



Bendelta Thought Leadership

How the evolution of the brain can help you navigate stressful situations

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On the journey towards understanding the remarkable brain, scientists have developed models that simplify how it has evolved. These models help us to understand more about ourselves and why we behave the way we do, and therefore how we might use our brain to optimise our experiences. One of the most popular models of the last century is the *Triune Brain Model*, more commonly referred to as the Three Brain Model. In this model, the brain is composed of the reptile (or lizard), limbic (mammalian or monkey) and neocortex (sapien) brains. This model, proposed by neuroscientist Paul MacLean in the 1960sⁱ, has been made popular in recent years by many thought leaders, including the well-known authors David Rock, Daniel Goleman and Dr Rick Hanson.

It is the interpretation of the three brains by Dr. Rick Hanson, author of *Resilient and Hardwiring Happiness*ⁱⁱ that we explore here in most detail. And while we now know that there are no divisions in the brain, and that we don't have three separate brains, this model is still a useful way of understanding and taking control of your thoughts and behaviours, particularly under stress.

The Reptile Brain

Your avoiding neural network

The reptile brain, the oldest part of the human brain, is the part of the brain that we share with almost all species. For the earliest species, survival was simply the difference between eating lunch or being lunch, and so they developed a relatively unsophisticated stress response of 'playing dead'. This is what you might now experience as your 'freeze' response.

Dr Hanson refers to this part of the brain as the "avoiding neural network", which explains why so many of us go out of our way to avoid confrontation, pain and suffering.

The default operating mode of this part of the avoiding neural network is to constantly be scanning your environment for potential danger. This brain is constantly sending you the following types of messages (consciously or subconsciously):

*"I have fear, I am afraid, I am unsafe",
"I need more", "I am not good enough",
"Where can I do better".*

The Limbic Brain

Your approaching neural network

For mammals, it is not enough to play dead at the sign of threat: in order to survive, mammals need to be able to move away from or move towards danger, and so the brain evolved the "approaching neural network". This is what we now commonly experience as our 'fight or flight' stress response. In addition to fight or flight, we also developed a sophisticated motivation and reward system, where we are rewarded with feel good chemicals like dopamine when we move towards and achieve our goals. In the way that we evolved to avoid pain and suffering, we have also evolved to move towards and seek pleasure.

This stage in evolution remains highly influential on our modern human lives. For example, our schooling and our organisations are all built on the foundations of reward and recognition. Dr Mark Williams, creator of the Mindfulness Based Cognitive Therapy and author of *Mindfulness: a Practical Guide to Finding Peace in a Frantic World*ⁱⁱⁱ explains that we see this in our preference for the "driven doing" mode over the "being" mode. He also suggests this is a major contributor to anxiety and depression: we set ourselves a goal of where we need to be, and then we go about closing that gap. We then repeat this process over and over again, leaving the brain highly unsatisfied with our present circumstances, no matter what they are.

The default operating mode of this approaching neural network is to send you the following messages:

*"I need more", "I am not good enough",
"Where can I do better".*

The Neocortex

The attaching neural network

The neocortex, our “attaching neural network”, represents the most distinctly human stage of the brain's evolution. Yuval Noah Harari, author of *Sapiens, A Brief history of HumanKind*^{iv} suggests that our brain evolved to the level of complexity that it did, to match the complexity of our communities. We come together in larger, more complex networks than any other species, we speak complex languages, and we need to navigate this complexity in order to survive.

The importance of nourishing quality social connections is evident in both our personal and corporate lives. A study of over 300,000 people, referenced in a recent Harvard Health Publication on the benefits of social connection^v, showed that a lack of positive social connection is as harmful to our wellbeing as smoking 15 cigarettes a day, as dangerous as never exercising, and twice as harmful as obesity. Google's Project Aristotle^{vi} shows that kindness, through psychological safety, is the number one most common factor present in their high performing teams.

This part of the brain is constantly seeking connections and letting us know where we are not. Consciously or subconsciously, the brain is sending us messages like:

*“I am alone in this”, “I don't fit in”,
“I don't belong”.*

Neuroplasticity and overriding the default survival response

This brain, that tells us that we are afraid, need more and are alone, can leave us feeling a little like Jack Nicholson from the movie *The Shining* and our quality of life. Our performance at work suffers as a result. Fortunately for us, the brain is plastic and so we have the capability to override the default survival networks of the brain. As Dr Fiona Kerr from the Neurotech Institute says “Your brain is amazing... a remarkable organ made up of 100 billion neurons, each with the capacity to form 10,000 ever changing and shifting connections. Your brain is a work in progress”^{vii}.

The challenge is to redesign the brain so that:

- the avoiding neural network searches for **safety** rather than threats
- the approaching neural network confirms where we have **satisfaction** rather than where we are wanting more
- the attaching a neural network feels **connected** rather than isolated.

Dr. Rick Hanson suggests that overriding our natural survival response can be as simple as a 5-minute pre-sleep routine, noting three ways that we feel safe, three ways we are satisfied in our lives, and three ways we are connected.

Here are some other simple ways that you can override the brain's natural responses to stress:

Quick tips to sooth the reptile brain and build safety:

- Try slow and rhythmic diaphragmatic breathing (Belly breathing)
- Reflect on your level of safety (roof over your head, warm clothes, food in your fridge etc).

Quick tips to sooth the limbic system and find satisfaction

- Reflect on the things, people or experiences in your life that you feel grateful for
- Learn to differentiate between observation (what I am seeing, hearing?) and evaluation (what I am thinking, judging?)
- Become curious about your emotions: why are they showing up now? What are they telling me?
- Relaxing the body through stretching or massage or autogenic training.

Quick tips to sooth the neocortex and build connection:

- Make a commitment to reaching out to a loved one at least once a week
- Try loving kindness meditation for 10 minutes a day to build compassion for self and others
- Do something kind for someone else. It can be as simple as shouting a friend for coffee, or letting a stranger go before you in the supermarket queue
- Overcome the negativity bias through positive reflections. Think about one positive thing that happened to you in the last week. What are you looking forward to in the next 6 months? What is something that you are humbly proud of?
- Activate your senses to bring ourselves out of imagined futures and back to the present, for it is only when we are in the present moment that we can truly experience our lives. Try a type of open monitoring mindfulness, such as a body scan.

If you are a leader, work in a team or are active in your community, you might also benefit from taking the time to reflect on how you can deliver safety, satisfaction and connection in your team. Use the table below to get started or better yet, do it with your team:



SAFETY

- Prioritising the person as well as results
- Regular updates which provide clarity around upcoming changes
- Sharing business strategy and financials
- Encouraging experimentation
- Using inclusive language like Marshall Rosneberg's Non-violent Communcaiton model
- Providing a safe space for processing difficult emotions
- Empathetic listening
- Work on increasing trust through actions that demonstrate openness, support, competence, credibility.



SATISFACTION

- Weekly gratitude call outs
- Celebrating small wins and successes
- Focusing on what has gone well with the Appreciative Inquiry framework
- Giving feedback based in on the strengths of the individual.



CONNECTION

- Ask your team If they are ok?
- Start your meetings with a genuine connection activity, as Harvard professor My Cuddy says “Connect first and then lead”
- Integrate wellbeing catch ups or Friday afternoon drinks (virtual) into your teams operating rhythm
- Understand that empathy means “your needs are as important as my needs”.

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Christie Little is Principal Consultant for Bendelta, with more than a decade of experience as a Leadership, Resilience and Wellbeing Consultant.

ⁱ MacLean, P. D. (1990). The triune brain in evolution: Role in paleocerebral functions. Springer Science & Business Media.

ⁱⁱ Hanson, R. (2013). Hardwiring Happiness: The Practical Science of Reshaping Your Brain-and Your Life. Random House.

ⁱⁱⁱ Williams, M., & Penman, D. (2011). Mindfulness: a practical guide to finding peace in a frantic world. Hachette UK.

^{iv} Harari, Y. N. (2014). Sapiens: A brief history of humankind. Random House.

^v https://www.health.harvard.edu/newsletter_article/the-health-benefits-of-strong-relationships

^{vi} <https://rework.withgoogle.com/blog/five-keys-to-a-successful-google-team/>

^{vii} http://www.gliderglobal.com/wp-content/uploads/THE-ART-AND-SCIENCE-OF-LOOKING-UP-REPORT_2019.pdf