reach for the skies.

For more information, visit **flyerwatches.com** or follow **@flyerwatches** on social media.



REPORT: THE YOUNG AIR PILOTS By Freeman Dominic Registe, Chairman

History dictates that aviation is somewhat cyclical in nature, with global events periodically driving periods of pilot shortage and surplus. With the commercial sector now forecasting a significant pilot shortage across a number of years, the outlook for prospective pilots entering the industry, and career progression opportunities for those already established, is positive. Whilst a number of major airlines are taking the lead and committing to fully sponsored cadet pilot programmes,



the demand for aircrew far exceeds the supply of qualified pilots that will be produced. The financial barrier into aviation is one that still very much exists however and precludes many from entering the industry. BA Capt Simon Cheadle Whilst a number of effective

solutions have already been identified and proposed at government level to minimise this issue, navigating how best to achieve implementation of these ideas remains a significant challenge. PM Roger Gault currently heads the efforts on this front from an Air Pilots perspective, and has been tirelessly doing so for over a decade. With statistical data showing a notable reduction in individuals entering commercial flight training compared to pre-Covid-19 numbers, reducing the barriers to entry and making aviation more accessible, whilst simultaneously enhancing industry potential, takes on added significance.

The Honourable Company of Air Pilots has for decades continued to support those entering the industry and recent weeks have seen the culmination of the Air Pilots scholarship programme. Whilst the benefits of Company scholarships are renowned within the industry, raising awareness and encouraging those from diverse backgrounds who do not think aviation is open to them, is always important. Needless to say, it was extremely gratifying to see the positive impact of numerous outreach, networking and workshop efforts in recent years come to fruition.

With 60 scholarships available across Flight Instructor, PPL and Gliding categories this year, 50% were awarded to females and 27% to those from ethnic minority backgrounds. Whilst the aforementioned statistics are momentous in comparison to the industry average, it is very much a trend I hope will continue in years to come.

YOUNG AVIATORS DINNER

April saw the return of The Young Aviators Dinner, which

has progressed over the years to become the preeminent social occasion for young aviators in the country. In partnership with the Air League, the event affords aspiring aviators the rare opportunity to meet prominent industry figures, professional pilots and peers in the comfortable setting of the RAF Club. With demand far exceeding supply as expected, tickets sold out in record time and there was a notably strong contingent of Young Air Pilots in attendance.

We were incredibly fortunate this year to have Capt Simon Cheadle, Director of Flight Operations at British Airways as our guest speaker. He captivated the room with his refreshingly transparent and informative insight into the industry, as well as sharing information on British Airways' flagship Speedbird Pilot Academy: his speech was a fantastic conclusion to an evening that delivered on all fronts.



The Young Aviators head for dinner

The introduction of Young Aviator Dinner Ambassadors (YADAs) this year was also a resounding success. Ranging from pilot recruitment and human factors managers to Eurofighter Typhoon pilot, engineers and pilot aptitude Selectors - each of this year's YADAs showcased their respective area of aviation exceptionally and without question their presence enhanced the experience for everyone in attendance.

Special thanks must also be issued to Master Richie Piper who was also in attendance, alongside Gill, and very kindly opened the event proceedings.

It has been fantastic seeing so many future aviators and Company members already during this Air Pilots year. With many events firmly in the calendar and a number of upcoming career development days on the horizon, I am very much looking forward to meeting many more of you in the near future.



HUMAN PERFORMANCE FOR AVIATORS From the Desk of the DAA, PM Nick Goodwyn

Air Pilots will, no doubt, be familiar with the concepts of Human Factors and

Crew Resource Management. More recently, elements of both have been the focus of the development of the concept of Human Performance (HP) and, last year, ICAO introduced the five principles of HP for aviators, of which extracts are set out below.

In 1988, Wiener and Nagel's *Human Factors in Aviation** was released. This important book signified a symbolic shift in the role of human factors within the aviation industry. Human factors was not a new concept, and human factors research, which traces its origins to aviation, already had slowly established its place in improving safety in aviation. At that point in the intertwined history of aviation and human factors, though, human factors researchers were just beginning to find themselves prominently involved in the design of aviation systems. This was in stark contrast to the practice of previous decades when human factors was not emphasised in aircraft design and aviation operations but, instead, was generally a corrective science.

This evolved role helped the expansion of human factors research in the field. Whereas the origin and early years of study had predominantly been in cockpit and cabin technology design, the industry was beginning to address other important topics like cockpit organisation, crew interaction, crew fitness, judgment and automation. It represents one of the first books to present human factors topics relevant to aviation in a manner accessible not just for human factors professionals but also to pilots, aviation industry personnel, and others casually interested in the topic area.

CREW RESOURCE MANAGEMENT

Crew resource management or cockpit resource management (CRM) was primarily devised for improving safety and focused on interpersonal communication, leadership and decision making in the cockpit and during flight. Its founder was David Beaty, a former RAF and BOAC pilot who authored *The Human Factor in Aircraft Accidents*** in 1969. Despite the considerable development of electronic aids since then, many principles he developed continue to prove effective. CRM in the USA formally began with the National Transportation Safety Board recommendation of air safety investigator and aviation psychologist Alan Diehl during his investigation of the United Airlines Flight 173 crash. The issues surrounding that crash included a Douglas DC-8 crew running out of fuel over Portland, Oregon, while troubleshooting a landing gear problem.

The term 'cockpit resource management', which was later generalised to 'crew resource management', was coined in 1979 by NASA psychologist John Lauber who for several years had studied communication processes in cockpits. While retaining a command hierarchy, the concept was intended to foster a less-authoritarian cockpit culture in which co-pilots are encouraged to question captains if they observed them making mistakes. CRM training grew out of the 1977 Tenerife airport disaster. In the USA, United Airlines was the first airline to launch a comprehensive CRM programme, starting in 1981 and, by the 1990s, CRM had become a global standard.

The terms 'human performance' and 'human factors' are sometimes confused and are often used interchangeably. This is not surprising because they are closely linked. For the purposes of this article, however, they are distinguishable as follows:

- Human performance (HP) refers to how people perform their tasks. HP represents the human contribution to system performance where aviation is described as a complex system of systems.
- Human factors (HF) is concerned with the application of what we know about human beings, their abilities, characteristics and limitations, to the design of equipment they use, environments in which they function and jobs they perform.

FIVE PRINCIPLES

In its recent publication ICAO has presented five HP principles that outline how the performance of people is influenced by different factors:

- 1. People's performance is shaped by their capabilities and limitations;
- 2. People interpret situations differently and perform in ways that make sense to them;
- 3. People adapt to meet the demands of a complex and dynamic work environment;
- 4. People assess risks and make trade-offs;
- 5. People's performance is influenced by working with other people, technology, and the environment.

Awareness of these principles helps to shape, improve and maximise the performance of the aviation system as a whole. They highlight different aspects of human performance, and they necessarily interact and overlap to some extent. For instance, the first principle is about human capabilities and limitations – indeed, everything about humans can be described in those terms. The fifth principle is about some of the external factors that influence human performance. In fact, all such observations could be described as either internal or external influences on the individual.

Thus, these principles are not an attempt to create a categorisation scheme, with each category being a discrete building block of human performance. Instead, they provide different insights and perspectives to come closer to a multi-dimensional picture of human performance. The HP principles apply generally to all humans involved in the aviation system, at the individual, team and organisational levels. They can be applied by all aviators, across all aviation domains.

I: PEOPLE'S PERFORMANCE IS SHAPED BY THEIR CAPABILITIES AND LIMITATIONS

People have various physical and mental capabilities, such as strength, flexibility, memory, attention, resourcefulness, and creativity. They apply these capabilities in their daily work to keep the system functioning safely, effectively, and efficiently. However, the same abilities that make people so critical to safety, system resilience, and operational success may also make them susceptible to errors and to unwanted behaviour. People have limitations too. Some are based on physiology, and some are based on cognitive

People's performance is shaped by

their capabilities and limitations

constraints. To free up cognitive resources for other

constraints. To free up cognitive resources for other tasks, people can make quick, automatic responses when performing frequent activities and well-practised routines.

Although this ability is mostly effective, this "automatic mode" can also lead to unintended actions. People naturally use reasoning strategies or mental shortcuts that allow them to speed up their decision making. These shortcuts, also called heuristics, are often very effective. However, they don't always work, and can result in a variety of decision biases that may lead to poor decisions. Sensory limitations and information processing limitations can lead to perceptual illusions, and to the failure to notice subtle changes in the environment, especially when attention is focused elsewhere or when experiencing spatial disorientation during flight.

Furthermore, people's performance is variable. No one

can perform at the same level all the time, and the level at which people can perform certain types of tasks changes throughout the day. However, for all their limitations, when well supported, people are able to manage novel situations, adapting their skills to safely manage the operation. It is this human trait of adaptability that enables the global aviation system to function.

2: PEOPLE INTERPRET SITUATIONS DIFFERENTLY AND PERFORM IN WAYS THAT MAKE SENSE TO THEM

People are always trying to make sense of the world around them. They look for patterns and predictability. Using the information available to them, they make conscious decisions and take actions based on explicit knowledge of facts and procedures as well as on implicit knowledge informed through experience, insights, and intuition. This implicit knowledge is especially powerful when there is little time in which to make a decision.

People do not go to work with the intention of making an error or of contributing to a safety event.

Although people can sometimes make reflexive



responses that they cannot explain, generally they behave intentionally. They behave and make conscious decisions in ways that make sense to them, and that they think will achieve a good outcome. They analyse and interpret information presented to them, and act according to their understanding of the situation. People's actions therefore need to be considered in context and understood from the individual's perspective at the time of the action.

3: PEOPLE ADAPT TO MEET THE DEMANDS OF A COMPLEX AND DYNAMIC WORK ENVIRONMENT

People are key to the aviation system, creating resilience by constantly adjusting and adapting to overcome delays, adverse weather, and other unexpected situations. Further, within the aviation system, multiple organisations are often working towards the same outcome, although each has different goals, pressures and cultures. Individuals from one organisation may be heavily dependent on, and influenced by, the actions of another organisation. An example might be a safe and speedy aircraft turnaround between flights, which involves flight crew, cabin crew, dispatchers, maintenance personnel, and ground handlers.

As a result of this continuous adaptation, the work actually performed by people is often different from how the work was originally expected to be performed and often work is performed under conditions in which not everything can be predicted or controlled. Whilst



standard procedures support safe and efficient operations, people may need to adjust their work in a way that takes into account potential risks and manages unanticipated events.

4: PEOPLE ASSESS RISKS AND MAKE TRADE-OFFS

The aviation work environment presents people with conflicting goals. Any activity in aviation must balance safety objectives and other organisational objectives, such as on-time performance, cost savings, and environmental protection. For individuals, these conflicting goals can sometimes translate into difficult operational trade-offs: efficiency vs thoroughness, speed vs accuracy, cost vs benefit, short term vs longer term benefits, and personal vs organisational goals. Consciously or not, people continuously evaluate the risks posed by these tradeoffs. People perceive risks based on their individual characteristics, their own experience, and their ability to anticipate and manage possible outcomes.



These trade-off choices are influenced by personal beliefs, interests and motivations, as well as social, organisational and cultural factors. In making choices, people attempt to make what they think is an acceptable compromise to resolve the goal conflict, while keeping risk within subjectively acceptable limits. Also, risks are likely to be perceived differently by different people at different times, especially after an unintended outcome. Although every person is different and can be unpredictable in some sense, each has an inherent ability to understand goals, and to assess risks and make trade-offs in order to provide an overall acceptable solution in a complex aviation work environment.

5: PEOPLE'S PERFORMANCE IS INFLUENCED BY WORKING WITH OTHER PEOPLE, TECHNOLOGY, AND THE ENVIRONMENT.

Human performance can be positively or negatively affected by interacting with other people and with all elements of the socio-technical system. We learn and behave within the constructs of the culture we are brought up in and in which we live. Group and organisational cultures provide the context in which people work together. Such cultures reflect assumptions, often unstated, about the nature of the world. These assumptions, in turn, determine how people perceive the world around them, and how they respond to it.

The group and the organisation establish expectations for "...the way things are done around here". The individual and the group can be influenced by the environment in which they work, such as by physical location, weather conditions or national culture. They are then influenced by the equipment and technology they are provided with. Regardless, people's performance is influenced by interactions with others, and everything around them, in ways that can vary from the expected result. When people work together as a group, they can do more collectively than any individual can do alone. The group's limitations may also be greater than the limitations of any individual group member:

For example, the cognitive bias of 'group think' occurs when people's desire for group consensus, harmony, or conformity results in a dysfunctional decision. Individuals in the group may make incorrect assumptions about others' thoughts, values, needs and desires, as well as about those of the group as a whole. At the same time, groups can also help individuals make better decisions, and improve performance by compensating for individuals'



(All images Nick Goodwyn)

limitations, and encouraging and supporting appropriate behaviour and optimal performance.

It is hoped that, with reflection, there is something in these principles for all Air Pilots and aviators.

Extracted from: https://www.icao.int/safety/OPS/OPS-Section/Documents/Advance-unedited.Doc.10151. alltext.en.pdf

* Human Factors in Aviation, by Earl Wiener & David Nagel; Academic Press Inc; ISBN-13: 978-0127500300

** The Human Factor in Aircraft Accidents, By David Beaty; New York Stein And Day; ISBN-13: 978-0812812077

THE 2024 COBHAM LECTURE RNZAF Antarctic Operations, by Wg Cdr Richard Beaton RNZAF

Report by The Editor



The 2024 Cobham Lecture came as a direct result of the 2023 Master's Tour: IPM Jonathan Legat was so impressed by Wg Cdr Beaton's presentation to the Royal Aeronautical Society in Auckland that an invitation was extended to him to deliver his lecture again in London. Introducing

the speaker, PM Nick Goodwyn emphasised that Wg Cdr Beaton had come to the UK to deliver the lecture at his own expense, for which the Company and capacity audience were hugely grateful.

COLDEST, DRIEST, WINDIEST

Richard Beaton joined the RNZAF in 1995 and is currently the Operating Airworthiness Authority within the NZ Defence Forces: he has been a pilot on the Hawker-Siddeley Andover, Lockheed C-130H and Boeing 757 (on which he was the upgrade test pilot and airshow display pilot) and has commanded several squadrons including that flying the Beechcraft T-6 Texan II. His lecture began with a refresher on Antarctica: "The coldest, driest, windiest place on Earth". The fifth-largest continent, with an average elevation of 8,000ft (2,440m), it holds 30million km³ of ice – 70% of the World's fresh water which, if all melted, would raise sea levels by 60m. The dry valleys in its interior have had no precipitation for two million years.

Most of the area of Antarctica is subject to territorial claims by seven nations (the UK, NZ, Australia, France, Chile, Norway and Argentina), but these are in abeyance under the terms of the Antarctic Treaty of 1959, to which there are now 56 signatory countries, all of which have some sort of presence on the continent. Significantly neither the USA nor Russia has ever lodged a territorial claim, to avoid potentially provoking each other, but the USA has the largest permanent presence, including bases at McMurdo (including the Phoenix ice runway used by NZ's neighbouring Scott Base) and the South Pole itself.

The Treaty's provisions include stipulations of peaceful use only for scientific investigation, whose results must be freely shared, with no military activity or nuclear installations allowed, although many countries' operations on the continent are conducted by their defence forces. All mining, except for scientific investigation, is forbidden. The Treaty, which covers only the land and ice mass, but not the waters surrounding it, is due for renewal in 2048.

NON-STOP HISTORY

Wg Cdr Beaton then traced the history of aviation in Antarctica. The first non-stop fixed-wing flight to the continent was in December 1955, by a Lockheed Neptune of the US Navy's VX-6 Squadron which had been set up to support Operation Deep Freeze activities. That flight took 14½ h to cover the 2,000 nautical miles from Wigram airbase in Christchurch, NZ, with only one of the four Neptunes which had set out making it to the destination – the others having turned back through lack of fuel – and an RNZAF Shorts Sunderland flying boat on standby in case of emergencies.

New Zealand's first Antarctic flying activities were with



The RNZAF has been flying the C-130 to Antarctica since 1965

a pair of Austers and a de Havilland Canada Beaver transported there by ship, with the country's first direct flight to the ice being with one of its then-new Lockheed Hercules in 1965, and those flights have carried on every year since - making the Antarctic service the longestrunning commitment of the New Zealand Defence Force. In the period 1985-99 the RNZAF also operated orangepainted Bell UH-1 Iroquois helicopters in Antarctica, but after these were withdrawn to support peace-keeping operations in East Timor, the country's activities have been supported by commercially-operated helicopters. Since 2009 the Hercules have been supplemented by Boeing 757s, which have the advantage of making the Christchurch-McMurdo flight in 4½h against the 7h of the Hercules. In addition, Lockheed P-3K Orion aircraft have been operating fisheries patrols over Antarctic waters, until being replaced recently by the service's new Boeing P-8 Poseidons in that role: to extend their time on station

those aircraft also land at McMurdo to refuel.

Although the routine flights are confined to the summer, occasional medevac flights do occur in the winter months: until night-vision goggles were available, these could only be conducted in twilight, they can now be conducted in the dead of winter darkness – the most recent flight had been only 10 days before the Cobham lecture.



Emergency MEDEVACs are sometimes conducted in the Antarctic winter night

THE WEATHER CHALLENGE

Wg Cdr Beaton spent the rest of his lecture discussing the challenges of flying to and from Antarctica – the main challenge being the weather, which can change very quickly. Amongst the conditions regularly encountered at McMurdo are: false horizon from the mirage condition *fata morgana*; blowing snow; whiteout and sea fog (the runway is on sea ice). The converse can be "stunning" visibility, with Antarctica also being "...the only place I know on earth where you can actually hear the silence".



PSR calculations still rely on paper graphs

With no alternates available between Christchurch and McMurdo other than the 6,500ft runway at Dunedin, just 190 nautical miles (350km) south of the starting point, and the impossibility of carrying enough fuel for a return flight without refuelling, every flight is "a big fuel-planning exercise". Point of Safe Return (PSR) calculations are not simple: there is a PSR for everything working normally at normal altitudes, but with the ETOPS-rated 757 there has to be a calculation for the PSR with one engine shut down, and another for the worst-case scenario of single-engine operation and depressurised, flying down at 10,000ft. In a world of electronics, the RNZAF still does paper fuel/time/distance graphs in this planning operation.

Perhaps surprisingly, fuel temperature is not generally an issue for these operations, despite the Antarctic cold: Richard Beaton says that with sectors of only 4½h, cold soak is not as significant as it is with long-distance flights of 12h or more. Navigation is, however, an issue.

The magnetic South Pole is currently more than 1,000 nautical miles from its geographic equivalent, making it actually offshore so compasses, he says "…are not great", even though McMurdo is some way north at 78°S. Navigating with the Hercules is done on an artificial grid, the US forces actually use a grid which is 180° out, with South as North… The RNZAF's 757 operations are navigated in True, not magnetic.



The view of Phoenix Airfield, McMurdo on a clear day **DEFINITION DECISIONS**

PSR decisions for flights to the ice are all made by the aircraft's crew, with decisions based on horizon definition and surface definition at the destination: in normal operations 30-40% of all southbound flights turn back because of unfavourable conditions at McMurdo's Phoenix runway. That runway is 10,000ft long, but is on ice only 20ft thick, so landings have to be gentle to avoid cracking the ice. A unique feature of approaches there is the use of the aircraft's own transponder and return signals from the base unit to create a virtual ILS.

The runway itself is formed of compacted snow on top of the ice, and is very dry: the only ice on its surface comes as a result of heat soak from warm tyres and brakes after landing, which can create depressions under the tyres.



Hot brakes and tyres can create ice on the otherwise dry snow runway

During stopovers on the runway, crews leave the INS running, as re-initialising it before taking off again would take too long. Interestingly, the US Hercules crews still use Jet-Assisted Take-Off (JATO) for their operations.

CHANGING FORECASTS

Just how changing conditions can affect operations was graphically illustrated with the details of one of Wg Cdr Beaton's early flights to McMurdo. The initial forecast received in Christchurch had been good, with a bit of cloud but unlimited visibility, and the local ground observations at McMurdo had reported some fog, but



Conditions like this can arise quickly, even after a clear forecast (All pictures via Richard Beation)

all conditions "good". Beyond the PSR, the report was of visibility improving, but just before the descent was commenced visibility was reported as being down to 2,400m and horizon and surface definitions "poor and poor". By the time he was on final approach, the visibility was down to 400m, with the aircraft leaving clear air into cloud at 500ft. With the co-pilot flying, and Beaton on lookout, the flags on the runway edge were finally seen, but the runway lights didn't come into view until 100ft. (An interesting side observation to this was that the US Hercules, using skis, have almost unlimited landing options on the flat sea ice, but for their NZ equivalents on wheels, missing the prepared runway in white-out conditions would amount to "...a controlled crash.") On that occasion, the New Zealanders were stuck on the ice for two days before the weather cleared.

Questions from the audience touched on whether there were alternates on Antarctica itself: Richard Beaton revealed that on one occasion when a NZ Hercules crew had met unforecast heavy winds at McMurdo, the Italians had offered the use of a runway at their base at Terra Nova, 150 nautical miles away, of which the New Zealanders had hitherto been unaware. Landings at the South Pole itself, at an altitude of 10,000ft, were conducted only by the Americans, using ski-equipped Hercules – a $2\frac{1}{2}h$ flight from McMurdo. Asked why the RNZAF didn't use skis on its Hercules, he replied that adding skis took 60kt off the cruising speed, adding $2\frac{1}{2}h$ to the flight from Christchurch...

To round off the lecture, after a hearty and well-deserved vote of thanks, the Master awarded Wg Cdr Beaton with Master Air Pilot Certificate No 1311.

Wg Cdr Beaton receives his Master Air Pilot certificate from The Master (A Winn)





THE SELF-CONFIDENCE FACTOR By Freeman Will Wright

Some time ago, in the midst of Covid-19 and while on furlough from easyJet, I made a decision to begin

a Master of Science (MSc) in Aviation Human Factors. Driven by an inherent curiosity and a recognition that upskilling might be sensible for my, then-fledgling, career, I explored modules in ergonomics, training design, and cognitive limitations, amongst others; I thoroughly enjoyed them all. They provided me with a useful foundation of knowledge; however, they were predefined, prescribed by the academics. My sense was that the 'real work' would be done via the thesis study. I saw that as my opportunity to exercise some creativity, and to delve into unchartered territory. I also wanted to maximise the benefit of the study. To me, the end goal was real-world applicability. What was to be the consequence of my work?

With that in mind, I set out to find the intersection between something I found interesting and what practitioners would find useful. I spoke with several airline and aviation stakeholders who are at the coal face, so-tospeak. Three possible topics emerged:

- I. Startle
- 2. Resilience
- 3. Self-confidence

I had to pick one - but how to decide? Well, as it turns out, quite easily. Many may not know this, but I've had my fair share of self-doubt on my journey to the flight deck. I also know, partly through this research, that this isn't an issue

The Confidence/Skill/Time curve

confined exclusively to the bounds of my own mind. It is one that many pilots experience at some time or another in their careers.

DEALING WITH DOUBT

For context, my commercial training began in 2017. The aviation world was trying to figure how it would address the topics of pilot mental wellbeing in the wake of the infamous Germanwings tragedy. At that time, I felt that there was no established vehicle to address the self-doubt I had. As with other generations, it was a case of stiff upper lip, press on, and don't discuss it. Which I did - and performed well. But I still doubted. When all evidence was to the contrary, I still doubted my own competence.

Ironically, had you asked my peers and instructors whether they thought I had internal issues with confidence, they might have said: "No". By every observable metric I was a confident and competent trainee pilot to them. This dichotomy was made apparent to me following my CPL, when I received a bit of a dressing-down from the Flight Examiner on my use of rudder. He exclaimed that it was below par and that I was clearly so confident that I was ignoring feedback. This could not have been further from the truth. So, I had been projecting a false confidence that was in no way internally actualised. My mind was therefore made up. Self-confidence was to be the topic of my research. It mattered to those in the industry, and it mattered to me.

Where then to start? Where most do: Google. I trawled

the internet for relevant papers and articles. However, it was clear that not much progress had been made on self-confidence since I commenced my training. This was an opportunity, I thought. So, my thesis supervisor and I devised a plan to explore the underlying dimensions of self-confidence. This took two distinct phases.

PHASE I: SME FOCUS GROUPS

To my mind, it was important to get a full and proper coverage of the industry. This would help mitigate against biases in the study or gaps in the experience pool. Subject matter experts were chosen for their experience in





flying training, exposure to varied flying, applied human factors background or, ideally, a combination of all. Examples of these include; military fast jet 'creamies', general aviation and commercial type-rating instructors/ examiners, and aviation psychologists. The SMEs participated in a semi-structured focus group that sought to elicit some themes around self-confidence. Anecdotes were shared, participants built upon each other's contributions, and discussion was allowed to develop organically. Teasing out the themes was a relatively pleasant task. The quality of content provided by the SMEs in this exercise was exceptional.

PHASE 2: CORROBORATING SURVEY

To validate the SME themes, I needed to prove, statistically, that others agreed with them. A larger population of pilots was required. Some of you may remember my call to action in the Clerk's eNews. To those who filled in the (admittedly) tediously long survey, I thank you! The survey consisted of three sections: demographic information; observed self-confidence in others; and observed selfconfidence in oneself. Commercial pilots from around the world participated and I was able to obtain a sample size large enough to validate the identified themes from Phase I.

All this work culminated in positively identifying four underlying factors of self-confidence:

- Reflection looking back on experiences both positive and negative;
- 2. Awareness of your environment, of others, and of self;
- Robustness some experiences will affect selfconfidence more than others;
- 4. Competence knowing that you're capable (or not) of doing something.

My theory is that although self-confidence is curvilinear and particularly influenced by age and experience, there is a bipolar scale on which self-confidence can be placed: low to high. For any given day, and scenario, any one pilot may self-locate differently on the scale, but that initial individual placement can be manipulated using the underlying factors.

Each of the four underlying factors of self-confidence could be expanded as below:

Reflection was built around a pilot's ability to recount and utilise past experiences to mediate their confidence level. Predominantly this focussed on bolstering self-confidence; however, it was also reported to moderate where potential negative effects of self-confidence existed.

Awareness contained two factors: awareness of self and awareness of surroundings. Self-awareness helped pilots to recognise their state of mind and mediate accordingly,



Finding the confidence sweetspot

using some of the other factors. An awareness of other crew, weather, destination, and other external factors was also reported to impact on self-confidence.

Robustness can be described in terms of the level of selfconfidence a pilot has, excluding external factors. It can be thought of as the 'underlying' level of self-confidence. It is person-dependent and may be more, or less, plastic depending on the pilot.

Competence allows a pilot to moderate confidence based on their perception of how well they can execute a given task. This may vary from task to task, for example selfconfidence may be lower for a simulator detail than for a routine flight for a given individual.

It is probable that these factors are interconnected and influence each other to result in the true holistic level of someone's self-confidence, whether that be instantaneous or long-term.

DETRIMENTAL EXTREMES

Reflecting on those descriptions, readers may well recognise where some (or all) have been applicable to them, or may have been observed in another? Overall, what seems to be apparent is that the extremes of confidence could be detrimental for flight safety and operational efficiency.

An under-confident pilot may lack conviction, fail to recognise pertinent threats, or be too easily influenced by others. On the other hand, an overconfident pilot may jump to conclusions, take on more risk, and be blind to their personal limitations. It would therefore follow that working towards an appropriate level of self-confidence, that is appropriate for a given task or scenario, would seem to be a suitable target for all pilots to aim for.

You may be thinking: "What's the consequence?" Well, honestly, that's the next bit. I want to use this study as a foundation to help others. I want to provide a toolkit, or a series of techniques, built around the four underlying factors, to allow pilots to help moderate their own selfconfidence.

Finally, I'm hoping that the output will be pushed through the Training and Standards Technical Group at some point this year. So, if you've got an idea, a contact, anything that you think might help, I'd love to hear from you! will-wright@live.com

MY EXPERIENCE OF THE AIR PILOTS GLIDING SCHOLARSHIP



By Associate Andrea Troso

I am a member of the Honourable Company of Air Pilots and of the Young Air Pilots (YAP), and I was awarded the Company's 2019 Air Safety Trust) gliding scholarship. I am a 20-yearold student in my second year

of studies towards a BSc in Airline, Airport and Aviation Management at London Metropolitan University. I am also learning to fly on the de Havilland Tiger Moth as I work towards my PPL(A) with the Cambridge Flying Group (CFG) at Old Warden Shuttleworth Aerospace (EGTH), which is a small uncontrolled grass airfield residing below Luton's Controlled Airspace (CTA) in Bedfordshire. In this article I will highlight the importance of my gliding scholarship award and how this has led me to be better prepared for the industry to pursue a career as a pilot.

BITTEN BY THE BUG

My passion for aviation started when I was 13 years old, and I had my first powered trial flying lesson at Cranfield Flying School on 3rd June 2017, in a Piper PA-28. I was completely bitten by the aviation bug: I went on to join 2532 Squadron, Royal Air Force Air Cadets (RAFAC), where I went on to spend five years as a cadet.

Upon arrival at the Derbyshire and Lancashire Gliding Club, I was directed up to the gliding launch site. I was absolutely fascinated by these machines which are launched by a winch cable at a take-off angle not too dissimilar to that of a fighter jet take-off, and soon I, too, would get to experience it.

Students relax at Camphill



Gliding is a powerful form of flying, and soon I would really find out how much I would come to love the feeling of being "free" in the tranquillity of the air with no engine, just you and the machine. The science of flying a glider fascinates me to this day, and it was an absolute surreal experience to get to fly the PZL Puchacz training gliders, and further improve my manual pilot competencies and situational awareness when flying.

Even before flying gliders, my first lessons at Cranfield in the PA-28 had covered the effects of controls, straightand-level flying and basic turning. The knowledge I had of piloting aircraft was basic, and I was just starting out on my journey. I had never piloted a glider before, so this was an exciting opportunity to discover what flying gliders would be all about.

FIVE DAYS IN THE PEAKS

In total, I spent five days in the Peak District with Lancashire and Derbyshire Gliding Club at Camphill Airfield near Buxton. Gliding very much depends on the weather, and in the higher altitude of the Peak District we would often get low clouds in the peak of August weather. However, I still managed to complete just under 20 winch launches and two hours of total gliding time, completing exercises such as effects of controls, in which you really notice the adverse aileron effects, and where you really learn stick-and-rudder flying, and keeping balance in the turn – gliding really honed those skills.

Gliding is a pure form of flying, and it really does teach you the controllability and manoeuvrability of an aircraft with no engine. We also got to fly circuits, in which your workload is tested, as the time you're up to complete the circuit and continue to final to land can be as short as two to three minutes. However, in a day you could complete many of these flights and really practise your flying, so that by the end it is almost muscle memory on performing the downwind checks, and preparing the glider to land.

TEAM ACTIVITY

When you are not flying, gliding is a team activity, and I was able to improve my teamwork and communication skills whilst I was at Camphill. When not flying we helped with radio communications, launching the gliders, retrieving them by driving the tractors, and different activities to help other scholars or members get airborne. It was an amazing experience to capitalise on flying in a different way from what I was used to, to make new aviation friends, and to continue developing my passion and knowledge of aviation. Even to this day, mastering the 1930s/World WarTwo Tiger Moth trainer - very much a "stick- and- rudder" aircraft - is thanks to my gliding experience, which really taught me to be disciplined in my flying and professional development.

It depends on the thermal activity how long you stay up in the air. You may get lucky, as some of the members and other scholars did, and stay up there for up to an hour if you catch a thermal, but most of us averaged a flight time of 5-10min: throughout the day we would be getting launched more than once to do some training. Camphill is situated below Manchester Airport's controlled airspace, so at times we could see heavy traffic flying right above us, and it was just fascinating to be gliding and simultaneously to see and hear this traffic flying by. It really felt like I was immersed in the very thing I had been pursuing until that time, the beauty of aviation and learning to fly, and through gliding I discovered a new passion and thrill of flying, and the honing of important flying skills.

SIMPLE COCKPIT

The cockpit of the Puchacz is remarkably simple in terms of instruments available. The control column is a stick, which is central, and the cockpit configuration is in tandem. Whilst pursuing the gliding scholarship we learned all about the checklist to be carried out pre-winch launch, reading the instruments, fitting our parachutes and all the technical details which come with flying. Not only that, when we could not fly due to weather, we were also offered further ground school classes on gliding and principles of flight subjects, including Air Law and Meteorology, as well as being able to fly the simulator at the gliding club. There was never a moment when I was not learning something, from theory, to practical, to team building, and gliding. The scholarship helped me with developing great skills which were great in moving my aviation career forwards.

Throughout our stay at the gliding club, not only did I grow in confidence, and receive confirmation that flying was exactly the career I wanted to pursue, but I also met great like-minded individuals who enjoyed aviation just as much as I did. We enjoyed each other's company and had great fun whilst also building experience of piloting gliders. Our stay in the Peak District was memorable to say the least, and to anyone wanting to become a pilot, or who enjoys aviation and is thinking about a career in the sector, gliding is the cheapest and most interesting way to explore your aviation and piloting interest. To this day I am thankful for the opportunity I was given by the Honourable Company of Air Pilots and the Air Safety Trust for awarding me a scholarship and get the opportunity to develop more confidence and aptitude to pursue this career.



The simple cockpit of the PZL Puchacz

PREPARING FOR INTERVIEW

For anybody contemplating following in my footsteps, my advice would be to prepare for the scholarship interviews, ensure that you show your passion for aviation, and that this comes across clearly, firstly in the application, and secondly in the interview. Pursuing an aviation career, or piloting career is very demanding, time-consuming, and requires a lot of sacrifice, but on the other side is a very rewarding career awaiting you.

Whether in the military flying fast jet or helicopters, or flying airliners, aviation is really growing and is in need of more pilots and aviation professionals, from engineers, to air traffic controllers and operational staff. Gliding is an amazing way to get started in aviation and will certainly build on the skills of situational awareness, workload management and communication and team-work skills, which are crucial for becoming a pilot. So do not give up, make the most of the scholarship opportunities offered by the Company, and be sure to join as a member and make the most of the events, career guidance and support offered to you on your way to becoming an aviator! Stay in contact with Andrea Troso through LinkedIn:

https://www.linkedin.com/in/andrea-troso-04b83b1ba/

"When once you have tasted flight, you will forever walk the earth with your eyes turned skyward. For there you have been, and there you will always long to return" -Leonardo Da Vinci

INTO THE OVERSHOOT

A round-up of less-formal items which have caught the Editor's eye

CHINA'S OVER-SEA DRONE

An Aerospace Times Feipeng Company FP-98 drone (a modification of the SAIC/Nanchang Y-5, itself a licence-built Antonov AN-2) has made the first over-water unmanned cargo flight between China's Hainan and Guangdong provinces. The FP-98 carried 455kg of shrimp plant seedlings on 24th April from Haikou to Zhuhai, a distance of some 400km, taking less than three hours for the journey instead of the 10h expected by using normal freight services. The FP-98 has a payload capacity of 1,500kg and a claimed range of 650 nautical miles (1,200km) and endurance of up to 8h. Unlike the flood of electrically-powered western drone projects, the FP-98 has a good old-fashioned 985hp (735 kW) SAEC HS5 nine-cylinder radial engine. (Aerospace Times Feipeng Co)





A CLEAN SWEEP

In April Associated Organisation the RAF Museum's Midlands (Cosford) site completed its annual aircraft cleaning - with a difference. Eight of its aircraft – Avro Vulcan, English Electric Canberra and Lightning, Gloster Meteor and Javelin, Hawker Hunter, North American Sabre and Douglas C-47 Dakota - are suspended from the ceiling, and so were the acrobats who cleaned them. These specialist cleaners climbed the rafters of the building and then abseiled down to tackle the accumulated dirt using nothing but large soft fibre mops - no cleaning solutions are used. While they were about it, the cleaners also inspected the suspension cables which keep the aircraft aloft. (RAF Museum)

THE HAWKS OF SPRING

The RAF aerobatic team The Red Arrows worked up its 2024 diamond jubilee season displays during exercise Springhawk, with visits to Croatia and Greece. Its missions included flying with the Croatian Air Force's Krila Oluje (Wings of Storm) Pilatus PC9Ms while celebrating 75 years of NATO and the I 5th anniversary Croatia's joining the alliance. One manoeuvre practised by the team was The Goose – involving the solo Red 9 flying in opposition to a five-ship pyramid, captured here by the team's photographer in Red 10. (UK MoD Crown Copyright)

