AN ESSAY ON DECISION MAKING

AND

LEADERSHIP IN AVIATION INTRODUCTION

You have probably realised by now that once in your blood, aviation stays there. Once you have experienced the true release from earth and its many issues and problems, for even a short time, you feel a strong sense of relief and freedom, for aviation gives respite from your daily cares, no matter how short a time. And at night, flying gets even better: there is nothing like being suspended in a quiet, almost mystical cocoon of starlight and moonlight.

And what a sense of control you enjoy as you get an aircraft working for you rather than con- trolling you. Why would you want to do anything else? Aviation is a real job for real people, not for those for whom boredom and routine represent satisfaction. You know these people, but if you are like me, you will never understand them, nor will they understand you. Yes, the dullards can lead their lives, but they will never see what they have missed. Kevin Sullivan, Captain of QF72, succinctly summed up an aviation career with a quote attributed to Neil Armstrong: 'Once you have been to the moon, you can only talk to astronauts.'

But have you ever thought about what flying should teach you about yourself, what type of per- son it should extend you to be, or who you will indeed become if you continue in this industry? Well, I cannot dream for you, but let's consider a few things about aviation decision-making and leadership. For you cannot dream in this industry if you cannot make decisions, and you certainly cannot lead. And some people cannot do either!

As part of this discussion, I urge you to look at three YouTube videos, each involving aviation- related decisions and each calling for a different decision-making approach. All had good out- comes because each crew exhibited strong decision-making and leadership skills.

Their challenges: Could you fly halfway around the world using a mere atlas that you got from a library? Could you decide to ditch an aircraft in the middle of the ocean as against trying to reach a landmass without enough fuel to get you there? Could you decide to ditch an airliner in a river when there is an airport almost within gliding range? I hope you don't have to deal with anything like these situations in your career, but someday you might. And the question then will be,

can you? And it is a question that might require a swift answer. I hope you never have to provide one, but I will be disappointed if your answer is anything but 'yes'.

If you want an aviation career, get the words "no" or "I can't" out of your mind right now. These are not acceptable answers in an industry where performance is everything. Performance mat- ters all the time, and performance under pressure really matters. None of us can tell how we will perform when we must, but we can do what we need to allow ourselves to perform at our best. We owe that not only to ourselves but also to those who depend upon us.

Performance is an essential subject because research has shown that those who perform at their

best exhibit specific definable personal characteristics and actively develop their personal skills

by aggressively gaining the knowledge, training and experience to help them perform at their best constantly. Learning, training, review and performance are all constants in aviation, and for good reason. We want you always to give Oscar-level performances, particularly if circum- stances call upon you. And put out of your mind any idea that talent helps you get the prize here because it doesn't. Research says there is no linkage between talent and performance when the chips are down; earlier environmental experiences may matter somewhat, but the research is still out on this subject. But heed this dictum from Hasard Lee: 'Clean and clear decision- making will nearly always beat talent alone.'

ROUTINE DECISION MAKING IN AVIATION

We'll have more to say about high performers later, but let's start by looking at routine decision- making in aviation. There are two types of people we do not want in the cockpit of an aircraft: those who cannot make a decision and those who think that they will always make a correct decision. If you are either of those people, please consider whether aviation is the career for you. for the first, most essential requirement in aviation is the ability to make decisions quickly and wisely.

And it may surprise you, but you also need to accept that most of your decisions will be wrong. So, not only do you need to be able to make decisions quickly and wisely, but you also need to recognise, accept and correct wrong decisions. If you cannot deal with making decisions or if you cannot accept being wrong most of the time, then this industry will consume you. Aviation is about making hundreds or thousands of decisions each time we fly and then correcting most of them because they will likely be wrong. Let me explain.

Let's start with a basic model of good aviation decision-making:

Assess Assess Assess Assess Assess

Act Act Act Act Act Monitor Monitor Monitor Monitor Monitor

Or this one:

Assess Assess Assess Assess Assess

Choose Choose Choose Choose Choose Execute Execute Execute Execute Execute

Let's look at a simple example you all know: trim, trim, trim. It seems you spend half your life trimming the aeroplane. Throughout each flight, you assess, trim, monitor, assess, trim, moni- tor, assess, trim, monitor. You seem never to get it right. And you don't because the environment in which you operate is dynamic; it is never right or constant. Consequently, no flight is ever perfect. The most you can hope for is to make a "best" flight.

This type of decision-making has an academic label: it's called decision-making in conditions

of uncertainty. And a "best" decision is all you can make when you do not know everything that is occurring around you. In aviation, you make decisions in conditions of uncertainty. You do it all day long, and you do it because you rarely have access to or the time to obtain all the infor- mation you need to make a "perfect" decision in a dynamic aviation environment. As you learn and gain experience, decision-making in conditions of uncertainty becomes second nature, and you do it subconsciously. But you do it! It is a given: so many variables occur in an aircraft operation that much of your time is committed to correcting errors. There's nothing to fear here, but you must be able to make the decisions necessary to deal with the dynamic environment in which you operate.

Hasard Lee has given this aviation decision-making process the more popular name 'fast fore- casting'. In fast forecasting, a pilot foregoes the illusion of precise decision-making and instead opts for simplification – identifying and focussing only on those few variables that matter and arriving at a ballpark decision before acting. As Lee explains, ' The key to fast-forecasting is to not get overwhelmed by the details-logic and reason are what drive the technique, [not pre- cision]. Fast-forecasting '…allows people to quickly generate a rough solution that logically makes sense.' It also facilitates change because the personal investment in a fast forecasting decision is low.

On the other hand, precise decisions often result in no or late decisions because of the high personal cost of attention and time needed to gather the excessive amounts of data needed to decide. Precise decisions in aviation are too slowly

made and resist change. They are, at best, flight-planning decisions or decisions made on the ground. They do not suit flying operations in a dynamic and fast-moving aviation environment.

The quality, rapid and continuous decision-making that aviation requires, however labelled, is a learned skill – one learned through knowledge, training and experience. And it's part of your job. So learn how to make good aviation decisions: get used to making 'best' decisions on minimal information, making wrong ones and correcting them. Dedicate your time to becoming a dynamic and flexible decision-maker used to operating in a dynamic and uncertain environ- ment.

DECISION-MAKING UNDER PRESSURE

Sometimes, we must make decisions under pressure. Winston Churchill set out the most basic and starting rule here in a 1941 speech he made to the students at his old school, Harrow. His theme was simple, and it is your starting point: "Never give in; never give in; never, never, never." Of a different time and with a different background, Churchill gave us the words that form the essence of decision-making under pressure in our industry: performance matters, and performance under pressure really matters. "I can't" or "I quit" must be excluded from your vo- cabulary. And sometimes that is not easy. But in high-pressure industries like aviation, quitting isn't an option. So, don't waste time entertaining the thought – in our industry, quitters risk lives.

None of us can tell how we will perform when we must, but each of us wants to be ready to per- form at our best. So, how do we increase the chances that we will? As Weissinger and Pawliw- Fry point out:

'You can't just show up to a high pressure situation and expect to perform well. You need to be tenacious, to put the work in. People who find it difficult to perform often discount the need for preparation and hard work….Without hard work, without tenacity, your chances of performing well under pressure are not high. We need to learn to work hard and stay at it: tenacity helps us persevere when we hit inevitable setbacks.'

You'll see this quote demonstrated in real life in each of the three decision-making situations the pilots face in the videos I recommend. In each, the obstacles to a 'best' outcome may seem overwhelming to the average person. And their performances are hardly ordinary. But they ap- pear to be regular people. But are

they? Are their accomplishments ordinary? And most importantly, can you perform as well as they did in similar situations? If not, why not? As Richard De Crespigny

puts it, 'You can't control what life throws at you, but you can control how you respond.'

So, who among us is most likely to respond well to pressure? What type of person are they likely to be, or should they become? Well, the studies show that those most likely to perform well under pressure are:

* confident
* tenacious
* motivated
* humble
* resilient
* like challenges and
* learn from both positive and negative experiences.

What does this mean? Let's start with self-confidence. Self Confidence

Confidence can save your life, for it is an antidote to the adverse effects of pressure. People with confidence see high-pressure situations as challenges to be overcome rather than crises to be confronted. Confident people get 3-5 times more learning benefits given the same opportunity as the average person.

Those with high confidence work harder, persist longer, are more optimistic and enthusiastic, show more grit and determination and choose more challenging and higher goals than those with lesser confidence. And they are likely to be more realistic and quickly rebound from di- sasters than others. They know they can do something of influence and recognise pressure as an early warning that it's time for them to perform. Above all, they like to shape their destinies.

But with confidence must come balance, and we must remember that confidence can change over time and is malleable. And we can also be confident in some areas more than in others. But if we are needlessly underconfident, we get inundated with everything that matters to the point

where we can do nothing. We lose valuable working memory; we can't think straight; we cannot

recall critical information under pressure; we cannot perform at our best.

For some, the opposite appears true. Some recent studies have found that unrealistically self- confident people fare spectacularly well in disasters. (see Sherwood) Psychologists call them 'self enhancers', but others might call them arrogant. These people think so highly of their abili- ties that they appear annoying and self-absorbed. But they perform when they need to! Interest- ingly, it has been put forward that some people might be better adapted to crises than perhaps they are to real life.

So, how do we develop self-confidence in aviation? We learn and develop the following traits, and we do so through education, practice, training and experience:

Tenacity

We need tenacity in spades these days, even in everyday life. Tenacity is about working toward a goal, making a voluntary effort toward self-improvement and developing focus. The focus of tenacious people keeps them attending to the specific tasks needed to meet their goals. I develop tenacity and focus by compartmentalisation: I concentrate on the issue or mission and develop a path to get there. In each legal case I do, I work toward an objective I had in mind since it started. Interestingly, talent is a poor indicator of tenacity because it too often does not replicate the real world. Become tenacious. Do not be afraid to focus on a goal and fight for it. Tenacity is a precious life skill as much as one desirable in aviation.

Resilience

Resilience is also precious. Those with it have three underlying advantages: they are enthu- siastic about life; they believe they can influence events and find meaningful purpose in life's turmoil. They are also patient when they need to be. Resilient people react more quickly and positively to the shock of sudden adversity and bounce back more quickly when an adverse situation ends. And they are survivors.

Humility

Yes, I know, we are all humble-it goes without saying?! And humility is a characteristic one can have fun with. Generally, humility goes with confidence. It's an aura and starts with you feeling good about yourself. You do not have to tell someone else how good you are because you know it in your mind. If someone else wants to know how good you are, they can work to find out.

It's interesting sometimes to play the people game of not telling someone who you are or any- thing about yourself. People who get noticed by being loud-mouthed or outrageous in conduct seem to lack confidence. But those who GET NOTICED can stop a room by merely walking in. What goes with this is confident dress, a confident smile, good manners and a personal confi- dence in who you are. Humble people are noticeably self-confident. They usually do their jobs well and are in control of their lives.

So, there it is: self-confidence, tenacity, resilience and humility combined with learning, knowl- edge, training, and experience develop a person able to make decisions – a person we want in this industry.

LEADERSHIP

To succeed in aviation, you must also be a leader. Again, like good decision-making, there are no exceptions. It's not just worrying about your welfare but also about the welfare of others. The aviation system is a worldwide system that genuinely works. Its effectiveness arises from a worldwide integration that crosses nations and seas. And it's people of all nations and cultures that make it work. And it's an ordinary person who ensures the system is effective.

So, what can we say about leadership as it is relevant to aviation? First is a simple observation: Not all leaders are good leaders. And good leaders must account for their personal characteris- tics, patterns, personalities and perspectives. But the leadership goal is simple and common to all of us: to get people to do what is needed to support the mission and the team. How we lead is different for each of us, and good leadership can require different techniques to fit different situations, but in this game, you must be a leader. Accept it and take responsibility for your ac- tions. Richard De Crespigny points out that, 'In leadership the standard you walk past is not just the standard you accept, but the standard you set.'

Here are some simple foundations of leadership:

An ability to detach

Detaching from a problem mentally and physically enables us to see a situation more clearly. Detachment, then, enhances good and rapid decision-making. Avoid getting into the weeds of a problem, avoid tunnel vision, and stay calm. You can teach yourself to detach. It is a learned trait-take a deep

breath, look methodically from left to right and absorb what you are seeing BEFORE YOU DO ANYTHING!!!!!!!!!!! This is a must-learn skill. Read about how others did it – see how Rich- ard De Crespigny handled QF 32 and Kevin Sullivan QF72.

Humility and good listening skills

You are part of a team, and when the chips are down, leadership becomes about performance, not rank. And you are expected to perform, not part of the time, but all the time. You must be identifiable as a leader because of your personality, not because you wear more gold. As De Crespigny explains, leadership is not '…about authority, seniority or ego….[it] doesn't just hap- pen because there is a strict hierarchy or an organisational chart in place'.

Experience and Training

If you experience extremes in training, they are not so extreme when a crisis is upon you. The more you learn about and practice things that scare you, the less scared you are when they oc- cur, and the more you can lead. Often in aviation, as in the military, our training and practice is about handling the extraordinary to the extent that what is extraordinary to some is merely normal to us.

An ability to take the initiative

Above all, in an emergency, it is essential to take the initiative-to remember that you must save yourself and others. In an aircraft accident, people who do nothing (and some people cannot do anything) do not survive.

Remember and train yourself in the pattern:

Assess Assess

Act Act

Monitor Monitor until it becomes second nature.

The pattern always remains the same. It was the key to success in both QF 32 and QF 72. Breathing, slowing consciousness and assessing wisely are vital when something goes wrong because the primal fear response is upon you, and tunnel vision clamps down on you. Yet you still need to perform. So expect this initial response: recognise it, get over it and get on with it. It isn't easy, but you can set yourself up to be more likely to do it than not, and you can train for it.

DEALING WITH DISASTER

A typical aviation emergency happens quickly. The outcome is important. And it is uncertain if you cannot gain control. And control is expected of you - you must deliver the goods or suffer dire consequences. As one researcher said, "One thing you don't ever want to do is have to think in a disaster."

So, what can you do to help you perform at your best and instinctively? Training

First is training- without it, the brain returns to its most basic fear responses in a crisis. How do you react when you want to flee and are stuck in an aircraft cockpit with duties to perform, for example? And the training needs to stick. You need to know your subject so well that you don't need to read about it at a critical time.

Practice

Second is practice-practice is said to be the best way to improve performance. The practice must be as realistic as possible and consistent with safety. The brain loves body memory. It is much better to stop, drop and roll than to talk about stopping, dropping and rolling.

Experience

Third is experience-experience is a form of training: learn from what you do right and wrong. Debrief yourself after each flight. It makes you better at what you do.

The primary takeaway is this: the more prepared you are, the more in control you feel and the

less fear you experience when something happens. If you develop in these three areas, you not only have a higher chance of survival, but you fare better psychologically after a crisis, and you feel that if you've saved yourself once, you can do it again. This applies to life as well as to aviation.

WHO PERFORMS WELL IN AN EMERGENCY?

Most serious aircraft accidents are survivable - NTSB studied accidents between 1983 and 2000 and concluded that 56% of the serious accidents it considered were survivable. And whether you survive seems to depend upon your behaviour. In accidents, people suffer from a natural fear response, time distortion and the keyhole effect. Their reasoning ability declines as their emotions monopolise and control their brain functions. And survival depends upon quickly get- ting past this pattern.

Did you know that there is a generalised strong disaster personality? The research results are not strong, but the generalisation is this: 10% of a group performs well in disasters. 80% have a mixed reaction, and 10% perform poorly, if they perform at all. (see Ben Sherwood's book, The Survivors Club, for a fascinating read on this subject).

Those who perform well enough to find themselves in the upper 10% have five primary attri- butes:

They cultivate resilience

They can pick themselves up in bad times. They have those four thoughts and abilities that I discussed earlier:

* They believe they can influence what happens to themselves
* They find meaningful purpose in life's turmoil
* They are convinced they can learn from good and bad experiences.
* They learn to control their anxieties.

These people have a better chance of controlling their fear response and maintaining their abil-

ity to quickly make decisions and process new information.

They maintain a good weight

Overweight people move more slowly, are more vulnerable to secondary injuries, and have a more challenging time physically recovering from injury. On 9/11, researchers found that peo- ple with low physical ability were three times as likely to be hurt while evacuating the towers.

They train their brains and bodies.

They practice and learn from experience. And practice is the best way to improve performance. Remember, it is much better to stop, drop and roll than to talk about stopping, dropping and rolling.

They are self-confident

Above all, they have self-confidence and perform better under stress if they think they can handle it (listen closely at Sullenberger's answer in the third video - 'I knew I could do it!')

FINALLY

So, let's assume you are an airline passenger but a prepared one. What can you expect if some- thing happens and you are in the cabin of an aircraft?

Perhaps something like this:

Non-performers panic and scream. Some freeze - and cannot move even when they have a clear line of escape. Others push toward the exits. Many try to recover their carry-on baggage from the overhead lockers. They get to the exits and freeze, reluctant to take the next step and clog the aisles. Those who get to the emergency slides throw their carry-on baggage at others trying to evacuate. At the overwing emergency exits, those who do not know what they are doing fail to open them and try to block anyone else from doing so. The fat guy or woman may not be able to get out of the exit. And finally, once out, they all stand around rather than walk away from di- saster. And some even try to go back inside a burning aircraft to retrieve their carry-on baggage.

Those who freeze die where they sit, and many trying to reach the exits perish in the aisles from smoke and toxic fumes. And some survive. And generally, the survivors are the trained, prepared ones with strong disaster personalities.

I am amazed to get on an aircraft and see someone physically unsuitable sitting in the seats near the overwing exits (some airlines sell these seats for a premium). Or I see women with tight, skimpy clothes or high heels. How will they survive an accident, or how will their limited ability to move affect others? And have you ever seen what happens to nylon or synthetic un- derwear or clothing when it burns? Imagine what burning nylon or synthetics might do to you, and you will be serious about wearing cotton or wool clothing on any aircraft, or indeed, on all aircraft, or perhaps even every day.

But here is a real show-stopper. Many years ago, there was a DC10 accident in Pago, in Ameri- can Samoa. There were five survivors, and the NTSB found that their commonality was that each of them had read their safety cards and looked for the nearest exits before departure.

So, for us, this is simple. People depend upon us when we fly them. We need them to have confi- dence in us. This confidence starts with confidence in ourselves. We get that confidence through training, practice and experience. Anything we learn, no matter how small, is helpful to us.

We want to get into that upper 10% of performers when crisis strikes us. To do this, we must cultivate resilience, learn to control our anxieties, maintain good weight, train our brains and demonstrate self-confidence, almost to the point where others perhaps do not like us. Doing so increases our ability to perform when needed and protects those who rely upon us. What they

think of us personally doesn't matter – only performance does!

REFERENCES

De Crespigny, Richard, Fly: Life Lessons from the Cockpit of QF32, Docklands: Penguin Ran- dom House, 2018.

De Crespigny, Richard, QF32, Sydney: Pan Macmillan, Reprinted 2018.

Kern, Tony, Flight Discipline, McGraw Hill, 1998.

Lee, Hasard, The Art of Clear Thinking: A Fighter Pilot's Guide to Making Tough Decisions, London: Penguin Random House, 2023.

McKay, Brett and Kate McKay, How to Survive a Plane Crash: 10 Tips that Could Save Your Life, July 11, 2021, [https://www.artofmanliness.com/skills/outdoor-survival/how-to-survive-a-](http://www.artofmanliness.com/skills/outdoor-survival/how-to-survive-a-) plane-crash-10-tips-that-could-save-your-life/.

Reason, James, Human Error, Melbourne: Cambridge University Press, Reprinted 1995. Sherwood, Ben, The Survivors Club, Camberwell: Penguin Group Australia, 2009.

Sullivan, Kevin, No Man's Land: The Untold Story of Automation on QF72, Sydney: Harper Collins Australia, 2019.

The Flight Expert, How to Survive a Plane Crash: What to Do Before, During, and After, Sep- tember [8, 2021, https://www.theflightexpert.com/how-to-survive-a-plane-crash/.](http://www.theflightexpert.com/how-to-survive-a-plane-crash/)

Weisinger, Hendrie and J. P. Pawliw-Fry, How to Perform Under Pressure: The Science of Do- ing Your Best When It Matters Most, New York: Penguin Random House, 2015.

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