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Ponce de León would be proud. He was searching for a magical fountain of youth when he arrived in Florida from Spain in the early 16th century at a time when the average life expectancy was 35. De León himself beat the odds and lived to be 47. By 1950, global life expectancy had increased from 35 to 47. Today it is 73 years globally and as high as 83 years in Spain. Spoiler alert – the fountain of youth was never discovered. The steady increase in life expectancy is the outcome of decades upon decades of advances in medical science and health-and-wellness research, not magical fountains.

Workplace safety is also steadily improving over time. Like life expectancy, the world of safety has the occasional "Ponce de León" looking for a revolutionary magical answer that has somehow been overlooked; however, magic is not responsible for the improvements in workplace safety. The answer to advancements in workplace safety lies in effective and boring things like improved planning, better tools and techniques, engineering solutions to remove humans from hazards, and lastly, you guessed it, from advances in science – in this case, behavioural science. In this 21st century, if an organization is having repeated safety incidents, chances are they do not have a safety problem, they have a leadership problem.

Robust, well documented, tested, and honed safety systems can be purchased off-the-shelf. An inexhaustible supply of everything from safety management systems, safety manuals, safety shields, safety guards, training courses, personal protective equipment, and remote diagnostic sensing equipment are all readily available. Despite all the factual evidence, there is a disconcerting trend among some who promote a philosophy touted as a magical "fountain of safety". Something new and revolutionary and wise! A new way to do safety! While this sounds fast and exciting, buyer beware. Hop off the philosophy bus that does not produce tangible results – Ponce de León is dead.

So why are some organizations still struggling with everything from lost-time injuries to fatalities? The answer is painfully clear: Workers are not following safety systems and protocols or practicing safe behaviours because of the way that these behaviours are (or are not) being reinforced by leaders. The vast majority of organizations that do predominantly physical work have comprehensive safety management systems in place. Building, improving, and sustaining a strong safety culture happens one behaviour at a time. It is work and it takes consistent and focused effort at all levels of leadership. Like becoming a concert violinist or Olympic athlete there is no quick fix, but there is a predictable, measurable, and concrete path forward.

An Airline Case Study

Qantas Airways has not had a crash fatality on one of their jet aircraft since 1951[1]. The airline industry is a high-risk industry and, as a company, Qantas stands on 3 pillars: Principles, Behaviours, and Values. The company website promotes a commitment to:

- ***Individual acceptance of accountability*** *and responsibility for safe conditions and behaviour;*
- ***A culture of safety leadership****, collaborative effort, open communication, dissemination of safety information, consultation and involvement at all levels in the workplace;*
- ***Managers demonstrating and driving genuine safety commitment and leadership through their personal actions****.*

The success of Qantas lies in their understanding of the importance of focusing on behaviour coupled with their expectations of leaders to "walk-the-talk".

By contrast, Boeing has had one of the worst safety records in the recent history of aviation with two fatal crashes killing 346 people in 2018 and 2019[2].

A 2019 Washington Post article[3] stated:

> *"During a trip to Japan in 2015, an auditor with the Federal Aviation Administration discovered a Boeing subcontractor was falsifying certifications on cargo doors for hundreds of 777s and had been doing so for years, according to interviews and government documents.*

> *Back in the United States, Boeing mechanics were leaving tools inside plane wings, precariously close to the cables that control their movements. Workers also were improperly installing wires in 787s, which could increase the risk of shorts or fires, FAA officials found.*
>
> *Repeatedly, safety lapses were identified, and Boeing would agree to fix them, then fail to do so, the FAA said. The agency launched or was considering more than a dozen legal enforcement cases against the company for failing to comply with safety regulations, a review of FAA records shows, with fines that could have totaled tens of millions of dollars."*

A recent review of Boeing's published principles lists the following:

- Values
- Sustainability
- Environment
- Compliance & Ethics
- Human Rights
- Diversity & Inclusion
- Employee Safety
- Education
- Military & Veteran Engagement
- Community Engagement

Not only is safety number seven on the list of ten items, but Boeing lists "Employee Safety" with no reference to "Passenger Safety". The website is silent on the word "behaviour" and seems silent on the role of management, simply stating that *"Teammates from across the enterprise are taking a proactive, unbiased and collaborative approach to all aspects of product safety, compliance and airworthiness."* While this is aspirational how is it to happen? What is the role of management in reinforcing safe behaviours?

Safety is Not Magic – It's Science

Applied Behavioural Science (or ABS) is the deceptively simple science that focuses on human behaviour and why people do the things they do. Applied behavioural science is not a philosophy or a theory - it is a proven science with decades of rigorous scientific support and the only way to intentionally create a safety culture. If behaviour is occurring, it can be explained, predicted, and replicated through ABS.

There are three basic tenants to ABS: The first tenant is that behaviour is a physical action. It is not a thought, a fear, an attitude, or a generality – behaviour requires muscle movement. Throughout the day, we demonstrate thousands of behaviours. In a safety culture, there are a handful of critical behaviours that make a difference, not thousands. Exceptional leaders identify these behaviours and support others to adopt these behaviours. To build a safety culture, the first step is to zero in on the behaviours that make a difference. For example, a common safety behaviour is to buckle a seat belt before putting a vehicle in drive. Efforts to prevent driving-related incidents focus on prompting and maintaining objective behaviours like this.

The second tenant of ABS is to set people/employees up for success by providing clear expectations about the behaviours required to do a task safely and then providing the training, tools, and other resources to make it easy for the person to do the task. It is unreasonable to hold a person accountable to meet an expectation that they are unaware of. It is difficult, or even impossible, to fasten a seat belt in a vehicle if the buckle is malfunctioning or if the belt clip is missing entirely. In short, the performer must be able to demonstrate the ability to use the device and the device must be functioning.

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The third, and most impactful tenant of ABS addresses the wide spectrum of consequences that follow a behaviour. After every behaviour, the performer receives multiple consequences. For example, a poorly designed seat belt might rub against the neck, or the use of a dirty seat belt might leave a nasty stain on your shirt. These consequences discourage the safe behaviour of wearing a seat belt. Publicity about police campaigns to "find and fine" people who do not wear seat belts can scare people into wearing their seat belt to avoid a fine, although shaping behaviour with this kind of fear-based approach does not create a positive safety culture. Positive reinforcers for safe behaviours are the most effective way to create lasting behaviour change. Imagine preparing to go on a theme park ride and being told that you are ready to go as soon as you get your seat belt on. A fun experience is about to follow the click of the belt! In the workplace, imagine a leader getting into a truck with an employee and saying "*thanks for waiting for our peers in the back seat to buckle up before you put the truck in drive. Our driving incidents are much lower since we all started wearing seat belts on site*". That kind of positive reinforcement in the moment is powerful but takes commitment and follow through by the leader. This is the work of leaders who want to create a safety culture.

The 5 Things Every Organization Needs to Know About Safety

1. **Good robust safety management systems are available off-the-self, but not one-size-fits-all**. The safety systems necessary for a sawmill differ from the safety systems needed in a hospital. Does your safety system serve those doing the work or do the workers spend more time serving your safety system? Does your organization have different divisions or types of work that are all "force fit" under one safety management system? Overly complex and inappropriate safety systems lack the natural positive reinforcers and can shape workers *away* from building safe habits.

2. **Safety is a function of leadership: If you are experiencing repeated safety incidents, you do not have a safety problem, you have a leadership problem**. Safety is often relegated to front line supervisory positions and is unsupported by senior leaders. The Presidential Review Commission investigation[5] into the 1986 NASA Challenger space shuttle disaster revealed that known data about problems with "O ring" performance in low temperatures did not make its way through the NASA organizational hierarchy to key decision makers, in part due to pressure on the contractor. Leaders, at every level in

the organization, need to participate in the safety system and build reliable conduits of feedback to ensure that decision makers are fully versed in risks.

3. **Culture is largely misunderstood. Culture is simply the collection of behaviours commonly practiced in an organization**. Trying to "change culture" itself is like grabbing the speedometer needle in a vehicle and twisting it in the attempt to speed up or slow down. A vehicle speed is controlled by individual behaviours like pressing on the accelerator or brake pedal. Similarly, culture is changed one piece at a time by shaping specific behaviours. *"A bad system will beat a good person every time." – W. Edwards Deming*[6]. Building a safety culture is simple, measurable, and predictable but it is not fast. Changing culture is not done via a motivational speech, a poster campaign, or an e-mail from the CEO. It takes time and effort to set expectations, verify that the desired behaviours are happening, and to positively reinforce these behaviours over time.

4. **A fish rots from the head: Safety culture begins with the CEO**. In organizations with a safety culture, safety is a fundamental *value* rather than a priority. Priorities change in response to business needs, values do not change. Organizations that recognize safety as a foundational value act differently; their actions and decisions are guided by unwavering values. These organizations do not ignore, or trade off, safety against stock price, external pressures, or company growth. The behaviours and decisions of the CEO and executive team shape the culture of the company and ultimately set the standard for safety. If the CEO and executive team do not actively participate in the safety system, a sustainable safety culture will not exist.

5. **Behavioural science unlocks the mysteries of human behaviour.** People do what they do because it works for them. Behaviour is a choice; it can be measured and actively shaped. All professional athletes and musicians regularly work at honing their behaviours. We all receive prompts that start our actions, and we receive a spectrum of reinforcers that shape behaviours into habits. The behavioural science approach to safety never blames the employee; however, do not confuse blame with support and accountability. There is a big difference between not knowing what to do and willingly choosing inappropriate actions with full knowledge of the consequences. A true understanding of the levers of human behaviour unearths critical gaps in an organization – gaps in prompts that lead to undesired behaviours and gaps in motivating consequences that push people either towards, or away from, desired behaviours. Address these gaps and you'll build true safety leadership. Build safety leadership and safe culture will follow.

Safety culture is not an elusive target that requires magic or new fads. Replace theory and promises with proven tenants of Applied Behavioural Science that are predictable and replicable. There are countless examples of long held myths debunked by science; sunrises are not the work of Greek Gods, coffee won't stunt your growth, and warts do not come from toads. A safety culture on the other hand IS a function of the behaviour of leaders. It always has been and always will be. It is time to stop wasting time and resources on magic, fads, and short cuts and time to start down the path of true culture change – one behaviour at a time.

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About SCCi

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