

Aphasia Insights!

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“Those actions which appear the most insignificant, if only they are constantly repeated, will form for us in the course of weeks or months or years an enormous total which is inscribed in organic memory in the form of ineradicable habits.”

The Education of the Will; The Theory and Practice of Self-Culture, (1914) pg. 209.

Jules Payot, a friend of Santiago Ramon y Cajal (1898), Pioneer of modern Neuroscience.

Stroke Educator, Inc. is committed to educating the wider public about stroke and the 50 state *“Aim High for Aphasia!”* Aphasia Awareness Campaign.

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New Synapses Build the *Learning Field* with New Transmission Lines.

By Tom Broussard, Ph.D.

The brain is an amazing device. It can *know* certain things and still *not* know those very same things. When the brain is damaged from a stroke, people with aphasia (PWA) can't *find* some words but are still able to *know* those words exist.

The problem is that the transmission lines that lead from the source (of knowing) to the activation device (to express the knowing) is the part that is damaged.

The interested thing is that many transmission lines are still active, many more than are damaged. As a result, the brain is still conscious and aware of the damaged component, including being aware of NOT being able to express the otherwise conscious awareness of the damage.

How does the brain bridge the gap? It is the master of bridging gaps. It is built that way. The synapses are designed to send messages back and forth across a small gap.

Millions of neurons (brain cells) and billions of synapses are

destroyed from a stroke. Neurons don't grow back. But the remaining cells can grow new dendrites and synapses. The new synapses reestablish the “learning field” with new transmission lines that will ultimately deliver the messages to the various activation devices of reading, writing and speaking.

Experience-dependent neuroplasticity converts *thinking* and *doing* into neural (brain)

matter. The odd thing is that the experience-dependent component drives the entire process. More experience-dependent activities provides more

neuroplasticity that create more neural matter. As a result, less experience-dependent activities create less neural matter.

Practice isn't just something to consider or imply or hint. Practice required a prescription for improvement of reading, writing and speaking. Otherwise less practice, means less improvement.

The activities themselves induce a cascading set of neural construction including spines, dendrites, synapses, and neurotransmitters that recreate the learning field and allow language to be regained.

