

## Our brains at work

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### Neuroscientists agree

Our brains are complex, intricate organs and despite trillions of dollars in research, there are still a lot of unanswered questions about how they fully operate. But we've learned a lot.

What do neuroscientists agree on? Quite a lot! Here's one of interest:

Our workplaces (and schools) have not been set up with our brains in mind. In fact, if you wanted to design an environment that was counterintuitive to how our brains operate, you'd likely design the modern office (or classroom!)

Organisations talk about being people-centred and human-centric. That's great! Unfortunately, a key component has been missed - the thing that makes us fundamentally human: our brains!

**Why does this matter?** Well, as Dr. John Medina, a developmental molecular biologist states:

*"The brain is shaped to respond with great productivity to certain environments and to other environments, with no productivity at all. If you're designing a workplace and want to optimize output, you better keep the cognitive shape of the brain in mind."*

It makes you wonder, what would change if the workplace was tailored to our brains, the same way a glove is tailored to our hands?

### Development of our 3 brains

In the briefest summary, it's like we have three brains in one: *our lizard brain, our mammal brain, and the prefrontal cortex.*

#### Our lizard brains

Our lizard brains are responsible for keeping all the lights on. Why can we take a nap and still breathe? Because our lizard brain keeps our bodies going.

#### Want to keep our lizard brain happy at work?

- Get enough sleep
- Move throughout the day
- Go outside and connect with nature
- Have plants inside
- Use the colours blue and green more
- More face-to-face connections

#### Our mammal brains

Our mammal brains are responsible for the 4 F's:

- feeding
- fleeing
- fighting
- f\*\*king (reproducing or practicing it!)

To help us survive, this part of our brain is constantly, unconsciously scanning our environments for threats and rewards. We instinctively move away from threats and towards rewards. (see pgs 4-5)

# Our prefrontal cortex is like a stage

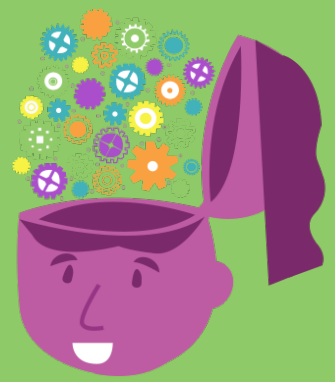


Image by macrovector on Freepik

What	Function	So what?
Stage	The prefrontal cortex (PFC) is in charge of our deep thinking processes. When we analyse, consider, reflect, create - we're using the PFC.	The stage isn't that big. Only 5-7 'actors' can be on our stage at any given time.
Actors	The actors are the things we are thinking about or focusing on. The actors are the things that are holding our attention.	We can only focus on one actor at a time. While we might flick quickly between them, it's impossible to focus our PFC on two things at the same time.
Lighting	The lighting in this metaphor is our energy. Our stage (PFC) requires a lot of light (energy). In fact, 20% of our body's energy goes to lighting up this stage.	Our brains have gotten <i>really</i> good at conserving energy. They want to save our precious energy at all costs. Learning new things takes a lot of lighting.
Audience	The audience watching the stage is information from our inner world: our thoughts, memories, imagining.	We all have different audiences. We can be looking at the same actors on stage and have vastly different reactions.

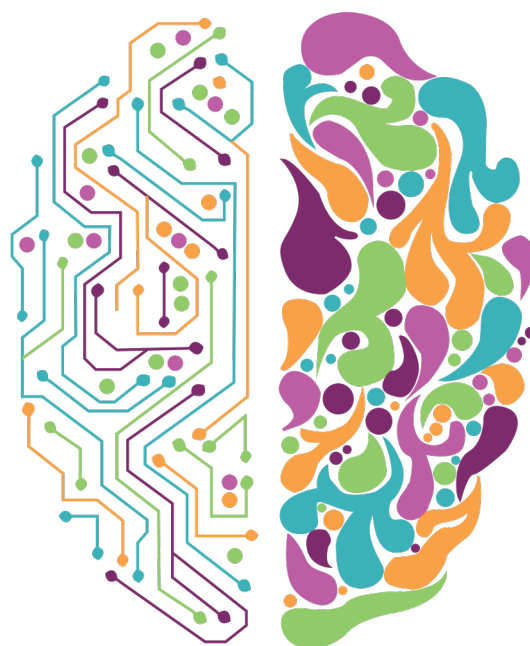
## What's happening with the actors on stage?

If you go to the theatre to see a play and your sitting in the audience, it's unlikely you'll be involved. This play / stage is very different. Here, the audience can become the actors and the actors can become the audience.

5 core PFC functions	What this means
<b>Understand</b>	When an actor (thought/focus) comes on stage, we need to understand it. We do this by connecting it with the audience.
<b>Decide</b>	We then make decisions and values judgements about what's on the stage. Do we agree/disagree? Threat/reward? Friend/foe? Prioritise / ignore? Etc.
<b>Recall</b>	This is when we bring an audience member back on stage. We're thinking about something in our memories. The more recently the memory was experienced, the easier it is to bring on stage.
<b>Memorise</b>	This is the opposite of recalling. This is when we want to take actors off the stage and move them into the audience. There's not enough room on the stage, so the more we can memorise, the more room for new actors.
<b>Inhibit</b>	Another aspect that makes us distinctly human is that we can actively (through practice) stop ourselves from letting certain actors on stage.

### Help your PFC at work:

- **Tackle your biggest priorities first**, when you have the most lighting on stage. Think of your brain like any other muscle. It gets tired with use.
- **Prioritise prioritising**. We're not great at prioritising because it involves all 5 of those processes with a lot of moving parts.
- **Write things down** to give your brain permission to move actors into the audience and off your stage.
- **Fill your energy bucket**. When the lights get dim (low energy), add some more lighting by taking a break, drinking water, getting fresh air, drinking a glucose drink or taking a nap! The solution isn't to think harder, it's often to stop thinking and come back to it.
- **Silence your distractions**. Practise inhibiting distractions by avoiding them altogether. Leave your phone in another room and close down all the programmes outside of the one you're working on.



# People's needs: Social threats and rewards



Dr. David Rock of the *Neuroleadership Institute* has identified the five domains of our social needs: status, certainty, autonomy, relatedness and fairness are primary needs. His research found:

1. Our brains treat social threats & rewards with the **same intensity** as physical threats & rewards.
2. Threat responses **lower our capacity** to make decisions, solve problems, communicate and collaborate with others. Reward response raises these.
3. Threat responses are **more intense and more common** and need to be carefully minimised.
4. We need to be actively reminded of reward responses.

## STATUS



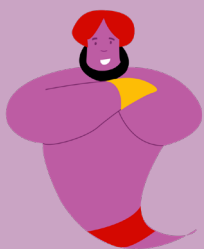
### The sense of where we are in particular pecking orders

We act in certain ways towards people we see as having higher status. Increasing someone's status gives them a huge surge of dopamine and means they're more likely to listen to you and consider your point of view.

Some people may be frustrated because they feel a loss of status. They may be competent in other areas of their lives, but not competent when introduced to new technologies for an example. Another status threat happens when you're the subject matter expert but your opinion gets overruled.

People can elevate their status by finding ways to feel smarter, funnier, healthier, richer, more righteous, more organised etc. than others

## CERTAINTY



### Our brains are prediction machines and they like certainty.

A little ambiguity and the amygdala – the part of the brain that handles fear and uncertainty – lights up. Change often brings uncertainty and not surprisingly we respond with fight, flight or freeze.

Our brains like to think ahead and predict the future. Uncertainty means we lose our ability to create the future map of situations; we're more comfortable when our maps are complete.

People want to know what they can expect from a situation or person. During periods of operational uncertainty you can still elevate your behavioural certainty and predictability.

## AUTONOMY



### We want a sense of control and we like options.

With autonomy, we have control. Without it, we may experience a lack of agency—an inability to influence outcomes. Change, particularly organisational change, often takes away autonomy. Put both uncertainty and loss of control together and you have a potential neuroscientific toxic cocktail.

Autonomy is about people directing their own life and choices. You need to make sure people don't feel like they're being boxed in—so, give them choices.

If we feel our choices are limited, we feel like we need to fight to get what we need. Even small choices can help people feel a sense of reward.

## RELATEDNESS



### Safe human contact is a primary driver for us, like food.

Strong relatedness is closely linked to trust. If we feel that a connection will be severed, we feel threatened.

We all want to know that we have a healthy relationship with the people we interact with. So any signs of disapproval, exclusion, ignoring or contempt trigger a threat response.

Here are some notes from previous Tea & Toast sessions on the importance of connections:

- [How to connect with people: A look at social chemistry](#)
- [Increase your intelligence\(s\)](#)
- [Creating a human-centred workplace](#)
- [Employee engagement for new ways of working](#)

## FAIRNESS



### We react badly to situations we don't think are right, just or fair.

Humans have fairness radars. Fair exchanges are intrinsically rewarding. That's why reciprocity is a vital part of influencing others, and unfair exchanges generate a strong threat response.

People notice what they lose more than they notice what they gain.

If we feel we're losing more than others or missing out, we feel the threat response.

If people feel they've been mistreated by another person, they may feel they've been treated unfairly. Remember that a perception of being treated fairly is highly rewarding. There's also a strong link between fairness and trust.

# A brainy cheat sheet



## Our brain...

is a survival organ. It adapts over time and has evolved to give us the best survival chances.	can unconsciously process 11 million pieces of information per second!	can consciously process 40 pieces of information per second!	wants to conserve as much energy as possible. Over 80% of the time it operates using automatic, fast thinking.
is trying to find patterns and attribute meaning to those patterns. We're better at seeing patterns than we are at recording details.	is constantly scanning for threats to our status, certainty, autonomy, relatedness and fairness radars.	physically changes based on what we do and learn in life. We can create neurons and learn new things throughout our whole lives. (neuroplasticity)	is consciously and unconsciously impacted by our background, experiences, social norms, stereotypes, cultural context
uses two types of thinking: fast and intuitive, as well as slow and logical. The logic always follows the emotion.	creates instantaneous feelings or opinions for or against people, ideas and situations. (bias)	is individual. No two people's brains store the same information in the same way in the same place.	develops at different rates in different people. depending on what you do and learn in life.
was built for walking. To improve your thinking skills, move!	likes things that are similar and familiar. It perceives differences as threats.	needs sleep. Sleep loss means mind loss! Every metric of thinking goes down when we don't get enough sleep.	functions worse when stressed. Chronically stressed brains don't learn or react in the same way.
can perceive the same situation vastly differently than someone else because perception relies on our past experiences.	can recognise and imitate behaviour because of 'mirror neurons'	learns by actively testing through observation, hypothesis, experimentation and conclusions.	doesn't pay attention to boring things. Different, funny or odd things stick out more than the ordinary.

### Our brain uses shortcuts (biases) to solve 4 problems:

There's too much information coming in.	We can't remember everything	There's not enough meaning.	There's not enough time
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## Our brain developed while moving

Our brains have been developing for a long time. And specifically when we were nomadic peoples, walking up to 12 miles a day. Your brain needs oxygen to think and when we're moving, more oxygen is flowing through our brains.

### What we can do at work

- Get outside, into the fresh air.
- [Stop and take more breaks.](#)
- If you want to think harder, move!
- Focus more on our bodies; they provide the energy for our brains.

*“One of the greatest predictors of successful ageing, they found, is the presence or absence of a sedentary lifestyle.”*

–Dr. John Medina

## Stress impacts learning

Our brains are built to deal with stress that lasts about 30 seconds. The brain is not designed for long-term stress when we feel like we have no control.

When we're stressed, we're less able to remember things, analyse and think logically. Why?

When we're under stress, we reallocate resources away from the PFC and back to the mammal brain (fight, flight, freeze, flock and feign).

### What we can do at work

- Set realistic expectations. Actively lower your expectations.
- Reappraise or reframe the stress. Instead of feeling overwhelmed, look at the situation as an opportunity to learn and grow.
- Use emotional labelling. Label how you are feeling and separate the feeling from yourself. (Don't say *I am stressed*, shift to *I'm feeling stressed*).
- Talk to others about how you're feeling.

## We cannot multi-task.

Remember our brain's stage? The light can only focus on one attention-rich thing at a time. Yes, you can walk and talk. Because walking is in your audience – it doesn't require conscious thought.

Accept the brain's limitations and don't try to multi-task: it drains the stage's lighting and isn't effective.

### What we can do at work

- We need to minimise distractions so people can focus where they need to.
- Create a culture where phones during meetings aren't acceptable.
- Share the protocol for people stepping away to respond to messages.
- Have open-collaboration spaces and private-work zone.

## Our brains hate loss

We naturally avoid losses, because we're loss averse. Losses affect us more than gains.

The potential for loss weighs on us much more than the potential for gain. We put a disproportionately high value on the loss, even when the gains are more! It's part of the reason we have a [status quo bias](#).

For people to give up something, they need to feel the alternative is worth twice as much as the loss.

### What we can do at work

- Highlight the benefits of any change as much as possible
- During times of intense change, focus on what's **not** changing as much as you focus on what is changing.
- Reframe the current state as a loss. Highlight the problems of sticking with the status quo and the lost opportunities. (*Look for this the next time you hear a politician rolling out something new!*)



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# Thanks for coming!

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