



## Frontal Lobe

### The frontal lobe of the brain

#### Standard definition:

The frontal lobe is concerned with executing behavior. This ranges from the control of individual muscles in the primary motor cortex to high level abstract planning about what to do. The frontal lobes are divided into

#### Different areas:

- **The prefrontal cortex:** In humans, the prefrontal cortex takes up the majority of the frontal lobe. The prefrontal cortex is crucial for the performance of almost all skills requiring intelligence. The prefrontal cortex tends to be larger in primates than other mammals, and it's larger in humans than in other primates. This is correlated with the amount of high level planning done by members of different species.

Most mammals operate mostly on instinct and don't live in complexly differentiated social groups. Primates, on the other hand, have complex male and female hierarchies and may hatch plots against each other that span years of planning. Humans build tools, modify their environments for their own purposes, and have specific relationships with up to hundreds of other individuals (and this was even before Facebook).

- **The orbitofrontal cortex:** This area is the anterior and medial part of the prefrontal cortex. The orbitofrontal cortex is essential for risk and reward assessment and for what might be called moral judgment. Patients with damage to this area may have normal or superior intelligence as assessed by IQ tests but lack even a rudimentary concept of manners or appropriate actions in social contexts; they also lose almost all risk aversion despite clear knowledge of bad consequences.
- **Primary motor cortex:** The primary motor cortex is the strip of brain area just anterior to the central sulcus, the most posterior portion of the frontal lobe. The brain can take direct control of the muscles from the spinal cord. It does this through projections from the primary motor cortex. Neurons in the primary motor cortex travel down the spinal cord and synapse on the same motor neurons that mediate reflexes. In theory, this direct control allows far more flexibility and adaptability.
- **Premotor cortex:** The job of the premotor cortex is to consciously monitor movement sequences, using sensory feedback. After the basal ganglia and prefrontal cortex select the goal, the premotor cortex coordinates the steps to reach that goal. Activity in the premotor cortex helps you learn what to pay attention to while you perform a complicated motor sequence and what to do when you get stuck at some particular point.

Think of the frontal cortex as "polarized" from anterior (front) to posterior (back). Farthest back, at the central sulcus, are neural wires going almost directly to muscles. In front of that are areas that organize and sequence movements. In front of that are abstract planning levels. At these abstract levels, for example, you select from a variety of different



# CONTINUUM CENTER

strategies that may involve completely different muscles, muscles sequences, or, as in the tennis shot, the decision to not move at all.

We conventionally speak of the frontal lobe as the seat of “executive functions,” which brings to mind running an organization, planning and managing logistics and decisions. Very business-like. Very logistical. Very [left hemisphere](#).

Meditation has been associated with decreased default mode network activity and connectivity. The brain regions specifically affected are the frontal lobe, parietal lobe, thalamus, and the reticular formation. **The frontal lobe is considered to be the most highly evolved part of the brain that is responsible for reasoning, planning, emotions, and self-conscious awareness.**

**But what if frontal lobe capacities are as much (or more) about assigning meaning than about purely analytical decision-making? What if we have the capacity to choose our meanings but instead unthinkingly accept consensus meanings? What if the meanings we choose (or fall into by default) are the lens adjusters for our projections of reality? What if new meanings can interrupt /transform old emotions?**

***“The philosopher of old was right! Meaning is important, even central.” Princeton physicist, John Archibald Wheeler, mentor to Richard Feynman.***

## [Meaning](#)

Humans have sought transcendent meaning since recorded history. Our [right hemisphere](#) is wired for transcendent perception and bigger picture thinking.

**That frontal lobe determination of meaning is more than weighing consequences or executing a plan. Animal have been shown to do both of those. With frontal lobe capacity, humans are “determiners” ...we can transcend circumstances and decide what those circumstances mean to us regardless of their severity. And in that act – hopefully based on a sense of ultimate Good and fundamental Unity – we become fully human.**

*“All things of the Universe Wheel have Spirit and Life, including rivers, tocks, Earth, sky, plants and animals. But it is only man, of all the Brings on the Wheel, who is a determiner. Our determining Spirit can be made whole only through the learning of pour harmony with all our brothers and sisters, and with all other spirits of the universe. To do this we must learn to seek and perceive. We must do this to find our place within the Medicine Wheel. To determine this place we must learn to Give-Away.” –*

**Hyemeyohsts Storm**



# CONTINUUM CENTER

Said another way by **Jonas Salk, (developed polio vaccine)**, from *Anatomy of Reality: Merging Intuition and Reason*: "The highest and most complex sense of relationship is expressed in consciousness. Thus the most highly evolved form of existence is seen in the human consciousness. It is expressed in its highest form in those who are the most developed with respect to their relationship with all else in the cosmos near and far. Those most highly evolved would also have the greatest capacity for further evolution, for advantageous change, for adapting to changing circumstances. They would be the ones with the greatest capacity to resolve difficulties...to find ways to survive even under intolerable circumstances...We can no longer relate to ourselves without regard for our relationship to all of life...our minds are linked and interrelated."

If the [emotional/mammalian/animal brain \(limbic system\)](#) is not properly developed, the later neocortex (including frontal lobe) can't possibly function effectively. Our meanings and choices will be emotionally distorted.

In this new, post-materialist way of thinking, there are scientists on the forefront of the quantum model, who are also practitioners of changing brain circuits, hierarchies and increasing emotional and creative intelligence. [Joe Dispenza](#) is one of them.

In addition to his professional work, Joe earns credibility from the fact that after having his back shattered getting hit by a truck **MORE**: while in a triathlon and being told it was necessary for him to get a likely crippling and perhaps paralyzing intense surgery, as a chiropractor, he decided, uh...no, and instead to use his extensive knowledge of the back along with lots of imagery and his own physical regimen (after weeks in bed). After 10 weeks he was up and around and soon after got back into sports training. 25 years later he is in great shape and great health.

End of **MORE**

**Evolve Your Brain, Joe Dispenza:**

***"Once you realize that your consciousness "is not your brain but can transcend it, once you recognize that you have the power to choose among possibilities", you are ready to act on new ideas and suggestions. You can change brain circuits. Neuroplasticity was denied by conventional science for a very long time.***

***When the frontal lobe is not adequately developed "we can respond only to what we know and what is already stored in our brain, and we will always choose what we know. We think we are choosing, but actually we are just using automatic response mechanisms designed for immediate relief and gratification. In that case, then, our emotional responses – the ones that are so repetitive, routine and predictable, the ones we can say we are addicted to – are a product of the numbing inaction of the frontal lobe. If the frontal lobe is sleep-walking, so are we. MORE***

*We should think twice about the current means of testing in education. So many times students memorize material so they can get the right answer, and when they take a test, all they have to do is*



# CONTINUUM CENTER

*regurgitate that information. But choosing the correct answer on a test requires very little of the frontal lobe.*

*The human frontal lobe allows us to transcend the slow, linear process of evolution and advance beyond the natural progression of adaptation used by most species. It affords us the ability to learn and adapt in such a nonlinear pattern that we can make immediate changes by our thoughts and actions. **When the frontal lobe is activated, the internal domain of dreams, goals and intentions can become as real as external world, as opposed to putting all the power in physical, measureable circumstances.***

END OF MORE

Expanding our view of the frontal lobe past executive functions with a left-hemisphere connotation, let's look at the frontal lobe capacity to focus our attention inward, and to gain a larger or deeper perspective. Introspection is right hemisphere, so is big picture thinking. We need more right hemisphere development to balance the left brain dominance.

Less logistics, more learning to let go.

**Meditation is all about letting go of distractions and transcending the pull of physical circumstances to be in a space of greater calm and internal focus...a sense of connectedness. It turns out to be very good for the frontal lobe, and we make more purposeful choices.**

Harvard Medical School team led by Sara Lazar, PhD found that frontal lobes were more active during meditation.

***"The frontal lobes of the brain, and especially the pre-frontal lobes, are the newest and most recently evolved. They are responsible for abstract thought, creativity, idealism and concentration, and are therefore, paramount to our ability to experience satisfying and fulfilled lives, and our ability to use our brains to their fullest potential. The frontal lobes are interconnected with the limbic system of the brain, the ancient center responsible for both emotions and survival instinct. As the frontal lobes receive messages, they interpret them and signal the limbic system to produce the appropriate emotional responses...As Dr. Lazar summarizes, "the brain regions associated with attention and sensory processing were thicker in meditators than in the controls."***

We have the capacity to be in the world but at the same time transcend it and access dimensions beyond 3+time. Why just taxi a plane, or ride a ten speed bike using only 1 gear...we have a brain equipped to seek meaning and transcend, while also managing logistics and linear life. Regarding executive functions, if it means seeing the big picture/vision and setting the long-term strategy to get there, then the frontal lobe fits with that...knowing what's really important.