



# WINDOW OF TOLERANCE

A Guide to Emotional Resilience

VIBRANTANDSAIN

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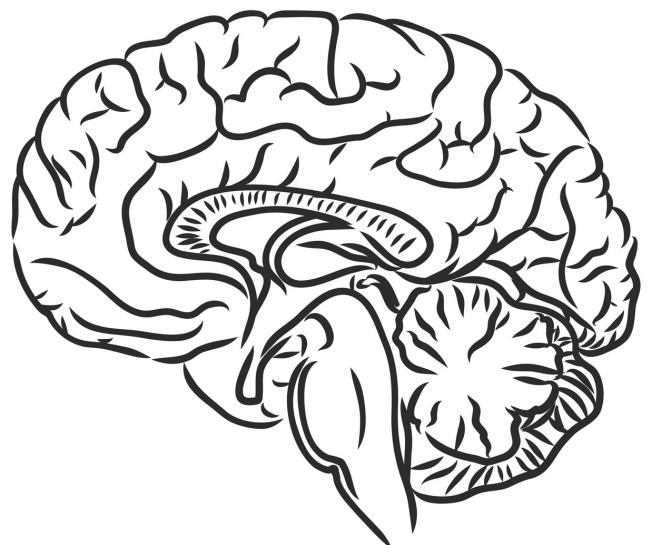
## TRIUNE BRAIN AND THE W.O.T

The Triune Brain evolutionary model consists of the REPTILIAN (Survival), EMOTIONAL (Limbic) and THINKING (Neocortex) Brains. All 3 'brains' are important in the way they impact on our W.O.T. This could help us to decide on how both 'Bottom-up' and 'Top-Down' strategies could assist us in both widening our W.O.T and in our attempts to control both Hyper and Hypo Arousal states. Let us now recap some important points about the Triune Brain and particularly the role of the Reptilian and Emotional Brains.

## REPTILIAN BRAIN

The Reptilian Brain is almost totally instinctual and is mainly comprised of the Autonomic Nervous System (ANS), with its twin branches of Sympathetic and Parasympathetic Nerves (SNS and PNS respectively). The ANS instinctually and unconsciously regulates and controls, breathing, heart rate, digestion and much more. It is connected to most of the organs of the body and directly, via the Brain Stem, to vital areas of the Brain.

Many Hyper – Arousal States result from a sustained and long-term over reaction of the SNS, which is the 'Emergency Brake' of our Body/Psyche. Many Hypo – Arousal States (particularly long-term Trauma e.g. PTSD) result from the intensity of the Trauma and the failure of our Fight-Flight system to cope. Consequently, the Dorsal branch of the Vagus Nerve operates and causes the Body: Psyche to enter a shut-down' or freeze state.



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## THE EMOTIONAL (LIMBIC) BRAIN

the Emotional Brain mainly consists of the Limbic System and it too is instinctual. In the Triune Brain we explored three of its main components, the Amygdala, the Hippocampus and the Hypothalamus. The first of these is the brain's 'Smoke Detector' or Alarm system and is involved in our emotions, survival and memory. The 2nd (the Hippocampus) is involved in creating long term memory from current working memory. In addition, it has numerous receptors for Cortisol, the stress hormone. The 3rd (Hypothalamus) is a 'control centre' that monitors signals from the body and responds in order to keep the body regulated. That is why we so often 'feel' emotions in the body. The good news is that Mindfulness and Breathing Practices along with body movement can help moderate the Emotional Brain.

## THE THINKING (NEOCORTEX) BRAIN.

The Neocortex is a highly complex and amazing part of the brain. It has two hemispheres and is involved with advanced thinking. The pre-frontal cortex (PFC), which comprises between 25 and 30 % of the Neocortex; is located at the front of the brain. This is a highly advanced part of the human brain and it acts like a 'Master Controller'. It is involved in our capacity to make choices, reason, decisions, self-reflection and many other aspects

(See Siegal 2011). This is the centre of our ability to use mindful and other practices that are the basis of all 'Top Down' strategies. The PFC has direct connections with the Limbic Brain and thus can be a powerful controller of emotions.



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When we combine the Triune Brain and Gilbert's 3 Modes of Response Model, we have a more useful and helpful Integrated Model. Let us now begin to explore, in greater depth, the concept of our Window of Tolerance (W.O.T). We are particularly interested in the 3rd of 3 Responsive States, namely the natural ability to access and use the **Soothing System**.

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## WINDOW OF TOLERANCE & ITS ZONES OF DYSREGULATION

In exploring the Window of Tolerance, it is important to acknowledge Dr Dan Siegal. Arguably he has made the single biggest contribution and has worked with others to apply this concept to Trauma, Dysregulation and issues such as panic, anxiety, addiction, attachment issues and depression. The following pages will explore how this concept can be applied and used with/by clients to monitor their Window of Tolerance in order to build- up their Mental and Emotional Resilience and expand their W.O.T.

This will be outlined in a series of simplified diagrams that explore the 3 'zones' of emotional awareness or states. These 'zones' outline the intricate balance between the twin limbs of our **Autonomic Nervous System**; namely the **Sympathetic** and the **Para- Sympathetic** Nervous Systems (SNS and PNS respectively). We will start with Zone 2, namely: – **A Healthy Nervous System**. After that we will explore Zones 1 and 3, the **Hyper** and **Hypo** Arousal States respectively and the two Orange Zones where we are in danger of exiting the W.O.T.

## ZONE 2 - A HEALTHY NERVOUS SYSTEM – CALM AREA/ZONE

The **Triune Model** of the Brain has 3 main evolutionary stages or levels. The Autonomic Nervous System (ANS) with its twin 'branches' of Sympathetic and Parasympathetic Systems (SNS & PNS) is closely linked to the first 2 of these, namely the Brain Stem and the Limbic Systems i.e. the Reptilian and Mammalian Brains. Both branches are essential for our survival and for our day-to-day, moment-to-moment life.

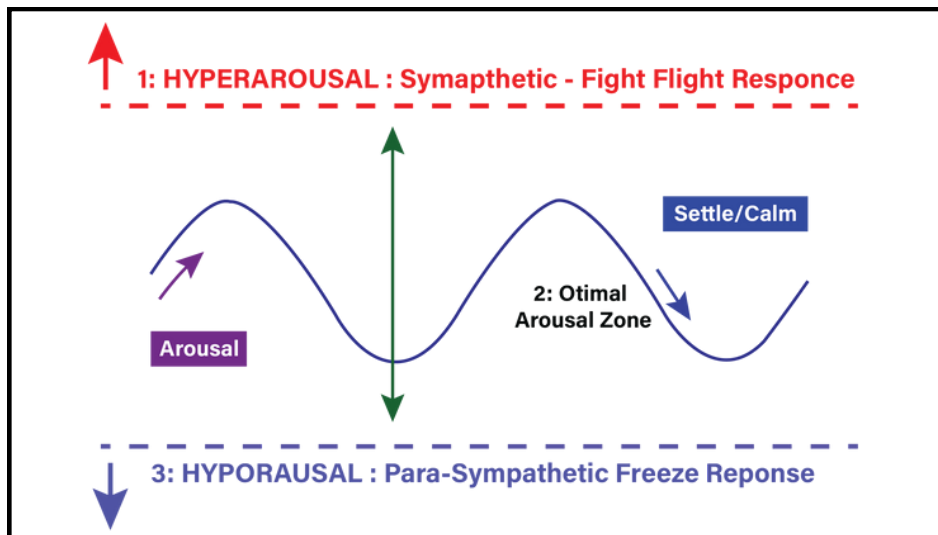
Ideally, when we are living a '**normal**' (reasonably manageable) life, there needs to be a balance between the SNS and the PNS. The SNS is required to '**activate**' whenever we need to act and/ or respond to circumstances in the present moment. This branch can be likened to an '**Accelerator**'. In contrast, we also need moments of rest and digest and for this we use the PNS, which can be likened to a '**Brake**'.



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## ZONE 2: - A HEALTHY NERVOUS SYSTEM – CALM AREA

Figure 1 below shows the 'normal' activation the ANS as we respond to the moment-by-moment inputs of life. It's twin branches of the SNS and PNS come into play depending upon the **circumstances**. In a healthy system, these 'circumstances' are mainly dependent upon the '**Present Moment**' and are not overly influenced either by past events or our concern or anxiety about the future.



The twin branches of the ANS are like a seesaw. Whenever we need to arouse our body psyche to life's events, the SNS activates and provides the necessary stimulus and hormones. This is the **fight: flight** part of our ANS. In moments of calm and rest, the PNS activates and settles down the body psyche. This is the **rest - digest** part of the ANS

Figure 1 above is only illustrative and tries to show how in a healthy nervous system the twin branches of SNS and PNS activate and settle down in a balanced manner and can respond appropriately to both the need for Arousal and Calm. The Green Arrow shows the extent of our W.O.T. This '**window**' can be extended/expanded by a variety of body/mind practices and a suitable diet that help build our emotional resilience. The good news from recent advances in Neuroscience is this: the brain **can be changed**; this is the basis of what is known as **brain plasticity**! 'Neurons that fire together wire together'.

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In this 'steady' state the '**ventral**' wing of your Vagus Nerve (this is a nerve that branches off the PNS) is activated. This results in what is termed '**the Social Engagement System**' being prominent. The figure and Table below show some of the typical signs and states that exist in Zone 2.

## SOME INDICATIONS THAT YOU ARE IN THE CALM ZONE

- You can feel and think simultaneously
- Feelings and Emotions are manageable
- Aware of Boundaries (self & others).
- You are mainly in the present moment
- Blood Pressure - Normal (PNS) to Slightly Risen (SNS)
- Heart rate- Resting (PNS) to Quicker & more forceful (SNS)
- Breathing- Easy and from Diaphragm (belly) (PNS) to increased rate (SNS)
- Digestion- When Calm it Increases but Decreases when SNS raises.
- You Experience Empathy
- You can react appropriately
- You feel Safe
- You are more OPEN and Curious