

## The Role of Neuro-Sensory Integration in the “Fight/Flight” cycle

At this point, we have explored the basics of how the neuro-sensory system works. This understanding will guide our choices for many details of our work with the children. However, both underneath and overriding all of the details is the way the survival or the “fight/flight and freeze process” is impacted by the senses. Knowing this can help us foster integration, and with it the resulting sense of well-being, and the capacity to open to the new and learn.

The neuro-sensory system will meet all new situations, be they challenges or blessings, using what Porges has termed “neuroception” to evaluate safety. This neuroception, or neuro-sensory perception, sums up a situation in a split second. If a situation is deemed unsafe, the fight/flight system will be triggered and any further opening, growth, and deep learning will be short-circuited. This might show as a literal running away, an agitation, an arguing, a perfectionism, spacing out, or a full shut down, or anything else on that spectrum.

If a situation is deemed basically safe, then we will use another three-fold system to engage with it. We will choose, usually unconsciously, where to open and take in, where to step back to take hold, and what to filter out.

Here, we have the same three-fold rhythm we have seen elsewhere: expansion is the open intake or absorption without bias. It is a full meeting of the new, opening wide, taking it in for its own sake, in its own right, without the filter of “what’s in it for me,” or “what can I do with this?” This is the capacity for opening and it is the ground of any real learning: without it, we just “learn” what we already know and expect.

Contraction is the taking hold of, focusing in on, taking apart, analyzing aspect. Whether that is the young child sorting the shells in clean up, or the older one reflecting on structures of government, it is still a capacity for contraction.

The element of grace warrants some additional investigation. What is the nature of “grace” in this process? Grace is fluid, adaptable, and between worlds. In the context of brain function, grace has a special attribute: filtering. Long and short: we cannot either expand safely OR focus at all, if we do not filter out what is not needed. So this filter function is what lets us move between the two states and is part of the “grace.”

Filtering is required to be in either of the other states and to transition between them. It is the ability to shut out and prioritize so both assimilation and separation are possible. It is the “forest and trees”

issue: to see the (figurative) forest, we have to filter the individuality of the (figurative) trees; to see the individual trees, we have to filter out the overall forest. When we can't filter, we go onto overwhelm and therefore into some level of survival/fight or flight response. We often call this an attention deficit problem. But in fact it is a filter deficit problem and an attention overload one.

Each part of the brain uses these capacities differently, but each must have the ability to synthesize or take in as a whole (expand), to analyze or work with the separate pieces (contract), and be able to move between these two states which includes ignoring or filtering out what is not needed for health and learning (gap or grace). Whenever we meet something new, these are our choices. We will either:

- 1) **synthesizing:** open to it fully, absorbing and bringing together *all* the information and experience outer and inner, and allowing it to imprint us (expanding);  
or
- 2) **analyzing:** focusing in, or stepping back, and seeing or experiencing the parts (consciously or not) what we're seeing and experiencing (contracting); or
- 3) **filtering and making fluid:** moving between these two and blocking out the extraneous incoming information, filtering out chaos, so we can interact with the health giving (grace).

As is true in any rhythmic pattern, all three of these have important jobs. No one is better than another. For example, if we could not filter out some of the incoming information, we would be in a constant state of overwhelm, and go into fight/flight, unable to open to, relate to, or make use of the flood of incoming experience. If we could only synthesize, we would constantly be in an expanded state, basically seeing the forest but missing the trees, again on overwhelm. If we could only analyze, we might be able to tell you of each tree in the forest in great detail, but we would lose the sense of connection between the trees creating a forest, and the rest of their ecosystem. Even more importantly, we lose our own connection to it. As described, all three processes (synthesizing, analyzing, and filtering) are happening in all parts of the brain at all ages, although they happen somewhat differently according to developmental level. In order for these three processes to work in a harmonious manner so that we filter when appropriate, we synthesize when appropriate, and we analyze or push away when appropriate, our senses must be working in harmony so they can give us an accurate picture of safety and possibility.

This safety is the ground of all flexibility – we all know that when we don't feel safe, flexibility goes out the window. This safety is born neuro-sensory integration happens initially primarily in the Set-Response brain.

**This neuro-sensory integration, and the resulting sense of safety, depends on the development and integration of our primitive reflexes and our base senses.** It is on this foundation that the full development of the higher senses, emotional health, and thinking,