Developing Resilience in the Workplace
What do you think we should do?

Speak to anyone involved in a safety critical industry, and you will find a harmonious consensus that resilience is a good thing. In fact, not just a good thing, but an essential attribute in order to operate efficiently and to function safely in ever changing dynamic environments. But as the conference heard from Dr Shawn Pruchnicki and Dr. Kathy Abbott, resilience as a subject, is a deeply complex, multi factorial area of academic study.

But, what is it?

During the conference, we heard Professor Bryn Baxendale and Rob Dixon speak about Organisational Resilience within the NHS and the Military respectively. We heard from Wesley Bissett how veterinary skills were adapted into different environments. We heard from Søren Agner how the use of board games can train aircrew to handle a scenario rather than training the scenario itself. We heard from Karen Moore how psychologists can identify characteristics in resilient personalities.

But, despite all this knowledge and awareness, can we train people to become resilient?

I personally first came across the term 'resilience' whilst conducting training and assessment for the MLTA Mountain Leader Award.
In addition to navigation and leadership skills, we were encouraged to study the ecology of the mountain environments, and came across arctic-alpine plants. These plants, as their name suggests, are usually found in very cold climates or environments, and yet, here they are not just surviving, but thriving in the temperate climate of the United Kingdom.
They arrived here during the last ice age, and as the glaciers receded the plants remained. And stayed.

They are described as *resilient* plants, due to their ability to *'adapt to the changing conditions'*, in their case, the environmental climate in which they exist.

Every day we go to work, there is considerable risk of a serious incident or accident.
In aviation alone, suspending several score people miles above the Earth's surface, travelling at hundreds of miles an hour in a pressurised aluminium tube surrounded by flammable liquid, could be described as an inherently risky thing to do.

However, most of the time, it seems to work out ok…..
In fact, not just ok, but actually very well.
How? How on earth do we all manage to perform such highly risky tasks day in, and day out, without incident?
Well, we are trained, we have procedures, we have checklists, we can simulate environments to practice these things.

But, is that enough?

The 1992 film 'A Few Good Men' is a courtroom drama whereby 2 Marines are accused of murdering a colleague having carried out a procedure known as 'Code Red'. They contend they were acting under orders.

In this scene the witness Corporal Barnes is being questioned by the prosecution, Captain Ross, to evidence the procedure behind these ‘orders’.

Capt. Ross : Corporal Barnes, I hold here the Marine Outline for Recruit Training. You're familiar with this book?

Cpl. Barnes : Yes, sir.

Capt. Ross : Have you read it?

Cpl. Barnes : Yes, sir.

Capt. Ross : *[hands him the book]* Good. Would you turn to the chapter that deals with code reds, please?

Cpl. Barnes : *[confused]* Sir?

Capt. Ross : Just flip to the page of the book that discusses code reds.

Cpl. Barnes : Well, well, you see, sir code red is a term that we use. I mean, just down at Gitmo. I don't know if it's actually...

Capt. Ross : Ah, we're in luck then. Standard Operating Procedures, Rifle Security Company, Guantanamo Bay, Cuba. Now, I assume we'll find the term code red and its definition in that book. Am I correct?

Cpl. Barnes : No, sir.

Capt. Ross : No? Corporal Barnes, I'm a Marine. Is there no book, no manual or pamphlet, no set of orders or regulations that lets me know that, as a Marine, one of my duties is to perform code reds?

Cpl. Barnes : No, sir. No book, sir.

Capt. Ross : No further questions.

[as Ross walks back to his table Kaffee takes the book out of his hand]

Kaffee : Corporal, would you turn to the page in this book that says where the mess hall is, please?

Cpl. Barnes : Well, Lt. Kaffee, that's not in the book, sir.

Kaffee : You mean to say in all your time at Gitmo, you've never had a meal?

Cpl. Barnes : No, sir. Three squares a day, sir.

Kaffee : I don't understand. How did you know where the mess hall was if it's not in this book?

Cpl. Barnes : Well, I guess I just followed the crowd at chow time, sir.

Kaffee : No more questions.

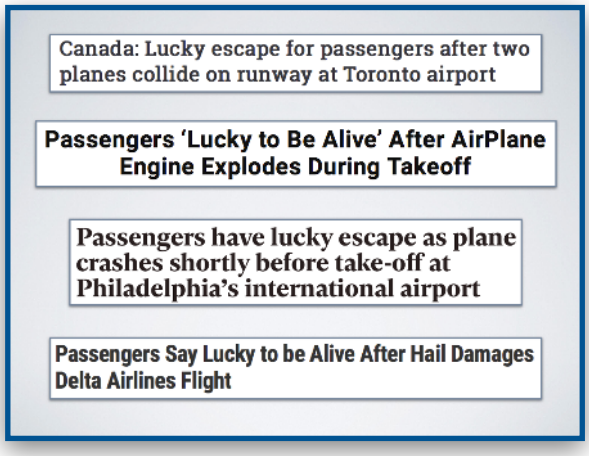
We can interpret from this example that not everything we encounter in our professional lives is going to be written in ‘the book’.

This however, is not a particularly new concept. Ask anyone working in a regulated industry if they’ve encountered a situation whereby there wasn’t a specific trained procedure, and you will find numerous anecdotes whereupon staff had to use their experience and judgement to solve the the unique scenarios presented before them. It is highly likely that you have experienced this also.

How did you manage those? Well, exactly the same way as Corporal Barnes in fact.
He had to come up with a plan, and do what he thought was best.

As did you. You also came up with a plan, and did what you thought was best.

Or, maybe you were just lucky.



The media will have us believe there is a lot of luck involved when pilots are pitted against the odds and everything works out ok.

When we get it wrong, they are very quick to proclaim 'pilot error' and plaster this brazenly across news headlines.

And yet, when we get it right, and manage unforeseen circumstances we are just lucky? Thanks!

But was it luck? Or was there actually an element of competence…?

Or maybe a bit of both?

A senior training captain in a regional UK airline has come up with the following equation.

The Probability of an Accident (Pa) is Inversely Proportional to the sum of Competence + Luck

$$P_a \propto \frac{1}{(C+L)}$$

Sadly, we can't rely on being lucky. The only thing we can develop and enhance is *competence*.

But how? How can we develop competence in unexpected scenarios? How can we train the skills that we don't know we're going to need?

Well, if we consider technical competence, more training, more procedures, another checklist, then clearly we can't.

But going back to Corporal Barnes, it wasn't technical knowledge he had to use.
Using *Non-Technical* competence, he figured out what to do. Not just the obvious Decision Making, but Situational Awareness and Assertiveness too.

Going back to your own individual scenarios that we considered earlier on. What skills did you use to come up with your plan?

It was likely to be very similar. Decision Making of course, but also Communication, Teamwork, Situational Awareness, Workload Management, Briefings, Leadership, etc etc.
Now, combine that with technical knowledge and elements of training, you likely filtered out what wasn't relevant or applicable, focussed on what you could use, and adapted to the changing conditions...

You did what you thought was best.

Throughout the conference we were given several examples evidencing the importance of emotions within a training environment.
Commander Frode Voll Mjelde & CDR Petter Lunde, from the Royal Norwegian Naval Academy noticed that performance in Naval exercises was significantly improved when the emotions had been matched in a simulated environment, Randall Brooks recognises the importance of experiencing that emotive element with upset recovery training, and Dave Fluegeman explained the emotions that can be triggered by immersion audio.

This ability to 'do what we think is best' requires, in a simplistic form, 2 elements of input, rational and emotional. Bryn referred to them as expertise and intuition, the basic theory is the same.

The rational input includes such things as logic, reasoning, skills, knowledge, and often the use of a Decision Making model, such as DODAR.

DODAR is a pneumonic used prevalently in aviation to aid Decision Making. Its function is to break it down into component parts in order to give structure in unknown, compound, or complex scenarios.

***D**iagnose -*	*recognise a decision needs to be made*
***O**ptions -*	*gather ideas/risk assess*
***D**ecide -*	*which option to carry out*
***A**ction -*	*allocate tasks as required*
***R**eview -*	*is the decision working as predicted, or has more information become available?*

But as humans, it is actually impossible for us to make a non rule based decision without an emotional, or intuitive, input. This input however is less quantifiable. It is often described as that gut feeling, or instinct.

It is important however to recognise that the emotional input in this case is not controlling, such as Randall described in a 'startle' automatic response. The emotional input in this case supports the rational input, and allows us to make a decision based on intuition.

But, honestly, can we train this?

How can we train these skills without creating some scenario in which to apply these?
Is there a risk, as Søren explained in his game philosophy, that we train the scenario, rather than how to *handle a* scenario?

Well, it's time to let you into a little secret, (although Aat Hoorn and Nathan Baker both alluded to this in their presentations……)

You're already doing this.

All the time.

The basic theory happens much more frequently than you may think.

Try, if you can, to remember your last day at work, where nothing memorable happened.
Nothing happened that you hadn't been trained for, and practiced, and carried out time after time.

Aviation:	Think of the last instrument approach you flew.
Rail:	Think of the last route you operated.
Medicine:	This of the last routine operation you carried out.

Had you been trained for those tasks?
Yes, surely. Procedures and training cover all these operational requirements….don't they?

But, what about the variables.

Pilots:	Who were you flying with? What was the weather like? How busy was the airport?
Rail:	Who were your guards? Were there any engineering works? How many carriages?
Medicine:	Had you operated on that patient before? In that theatre? With that team?

Had you been specifically trained for every scenario?
No, of course not. It would be impossible.

Thus, every day we are encountering and managing scenarios, events and situations for which we have not *specifically* been trained. We are in fact using the same skills we used in those significant unique events, and the same skills that Corporal Barnes used, but, the thing to recognise, is that these events are so mundane we don't even notice. and these skills get normalised.

This however, is the first step in encouraging, rather than training, resilience in the workforce. The ability for crew or staff to recognise that they already have the fundamental skill in adapting to changing conditions.
This could in turn be recognised at organisational level, to have trust, faith and confidence in the workforce to do what they think is best at the time, with the conditions presented before them.

But Nathan mentioned something very poignant, in that 'we only take notice when it goes wrong'.

Does anyone regularly make the wrong, less safe, most unpredictable decision?
The fact that most of the time it goes right, and not just right, but very well, implies not.

Shawn and Kathy highlighted an area of identified resilient behaviour from their academic study, and that was the attitude to 'support reflective processes of sense making'.

Put simply, when a situation 'goes wrong', or has an undesirable outcome, why did their actions make sense to them? Why did they that think it was right thing to do at the time with the information presented to them?

It is extremely rare to find examples where someone deliberately does the wrong thing. (Well, using the behaviours analysis that Rob showed, there is the possibility of recklessness and sabotage, but using a psychological technique of maintaining for now a 'constant positive regard', we will assume the benefit of the doubt)

The Drillster philosophy that we heard from Marco van Sterkenburg, is aligned with evidence from behavioural psychologists that the positive reinforcement of desirable behaviour (getting things right), is more effective than the punishment of undesirable ones, (only noticing when we get it wrong).

Additionally, the fact that most of the time it does go right, therefore we have considerably increased opportunities to not just practice, but for others to notice and value, these positive behavioural inputs.

The question, how can we train resilience within the workplace?

I'd argue we don't need to. What we do need to do is acknowledge and endorse the adaptability that is already happening.

The industries and environments we operate in, already naturally provide us with the continual variations required to demonstrate our adaptive capabilities.

Thus a staff member who is made aware of, and have validated, their individual strengths in ‘normal’ situations, will be more confident in dealing with the abnormal and untrained situations.

In short, they become more resilient.

You will inevitably encounter situations where there are no specifically trained procedures.
You may encounter situations where the trained procedure is not having the expected or desired outcome.
You may encounter situations that you deem the trained procedure is not appropriate.

In those situations you are likely to ask the question: ‘What do you think we should do?”

Just carry on doing what you’re doing every day.

Use your knowledge, your skills, your logic, your reasoning, your expertise.
And if those don’t work, go with your gut, or intuition.

Do what you think is best.