# The grounded neuroscience of leadership.





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The Australian Childhood Foundation acknowledges Aboriginal and Torres Strait Islander people as the traditional custodians of this land and we pay our respect to their Elders past, present and future.



#### **Learning outcomes**

- Extend your knowledge of brain development to understand the neurobiology of emotional reactions; clear thinking and responses which connect to higher-order functions such as sensory perception, spatial reasoning and cognition.
- Understanding the neurobiology of behaviour, connection and engagement
- How to build and create change through clear cognition and built relationships
- Understand how our own neurobiology drives our leadership behaviours and others responses to us and how to utilise reward system through neurobiology
- Learn and discuss what is important in your role as leader.



### INTRODUCTION

"Brain science's transformation of management isn't just about another new technique or model. It's about shifting our paradigm to incorporate the hard data of science and fundamentally changing the way we think about business."

Charles S. Jacobs





## **Neuroscience and leadership**

"When you understand neuroscience as your core leadership foundation, you can continue to come back to that, as a way of connecting everything together.



David Rock CEO Neuroleadership Institute



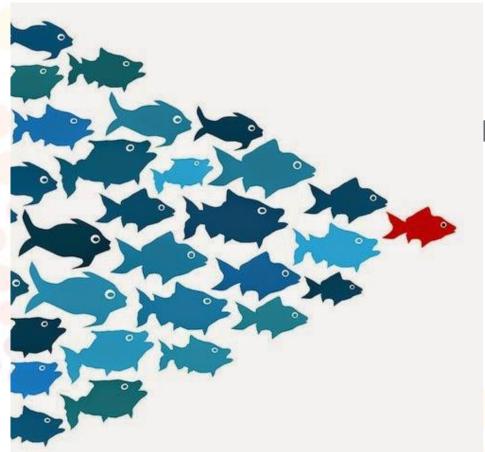
#### **Positive Leader Role**

- Leaders set the tone for their organisation or team, and their behaviour determines whether interactions are characterised by positive or negative emotions.
- The bosses' mood has an even greater impact. The Hay Group has shown that up to 70% of the climate in a team is determined by the leader.
- A leader who is aware of their emotional impact and displays a positive rather than a negative mood significantly enhances teamwork, coordination and effort.
- At its heart leadership is about someone stepping up to drive change, in order to produce satisfying outcomes.





#### Activity



Which leaders do you most respect? Local, national, international.

Discuss the qualities you expect of a leader.

Who would you walk over coals for?



#### **Compassionate leadership**

Christina Boedker from the Australian School of Business of more than 5600 people across 77 organisations, found that the single greatest influence on profitability and productivity was the ability of a leader to be compassionate. As Boedker observed:

"It's about valuing people and being receptive and responsive" and finding ways "to create the right support mechanisms to allow people to be as good as they can be."



### **The Human Brain**





#### Create your own brain and:

List the things you already know about neurobiology of leadership
 What is one question you want answered today



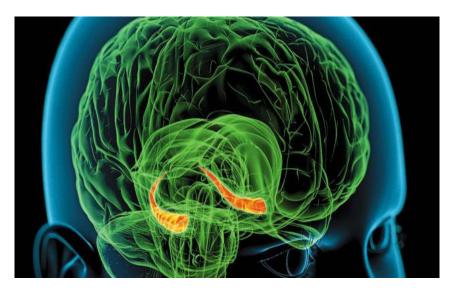




#### **Brain Architecture**

Ingredients for building brain architecture are:

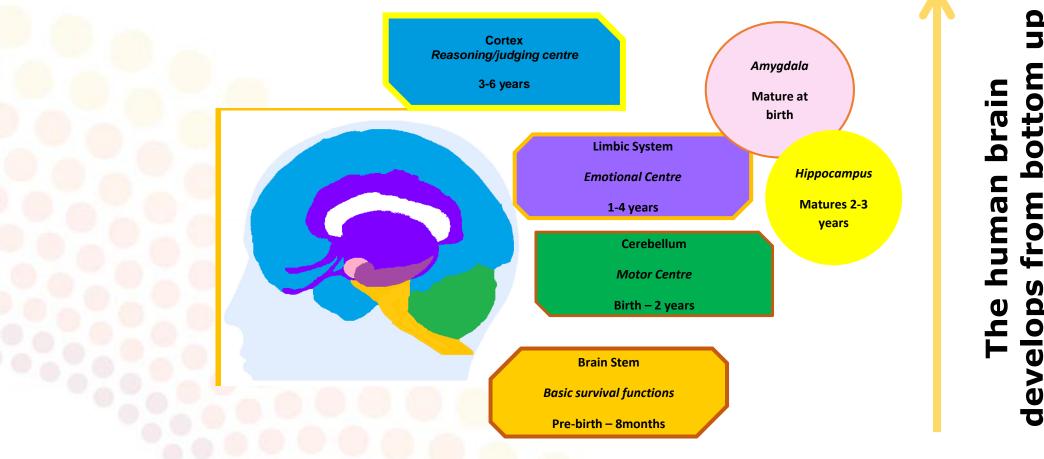
- 1. The genes we inherit
- 2. Experience and environment
- 3. Interpersonal, social experiences



Being an effective leader means understanding people. Understanding people means understanding the biology of the human brain including yours.



### **Developing brain functions**





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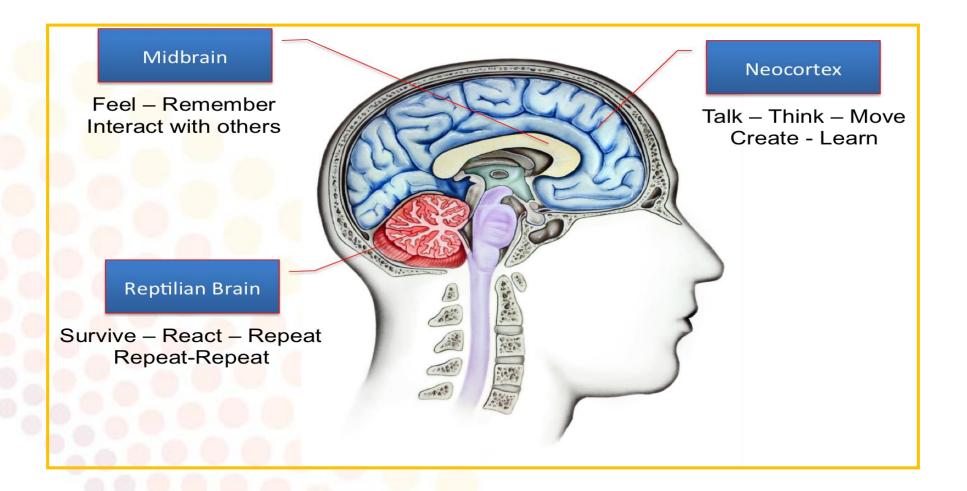
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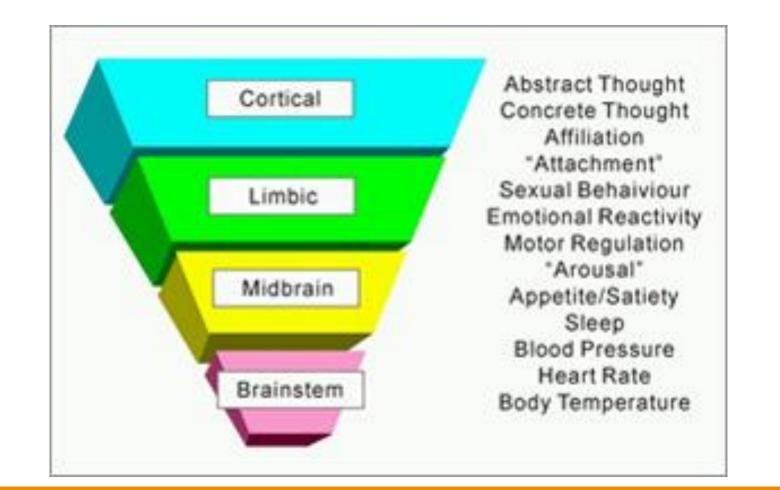
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#### **The Triune Brain**







Bruce Perry 2002



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#### Leadership –Limbic lobe

- The firing of the limbic system seems to occur within 8 milliseconds of a primary cognition and it takes almost 40 milliseconds for that same circuit to appear in the neocortex for interpretation and conceptualisation (LeDoux, 2002).
- With this timing, our emotions are determining cognitive interpretation more than previously admitted.
- Once primary cognitions have occurred, secondary cognitions allow for the neocortical events (i.e., reframing) to drive subsequent limbic or emotional labelling. Our unconscious emotional states are arousing emotions in those with whom we interact before we or they know it. And it spreads from these interactions to others.

https://www.youtube.com/watch?v=xnLvGuHv9zk#action=share



#### **Three brains in leadership**

Recent neuroscience findings have uncovered that we have complex and functional neural networks-or 'brains'- in our heart and gut, giving scientific credence to the growing body of leadership literature showing how the world's best companies are guided by leaders who can tap into the intelligence of their head, heart and guts.

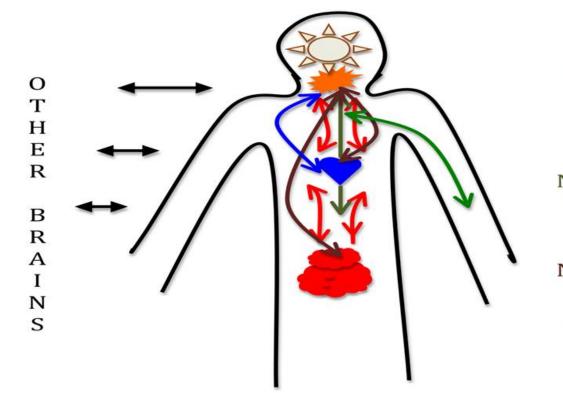
Truly generative and adaptive leadership today requires whole new levels of selfawareness and self-facilitation for integrating head-based intellect with heart-based values and gut-based instincts. No longer can a true leader rely solely on the competencies dominated by their head alone



David Dotlich,Peter Cairo and Stephen Rhinesmith

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#### The three brains



Brain in Skull Midbrain Brain Stem Central Nervous System Heart Brain Autonomic Nervous System Gut Brain Muscles/Joints Skin

Bonnie Baddenoch 2019



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#### **Three brains of leadership- Heart**

Dr. J. Andrew Armour introduced the concept of a functional brain in the heart. His work revealed that the heart has a complex intrinsic neural network sufficiently sophisticated to qualify as a 'brain' in its own right.

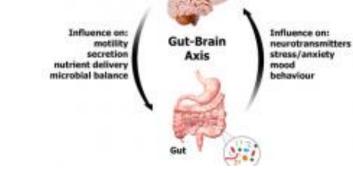
The heart's neural network meets all the criteria specified for a brain including several types of neurons, motor neurons, sensory neurons, interneurons, neurotransmitters, proteins and support cells.

Its complex and elaborate neural circuitry allows the heart brain to function independently of the head brain and it can learn, remember, feel and sense.



#### The enteric brain

- Neurobiologist Dr. Michael Gershon published his pivotal book, (1998) 'The Second Brain', in which he described the culmination of over a decade of research and discovery that the gut also contains a complex and fully functional neural net-workor 'brain'.
- The gut brain, also known as the enteric brain, contains over 500 million neurons and sends and receives nerve signals throughout the chest and torso and innervates organs as diverse as the pancreas, lungs, diaphragm and liver







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### **Brain Plasticity**





## Neuroplasticity



### **Neuroplasticity**

The brain has been found to have the ability to actually change itself physically, this ability to change itself is called "neuroplasticity".

Neuroplasticity refers to the ability of neurons to forge new connections, to blaze new paths through the cortex, even to assume new roles-neuroplasticity means rewiring the brain.

We can educate ourselves and understand how information is processed and used by our brains so we can use it to become better Leaders and have success in learning how to use this to gewt our teams to get their brain to execute in ways that they have not in the past.

Dr. Jeffrey M. Schwartz, M.D 1992.



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### **LEADING WITH THE BRAIN IN MIND**



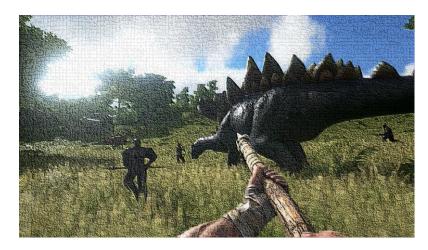
- Understanding how the human brain works and how we function at our best is both fascinating and critical if we want to continue to grow and improve as leaders.
- "The brain is a far more open system than we ever imagined, and nature...has given us a brain that survives in a changing world by changing itself."



Norman Doidge



 The brain is, first and foremost, a survival tool, and the way that it has found to be most effective at guaranteeing survival is through the threat and reward response. Put simply, your brain will cause you to move away from threats and move toward rewards. Along with other animals we share this automatic response through a part of the brain called the amygdala.

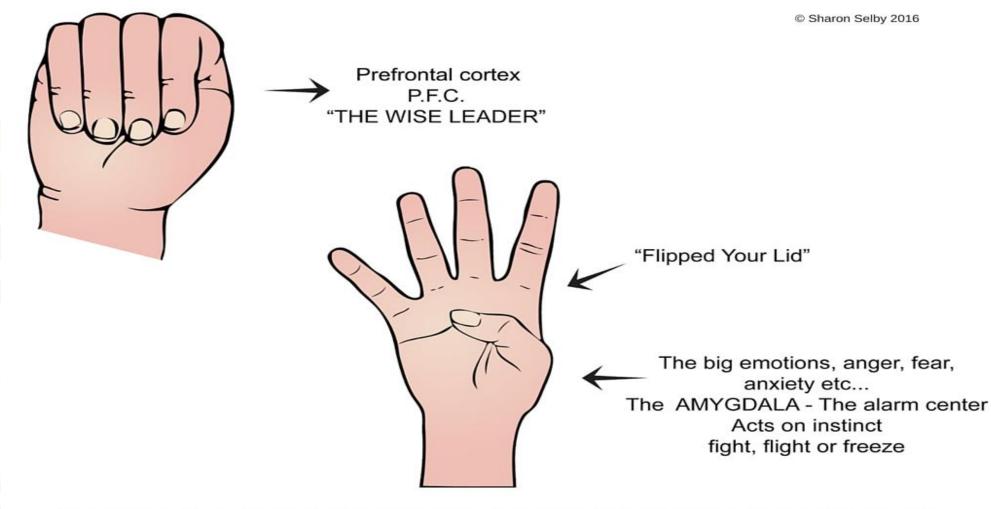




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• When a threat response is activated, it has a severely negative impact on our cognitive performance. When the limbic system goes into its automated response, fewer resources (oxygen and glucose in particular) become available to the **prefrontal cortex**– the part of the brain where conscious thought takes place.





Adapted from Dr. Daniel J. Siegel's Hand Model of the Brain found in *Mindsight*: The New Science of Personal Transformation (Bantam Books, 2010)



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#### Three Motivational and Self-Regulatory Systems

#### **Approach Rewards:**

- Food, shelter, mating, pleasure
- Mammals: rich emotions and sustained pursuit
  Attach to Others:
- Bonding, language, empathy, cooperation, love
- Taps older Avoiding and Approaching networks
- Each system can draw on the other two for its ends.

#### **Avoid Harms:**

- Predators, natural hazards, aggression, pain
- Primary need, tends to trump all others



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### THE ROLE OF NEUROTRANSMITTERS

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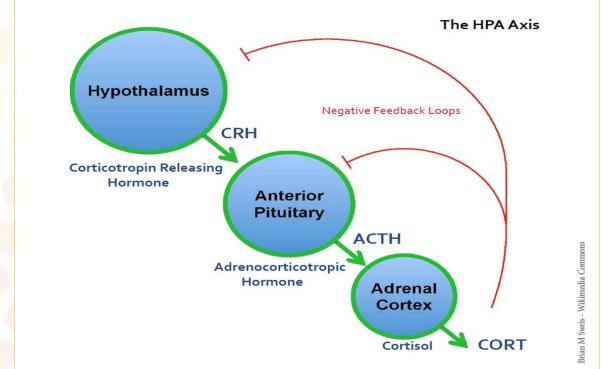
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### **NEUROTRANSMITTERS**

 Neurochemical pathways in our networks are critical in reinforcing how we feel and consequently responding to the situations we are exposed to everyday at work.





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### **NEUROTRANSMITTERS**

#### Adrenaline

What It Is: Commonly known as the fight or flight hormone, it is produced by the adrenal glands after receiving a message from the brain that a stressful situation has presented itself. Norepinephrine What It Is: A hormone similar to adrenaline, released from the adrenal glands and also from the brain.

Cortisol

What It Is: A steroid hormone, commonly known as the stress hormone, produced by the adrenal glands.



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### **NEUROTRANSMITTERS**

#### Dopamine

What is it: Dopamine is an important neuromodulator that exerts widespread effects on the central nervous system (CNS) function

#### Serotonin

What is it: Serotonin is a neurotransmitter, and is released by neurons in the pineal gland of the brain but can affect structures all over the body. Some of the effects of serotonin seem unrelated, making this compound one of the most diverse in the body.

#### Oxytocin

What it is: Oxytocin is a hormone that is made in the brain, in the hypothalamus. It is transported to, and secreted by, the pituitary gland, which is located at the base of the brain.



#### TASTES LIKE CHOCOLATE



- When fully engaged, there is an activation of reward and self-regulation circuitry. Dopamine is released directly into the prefrontal cortex and associated regions. This positively affects a wide range of cognitive and emotional functions by increasing brain resources and functional connectivity. When this system is activated, we receive feedback that the activity is good, rewarding and enjoyable.
- By further pursuing these activities, the mechanisms reinforce the pleasure of activity by releasing even more dopamine.
- In this reward state, we experience increased cognitive resources, a wider field of perceptual view and solve complex problems with insight and creativity and more actionable ideas.



### **SMELLS LIKE FEAR**

- Disengagement activates the threat circuitry. It includes anything that is an 'avoid' response, including fear, anxiety, lack of safety and depression.
- In this threat state, serotonin is released into neural pathways that activate the hypothalamus, triggering the fight or flight response. Adrenaline commonly known as the fight or flight hormone Followed by cortisol a steroid hormone, commonly known as the stress hormone is produced by the adrenal glands.
- Activation of threat circuitry has a profound effect on engagement and directs large amounts of brain resources to peripheral regions, and <u>decreases the</u> <u>efficiency of attention that reduces working memory, narrows field of view and</u> <u>offers a generally pessimistic attitude.</u>



# **ACF INC. Model**

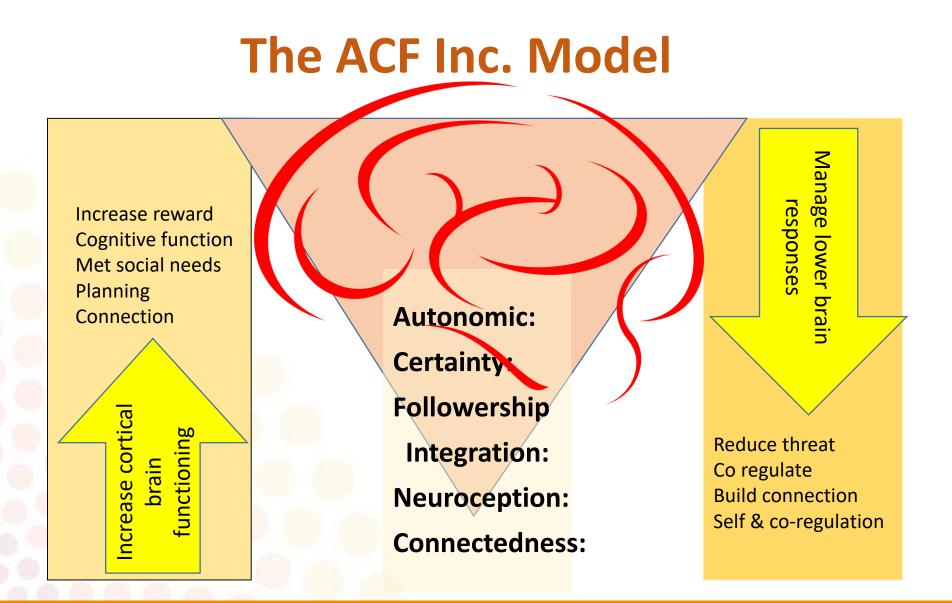






- The ACF Inc. model is designed to help us to understand the neuroscience of leadership.
- The model identifies six key fundamental areas of the neurobiology of leadership
- The model explores the neuroscience of interpersonal primary rewards or threats that are important to the brain and how this can be used for collaborating with and influencing people.







# ACF Inc,

The ACF Inc. model involves six domains of human social experience related to integration of brain and body;

- **1.** Autonomic: provides an understanding of stress/fight/flight responses.
- 2. Certainty: feeling safe and being able to see the future
- Followship: the other side of leadership the ability to take direction well, to be part of a team and to deliver on what is expected of you
- Integration: It is a flowing interconnection that enables action, change, flexibility and growth
- 5. Neuroception- stimulus that has the potential for increasing a person's experience/sense of safety that recruits the more advanced neural circuits that support prosocial behaviors in a social engagement system.
- 6. Connectedness is a sense of safety with others relationships.



#### ACF Inc.

These six domains activate either the 'primary reward' or 'primary threat' circuitry (and associated networks) of the brain.

A perceived threat to one's autonomic system activates similar brain networks to a threat to one's life. In the same way, a perceived increase in followship activates the same reward circuitry as receiving a monetary reward.



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#### ACF Inc.

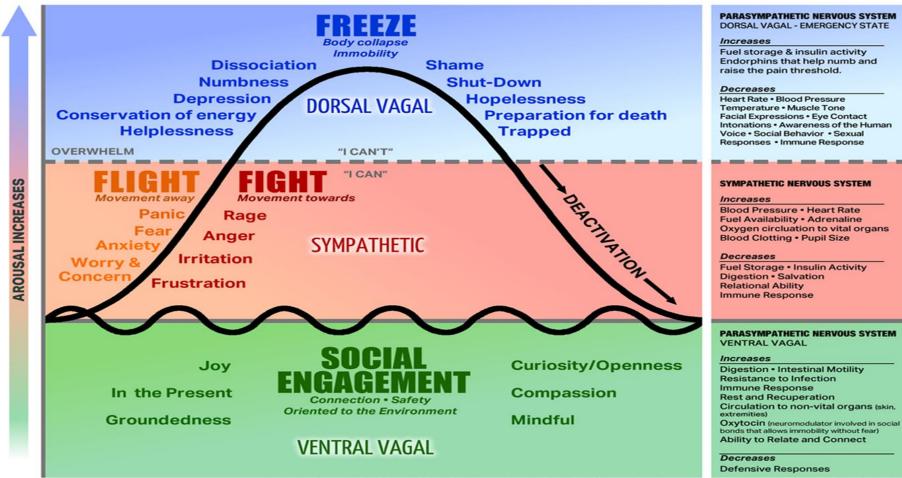
The model is a summary of important discoveries from neuroscience about the way people interact socially.

The model is built around the three parts of the brain and the associated responses:

- The capacity of the thinking/cognitive (Neocortex) brain to be able to make decisions, solve problems and collaborate with others is reduced by a threat response and increased under a reward response (Elliot, 2008).
- The threat response is intense and frequent impacting on emotions and memory of perceived certainty/safety (Midbrain) across social interactions (Porges.S.W Phd. 2009).
- 3. The survival (reptilian) brain responds to social threats and rewards with the same intensity as physical threats and rewards (Lieberman, & Eisenberger, 2009).



#### The social engagement system – polyvagal theory

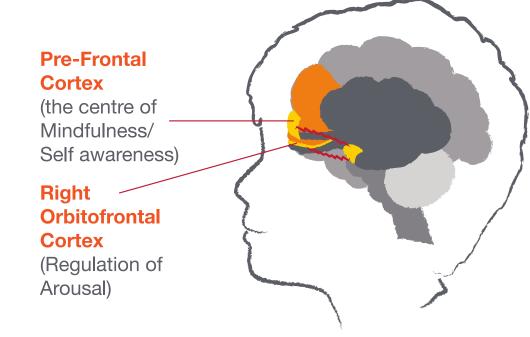


Adapted by Ruby Jo Walker from: Cheryl Sanders, Steve Hoskinson, Steven Porges and Peter Levine

rubyjowalker.com



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- Mindful awareness/ meditation de-activates the amygdala
- Quality co-regulation de-activates the amygdala



Understanding the role of autonomic arousal on learning, and the impact of negative emotions on cognition inform new ways of understanding leadership behaviour

Autonomic responses are markers of emotion, attention, decision- making A stressful situation — whether something environmental, such as a looming work deadline, or psychological, such as persistent worry about losing a job — can trigger a cascade of stress hormones that produce well-orchestrated physiological changes. A stressful incident can make the heart pound and breathing quicken. Muscles tense and beads of sweat appear

It is an emerging methodology for application in understanding leadership Research on challenging experiences which simulate leadership challenges show that these challenges stimulate the body's autonomic nervous system response





- Schore (2002) notes that for adults, in non-traumatic circumstances, "higher cortical areas" act as "control centers," such that the orbital prefrontal cortex hierarchically dominates subcortical activity with "veto power" over limbic responses.
- Thus, top-down processing enables us to outline plans, determine what to accomplish for the day, and then structure time to meet particular goals.
- Emotions and sensations, such as feelings of frustration, fatigue, or physical discomfort, may be overridden in order to accomplish these priorities.



Dysregulated autonomic arousal generates strong body sensations and affects, which are interpreted as data that confirm the cognitive conviction of threat, exposure, or helplessness.

If a body sensation such as rapid heart rate, is interpreted as fear or panic, each of those aspects of the experience— sensorimotor and emotional— inflate and compound the other.

Adaptive top-down regulation can be lost, leaving the individual at the mercy of bottom up hijacking.

Feeling Safe requires a unique set of cues to the nervous system that are not equivalent to physical safety or the removal of threat



#### **AUTONOMIC**

It's long been recognised that human beings experiences significant degrees of stress when control is thwarted. It seems that choice is a necessary variable in the maintenance of overall well-being.

In the right personal doses, freedom of self-control – activates the brain's reward centre. the reward system is a collection of brain structures that attempts to regulate and control behaviour by inducing pleasurable effects.

It is a brain circuit that, when activated, reinforces behaviours. The circuit includes the dopamine-containing neurons of the ventral tegmental area, the nucleus accumbens, and part of the prefrontal cortex.



#### How do you lead and create a safe autonomic responsive environment?



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#### Ways to increase the autonomic reward response

- Allow people to develop and use self reflection
- Provide clear expectations with flexibility on how work is done.
- Allow people control over their work area.
- Create both calming and arousal environments that are "safe"
- Engage in calm coregulated approaches

A 2014 Citigroup and LinkedIn survey Citigroup and LinkedIn survey found that nearly half of employees would give up a 20% raise for greater control over how they work.



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#### CERTAINTY



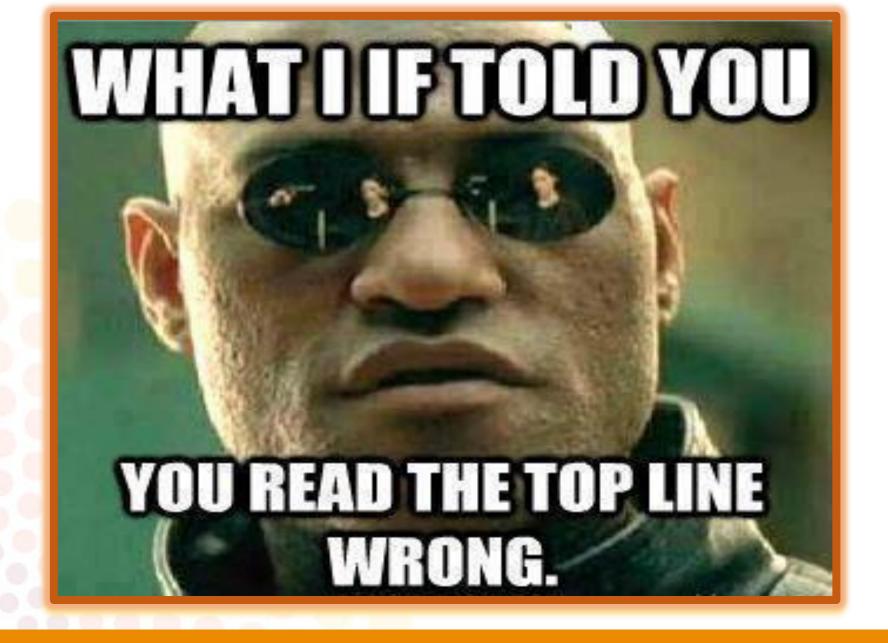




## CERTAINTY

- The brain craves certainty .
- Certainty is, neurologically speaking, its own reward. When people are uncertain the brain locks into basic survival mode and uses more energy to understand the situation.
- Uncertainty decreases activation in reward circuits, increasing it in threat neural circuitry. There is a spectrum to certainty and uncertainty, and the brain will react accordingly.
- A sense of uncertainty about the future generates a strong threat or 'alert' response in your limbic system.







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## CERTAINTY

- A 2005 study called Neural Systems Responding to Degrees of Uncertainty in Human Decision-Making found that even a small amount of ambiguity activates the amygdala and with it the threat response.
- The more ambiguity, the more the threat response is activated, which reduces our openness to learning. It also means we are less likely to connect with others and we tend to be more risk averse.
- This has become known as the Ellsberg paradox.



## CERTAINTY

- We habituate our roles at work because this is how the brain conserves energy.
- Learning something new and changing the status quo can be exhausting for the CEO of our brain, the prefrontal cortex.
- So instead the basal ganglia, the habit centre, becomes the superhero fast and efficient. It's so much easier to return to the status quo than continually making the effort to do something differently.





# Certainty





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#### **Creating change within certainty**

- By using neuroscience it is more effective to create change
- In the right personal doses, autonomy freedom of self-control activates the brain's reward centre. the reward system is a collection of brain structures that attempts to regulate and control behaviour by inducing pleasurable effects. It is a brain circuit that, when activated, reinforces behaviours. Focus on relationships, build habits, activate insight, focus on learning
- Build employee resilience in the face of setbacks. Focusing on the neuroscience means leaders can expect repeated results, no matter the context.





# As a leader how can you create change if the brain desires certainty?



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## FOLLOWSHIP







## **FOLLOWERSHIP**

- To be a leader you need followers. (Most leaders are also followers Boards, trends, government policy)
- This requires <u>attunement and connection</u>,
- Assessing emotional and cognitive processes as presented in the context of a team
- Understanding the importance of mind body arousal interface.
- Understanding our window of tolerance



## FOLLOWERSHIP

- Perceptions of exclusion generate strong limbic system responses that can trigger resentment, hostility, anger and even rage. While peoples' ideas of followship are wide ranging, even small actions perceived being on the outer, can activate the flight or fight response.
- Loyalty and trust in organisations and workplace relationships create followship and beliefs about leaders being inclusive and complimentary.
- These beliefs may not be openly expressed, they are nonetheless motivating choices and impact behaviour.

Harvard Business Review Building Great teams



## **FOLLOWERSHIP**

- When inequitable activities/communication occurs these generate a strong threat response (Tabibnia & Lieberman, 2007).
- This sometimes includes activation of the insular, a part of the brain involved in intense emotions such as disgust.
- Exclusion and inequities may drive people to die to right perceived injustices, such as in political struggles.
- People who perceive others as unfair don't feel empathy for their pain, and in some instances, will feel rewarded when unfair others are punished (Singer et al, 2006).



## **FOLLOWSHIP**

- Staff are constantly trolling the environment for examples of compliments. When they perceive inclusion and positive feedback feel-good dopamine is activated in the brain; with a sense of trust increasing levels of reinforcing oxytocin are released.
- There are plenty of reasons to ask more questions like "What would you do?" or "What possibilities do you see here?" These are open-ended, thought-provoking questions, not solutions disguised as questions. The most compelling reasons to ask rather than tell grounded in neuroscience.
- **Neuroplasticity** -means our brains can physically change to encourage creative thinking and new knowledge. The neurons can move into new locations in our brain when we learn. Questions can act as a catalyst for our brains to change and move forward with new insight.



## **FOLLOWSHIP**

- Reflection: When you ask a question instead of giving the answer, the entire brain gets active as it reflects, releasing serotonin (allowing it to relax).
- This encourages gathering intelligence from all areas of the brain, allowing for more insight than would happen if you provided solutions to others.
- New neuronal connections begin to be made as the brain moves closer to finding solutions.



#### **Followship in practice**

- Develop neuroscience-based coaching skills
- Motivate with mental contrasting
- Ask insightful questions- What would you do?" or
- "What possibilities do you see here?" These are open-ended, thoughtprovoking questions, not solutions disguised as questions.
- Encourage creative thinking
- Prime your staff to question



# Integration





## Integration

- Integration is at the heart of interpersonal neurobiology.
- Defined as the linkage of differentiated components of a system, integration is viewed as the core mechanism in the cultivation of well-being. In an individual's mind, integration involves the linkage of separate aspects of mental processes to each other, such as thought with feeling, bodily sensation with logic.
- In a relationship, integration entails each person's being respected for his or her autonomy and differentiated self while at the same time being linked to others in empathic communication.



#### Left hemisphere- right hemisphere integration

The left mode reprocesses information received by the right and functions most efficiently in familiar situations.

When connected to a well-integrated right, its can develop systems to manifest the relational values we currently hold. To do this, it takes what is dynamic and flowing, and makes it static so that it can be manipulated like pieces on a chessboard.

When the left is not well-connected to the right, it shapes the world according to the mechanical rules of production – how can we make the greatest numbers of widgets of the same quality in the shortest time.

The left has an unrealistically optimistic view intermixed with paranoia, and values happiness over meaning, tasks and behavior over relationships.

Thanks to Iain McGilchrist and Bonnie Baddenoch 2019

The right mode specializes in "betweenness" – taking in the relational surround. It is about "us" – how we are related to one another.

The right takes in novel experience as it is unfolding in the moment, and also takes the leading role in stressful situations.

Looking through a well-integrated right mode lens may open the possibility of valuing relatedness over task.

Looking through a poorly-integrated right may open the door to chaotic relatedness – or may drive us toward protective isolation in the left mode.

The right has a felt sense and realistic view of the suffering in the world, and is concerned with meaning.



#### Integration

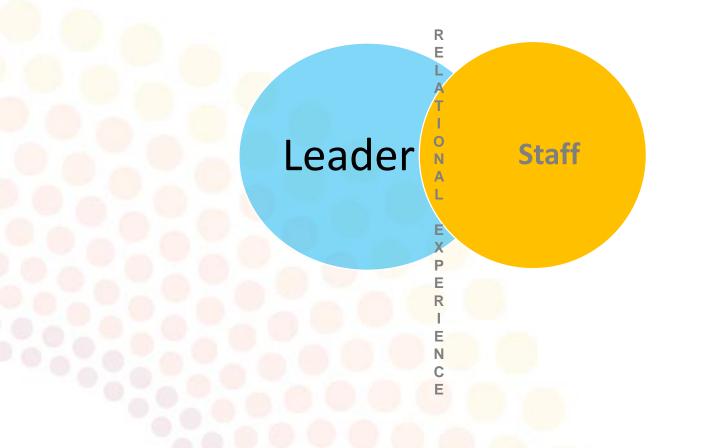
" Integration is seen as the essential mechanism of health as it promotes a flexible and adaptive way of being that is filled with vitality and creativity.

The ultimate outcome of integration is harmony. The absence of integration leads to chaos and rigidity—a finding that enables us to re-envision our understanding and how we can work together in the fields of mental health, education, and other disciplines, to create a healthier, more integrated world."

Seigel D. 2017.



#### Integration Neurons that fire together, wire together



 Human brains work best when connected with other human brains through positive interactive relationships



#### **DEVELOPING INTEGRATION**

- Emotional regulation a cultural norm
- Somatic activities
- Inspire others
- Understanding childhood and family history influences
- Mindfulness activities
- Positive feedback
- Recognize the entire person as an interconnected system--brain, body, and mind



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## Neuroception

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#### **STEPHEN PORGES PUTS IT THIS WAY:**

Neuroception is how neural circuits distinguish whether situations or people are safe, dangerous, or life threatening.

Neuroception explains why a baby coos at a caregiver but cries at a stranger, or why we enjoy a friend's embrace but view a hug from a stranger as an assault.

Our more primitive neural circuits operate by "neuroception" — totally involuntarily.



#### **Neuroception**

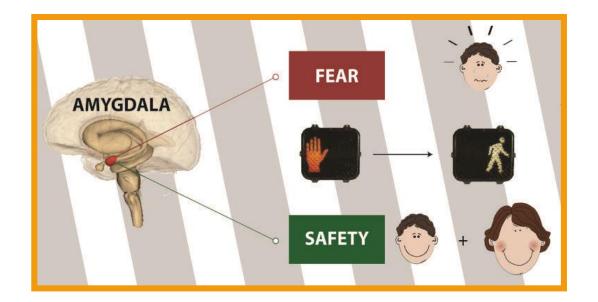
- Recent studies show that the brain may prefer the rewards of status even more than cash.
- The brain determines status in relation or measurement to others.
- In her research at the National Institutes of Mental Health, neuroscientist Caroline Zink found that we process money in the same part of the brain (the striatum) as social values.
- Zink maintains, "*It's hugely influential even (when we're not) in direct competition with someone else.*"



#### **Neuroception**

#### Safety:

When you interconnect your thoughts, emotions and goals with other people in your in group, your neuroception of safety process facilitates the release of oxytocin, the bonding neurotransmitter





# How would you start to create neuroceptive safety in your workplace?



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#### Ways to ensure positive neuroception

- Natural mind space- Design strategies to create environments for positive neuroception
- Provide safety and privacy
- Remain present/grounded
- Ensure positive interactions
- Ensure information is equally distributed
- Equity
- Acceptance of difference





#### **CONNECTEDNESS**





#### **CONNECTEDNESS**

- Neuroscientist John Cacioppo talks about the need for safe human contact being a primary driver, like the need for food (Cacioppo, 2008). In the absence of safe social interactions the body generates a threat response.
- A feeling of relatedness is what you get when you feel like you belong in a group, when you are with others of your 'in group'.
- Just as traditional neuroscience/therapeutic interventions had for many years considered the brain as an isolated entity and largely ignored the influences of the social environment as a factor; now management theorists will have to recognise the considerable impact of social structures on the operations of mind and body.

"Where attention goes, neural firing flows, and neural connection grows."

Seigel 2018.



#### **Connectedness**

- Humans are social animals and our brains are geared to connect. As we relate more easily with people we perceive as similar, great leaders make a conscious effort to create positive connections in every interaction. They avoid making assumptions about people and stay curious and open with each individual they meet and lead.
- They also focus on building trust, creating safety and enhancing the social capital of the organisation and team.
- Mirror neurons -Mirror neurons can be defined as a group of neurons that activate when we perform an action or when we see an action being performed. Mirror neurons are essential for imitation which is key in the learning process.

Marco Iacoboni 2008



### **CONNECTEDNESS**

• It seems too good to be true, but effective 1-on-1 communication really can drive engagement across entire organizations.

What do we mean by effective?

- It means managers should ask rather than tell. They should move direct reports into what psychologists call a "toward" state, rather than an "away" state. And they should harness growth mindset to build employee resilience in the face of setbacks. Focusing on the science means leaders can expect repeated results, no matter the context.
- Simply put, quality conversations can't happen unless leaders and teams CONNECT.
- "I see you." "I am here"



#### Ways to increase the connectedness reward response

- Buddy Up.
- Eye contact
- Co-regulation
- Smile



- Show people how their work aligns with organizational goals and strategies.
- Encourage cross-organizational communication and relationship-building.
- Encourage cross-pollination and sharing of knowledge.
- Make connections and relationships visible.
- Make values and purpose explicit and part of the culture.



#### **Mindfulness**

- Recent studies indicate that mindfulness meditation training interventions reduce stress and improve stress-related health outcomes
- Meditation training can improve mood and emotion regulation, yet the neural mechanisms of these affective changes have yet to be fully elucidated.
- Meditation training was associated with less amygdala reactivity to positive pictures relative to controls, but there were no group differences in response to negative pictures. Reductions in reactivity to negative stimuli may require more practice experience or concentrated practice.

Cresswell et al 2014



### Rewarding

By understanding the neurobiology of social and behavioural drivers, we are better able to design interactions with people to maximise rewards and minimise threats.

Autonomic:Self regulation/awareness-ability to control or redirect limbic responsesCertainty:Be transparent and consistent be enable people to feel safetyFollowership:Be an inspiring leader understand the catalyst of followers

IntegrationMaximise individuals regulation and somatic experiencesNeurooception:Motivation and passion to both calm and provide arousalConnectedness:Influence and inspire by understanding the neurobiology of connection

Leading with understanding, trust, gentleness, curiosity, warmth, inclusive welcome and inner stillness.



# Questions, Comments, Contributions, Yeah, buts?



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