



AIR PILOT

INSIDE

SPITFIRE'S NHS TRIBUTE

**THE STARTLING SCIENCE
OF FATIGUE**

THE VIRTUAL YOUNG PILOT

SPACE GROUP LAUNCHED





THE HONOURABLE COMPANY OF AIR PILOTS

incorporating Air Navigators

PATRON:

His Royal Highness
The Prince Philip
Duke of Edinburgh KG KT

GRAND MASTER:

His Royal Highness
The Prince Andrew
Duke of York KG GCVO

MASTER:

Captain John P Towell FRAeS

CLERK:

Paul J Tacon BA FCIS

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

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Except where specifically stated, none of the material in this issue is
to be taken as expressing the opinion of the Court of the Company.

DIARY

All physical events have been postponed until further notice. Some meetings will take place through video-conferencing. For the latest situation please visit the calendar page of the Company's website:

<https://www.airpilots.org/members-pages/company-calendar/>

Guidelines for submissions to Air Pilot

Please submit contributions as follows:

- Text in word document, including your name below the title of the piece;
- No embedded photos;
- All images to be sent as jpeg files with a file size of at least 2 MB;
- More than 2 images to be sent via a Dropbox file, rather than an e-mail attachment.

Cover photo: From one symbol of freedom to another... Thank you NHS. See article on page 4.
©George L. Romain



A MESSAGE FROM YOUR EDITOR...



It is difficult to imagine a more turbulent time for the aviation sector as a whole, and for the piloting profession in particular. It could be argued that aviation has not been as hard hit since the end of World War One, when along with the thousands of pilots who found themselves with no flying to do, the

manufacturers suffered a massive collapse in orders.

It would, therefore, have been all-too easy to fill this issue with reports of the demise or dramatic shrinkage of airlines all around the world, and the resulting job losses or uncertainties of future employment for members of this Company. It is, unfortunately, a fact that airlines have announced job losses running to the many tens of thousands – but with more and more services being restored every week (at least at the time of writing) it is perhaps less clear how many jobs will ultimately be lost, or saved. What is more clear is that there has never been a time when the mutual support and mentoring offered by membership of the Honourable Company of Air Pilots has been more relevant.

So this issue offers, instead of the doom and gloom widely available elsewhere, some reassuring examples of how members of the Company around the world, young and not-so-young, are taking the initiative in providing that support – and it also offers some timely ideas on how members can become more actively involved. The Covid-19 crisis will not only see the end of some long-established airlines and hasten the demise of some iconic aircraft such as the Boeing 747 and its would-be successor the Airbus A380, but its negative impact on aviation and travel as we knew it will probably last for many years, but amongst its lasting legacies will, hopefully, be an even stronger Company.

Welcome...

In this, the first issue under my Editorship, I would like to thank Liveryman Paul Smiddy, my predecessor, for having kept all of us informed and entertained during his reign. Paul has bequeathed me a thriving publication, with a fresh new design which will no doubt mature over the coming issues into, I hope, something even better. I am fortunate to have inherited some enthusiastic correspondents, contributors and proof-readers, but for *Air Pilot* to fulfil its role as the flagship of the Company's communication platforms – ably supported by the electronic newsletters and social media posts – it needs more input from you, the members.

I will always welcome offers and ideas for feature articles and short news stories from both Technical Groups and individual members wherever they are in the world – young and not-so-young – and also feedback and responses to what has appeared in these pages. There will be a much greater emphasis on individual members of the Company as authors of aeronautical articles and of their own personal profiles: please don't be shy in offering! Communication is the lifeblood of any organisation, and it should not just be from the centre outwards...

Allan Winn - Editor

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DUKE OF CAMBRIDGE LIVERY

By Paul Tacon



The Master and Clerk with the Duke on his admittance to the Livery of the Company. Kensington Palace

On Thursday 9 January and in the time before 'lock-down' and social distancing, the then Master and Clerk visited Kensington Palace in order that His Royal Highness The Duke of Cambridge could formally accept his invitation to the Livery of the Company by signing the Livery Register.

The Master and Clerk spent about half an hour with the Duke over an informal discussion which covered the work of the Company and its broad membership, as well as some of the issues facing aviation today. The Duke then gladly signed the register and became the Company's first new Liveryman in 2020. Since then, a further two have followed the Duke's lead!

The Master and Clerk were also able to present HRH with a Company tie. Unfortunately, it was after the accompanying photo had been taken. □

COVER STORY SPITFIRE FOR THE NHS

By George Romain

Duxford based Spitfire PL983 'L' has recently flown around local villages and hospitals (starting with Cambridge Addenbrooke's) as a fitting tribute to the Thursdays #clapforourcarers which ran for 10 weeks at the height of the coronavirus outbreak in the UK. The Spitfire is owned and operated by liveryman John Romain from his business, Aircraft Restoration Company at Duxford Airfield. The aircraft is a Mk.XI photo reconnaissance Spitfire wearing its original wartime PR blue scheme.

John Romain's son George, in-house photographer at the Aircraft Restoration Company, suggested that sign writing "Thank You NHS" under the Spitfire's elliptical wings and flying it over the local area for the 10th #clappingforcarers would be a fitting way for the family business to pronounce its heartfelt thanks to front line workers. It was hoped that the flight would also take on a secondary aspiration in raising the spirits of those who have had them dampened by the repercussions of isolation and lockdown.

The responses to the flypast have been incredibly humbling, with hundreds of people sharing how wonderful it was to not only see the Spitfire, but also to read the message emblazoned across its wings. After such a positive

reaction from the local community, John has decided to leave the message painted on the Spitfire for the rest of the flying season, and has begun planning further flypasts across the county to coincide with the Battle of Britain 80th

anniversary tributes. These flypasts will be mainly focused on hospitals around the United Kingdom in an attempt to take the message as close as possible to the incredible doctors, nurses and support staff it was written for. The first of these flypasts was scheduled for Saturday 5th July, with waypoints including no fewer than eight hospitals in Bedfordshire and Cambridgeshire and Captain Sir Tom Moore's house.

As a final touch, The Imperial War Museum has invited John to fly a solo display in the 'Thank You NHS' Spitfire as the show closing act of its Duxford Airshow to be held over the weekend of 18th - 20th September. □



From one symbol of freedom to another... Thank you NHS

NEWS ROUNDUP



RE-OPENING OF AIR PILOTS HOUSE By Paul Tacon

Because of Public Health England restrictions, which subsequently became the UK-wide 'lock-down', it was decided immediately following the AGM on 16 March to close Air Pilots House for 'the duration'. However, because the restrictions in UK have now been sufficiently relaxed to enable small groups to congregate and life to return to a limited degree of 'repositioned normality', we can start to make plans for re-opening.

The Company's administrative systems and our great team at 'head office' were well-prepared, and are well equipped, for online working. Since March, all members of the secretariat have been working entirely from home. This has been challenging at times but nothing, as far as we are aware, has fallen between the cracks and all administrative support has been maintained and available as required. Additionally, no scheduled meetings have had to be cancelled; in fact, there has been more activity and involvement (via Zoom) by members than would usually be the case across many aspects of what we do. But, of course, what we cannot replicate or replace by online activity are the (physical) social events which are such an integral part of what we do (as a Livery Company) and the enjoyment and benefit to members that those events bring.

Efforts have been made to increase communications with members – and between members – during this period: increased frequency of the e-newsletter; various events bulletins; and more wide-spread usage of various social

media channels. Hopefully, this has helped to maintain a 'sense of belonging' while we have been unable to interact socially - and one of the benefits of the 'lock-down' has been the increased use of online communications, which we plan to continue long after any movement and social restrictions have been lifted.

At the moment, we plan to open the office at Air Pilots House from 1 September. Members/visitors are welcome (in small numbers) from that date if you're in the area. We will only be at 50% staffing in the office on any one day during the week, but the facility is there for members' use if they wish – and meetings (with limited attendance) will be possible. These are tentative steps towards full re-opening when this becomes feasible. We all look forward to the day when we can resume something approaching 'business as usual' – albeit irreversibly adapted by the experiences of Covid-19 - and be able to welcome members and guests at large social events. □



On 18th June the Company's affiliated unit The Red Arrows performed joint flypasts over both London and Paris with its French counterpart La Patrouille de France, led in each case by its respective national team. The flights marked the 80th anniversary of the historic 1940 BBC broadcast from London by Général Charles de Gaulle which inspired the rise of the resistance to the Nazi occupation of France. Squadron Leader Martin Pert, Team Leader of the Red Arrows, said: "It was a huge honour for the Red Arrows to fly alongside our French friends and counterparts, over the skies of Paris and to help welcome President Macron to the United Kingdom." Images by Corporal Adam Fletcher MoD/CrownCopyright2020





MASTER'S MESSAGE

Captain John Towell

The world of the commercial pilot has been completely turned upside down and so many fundamentals are threatened. In January the story was of growth and a shortage of pilots, a few months later the world of aviation has been stunned.

During my career I experienced highs and lows, but the current threats far exceed anything that I experienced. The oil crisis of 1973 led to a long barren period with no pilot recruitment in BA and zero career progression, a situation far removed from the last ten years of strong growth, mass recruitment and very good command progression. The Gulf wars, 9/11, SARS and 2008 financial crisis were setbacks which threatened airline careers but on nothing like the scale of today. How the next year will play out is impossible to call but the recent announcement of staff reductions at easyJet, along with the previous bad news from UK airlines, seems to indicate industry-wide preparations for a medium-term challenge rather than a V shaped recovery in passenger demand. Along with other industry bodies, Air Pilots have lobbied government to support the aviation industry: you can read my letters to the Secretary of State for Transport and the Aviation Minister on the website. One aspect of this crisis that I find totally unacceptable is the way in which some airline managements treat their employees without humanity. There are far too many examples of airlines under extreme financial pressure, which whilst acting within the law, are falling short of their ethical responsibilities. This issue should be addressed by regulators or government.

The following words from the European Aviation Mental Well-being Initiative (EAM-WELL) are apposite:

Statement of concern: *Many aviation employees are now facing the loss of their jobs, reduced terms and conditions, and the prospect of ongoing employment insecurity in an uncertain and volatile future. These impacts on individuals' health - both physical and mental - are profound and far-reaching. It is highly likely that the consequences of the COVID-19 crisis could have a direct impact on flight safety in a variety of ways, if not anticipated and managed properly. In this respect, 'Just*

Culture' principles, aiming to foster fairness and safety, should also be adhered to in the COVID-19 crisis.

Operators - *We recognise the unprecedented pressures, costs and uncertain future you have to prepare and to re-adjust your businesses for safe and cost-effective operations. This might lead to job losses. We call on you to do so in as humane and equitable way as possible. We wish for you to exercise your moral responsibility to those who are likely to find themselves unemployed through no fault of their own. We also ask you to ensure those leaving your employment and then finding themselves in an oversaturated job market are given all the support you can provide. This is also in keeping with 'Just Culture' principles. Care should especially be taken with those more vulnerable to mental health problems. Crew who are let go may well end up being rehired in the future. Disgruntled crew (current or rehired) may be more preoccupied with their grievances and withdraw their goodwill, which could have an effect on morale, as well as safety, and efficiency of operations. It could also affect customer experience and brand loyalty.*

AIR PILOTS COMMUNICATIONS

Air Pilot is an important and influential part of our communications strategy with a worldwide circulation reaching well beyond the membership. Liveryman Paul Smiddy has served the company well as Hon. Editor since he took over the role from Liveryman Tom Eeles. A recent review of the terms of reference for the journal was prompted when Court members suggested improvements. A key aim was to offer a wider range of views and share the workload by increasing the editorial team and introducing correspondents. Other aims were to increase the content from the young members group, from the regions, and from the committees as well as developing more interaction with members. Having participated in the development of the terms of reference Paul Smiddy decided to stand down to allow a new team to take on the new challenge. On behalf of the company I thank Paul for his good work with *Air Pilot* over several years.

There was a very encouraging response when editorial and correspondent opportunities were announced and three candidates were shortlisted for the role of Hon

Editor. All three impressed the interview board and Liveryman Allan Winn was chosen as the new Hon Editor, subject to formal Court endorsement. On behalf of the company I congratulate and welcome Allan to his new role. There will be ongoing discussions to further strengthen the editorial and correspondent teams. Allan is a former editor and publisher of *Flight International* and *Airline Business* and more recently has been Museum Director and CEO of Brooklands Museum Trust. The Court is very grateful that Allan has taken on the challenge of producing this edition of *Air Pilot* at short notice. Allan will always be keen to hear from members with ideas about contributions for *Air Pilot* and is contactable at editor@airpilots.org

Effective communications are a priority for the company and in recent months you will have noticed more frequent e-newsletters which have been very well received. Steady improvements have been made to our Social Media offering and more members are joining in. The Air Pilots website has a lot of good content but shows its age with navigation that can be frustratingly difficult. This is a weakness that we should address.

Since my year as Master Elect I have been a member of a group each approaching the chair of a London Livery Company this year. As is the custom we recently met to form an association so that friendships can endure after our time in office. When choosing a name for the group the overwhelming preference was for "The Zoomers". This should not be a surprise with communications in 2020 dominated by Zoom - IPM Malcolm White has taken to calling me Master Zoom!

NEW WORKING PRACTICES

Video conferencing has made a significant difference to our business: it is hard now to imagine operating without the engagement throughout the company which has developed. I attended a recent meeting of the Technical Committee which had participants in Hong Kong, Australia, New Zealand and Gibraltar as well as UK. The meeting was very productive and stimulating: my reflection afterwards was that this was the best Technical Committee I have attended. By bringing together more interesting and valuable inputs, video conferencing has made a positive difference. We should expand this as good working

practice into the future and alongside business there is great potential for further social engagement.

There was a recent Regional Conference with the Master, Clerk and DAA in London talking to the Chairs of all of the regions. It entailed an early morning start for those of us in London as we talked to Alistair Beaton enjoying the evening sunshine in Vancouver whilst the other regions attended an afternoon meeting. These calls are a recent development and are a great way to share knowledge and understanding. A large part of the meeting was taken up with the effects of Covid-19 on aviation in general and members in particular. We discussed the Master's regional visit planned for later this year and the various challenges that may affect it including closed borders, quarantine restrictions, limits applied to numbers at meetings and travel insurance issues.

I chaired the first Air Pilots Court meeting on Zoom and overall it was seen as very successful. It was interesting to hear from Court Assistants their recent experiences with three different airlines operating cargo-only flights in passenger aircraft. Court meetings in a livery hall where ceremony is combined with business and social engagement will not be replaced by video conferencing, but we look forward to a return towards normality confident in our ability to conduct our business remotely.

The virtual coffee mornings (VCM) and evening events introduced by Will Wright, Becky Kwo and their Young Air Pilots team are providing a wonderful range of speakers and content. It is great to see members from around the world enjoying the experience. I strongly encourage members of all ages to look at the programme for these events and join in. I recently attended a stunning presentation by James Ketchell talking about his amazing flight around the world in a gyrocopter. James was inspirational and delivered a strong message about the way that mentoring had allowed him to transform his life for the better. I hope the message from James will encourage members to look at the mentoring opportunities we offer. Another recent highlight for me was Professor Robert Bor's talk and discussion about Peer Support and psychology: it was very helpful, interesting and absolutely relevant in these troubled times for Aviation. Both of these events followed up excellent articles by Master Elect Nick Goodwyn in the June *Air Pilot* and there is more detail on the website. 

FROM THE DESK OF THE DIRECTOR AVIATION AFFAIRS

By Liveryman John Turner

Technical Committee Update

The Technical Committee (TC) meets once every four months. For the last meeting on 21st May, representatives from the United Kingdom, Hong Kong, Australia and New Zealand regions joined together by Zoom: unfortunately, the meeting start time prevented the North America representative living in British Columbia from attending. This was the first meeting where four of the five regions were represented, and it proved extremely effective; all 21 attendees agreed that in future we should call this the **International Technical Forum** (I will be drafting revised terms of reference).

Of course, the primary difficulty will be scheduling meeting times that are amenable to all, which probably means we will rotate the start time to share the pain of unsocial hours throughout the year and (once Covid-19 restrictions permit) allow some meetings to take place at Air Pilots House. Despite this challenge, the benefits of bringing all the regions together was self-evident; this was not only in the opportunity to explore our differences, which are very few, but also to consolidate our many similar views. When we present to external audiences and regulators, this international accord should also add weight to our comments.

Aviation and Covid-19. Several organisations, including the Flight Safety Foundation, EASA and CAA, have issued guides on restarting flying post the peak of the Covid-19 pandemic so it was not felt necessary to duplicate that work. Those members still flying Commercial Air Transport reported that they were facing several issues as a result of Covid-19 measures, including:

- Passengers refusing to wear masks despite the guidance. As it was just guidance and not backed by legislation, the crew could not off-load the passenger! Providing a legal basis for such requirements would help the crews tremendously.
- Airlines no longer offering a cabin service left flight crews without access to water and hot drinks. At airports that

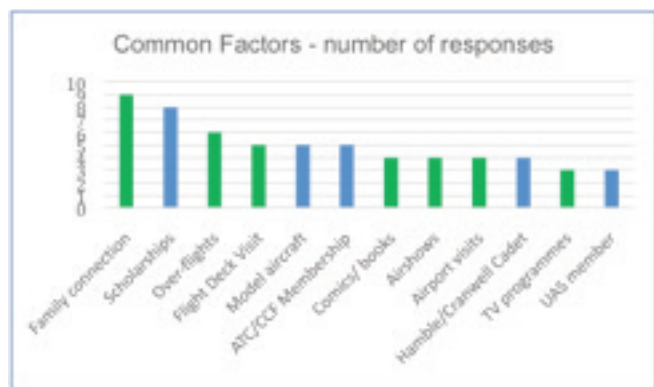
had not adopted the new regulations on liquids, they could not carry on enough for a 6-8 hour shift and, with airport retail outlets closed, it was difficult to procure more.

- Lack of co-ordination between countries (especially in Europe), airspace and airport closures and ground handling companies using different procedures from the airlines placed the crews under significantly increased pressures.

Environment. As mentioned previously, aviation plays a pivotal role in economics, finance, trade, labour movement, Covid-19 and national defence & security. However, many perceive it as the worst polluter of our modern world, to the extent some young people think they should never travel by air. (Though judging by the clamour from people in UK wanting to take an overseas holiday as soon as travel restrictions permit, that view is not so broadly held after all.) Nonetheless, to address the 'great polluter' image, aviation needs an advocate to promote its true position and inject some balance into the climate debate. This may not fit comfortably with some modern world views, but the Air Pilots' independence makes it a logical space for us to fill. The work of the former Environment Committee was subsumed into the Technical Committee in 2015 and environmental issues have since continued to be considered. Accordingly, we hope to establish a new 'Environmental Advocate' Working Group, to understand and provide an accurate view of aviation's environmental impact, reflecting both emissions and mitigations. If you have any expertise in this field and would like to help, please let me know. (daa@airpilots.org)

Aviation skills shortage

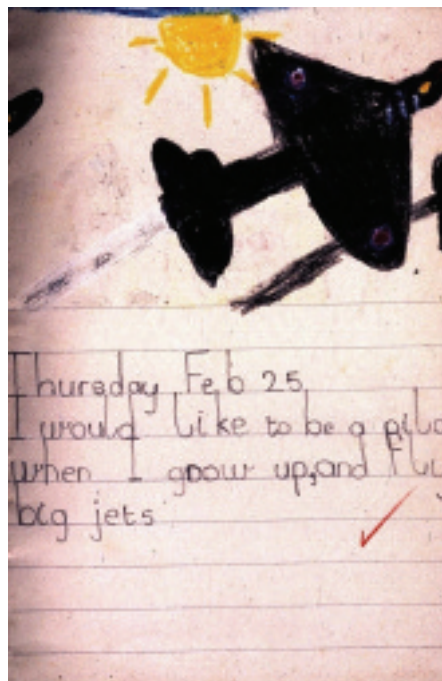
I promised to feed back the results of my requests for information on what drew our members into flying. Reviewing the individual experiences of the 26 responses (from members aged between 30 and 80) revealed some marked similarities, though it is too early to claim any scientific significance.



Having identified the common threads, the chart shows the number of responses in which they were mentioned. Clearly having a family connection was important. Most mentions of a 'family connection' relate to having a father who was (or had been during World War II) in the RAF, though one described a grandfather who had flown in the Royal Naval Air Service during the Great War. The 'over-flights' category showed that just being over-flown by an aircraft as a youngster could make a formative impression, whether that was in Hyde Park watching airliners on the approach to Heathrow, the sudden appearance overhead of a Search and Rescue helicopter while on a seaside holiday or aircraft in the visual circuit from a local aerodrome repeatedly flying over your home. (Usually Austers and Chipmunks turning base leg at the now defunct Ipswich Airport in my case.)

Spending time in a cockpit on the ground or on the flight deck in the air left lasting impressions (what a pity we cannot do that today). For many, gliding or flying with the Air Training Corps or air section of a school's Combined Cadet Force seems to have sealed the deal though for others it was their first chance to experience and be enthralled by things aeronautical. Sometimes it is difficult to separate initial motivation from consolidating factors.

John Turner in a (Gloster Meteor?) cockpit – aged 5



Author's school diary entry

Many responders had an interest in model aircraft, whether of the plastic Airfix or flying type. For one, it was seeing a small model Gloster Meteor in the window of a shop on the way home from school each day that was enough to ignite the first spark of a subsequent passion.

Airshows played a part (that, as recorded in my infant school diary, was the start of my passion for aviation) but so too did visits to an airport, whether as a passenger or bystander simply to see the aeroplanes. Almost invariably, the sight, sound and smell of marvellous machines was enough to enthuse us with a determination to fly. TV programmes like 'The Whirlybirds' or 'Airwolf' left as indelible an impression on some as reading the adventures of Lt Biggleswade did on others.

Of the 26 responders, 11 went on to have military flying careers, 17 into commercial flying careers and 5 to become General Aviation pilots; that total exceeds 26 because some combined military and/or commercial careers with leisure flying. The actual career paths are interesting in their own right, which I hope to reflect in a later report.

Finally, my sincere thanks to everyone who took the time to respond. With the current round of airline restructuring in the face of Covid-19, it may feel that we have a surplus of pilots at the moment. However, forecasts of a resurgence in demand exceeding supply are not too far away, so it will be critical that we know how to attract newcomers in sufficient numbers. If you have not responded, do bolster the data with your own experience in an email to me (daa@airpilots.org) using the title INTERESTED IN AVIATION. ▢

THE SPACE WORKING GROUP: AN INTRODUCTION

Space activities are too big and important to ignore

By The Space Working Group

We are living through the middle of a revolution in space transportation. The substantial decline in commercial launch costs by a factor of around 20 in the last 15 years is transforming the accessibility of space. The breadth and volume of commercial activity in space is accelerating at an impressive rate with the likes of Elon Musk, Jeff Bezos and Sir Richard Branson at the vanguard. The decline in launch costs and increase in reliability of commercial access to space is driving a growth in the space market which:

- Increases the number of organizations which can access space;
- Widens the category of entities which can access space;
- Increases the volume of launch traffic entering space;
- Increases the opportunities for a greater number of launch sites.

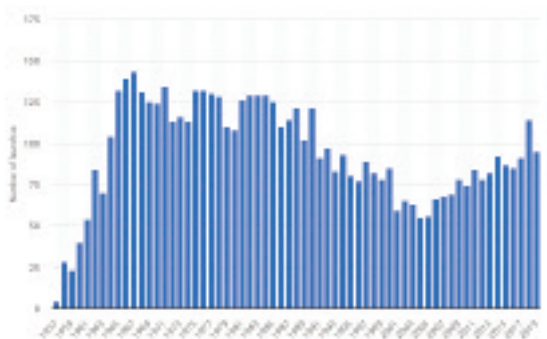


Chart 1: Number of satellites launched from 1957 to 2019. Inflection point in mid 2000s is clear. Data sourced via Statista from planet4589.org

Given that the Company's objectives include the following:

- The promotion of the highest standard of air safety;
- The liaison with all entities connected with licensing, training and legislation affecting pilot or navigator; and
- Providing a body of experienced aviators for advice and consultation and facilitation of the exchange of information;

the change in the nature and scale of space access would suggest that the Company should take a more structured approach to the domain.

As examples, space launch activities and space launcher sites are of direct safety and regulatory importance for us. Our members will have a professional and intellectual interest in propulsion, airframe materials and operational processes in an industry growing at a strong rate, and navigation systems that are dependent on access to space bodies are a critical enabler of today's aviation. It was with these types of links in mind that our new Master tasked the DAA to form a new Space Working Group (SWG) earlier this year.

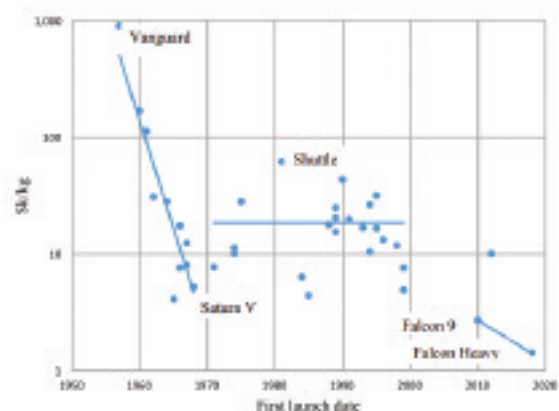


Chart 2: LEO launch costs per kilogram since 1958. From Jones, Harry W. ICES-2018-81 The Recent Large Reduction in Space Launch Cost ; 48th International Conference on Environmental Systems 8-12 July 2018, Albuquerque, New Mexico https://ttu-ir.tdl.org/bitstream/handle/2346/74082/ICES_2018_81.pdf?sequence=1&isAllowed=y

Objectives of the SWG:

- Research and collate any worldwide space news relevant to the aviation community, or with civilian spinoff application into the aviation industry;
- Raise awareness of this news and disseminate it to both the internal audience of the Honourable Company of Air Pilots, and to a wider external audience, through the Company Magazine, press releases and digital output;
- Assist closer collaboration/dialogue between the defence and private sectors in space research;
- Provide relevant space careers information to affiliated

organisations and related STEM focused youth organisations.

Coverage Areas of the SWG:

- Technology
 - o 1) Propulsion, 2) Navigation/computation, 3) Life support, 4) Materials science;
- Operations
 - o 1) Crew resource management, 2) Training, 3) Medical (although medical developments may fall into the first category);
- Airspace/Regulation/Legal
 - o 1) International regulation, 2) exo-atmospheric legal structures, 3) integration of space launch & recovery with national airspace regulation and international conventions;
- Applications away from space
 - o Adjacencies into aviation being likely priority interest to members but not limited to that if of sufficient import;
- Careers/Outreach
 - o The related incentives for aviation and space in encouraging the next generation of pilots, be it in atmospheric operations and/or even higher.

Current status of the SWG

The SWG is now eight strong and enjoys a cross-section of the Company's membership with ex-military, commercial, media relations and general aviation representation. The membership of the Group is: *Chair:* Richard Painter; *Members:* Su Ingle, Rebecca Kwo, Chris McGee, Kieran Trasler (RAF), John Tribe (FL, USA), John Turner (DAA), Mike Zaytsoff (NZ)

The SWG only met for the first time in mid-May, but has already made two-way contact with a number of

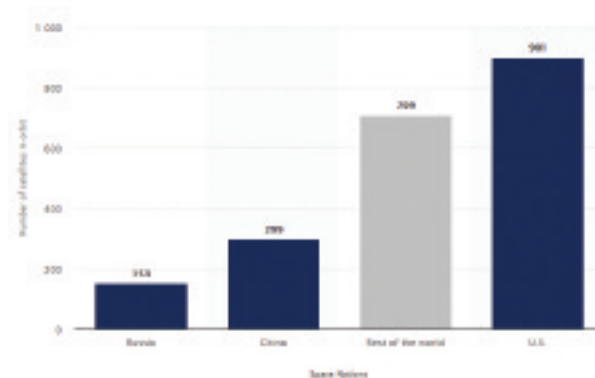


Chart 3: US satellite fleet dwarves nearest rival currently. Data as of March 2019. Sourced via Statista from ucsusa.org

organisations that should help us deliver on the agreed objectives. Contact has been made with the UK Space Agency, the British Interplanetary Society, Space Directorate UK Ministry of Defence, European Space Agency and Lockheed Martin, and we hope to leverage these contacts for the benefit of Company members within the next couple of months. The operating mode will be to avoid duplication of efforts made by other bodies.

Current Space Affairs

As well as the well-publicised SpaceX Crew Dragon-2 launch, you may not be aware the UK is launching (forgive the pun) ahead in its space capabilities. The two BBC articles below highlight recent test activity in the UK:

<https://www.bbc.com/news/uk-scotland-highlands-islands-52740857>

<https://www.bbc.com/news/uk-scotland-north-east-orkney-shetland-53049513>

In addition, the UK Space Agency (UKSA) recently signed a US-UK Technology Safeguards Agreement (TSA), paving the way for US companies to operate from UK spaceports and to export space launch technology to UK. This is the culmination of over three years of negotiation and is a significant step forward for the UK national Spaceflight programme and commercial space industry. □

Rocket test first of its kind in UK in 50 years

24 May 2020

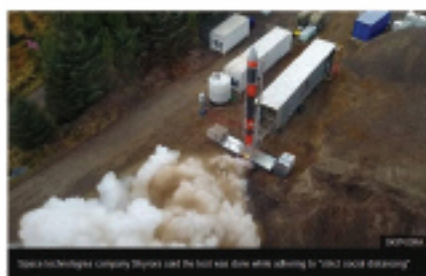


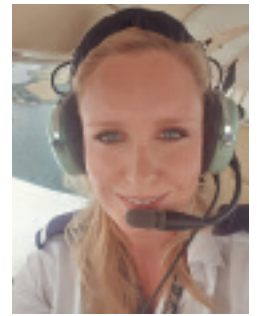
Figure 1: The ground test of the 11m (36ft) tall Skylark-L rocket at Kildermorie Estate, near Alness in the Highlands by Edinburgh-based space technologies firm Skyrora was the first of its kind in UK in 50 years (BBC News)

Figure 2: SpaceX Crew Dragon "Flight Deck"



YOUNG AIR PILOTS GROUP

Introduction by YAP Georgina Millington



What strange times we find ourselves in. It feels like only yesterday that there was a global shortage of pilots. The job market looked buoyant for cadets, provided that we jumped through the hoops of flight school (as I am doing myself) and the prospect of a first job seemed inevitable. Enter 2020. Is there a reset button anywhere?

I think it is safe to say that everyone has been affected by Covid-19 on some level. Whether your training has come to a grinding halt, you've being put on furlough or you've sadly been made redundant, it has certainly been a testing time for those of us in aviation.

The signs of change became apparent to us early on in the pandemic and the shape of what might be started to rear its ugly head as events and visits were being cancelled. Usually, in springtime, we are looking forward to the Young Aviators Dinner, held at the RAF Club. Unfortunately, because of the way things were looking pre-lockdown, it soon became evident that this event just couldn't go ahead. Also, we were unable to continue with our extensive range of Scholarships but we know that this is only temporary and look forward to opening them up again next year.

During lockdown we saw our aviation family come together in solidarity. Supporting one another, helping where we were able to and reaching out to those who had been severely impacted by Coronavirus.

It was with great sadness we saw Flybe collapse in March. It was an airline I worked closely alongside whilst working part time at Exeter Airport during my studies. Yet how heart-warming was it to see Project Wingman take off (no pun intended)? This scheme has seen many former cabin crew and pilots, from a number of airlines, volunteer to help out in hospitals to support our much-valued NHS. As young members, we have continued to be active in

building our platform during these unprecedented times. We've enjoyed hosting our 'Virtual Coffee Mornings' and 'An Evening With...' series on Zoom where we welcomed so many inspiring people. We'd like to thank all those who participated, either as a host or as an attendee, and hope you got as much out of each one as we did. Our social media posts are also generating some real momentum and we're excited about the prospect of reaching out to a much wider audience. We are always looking to feature the breadth and depth of members within the company, and so if you'd be interested in being one of our 'Air Pilot Profiles', then we'd be most grateful to hear from you.

Although this year's Young Aviators Dinner couldn't go ahead, we are already busy planning other social events. On the 25th September we're looking to hold a training day followed by a Young Air Pilots 'mixer'. This will be an excellent opportunity for company members to discuss ideas, develop skills and build networks in what will be an interactive dynamic forum. The training will be at Air Pilots House (with Zoom links available for those in the Regions) and the mixer at the RAF Club for those able to get to London, so there will be something for everyone! Please do look out for further details on that soon and we would love to see you there.

To project my feelings as a final note; I, for one, remain positive and optimistic about the future of aviation. We have overcome many other catastrophic events such as the atrocities of 9/11, the 2008 recession and previous global pandemics. I hope one day we will look back at this year and be able to see it as a steep learning curve that we finally overcame. Ultimately, people will be flying again, it's just a matter of when, not if. ▣

YAP PROFILE

YAP Committee - Chair Will Wright

It's fair to say that I had a slightly more unconventional approach to starting my flying career than have many pilots. Most budding aviators have a burning motivational desire deep inside them when growing up to fly and consequently it is all they've really wanted to do. Nothing else floats their boat, as it were. For me, this was not the

case, and despite clearly having an interest in aircraft when I was much younger, together with a hand-eye aptitude in team sports, I never expressed my interest in becoming a pilot until later in my teenage years.

During my research into University courses, I stumbled across some courses that incorporated some level of aviation activity. This sounded like good fun to me and I subsequently applied to a number. Unfortunately because I had sub-par grades at A-Level first time around it meant that I had to wait a year to reapply. I didn't waste this time,

however, and as a result of having an interest in STEM subjects at School, participating in Headstart courses during summer holidays and the Educational Development Trust (EDT), I was able to accept a Year in Industry Placement at Rolls-Royce in Hucknall. This involved working within the team who were involved in developing the design and manufacture of big turbofan engines (RB211, Trent Family and EJ). This invaluable experience at 18 taught me so much about myself and the learning curve was particularly steep.

The facility I worked at had good ties with the local flying club (as a result of the site being the historic engine test bed site for many years) and I was fortunate to be able to get up in a Cessna 152 regularly with colleagues from work. This was when my desire for being a pilot really took hold. I re-sat and passed my Physics A-Level during this year and achieved the required grades for my course.

Aerospace Engineering with Pilot Studies at the University of Liverpool was what I read and I'd highly recommend it to anyone considering it. A grounding in aircraft design philosophy and engineering principles combined with modules on ATPL theory left me in excellent shape for later completing ground school. Part of the course also involved completing 20 hours at Liverpool John Lennon Airport flying Piper Warriors around the Merseyside area. Great fun!

After University I was now sure I wanted to be a pilot, however I didn't have the financial resources, so I went to work in the City of London as a Management Consultant in the world of Corporate Finance. I tried to maintain a connection with the aviation industry through friends in the airlines and at Shoreham airfield. The period of just over 18 months in the City gave me a good base with which to start flying training. I quit my job and, having already passed the selection process at CAE Oxford Aviation Academy, went for my Initial Class 1 medical. I thought that this would mean I would be starting after a month or so but, unfortunately, this was not to be the case.

For a few reasons, that I won't go into here, I did not receive my medical certificate for another 8 months! At one stage I didn't think I'd ever receive it. During this time, my resilience and perseverance were severely tested, and it is a lesson for all that obtaining a medical can sometimes throw up some unforeseen complications. I have subsequently heard of a number of similar cases through chatting to friends at CAE during training.

My training commenced in August 2017 and was finally completed in March 2019 having passed 14 ATPLs, the CPL in Phoenix (Arizona), obtained my ME/IR at Oxford and MCC/JOC at London Gatwick. I cannot express how much my theoretical grounding at University and work

ethic in Rolls-Royce and London underpinned the challenges I faced during my Integrated ('White Tail') course. I went through the easyJet application process in the time between ME/IR and MCC/JOC and was fortunate enough to be offered a position before finishing my course.

I started my Type Rating in June 2019 and was base training at Newquay Airport by late August of that year. I have to say that this particular period was by far the best experience of my aviation training, and for those needing motivation in current times, I can assure you it is worth the effort and you will get there with enough determination. I then started my line training up in Glasgow and am grateful to be based here for the foreseeable future as the base and company have a welcoming 'family' feel up here.

That being said, as of writing, easyJet has announced that it may make up to 30% of the workforce redundant. The battle lines have yet to be drawn but I am still optimistic that my job is secure. You can never be completely confident in what will happen but I know that the industry will pick up eventually. The community of Air Pilots has done wonders for supporting me throughout 2020. Whether the individuals involved know it or not, I have appreciated it immeasurably and look forward to the time when I am able to pass on that learned wisdom to future Air Pilots (as, when or, indeed, if my turn ever comes).

My time with the Air Pilots actually started whilst in my downtime in Phoenix. After a conversation with a family member who is heavily involved in Livery life, he suggested that I looked into joining the Honourable Company. I therefore submitted my application with supporting evidence from my training days and was grateful to be admitted in September 2018. As a young member I became involved in some of the activity of development in late 2019 and currently sit as YAP Committee - Chair. I have thoroughly enjoying being involved in all the great work the company is doing on young membership and together with Becky and the team we are really excited about the future of young people within the company. □



VIRTUAL COFFEE MORNINGS

By the Young Air Pilots Committee

Together with much of the world, aviators of all creeds were locked down in April, through no fault of their own, and forced to stare endlessly at a tauntingly perfect sky throughout spring and into summer. As a community, we needed to find some way to help us pass the time. So, what did we do to alleviate our aviation withdrawal symptoms? The only thing we could do. Talk about flying, of course! It's the old adage:

"How do you know you've met a pilot?"

"(S)he will tell you....!"

The Young Air Pilots Committee and, in particular, chair Will Wright, decided to put together a series of 'Virtual Coffee Mornings' (VCMs) to link Company members to each other through our mutual adoration of aviation. A feat of remote organisation, it was gratifyingly straightforward to put together a programme of fascinating, enthusiastic speakers from all parts of the aviation world and from within the vast array of experience in our Air Pilots community. We made use of 'Zoom' teleconferencing software, the increasingly ubiquitous form of online meeting within the Company, as well as introducing a new tool for events planning, Eventbrite. This allowed us to ask application questions to our prospective audience in order to guide the direction of speakers' content and kickstart the lively Q & A sections.

That the speakers were all Company Members (or soon to be!) demonstrated the immense expertise and experience of our Members. We would like to thank all our speakers for the gracious and generous time and enthusiasm. Their offered time and expertise was of immense value, and the conversations had, networks built and information shared were invaluable to many attendees in maintaining a certain degree of normalcy and camaraderie in what was (and what remains to be) an incredibly challenging time. It also provided a great opportunity for attendees to learn and develop areas that they otherwise, may not have given thought to.

As you can see from the inserted table on attendance rates, there was a great depth in the event topics offered to members. Each VCM had its own unique takeaways with learning and networking opportunities aplenty. It provided a great forum for attendees to learn from both their peers and those in advanced career positions. In some cases, this led to a degree of introspection and the opportunity to reflect on the development of skills that they may not have given thought to before.

A word on the process and performance of the programme generally. As mentioned in the opening paragraphs, we started the VCM series with a young member audience in mind. Therefore, attendance was almost exclusively made up of those under 35. This allowed us to test social media 'advertising' and the use of Eventbrite as a tool. The process was relatively straightforward: email notification would be joined by social media posts about the following week's events, prospective attendees would then be able to click a link that would lead directly to the Eventbrite page and here the details of the specific talk were made available, alongside the ability to 'sign up'. We had mixed experience with click rates through the email client and therefore found some level of attrition in sign-ups.

Our iterations for expansion of the series meant that our audience demographic also changed. This was in line with an increase in the diversity of topics and guests on offer. Air Pilots were informed via the Clerk's eNews, the Company's events website and further social media channels were utilised in order to help bolster attendance. With a few notable exceptions, however, attendance remained at between 20-30. This is not to be viewed as a negative, though: we are very proud of the series and feel that a great deal has come from it in a number of immeasurable ways. The facilitation of networking and mentoring is always a difficult metric to put a value on.

Each episode that we can make available, we have. It is available on 'catch up' on the Young Air Pilots section of the company website: <https://www.airpilots.org/members-pages/young-air-pilots/virtual-coffee-mornings/>

We believe that if you are doing something right then people will tend to follow and as a result, have been in conversation with the Young Air Pilots in Australia to help them with their own series. We should make a special mention to Liveryman Rob Moore, who regularly attended the VCM series in the early hours of the morning EST due to the time difference.

We have taken into account the ever-changing landscape in which we currently reside and decided to reduce the frequency of VCMs moving forward. We anticipate that this will help increase attendance at these events and make them easier to fit into everyone's increasingly busy schedules. Look out for upcoming VCMs in notifications via e-mail, and on our Company social media.

Event	Speaker	Total Attendees	Men	Women	YAPs	Other	% YAP	% Other
Uncertainty in Aviation	Steve Durrell	27	23	4	25	2	93%	7%
BIZ Jet/Corporate Flying	Chris McGee	21	16	5	19	2	90%	10%
Air Pilots & BA Career	Dacre Watson	15	13	2	13	2	87%	13%
Red Arrows	Mike Ling	53	40	13	49	4	92%	8%
Air Accident Investigation Branch	Crispin Orr	18	13	5	14	4	78%	22%
Warbird/Heritage flying & the flying club	Richie Piper	17	13	4	12	5	71%	29%
VVIP Military flying	Kyle Thomas	25	18	7	18	7	72%	28%
Company History & Archive	Peter Bugge	26	18	8	10	16	38%	62%
Flybe training ethos	Mike Rodwell	21	13	8	14	7	67%	33%
Concorde	John Hutchinson	42	28	14	28	14	67%	33%
UKFSC	Dai Whittingham	21	14	7	11	10	52%	48%
GASCo (Staying in Control)	Mike O'Donoghue	30	19	11	20	10	67%	33%
RAF & Harrier	Malcolm White	29	19	10	12	17	41%	59%
Offshore Helicopter Operations	Zoe Gell	30	16	14	18	12	60%	40%
All Party Parliamentary Group, GA and Covid19	Lord Byron Davies	36	27	9	8	28	22%	78%
Gyroplane around the world flight	James Ketchell	24	16	8	8	16	33%	67%
Does psychology have anything to teach us about coping with personal and professional challenges?	Professor Rob Bor	43	27	16	19	24	44%	56%
Averages		28	20	9	18	11	63%	37%

GAZETTE

APPROVED BY THE COURT

16 JULY 2020

ADMISSIONS

As Upper Freeman

Francois-Charles BOUCHARD (HK)
 William BURGESS (HK)
 Simon Eden CORNISH (HK)
 Christopher DREWERY (HK)
 Christian GOLDFINCH (OS)
 Brian HEINEY (HK)
 Andrew James JEPPE (HK)
 Darren Wayne KEFFORD (HK)
 Bruce Edward LOTHIAN (NA)
 Douglas MARTIN (HK)
 Sebastian MENDEZ (HK)
 Philip John Richard MURPHY (HK)
 Andrew NICHOLLS (HK)
 Rolf Asgeir PEDERSEN (HK)
 Nigel SCOPES
 Simon Andrew WALL (HK)

As Freeman

Thomas Martin McMORROW

As Associate

Zachary BLACKER (HK)
 Alison FIELD
 Luke Christopher JEFFREY
 Jordan PENNING
 Christopher Lewis Keith SINGLETON
 Alexander STIFF
 Stephanie VICIC

ACKNOWLEDGED BY THE COURT

16 JULY 2020

REGRADE

To Livery

John PETERSEN

To Upper Freeman

Angelo LAPETINA (OS)

To Freeman

Steven CHEUNG (HK)

DECEASED

Sir Michael BEAVIS (OS)
 Kenneth DAVENPORT (AUS)

RESIGNATIONS

Andrew BLACK (OS)
 Keith CHANDLER
 Erwin EIJSERMANS (OS)
 Mark EVERS
 Christopher HADLOW
 Malcolm LYNE
 Ryan MANNERING
 Ian MATHESON (NZ)
 Taniya MORRIS
 Glen ROSS (NZ)
 Gary SOUTHAM
 Malcolm WARD
 Peter WOOD

FORFEIT ALL BENEFITS

John JONES (NZ)

REGIONAL REPORTS

Australia Region

By Chairman, Australian Region, Rob Dicker



Here we are, perhaps six months after the start of the current pandemic and three months after the start of lockdown measures. Whilst here in Australia we can be pleased that these measures have been very successful in suppressing the virus, certainly compared to other countries, we are all only too

aware of the devastating impact on Aviation.

Over the past few weeks we have learned of thousands of job losses across commercial aviation globally culminating this week in the announcement of 6,000 redundancies at Qantas, including 220 aircrew. Whilst Virgin Australia gets closer to coming out of administration it seems obvious that the "new Virgin" will be much smaller. Our thoughts are with our friends and colleagues who find themselves on the receiving end of this news.

In General Aviation, businesses reliant on tourism are suffering badly whilst others are surviving on flight training and government contracts. It is clear, though, that one of the major impediments to restarting economic activity in our industry is the uneven way in which this pandemic is affecting different parts of the country and the world.

During these times of social distancing, being disconnected from our workplace or social events, it's more important than ever that we stay connected with each other so now could be a good time to reach out to friends and colleagues to find out how they are doing. If needed, there are a number of well established support services available to aircrew but if you need to talk to someone, but don't know where to start, please contact us.

Our younger members may well be wondering what effect this pandemic is likely to have on their careers. However, to quote from an article in *Flight International* of a few weeks ago: "Coronavirus, after bringing global aviation to a near-standstill, will not stop the thousands of pilot retirements in the coming years... The demand is still there, it's just depressed a bit in the short term because of the Covid crisis. The long-term value proposition for new people coming in remains unchanged. Aviation is still an attractive career."

One of the positives to come out of the current situation is greater engagement with our young members, initiated through the UK Young Air Pilots and their online coffee mornings but which will be taken up by our own young members over the coming months with their own version of online meet ups. They are organising a number of guest speakers that I'm sure will be of interest to our young members as well as the membership at large, so keep an eye out for upcoming notification of these events.

Following on from the Master's visit last year a regular conference call between the Master, the Clerk, the DAA and the regional chairmen was established to strengthen communication between London and the regions. The first with the current Master, John Towell, was held in June and is a great forum to discuss strategic issues, particularly during the current circumstances. Of course, one of the topics on the agenda was this year's Master's visit and I'm sure many members will be interested to know what is happening. All I can say at the moment is that the situation is not clear enough to make any definite plans. Similarly, our trophies and awards will be made as usual but it is unclear at the present time whether or not the Trophies and Awards Banquet will go ahead and how that might affect the presentation of awards to Australian recipients.

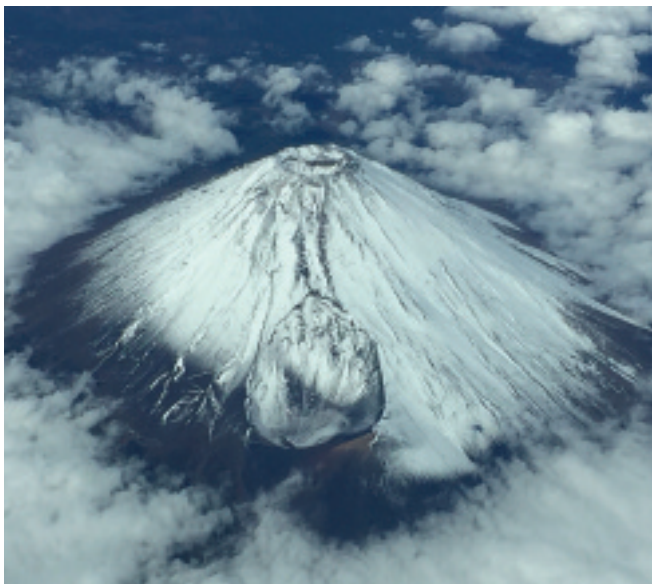
Speaking of recognition, our congratulations go to Captain Deborah Lawrie AM MAP who will be one of three inductees to the Australian Aviation Hall of Fame this year. The other inductees are Basil South Brown and John Weymouth with the Southern Cross Award going to the Australian Helicopter Industry Association and the Australian Aerial Application Association in recognition of their significant contribution to the firefighting effort during the recent devastating bush fires.

A previous inductee to the Australian Aviation Hall of Fame and long standing Honourable Company member, Senja Robey BEM MAP, sadly passed away at home on 14th April 2020, at the age of 93. It is with regret that I must also inform you that former Qantas Chief Pilot and past Chairman of the Australian Region, Captain Jack Kenneth (Ken) Davenport MAP passed away on 19 June 2020, aged 82. □

Hong Kong Region COVID-19 - THE IMMEDIATE IMPACT

By Captain Peter Taylor

Over the years as a commercial pilot I have been lucky enough to see some very spectacular and unusual sights. Ranging from stunning sunsets and sunrises through weather formations to spectacular landscapes.



Mount Fuji

In very recent times one rather unusual sight has almost become the norm - large international airports being used as aircraft storage facilities. Runways and taxiways lined with row upon row of aircraft parked nose to tail, side by side and my home base of Chek Lap Kok in Hong Kong is no exception.



HKIA 07L/R & Third under construction

These photographs show the extent to which the Hong Kong aviation business has almost been brought to a halt. Taxiways that are normally busy with aircraft taxiing to and from the runways, now play host to hundreds of semi-mothballed aircraft. There is no doubt that the worldwide aviation industry is suffering the brunt of the financial impact of the Covid-19 pandemic.



Parked Cathay Jets

It is not only the financial impact of the pandemic that affects the industry, the resultant affect on people's personal lives is also hugely significant. A great many of my colleagues say that they are facing a significant deal of personal anxiety about their future. Therefore this is proving to be a critical time for us, where as a group of professional aviators we must pull together; indeed I believe history will reflect that this is a defining period for our Honourable Company. We already have a well established mentoring programme and a good support network, so here in Hong Kong we are currently in the process of establishing our own mentoring and support programme. Quite often, personal anxiety can be eased significantly by simply sharing your thoughts with a friend or colleague, so our aim here is to encourage our fellow pilots to reach out if they need to.

It is also very important to keep a positive mindset in these unusual times. The aviation world will emerge from this crisis, most likely in a slightly changed form. However, Airline travel will still be a requirement for many millions of people in the years to come.

Looking back over my 26 years here in Hong Kong, I have seen several serious crises come and go (Asian financial crisis 1998, aftermath of September 11th 2001, SARS

2003, GFC 2008). Each time the airlines have emerged from such events leaner and stronger; ready to deal with what lies ahead. Let us hope that the gradual lifting of the lockdown around the world will enable a swift and sustained recovery for our businesses, returning to the success story that the Aviation industry was prior to the Covid-19 outbreak. □

Downhill from the Pole



A YOUTHFUL PERSPECTIVE

By Upper Freeman, Senior First Officer Josh Tuppen & Friends

It was an absolute pleasure to be invited to write an article on behalf of the “youthful” contingent of the Hong Kong Region. I would like to start by thanking Captain Pete Taylor for his continuing hard work with the Youth Development Programme and Ms Valerie Stait on peer support and the issues surrounding COVID-19 within the aircrew community. Finally Captain Locky Lawford cannot escape mention, for his fantastic efforts in keeping the social schedule full of interesting events for all “youthful pilots” to relax and have some fun.



Kai Tak Through the HUD

Allow me to introduce a few of us, with a short bio and how we became aware of the Honourable Company of Air Pilots and the outstanding work that it does worldwide. I shall naturally start with me...

Senior First Officer Joshua Tuppen

I grew up around aviation: my father was a Bristow pilot at the time of my birth based out of Great Yarmouth. On his

move into fixed wing aviation, we relocated to Gatwick where I spent my childhood watching the aircraft on approach to runway 26. I was encouraged to join the Combined Cadet Force and this is where I gained my first hands on experience with an aircraft, in the form of an Air



Josh Tuppen & Pat Voigt

Experience Flight in the Grob I 15e at RAF Benson, which rapidly led onto a gliding scholarship at age 16 at RAF Kenley.

It was around this time that I became aware of the now Honourable Company, as I was invited to attend a GAPAN Event with Wing Commander Andy Green and the Bloodhound LSR team. However, it wasn't until several years later whilst sitting in a 777 next to our current Hong Kong Regional Chairman on our way to LA over the Pacific, that my interest in the Company would again be piqued.

Several years and type ratings later, I am now a Relief Qualified Senior First Officer with Cathay Pacific on the Airbus Fleet, flying to some of the most interesting and unique destinations in Asia and worldwide. The dynamic flying we see here in Asia is unparalleled. From cold weather ops in Canada, Japan, Russia and Europe, to crossing the ITCZ; it's a flying environment in which I am immensely grateful to be immersed.

The Honourable Company has provided me with many opportunities to meet a multitude of people who work in aviation outside my airline. We recently attended a Company "Junk Trip" with some 50 attendees: with all the current uncertainty and lack of flying, it was fantastic to spend the day letting our hair down amongst our peers. I have recently organised a Young Air Pilots Event where we hope to meet and greet some of our newest members, with a Quiz Night to follow. After many discussions about how we can diversify our approach to the youthful contingent here in Hong Kong, I am very much looking forward to helping grow this aspect of Our Company under the guidance of the Regional Chairman Captain Pat Voigt and his Team.

Upper Freeman Senior First Officers Robert and Samantha Lewis-Jones

Despite having very similar backgrounds, we joined the Honourable Company at different times. Rob was introduced to GAPAN whilst assisting with the RAF Cosford airshow in 2011. He was subsequently 'encouraged' into transferring to the Hong Kong branch by its current Chairman and' after attending a social event alongside him, I gladly joined a little over a year ago.

We started our aviation careers in the UK in the Royal Air Force: unfortunately as a result of defence budget cuts we had our military careers cut short.

In 2012 we both joined Cathay Pacific, where we met, whilst completing our ATPLs in Adelaide. After seven years flying around the world we have accrued thousands of hours on the B777, A330 and A350. Our lifestyle in Asia is incredible, the regional flying is challenging and the travel opportunities are endless. Joining the Air Pilots has allowed us to enjoy multiple social events ranging from black tie dinners to summer junks. I'm very grateful that Rob dragged me along to that first AGM!



Sam & Rob Jones

Second Officer, Freeman David Sampson

I first became aware of the Honourable Company of Air Pilots through one of my mentors, who introduced me to social events and other members of the Company. I've been working for a Hong Kong based airline for the last four years as a Second Officer on the A330 and A350, operating mainly long haul routes to the Americas, Europe, Middle East, Australia and the occasional regional red eye. I've worked with some brilliant colleagues from all over the world with varying backgrounds of flying, all with their own stories to tell.



David Sampson (far Right) in A350 Engine

Being based in Hong Kong with such a diverse network has given me extensive exposure to operating in different regions and the challenges associated with that, such as extensive weather phenomena through the ITCZ, jet-streams across the Pacific, very high terrain over China or dealing with ATC services with limited coverage and language difficulties. Through my involvement with the Air Pilots, I've met many people from different branches of the aviation community in Hong Kong, not to mention the events in London and the people I've met at the T&A every year. Every single person shares a different perspective on this amazing industry that we all work in and are passionate about. □



MEMBER PROFILE

IT COULD BE YOU!

By Assistant Elizabeth Walkinshaw

Some time back I had a chat with Past Master Chris Ford. He suggested I might publish a sort of CV of my journey, explaining what it means to be a member; to take more interest in the activities within the Company, how I progressed through the Livery onto the Court and my aspirations, as well as how members could be involved in Committees. In short, what I am doing and what they could also do. I know many members aren't familiar with all the aspects of our Livery Company, or how easily you can become involved. Members may not be sure of how to progress in the Company, or what would happen if they do put themselves forward. Much of the information is there to be accessed but an insight into my journey and experiences in the last few years might be a pointer to you, to show how easily you may become more involved, to take part in the great work that the Company does and to help the Company move forward. I hope it will be something you enjoy reading. I don't want this to read as one long boast so please take it as an incentive for you to get up and join in, not as an account of how good I think I am. Here goes.

IT ALL BEGAN OVER LUNCH...

Never did I think, when I first set foot in the RAF Club for my first GAPAN Luncheon Club in 2011, that I would be writing this article, having been an Assistant to the Court of the Honourable Company of Air Pilots for two years. My profession had been in computing, as a Programmer and Systems Analyst. I went on to run my own equine business, breeding and competing, with many beautiful horses. I love machinery and I learned to fly helicopters in 1985, firstly on a Jet Ranger, moving on until now I fly a Squirrel AS350B3E (Airbus H125) as a member of the Helicopter Club of Great Britain. Two friends and members of that Club invited me to the lunch, which I thoroughly enjoyed. I knew nothing about the Company at that time but I certainly wanted to join - such a wealth of diversity and knowledge and full of members offering help and friendship, whatever their great achievements. I am always amazed at the diversity and inclusivity of our Company and how much I enjoy being part of it. It encompasses all aspects of aviation in a wonderful mixture.

Past Master Chris Hodgkinson suggested I apply to become a Freeman, which I did without hesitation. I was



delighted to be accepted and attended the New Members' Briefing, meeting the Master, Wardens, the Learned Clerk and members of the office. This was invaluable in providing insight into the relationship between the Company, the City and with the wider world of aviation.

From there, I became involved in all that I could: the Luncheon Club, where it had all started; the Air Pilots' Flying Club (which holds great fly-ins and lovely lunches at White Waltham); and many of the other events - the Lectures, the Dinners at the beautiful Livery Halls, and the many exciting visits. I learned about other Livery Companies and the City and I have been hugely privileged to be at amazing days, visiting air bases and being up close to many wonderful aircraft. There have been too many events to list, but one highlight was a flight in a tanker from Brize Norton over the North Sea, watching fast jets refuel. Following a visit to NATS, hearing that many controllers had never been in a Helicopter, I offered a trip to show three of them what the Heli lanes around London look like from a pilot's view. And, of course, the wonderful annual Trophies and Awards banquet at the Guildhall, where so many amazing aircrew are honoured.

I have been fortunate to become a member of the Board of the Helicopter Club of Great Britain and a Board member of the General Aviation Safety Council while Past Master Rick Peacock-Edwards was Chairman. Through the GASCo Council meetings I have met and learned more about many aviation related entities such as the CAA, NATS and the AAIB. I have attended air races, gaining insight into that world too. One of my other interests is motor racing and I have been involved in the Women's Motor Racing Associates Club which, over the years has raised huge amounts of money for many charities including the Air Ambulance. My son also races. He became the first Motor Racing Ambassador for the Association of Air Ambulances, promoting their slogan 'Support your Local Air Ambulance'.

JOINING THE LIVERY

I had not realised that I could become a Liveryman until it was suggested I should. I jumped at the chance. This was the next step in my journey. I wrote my CV and Past Master Chris Hodgkinson proposed my application to the Court. I was delighted when this was accepted but to become a Liveryman, you have to be a Freeman of the City of London. This is obtained by application to Guildhall. Your application is posted and if no one objects, you book in for the ceremony to become a Freeman of the City. This is granted at a ceremony in the Chamberlain's Court in Guildhall, taken by the Clerk or the Clerk's Assistant. The 'Declaration of a Freeman' Oath is read and you sign the Freedom Declaration book. You receive a copy of the Freedom certificate together with 'The Rules for the Conduct of Life'. One of the 'benefits' is that you may drive sheep across London Bridge, an annual event raising money for Charity. Of course I took up the opportunity. If you are gaining the Freedom, do take friends and family with you to the ceremony. It's very special. And it's an excuse for a lovely lunch to celebrate!

Now all set to become a Liveryman, I paid the Livery Fine and was asked whether I wished to be 'clothed' at the Court meeting before the Livery Dinner at Drapers' Hall or at the Trophies and Awards Dinner. I chose the Livery Dinner as the first opportunity. It is a much more intimate affair and has its own charms. The Trophies and Awards evening is also magnificent. The 'clothing' is carried out in the Crypt, but it is a much bigger affair. The Livery Dinner is an event only for Liverymen and their guests. You are asked to swear the Company Oath and you are then 'clothed' in the gown and given the Livery Badge. The gown is worn for the photographs and part of the Dinner - an evening I thoroughly enjoyed and will always remember with pride.

BECOMING AN ASSISTANT

All Liverymen are summoned to the Guildhall every year for the election of Lord Mayor and, separately, for the election of the Sheriffs. These are extremely interesting events to attend and highly recommended. There is usually a good lunch at Cutlers' Hall afterwards. Being a Liveryman also allows you to apply for Associate membership of the RAF Club, for which, again, you have to be proposed and seconded. This has been such a great asset as I live out of town and it is wonderful to be warmly welcomed at the Club, a home from home after events in London.

Not long after I became a Liveryman, I was approached by Master Chris Spurrier and asked if I would consider being an Assistant to the Court. It had been noticed that I had



Elizabeth in the cockpit of an Apache at Middle Wallop

taken time to support the Company, make friends and attend as much as I could. I really did not know much about the workings of the Court. I asked for a meeting to have it all explained before I decided to put myself forward. Having heard what was expected and the obligations, I discussed applying with some Past Masters and was delighted to have their support. I put myself forward for the election and sent my CV to the Learned Clerk, Paul Tacon. The CVs are published and all members may vote on line. The number of positions each year varies. Assistants serve for three years and should try to attend all Court meetings and be present at official Company functions including Dinners and Lectures. An Assistant should be an active and supportive (voting) member of the Court. Assistants are asked to take on specific responsibilities and duties. Increased involvement in and knowledge of Company activities are important. The new Warden is elected from the Assistants each year and normally Wardens progress to eventually become Master, so being elected an Assistant could be the first step along that road.

Not knowing how it would go, I held my breath and was thrilled to be elected. I received my Assistant's Badge at the AGM in 2018. This is worn at all official events instead of the Livery Badge and I wear it with pride. It was another wonderful evening and, again, one I will always remember.

HOW THE COURT WORKS

Most members don't appreciate how the Court works – I certainly didn't. Here is a brief synopsis: The Court is the governing body of the Company and this is where the matters of governance, policy and membership are decided. It consists of up to 22 voting members plus all Past Masters, who may not vote. The General Purposes and Finance Committee (GP&F) consists of the Master, The Immediate Past Master, Master Elect, the three Wardens and the Honorary Treasurer. The Learned Clerk also attends as the Chief Operating Officer. This committee decides on financial and operational matters. Their decisions are either finalised at their meetings or referred to the Court. The Clerk to the Company, in coordination with the Master, prepares the agenda for each Court meeting. Discussion is usually limited to agenda items. Court meetings are held at Cutlers' Hall and follow a traditional and ceremonial pattern. There is, though, time before and after for a relaxed chat with the other members.

The Master holds office for one year, taking on a huge calendar of meetings and events, promoting and furthering our Livery Company. The Master's overseas tour is an important part of the year. The Master visits all our regions, accompanied by their Consort and attends many events. You will, I'm sure, have read an account in *Air Pilot*. At the AGM in March, the Master stands down and everyone moves up one place. The Master becomes Immediate Past Master, helping with duties and deputising for the current Master. This, of course, makes way for a new Warden who has been elected by the voting members of the Court at the January meeting. At the meeting in November, candidates stand and outline their background, what they bring to the Court and their thoughts for the future of the Company. Any Assistant may stand, whatever their background and aviation history.

During my time as an Assistant I have learned so much about how the Company functions; the Committees, the Charities, the Court, the work of the Learned Clerk and the secretariat and also the work taken through by Past Masters. I have learnt about the Technical Committee, the Air Safety Trust, the Air Pilots Trust, the Aviation Careers and Education Committee, the Air Pilots Benevolent Fund, the Trophies and Awards Committee and the Flying scholarships and Bursaries. There is so much that the Company offers: charitable activities; education and training; technical committee work; aircrew aptitude testing; scholarships and sponsorship to name a few. Any member can put themselves forward to serve on these.

I have furthered my knowledge of the relationships between the Livery Companies and the City by attending



Elizabeth at the controls of the Squirrel over the French coast

a City Briefing. I also now sit on the Committee of the Candlewick Ward Club, instigated by Past Master Chris Hodgkinson and, through this, I have learnt much more about the workings of the City. It's a fascinating place. I am also a Director of The Air Pilots Property Ltd Board (APPL) which looks after our new home, Air Pilots House. I do hope you take the time to visit the building, where you will always be welcome. Apart from being the office it is also where the Archives live, looked after by Past Master Peter Bugge, and which is well worth a visit.

I have carried on being as involved as I can. Some of my new experiences were writing articles for *Air Pilot*, reading a lesson at the Carol Service and taking part in the procession for the Lord Mayor's Show. I have tried to broaden my knowledge of the various types of aviation, and I was delighted to be 'behind the scenes' for the Flying Legends airshow at Duxford, discovering so much about display aviation watching and listening all day with the Air Display team. I have spent a day visiting Middle Wallop by kind invitation of their Colonel and was given a thorough briefing of the Army Aviation Centre, with the highlight of sitting in an Apache!

All this has given me so many ideas for the future. It has shown me the truth of two old adages. First, you should take every opportunity that comes your way and second, the more you put into anything, the more you get out.

Last year, although I was new to the Court, there was an opportunity to stand as Warden. I was unsuccessful but I am glad I tried. It was good practice for the next attempt! I hope that I will continue to be a part of the Court for many years to come and to contribute to our great Company.

I hope you have found this an interesting and informative read. What I have tried to show is that, if you take the opportunities the Company offers, you can gain so much. You can remain a Freeman and attend the visits and functions. You can take the Livery which offers more opportunities. You can join a Committee. You can become a Trustee of one of the Charities. The opportunities are there for you to take. □

FATIGUE WORKING GROUP

The Science behind Startle/Surprise and Fatigue Resilience

By Upper Freeman Nick Clutton

Introduction

This article, though focused on pilots, has wider relevance. It results from two separate lines of research with a common thread; an EASA study on Startle Effect management (Reference 1) and work by Dr Wen-Chin Li of the Safety and Accident Investigation Centre at Cranfield University. This common thread forms part of the training in initial reaction to a Startle / Surprise event and an exercise to increase resilience to fatigue.

Startle and Surprise

Startle and Surprise effects can be detrimental to pilot performance in many ways: at the very least, they are a distraction that can disrupt normal operation and erode safety margins. At a more critical level, they can cause inappropriate intuitive actions or hasty decision making. They may well have consequences for the human emotional and cognitive processes.

For a given event, the level of the Startle/Surprise effect will vary from person to person and be based in part on previous experience and training. All abnormal events have an element of Surprise: Wickens *et al* describe these as Grey and Black Swan events (Reference 2). A Black Swan event is truly unexpected; the Air France 447 accident in the South Atlantic could be considered one. Grey Swan events are more common and include failures that may (or may not) have been experienced previously or covered in a pilot's training or in briefings – such as possible windshear. Again, the nature of a psychological reaction to an event by each individual is likely to be different.

To assist with a common understanding, Startle and Surprise are described as follows:

- **Startle:** The Startle reflex is the first response to a sudden, intense stimulus. It triggers an involuntary physiological reflex, such as blinking eyes, increased heart rate and increased tension of the muscles and is linked to the Fight/Flight response.

- **Surprise:** Surprise is the disparity between a person's expectation and what is perceived. Importantly, it can also be triggered by the presence or absence of stimuli. The physiological effects are the same as for startle but are longer lasting.

The timescales for Startle are in the order of under a second to 1.5 seconds. The effects are more severe when the person is either in a state of low or high arousal. In addition to the initial reflexes, Startle inhibits muscular activity, which can last from 100 milliseconds to 3 seconds for simple tasks and up to 10 sec for complex tasks. Distraction due to Startle can lead to cognitive tunnelling with loss of Situational Awareness and can interrupt a difficult cognitive process such as making a decision. The greater the level of Startle, the greater the fight/flight reaction and the more difficult it can be to revert to a slow deliberate analysis of the situation.

Surprise effects typically last longer than Startle effects. The individual is required to re-evaluate the situation, and the greater the discrepancy between expectation and reality, the longer it takes to resolve. Surprise impairs working memory and may cause the person to focus on the most prominent information that may be irrelevant to solving the discrepancy: it also impairs attention to the primary task of flying the aircraft. Surprise without any Startle effect is the most common event for pilots. Perhaps unsurprisingly, Surprise events are judged as being less significant with hindsight. Nonetheless, regardless of the outcome, Surprise very often has a worsening effect on a situation. An inappropriate reaction to either Startle or Surprise is very likely to compound the severity of the event. Startle and Surprise can affect any of the ICAO Competencies (Note 1).

Decision Making

Research has shown how domain expertise (depth of knowledge) and judgmental abilities (the skill of using knowledge to predict the consequences of an event) influence how people deal with Surprise. People with

good judgement skills, who may not yet be experts in their field, may have a distinct advantage when dealing with uncertain, ill-defined, and unexpected situations. Notwithstanding, domain expertise – knowledge of systems and Standard Operating Procedures - is essential in our world.

Judgmental ability can be natural to some, but others need developmental training because this ability does not develop naturally with time. This requires organisations to have a non-jeopardy training culture. Improved judgmental abilities help to prevent cognitive rigidity and intuitive decision strategies occurring in response to Surprise.

Training Resilience to Startle and Surprise

In the EASA study, the development of resilience to Startle and Surprise was focused on work in both the classroom and simulator, and looked at the individual and the crew (team). The team component is important because, as already explained, one individual may be significantly more affected than the other(s) and cooperation would be seriously affected if some team members were unaware of the potential differences in perception and reaction. Most pilots will need training in detecting and mitigating such a situation with their colleague(s). Too often, failure scenarios concentrate on the technical rather than the non-technical skills and trainers will require the appropriate knowledge and coaching skills to explore these effects.

Startle and Surprise can be addressed using three paths:

- CRM training;
- Use of Threat Error Management (TEM) to indicate mitigating measures in advance. This was found to create mental models that are more readily accessed during a Startle/ Surprise event;
- Basic flying skills and Upset Recovery training. This counters Startle and Surprise by enabling easier analysis and providing the basic flying competencies to recover the aircraft.

The development of resilience can be introduced at any stage of a pilot's training. It focuses on situations where some time is available. In some situations there is no time available. These include:

1. Flight path not under control (aircraft upset, terrain and traffic warnings);
2. Personal safety is at immediate risk (explosive decompression);

In these two cases, the crew is required to select the

appropriate SOP/drill that has been well rehearsed in training.

For the occasions where time is available, the EASA study uses the concept of “**Mental Upset**” and recommends that “Unload” actions are adopted as follows:

Unload Actions

1. **Take physical distance.** Push your back into your seat. This helps you to take a more holistic look at the situation you are in;
2. **Deep breathing.** One breath every 10 secs, in through nose and out through the mouth. This will help reduce your heart rate and create physical relaxation;
3. **Muscle relaxation.** Tense muscles inhibit fine motor skills and cognitive performance (Reference 3);
4. **Check on colleague(s).** Has a colleague reacted better or worse to the event? Nonverbal signals can provide clues. Use communication techniques for aligning each other's mental model to ensure that you are working from the same page.

The Unload phase is where you buy yourself the capacity to deal with the situation.

The EASA study then builds the recovery using the headings Roll and Power. Roll relates to the Diagnosis phase of the popular TDODAR decision-making tool used in aviation (Note 2), and Power to the Review phase of TDODAR.

Resilience to Fatigue

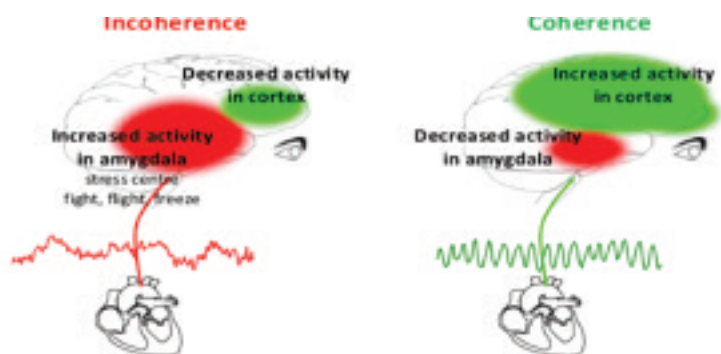
When we look to train resilience against fatigue, we find a common thread with the Startle and Surprise ‘Unload’ recovery phase.

Dr Wen of Cranfield University was involved in the Ocean Voyager 2 solar-powered aircraft flight round the world. It was a single-pilot aircraft with no autoflight capability. One sector was 177 hrs long and others of 71 and 62 hrs. The processes used to manage these sorties are documented elsewhere. However, our interest is in how the fatigue was managed.

The pilot and the ground controllers monitoring the flight received resilience training using HeartMath's Biofeedback device, EM-Wave Pro. The principle behind this was to develop both the individual's breathing (Unload step 2) and thought process to bring **coherence** between the Sympathetic and Para-sympathetic nervous systems that link the brain and the heart (Note 3).

In a Startle/ Surprise situation, the Sympathetic dominates

and there is incoherence between the two nervous systems (left hand picture): this is like a fatigued brain, where cognitive ability is reduced. Thinking of something that triggers peace/love (Reference 4) and slowing your breathing rate to one per 10 secs, allows the two systems gradually to become coherent as your heart rate slows. Doing this requires training and practice!



Although this technique is not appropriate when either a sabre tooth tiger comes round the corner or when an EPGWS warning is activated, it can be a useful tool during a quiet period in the cruise or during break times on the ground. It has been used to good effect when trialling the remote control of airfields when ATCOs employing the technique during their breaks showed lower levels of fatigue. The benefits of this process include:

- Improved vagal activity (reduce stress & improve mood);
- Improved physical and mental performance;
- Increased employees' feeling of well-being;
- Increased safety;
- Reduced blood pressure;
- Reduced inflammation;
- Reduced heart disease;
- Reduced absence;
- Reduced costs to the organisation;

Conclusion

An ability of an individual to carry out Coherence exercises will enhance their resilience to both fatigue, and Startle and Surprise. This might be considered an essential part of Wellbeing training for those in safety-related work. The work of Dr Wen reinforces the findings of the EASA study, and both should be regarded as valuable developments in the understanding of Human Factors for enhancing safety. □

Notes:

1. ICAO, IATA and IFALPA agreed on a set of 8 core competencies for flight crew covering all phases of a pilot's career; encompassing selection, ab-initio training, assessment for skills test, recurrency training and evaluation as follows: Communication, Aircraft Flight Path Management, Manual Control, Aircraft Flight Path Management – Automation, Leadership and Teamwork, Problem Solving and Decision Making, Application of Procedures, Work Load Management, Situational Awareness
2. TDODAR is a decision making process while under pressure. For those unfamiliar with the acronym, TDODAR stands for: Time, Diagnose, Options, Decide, Assign, Review.
3. The **sympathetic nervous system** directs the body's rapid involuntary response to dangerous or stressful situations. A flash flood of hormones boosts the body's alertness and heart rate, sending extra blood to the muscles. The **parasympathetic** nervous system is one of three divisions of the autonomic nervous system. Sometimes called the rest and digest system, the **parasympathetic** system conserves energy as it slows the heart rate, increases intestinal and gland activity, and relaxes sphincter muscles in the gastrointestinal tract.

References:

1. **Startle Effect Management** – EASA_REP_RESEA_2015_3. A research project by the Netherlands Aerospace Centre NLR-CR-2018-242.
2. **Human Factors** Article Number: 349709 Identifying Black Swans in NextGen: Predicting Human Performance in Off-Nominal Conditions. Christopher D Wickens, Alion Science Corporation, Boulder, Colorado; Rebecca Hooey and Brian F Gore, San Jose State University Research Foundation at NASA Ames Research Center, Moffett Field, California; and Corey S Koenicke and Angela Sebok, Alion Science Corporation, Boulder, Colorado
3. **Jacobson's progressive relaxation technique** Leaflet number: 2926/VER4 February 2019 © 2019 Guy's and St Thomas' NHS Foundation Trust
4. **Influence of HeartMath quick coherence technique on psychophysiological coherence and feeling states** African Journal for Physical Activity and Health Sciences (AJPHEs) Volume 22(4:1), December 2016, pp. 1006-1018. S D EDWARDS

SKILL FADE

By Past Master Colin Cox

An initiative by Upper Freeman Alan Carter is helping both experienced but out-of-practice pilots and aspiring aviators get valuable simulator training

My last flight in the operating seat of a commercial aircraft was concurrent with the time of my retirement as an airline pilot in February 2018. Since then I have embarked on an extension to my career as a simulator instructor, working with a major aircraft manufacturer. In this capacity I last sat in an operating seat on a Type Rating Instructor check back in February this year, although I continued working from the instructor's seat for couple of weeks longer into March, before simulator operations totally ceased as a result of the virus pandemic.

Along with Past Master Peter Benn and Warden Richie Piper, I was recently invited by one of our very 'hands on' young members, Becky Kwo, to join with her at a presentation of facilities being enjoyed by her and other young pilots courtesy of Upper Freeman Alan Carter. Alan has taken it upon himself to open up his training facility at Gatwick to aspiring aviators whose dreams have been curtailed for the time being, in order to enable them to practise upgrading their flying skills to cope with the demands of a commercial jet, specifically the B737-800.

We all know how expensive flight training is and the hire of a Level D simulator for a student to hone their skills would be prohibitive. Alan is inviting pilots who find themselves furloughed, made redundant or recently finished flight training to take advantage of a scheme he has developed where, for £60 per hour, they can avail themselves of his company's fixed base B737 simulator in order to maintain and/or improve their skill level. To do this he is enlisting the help of suitably qualified simulator

The 'Team' with Warden Piper flying the approach to RW23R Manchester



instructor volunteers who might be in a position to help any pilots who are out of work or indeed are in need of maintaining/improving their overall flying skills.

From a personal standpoint it was a salutary reminder just how quickly one's skills can fade away. Given the opportunity, as I was, to sit in the left-hand seat with Warden Piper as my First Officer; we dispensed with the usual checks and protocols and swiftly became airborne just to get the feel of how realistic the simulator was. I have never had such a long time away from the cockpit environment in my whole flying career and I would have thought that getting back into the swing of things would have been like riding a bike. How wrong I was! Flying straight and level took all my concentration and that's no reflection on the performance of the simulator.

Richie then flew under the instructional guidance of Past Master Benn, with me acting as 'competent' First Officer, and demonstrated a perfectly satisfactory approach and landing onto Manchester's RW23R where even the infamous 'hump' didn't faze him. As our American friends might say, "Good job!"

In conclusion, it is testament to the professional integrity of

our members that initiatives such as this by Captain Alan Carter, and indeed Sqn. Ldr. Chris Fopp, with his RAF reintegration programme, that the name and fame of our Company might be further enhanced amongst the wider aviation community. With that in mind, in the writing of this article, I fervently hope that there might be others amongst us who will be inspired to do something similar in the straitened times in which we all find ourselves. □



Past Masters Cox and Benn with Alan Carter and what looks like a BIG 'Selfie Stick'



Member Becky Kwo on approach to RW26L Gatwick

A YOUNG AIR PILOTS PERSPECTIVE

Georgina Millington of the Young Air Pilots has also written on this initiative, from the perspective of those at the beginning of their careers.

Some of our Young Air Pilots enjoyed a day with other Company members in a 737 simulator; courtesy of Upper Freeman Alan Carter. His business, Motion Flight, ran 737 simulator sessions free of charge to help young pilots at an early stage in their career. This gave them the opportunity to keep up their skills and remind them to keep faith and determination for what the future may hold. Not only do young members get time in the sim but they also get to have that invaluable one-to-one experience with other pilots in ways they otherwise wouldn't. Alan's initiative has been incredibly generous and follows the Company's ethos of encouraging young aviators to achieve their goals. We asked associate Stephanie Vicic, to say a few words on her personal experience:

"Sitting in the right-hand seat of a 737 and executing two (guided!) take-offs and landings having only limited prior experience in a light aircraft was utterly exhilarating. The memory of this experience will help to motivate

me through Ground School, especially as the aviation industry suffers through the uncertainty of Covid-19. As if that wasn't enough, I also got the benefit of other pilots' experiences and advice that morning, which at my early stage is invaluable. I am so grateful to Alan and Becky for the invitation and to my co-pilot for the day, Matt, for his time. Their kindness and generosity cannot be over-stated."

JOHN CRUICKSHANK VC THE LAST SURVIVOR

By Liveryman Steve Bridgewater

Former RAF Coastal Command pilot John Cruickshank recently celebrated his centenary. Liveryman Steve Bridgewater looks back at the life of the last surviving World War Two Victoria Cross recipient.

John Alexander 'Jock' Cruickshank was born in Aberdeen, Scotland on May 20th, 1920 and was educated at the local Grammar School before joining the Commercial Bank of Scotland as an apprentice in 1938.

With conflict seemingly imminent Cruickshank decided to volunteer for the Territorial Army a few days prior to his 19th birthday, and when war was declared he was 'called up' for service in the Royal Artillery. He continued with the unit until early 1941 when he applied for a transfer to the RAF for pilot training.

Basic training began in July of that year and on September 15th he was sent to Canada for elementary flight training. On December 10th, 1941 – just three days after the attack on Pearl Harbor – Cruickshank was posted to NAS Pensacola, Florida for advanced pilot instruction. By July 1942 he was finally qualified and awarded his 'wings' and commissioned as a Pilot Officer within the RAF Volunteer Reserves (RAFVR).

On his return to Britain John Cruickshank was posted to 4 (Coastal) OTU at Invergordon, Scotland for operational training on the Consolidated PBV Catalina and on January 10th, 1943 he was promoted to Flying Officer.

Cruickshank was posted to his first operational unit, 120 Sqn, on March 25th and immediately began flying anti-submarine missions from its base at Sullom Voe in the Shetland Islands.

By the summer of 1944 Cruickshank had completed more than 40 operational sorties as part of Coastal Command's battle to keep the North Atlantic and Arctic sea lanes open for supply convoys – although, in common with most of his compatriots, he had seen little in the way of action.

On July 17th 'Jock' Cruickshank prepared Catalina JV928 – coded DA-Y – for what would be his 48th mission. Joining him in the 'Cat' that day would be Flt Sgt Jack Garnett (second pilot), F/O J C Dickson (navigator) Flt Sgt



John Alexander Cruickshank VC

S B Harbison (flight engineer); two wireless operators: W/O W C Jenkins and Flt Sgt H Gershenson; and two gunners (Sgts J Appleton and R S C Proctor). Also aboard were a qualified rigger (Flt Sgt A I Cregan) and Sgt S I Fidler, the 'third pilot' looking to gain experience.

Taking off at 13:45, the crew began a 14-hour patrol for German U-boats. They failed to see a single vessel until 20:45 when the on-board radar picked up a contact 43 miles (69km) away.

From a height of 2,000ft (610m) Cruickshank soon saw a submarine cruising on the surface. It made no attempt to dive so he ordered his crew to fire an identification flare. In return the Catalina received a barrage of flak. They had located a type VIIC U-boat; U-361. The ship had been launched on September 9th, 1942 and had already carried out three patrols and been a member of six wolfpacks – although she had not sunk, or even damaged, any Allied ships.

Immediately Cruickshank pulled the big, lumbering patrol bomber into an attack profile and descended to 50ft. Passing a range of 1,000 yards the nose turret and blister gunners began firing their .303in guns. As the Catalina roared over the vessel Cruickshank ordered depth charges to be released – but the weapons failed to drop.

The U-boat had all but stopped, but flak reappeared as soon as Cruickshank resumed his attack. Seconds later the Germans scored a direct hit and a shell exploded within the bomber's fuselage. Dickson was killed instantly;

*“Despite his condition
Cruickshank refused morphine”*



The RAF operated both the PBV-5 seaplane and PBV-5A amphibian versions of the Consolidated Catalina



*An RAF Catalina returns from an anti-submarine mission
All via the Author*

Harbison was wounded in both legs and Appleton suffered head injuries. Cruickshank received wounds to his legs and his chest but continued with the bombing run.

Reaching 50ft he tried again to loose the weapons, and this time all six depth charges released in a perfect straddle across the U-361. Pulling up into sea fog the crew never saw the submarine again – it was later revealed to have sunk rapidly.

Cruickshank's new priority was to get the stricken JV928 back to base. Analysis showed the hull to be riddled with shrapnel holes and flak had ripped a 1ft gash along the waterline. The radar was also unserviceable and the fuel tanks were leaking at an alarming rate. The latter was of particular concern as Sullom Voe was still several hundreds of miles away.

The crew got to work plugging holes with rags, canvas engine covers and even their 'Mae West' life jackets while, up front, Garnett took over flying to allow Cruickshank to have his wounds tended. It was during this treatment that the 'skipper' passed out.

It was some time before he came round, but he immediately tried to make his way back to the flight deck - only Appleton restraining him prevented him from aggravating his injuries through excessive exertion. Despite his condition Cruickshank refused morphine because it would prevent him from thinking straight, and he faded in and out of consciousness throughout the flight back to base.

Five and half hours later the Catalina arrived overhead Sullom Voe and Cruickshank insisted in resuming command of the aircraft. Despite immense pain and difficulty breathing, he ordered that they orbit until first light for the best chance of a safe landing.

Catalina JV928 circled the Shetlands for the next hour as its crew jettisoned guns, armour and anything else they could to reduce the weight of the damaged airframe in readiness for landing.

As the sun was rising, Garnett and Cruickshank eased the flying boat down onto the Voe – at which point it immediately began to fill with water through the myriad holes in the hull. The flight crew gunned the throttles and 'flew' the Catalina straight up onto the sand at high speed, beaching it close to the waiting medical teams.

Cruickshank needed an immediate blood transfusion before being taken to the base hospital – where he was found to have 72 individual wounds.

For his bravery 'Jock' Cruickshank was awarded the VC on September 1, 1944 and Jack Garnett was presented with the DFM at a join investiture at Holyrood House, Edinburgh three weeks later.

Cruickshank's award was one of just four VCs awarded to Coastal Command crew during the war; the others were posthumous. 'Jock' never returned to operational flying and eventually left the RAF in 1946 to continue his career in banking and international finance.

Today, at the age of 100, he remains the vice-chairman of The Victoria Cross and George Cross Association □.



*John Cruickshank's Catalina, JV928,
artwork by Andy Hay*

FROM THE ARCHIVES

PART 2: BECOMING ESTABLISHED 1929-1930

By Hon. Archivist Past Master Peter Buggé

Following the General Meeting on 1st February 1929 which confirmed the wishes of the 50 or so Class B pilots and licensed navigators present to establish a Guild of Air Pilots and Air Navigators, Lawrie Wingfield and Ernest Johnston had much work to do. Wingfield had an interview with J Laurence Pritchard, Secretary of the Royal Aeronautical Society (RAeS) to confirm there would be no objections to the formation of the Guild and his note of the meeting records that: *"It is desirable that the Society should remain the separate body for the standard of technical and scientific knowledge"*, reflecting an anxiety to avoid treading on ethical toes! Letters were exchanged with R P Atwood of the London Chamber of Commerce, which apparently had an Aviation section, who suggested that the secretary of the City Livery Club might be able to help with the procedure to become a Livery Company. There is also an interesting note in the archive dated 8th February 1929 from Lawrie's father, George, a partner in the firm of solicitors in which Lawrie worked, with a copy of a letter to be sent to Sir Stephen Killick which reads:

My Dear Killick,

As I hope to have the pleasure of seeing you Lord Mayor next November, I dare say it would interest you to know of a new City Company in course of formation for Air Pilots, at the instigation of my son.

The last phrase has been struck out and the words *in which my son is interested* substituted but it suggests that it was indeed Lawrie Wingfield who had the idea of forming the Guild in the first place. Sir Stephen Killick in fact became Lord Mayor in 1934.

Following the work of a Drafting Committee to draw up the Memorandum and Articles of Association which defined the structure of the Guild and how it would work, a Foundation Council was elected on 10th April 1929 to approve the initial membership, make application to the Board of Trade for Incorporation (which was refused and never pursued further), decide how the first Master, Wardens and Court would be elected (by postal ballot

sent to all members), and oversee arrangements for the Inaugural Dinner and for the Installation of the Court, amongst other matters. Ernest Johnston had already produced a draft of the procedure for the Installation and later sent Wingfield six handwritten pages outlining the menu and who was to deliver which speeches and toasts for the Dinner. Application was made to the College of Heralds for a Coat of Arms (for which, again, Ernest Johnston had produced a draft) and a bank account was opened with Barclays in Cheapside.

On 17th June 1929 an Imperial Airways HPW10 airliner G-EBMT *City of Ottawa* operating from Croydon to Zurich via Paris and Basle came down in the Channel near Dungeness following engine failure and seven passengers died. Even though the Guild was not yet in being the pilot, Captain Brailli, was supported at the Inquiry which was attended by Lawrie Wingfield, the main point of interest, other than seeing Captain Brailli continue in employment with Imperial Airways, being to support the Commander's right to decide the route and height to fly. Film of the recovery of the wreckage can be seen at

www.britishpathe.com/video/air-liner-disaster. It is indicative of how basic aviation was in 1929 that the Inquiry recommended that passengers be provided with seatbelts and that aircraft incapable of maintaining height with an engine shut down should be withdrawn from continental routes after 1 July 1930. There was indeed much work for the Guild of Air Pilots and Air Navigators to do and the response was immediate, the Minutes of the second meeting of the Court held on 27th November 1929 recording consideration being given as to whether the Guild should be represented at all Inquests and Enquiries by the Guild's solicitor to act in the interests of its members: this was quickly approved. An Accidents Committee was also set up under the chairmanship of Norman Macmillan "...to consider flying accidents from the pilot's point of view".

I have already mentioned one or two of the founder

Sir Sefton Brancker (Master) hosts a Guild dinner at Rules in 1930. Standing (from left) are C R McMullin, O P Jones, 'Scriffy' Robinson and A G Lamplugh. By the window is Squadron Leader Ernest Johnston (Deputy Master). Seated, going clockwise: Tommy Rose, unknown, Ted Jones (?), Bill Lawford, Charles Barnard, Charles Kingsford-Smith, the Master, A S Wilcockson, J P 'Paddy' Saul, L A Wingfield (Clerk), Bert Hinkler (?), G P Olley and L A Walters. Standing right (starting at the back): Wally Hope, a Charles Kingsford-Smith crew member, C A Pike, Squadron Leader R de Haga Haig and G M Cox.



members, but there are quite a few names in the original members register that are of interest. Of those in commercial aviation, Gordon Olley is one, shown in the register as an Imperial Airways pilot who is described in his book 'Croydon to Concorde' by the late Past Master Ron Gillman, when interviewed by Olley at Croydon in 1946, as "...small and dapper... asking pointed questions with an abruptness that could only bring forth straight answers". Another Imperial Airways (and later BOAC) pilot was O P Jones, always easy to recognise with his distinctive beard: he was Deputy Master in 1933. Arthur Wilcockson was also a pilot with Imperial Airways and became well known for flying Maia the lower, C class flying boat, component of the Short-Mayo composite which was used to develop trans-Atlantic operations in the late 1930s. There are four large scrap books in the archives covering Wilcockson's career. Valentine Baker had nothing to do with airlines but was an instructor at Stag Lane where one of his pupils was Amy Johnson. He later became the 'Baker' in Martin-Baker, and was killed testing a Martin-Baker aircraft in 1942. Also at Stag Lane was Walter Hope, twice winner of the King's Cup air race who ran an air taxi company and who sold one of his aircraft to Amy Johnson: she called it Jason and flew it to Australia. Sir Alan Cobham had also flown to Australia – he is in the register as an 'Aviation Consultant'. He was Master in 1964/5 and we have his Past Master's badge in the archives. Also in the archives is the flying helmet used by Tommy Rose who won the King's Cup air race in 1935. He was chief test pilot with Miles aircraft throughout WW2.

Sir Keith Smith, who flew from England to Australia in 1919, Sir Arthur Whitten-Brown, first to fly across the Atlantic non-stop, and Sir Charles Kingsford-Smith and Charles Ulm from Australia were Honorary Members at

Sir Sefton Brancker's invitation, and Bert Hinckler and Edgar Percival were members. Percival was not the only manufacturer supporting the Guild (although he is described as 'Agent and Operator' in the register), Sir Geoffrey de Havilland and Sir Alliott Verdon-Roe both being Honorary Members and Richard Fairey being an Honorary Warden. Sir Frederick Tymms, after whom one of our annual lectures is named, was the Chief Technical Assistant at the department of Civil Aviation and held 1st Class Navigator Certificate No 5: responsible for civil aviation in India during the 1930s he became Master in 1957.

Support from the oil industry came in the form of Lord Wakefield (founder of Castrol) who was an Honorary Member and had been Lord Mayor of London in 1916 and Honorary Warden Alexander Duckham who had founded Duckham's Oils. Duckham's Qualification for Membership is noted in the register thus: "Never piloted. Flew with Bleriot in 1909 and with Charles Rolls in 1910." I don't think that can be bettered! Aviation, and the Guild, also had support from many political and aristocratic men of influence who were invited to join by Sir Sefton Brancker including Lord Hugh Cecil MP and William Wedgwood Benn MP, Secretary of State for India, both of whom had served in the RFC. F E Guest MP had been Secretary of State for Air in 1921-22 and would become our second Master. Finally I must mention Lt. Col. Moore-Brabazon, holder of the Royal Aero Club Aviator's Certificate No 1.

It is difficult to do justice to all those involved in the early days of the Guild – I marvel at the names and qualifications every time I look through the members register. It is obvious that there was great interest in aviation in all its forms and the formation of a professional body for those involved in flying and navigating was perhaps overdue. □

BOOK REVIEW

RATE OF CLIMB

Thrilling Personal Reminiscences From a Fighter Pilot and Leader

By Past Master Air Commodore Rick Peacock-Edwards CBE AFC

Grub Street, London, RRP £20

The author of this autobiography is very well known to many members of the Honourable Company so I anticipate a rush to the bookshops to buy his life story so far, which can best be described as a life spent in the fast lane. It is often rumoured amongst military aviators that fighter pilots cannot write, but Rick has conclusively disproved this old saying. His story starts with his father's wartime experiences as a fighter pilot who flew Hurricanes in the Battle of Britain and retired from the RAF in 1958. Rick states that his father and his fellow Battle of Britain pilots were his heroes as a child and remain so to this day. He continues with vivid descriptions of his early life in the UK, then South Africa and schooling and his decision to leave South Africa and join the RAF. He covers his experiences in officer and flying training, followed by selection as a first tourist to fly the Lightning and the high-octane life of his first tour on a fighter squadron based in Germany. After a second tour instructing on the Lightning OCU he became a Gnat QFI at Valley, then returned to the fighter world to fly the Phantom and to learn crew resource management skills by flying with navigators.

The inevitable ground tour eventually caught up with him, followed by Staff College, promotion and the plum job of introducing the Air Defence Variant of the Tornado into service. Command of RAF Leeming, a tour in the USA as deputy Air Attaché and further promotion to Air Commodore resulted in Rick becoming the RAF's Inspector of Flight Safety, a vitally important appointment. After a short time struggling with the introduction to service of Eurofighter, subsequently named Typhoon, Rick left the RAF but continued to work in various aspects of the aerospace industry including a bid for the contract to provide the Military Flight Training System for the Services, which sadly was unsuccessful. The concluding chapters cover his involvement with the Honourable Company of Air Pilots, where he became Master in 2008, his involvement with the RAF Club, and his many other interests and activities including air display management

and safety, the Historic Aircraft Association and the General Aviation Safety Council (GASCo), to mention just a few. The final sentence of the epilogue states that he is looking forward to writing his next book, *Per Ardua Ad Astra*.

Throughout the book Rick displays an astonishing recall of the names of the many men and women he has worked with over the years, the vast majority of whom he remembers with affection. His style of writing is as you would expect - straightforward, sometimes blunt and to the point. He covers the good times and the inevitable bad times with equal vigour. There is a good selection of colour and black-and-white photographs covering a wide span of his experiences. There is much more to the book than a collection of 'There I was with nothing on the clock' stories and Rick shares with the reader his family life as much as his service and working life. There are occasional, but rare, minor errors in the script, for example 'chief of the Air Staff' (p148) should surely be Chief of the Air Staff, and 'station commander RAF Leuchars' (p148 again) should be Station Commander RAF Leuchars, but these are exceptions in an otherwise very well-produced book. I can highly recommend it to all members of the Honourable Company. □

Reviewed by Liveryman Tom Eeles

