

Aphasia Insights!

March 2021
Volume 3, Issue 06
March 23, 2021

“The physical basis of the informative operations performed by the nervous system resides in the ability of the nerve cells (or neurons) and their axonic or dendritic processes to produce, transmit, integrate, propagate...impulses through the complex neuronal network.”

Changeux J, Courrage P, Danchin A.

A Theory of the Epigenesis of Neuronal Networks by Selective Stabilization of Synapses. Proc. Nat. Acad. Sci. USA, Vol. 70, No. 10, pp. 2974-2978, October 1973.

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

Stroke Educator, Inc.
6 Aspen Drive
Brunswick, ME 04011
207-798-1449
tbroussa@comcast.net
www.strokeeducator.com

Russian Dolls: The Nested Attributes of Aphasia & Recovery

By Tom Broussard, Ph.D.

The metaphor of a Russian (or nested) doll is a large part of our public consciousness to help understand one difficult problem or another to be solved.

I always liked them when I was young. I would pull the dolls apart and put them back together again and align the image perfectly every time. It must have been fun because I did it over and over again with nothing but the pleasure of it!

After my stroke and while still unable to express my thoughts (about my deficits and the process of recovery), the image of a Russian doll appeared in my mind. I knew (and had been told) that I had “lost my language” and could not read, write or speak well. As I thought about my problem, the Russian doll started to look a lot more like my deficits, with one nested inside of another.

As I became more aware of the details regarding each of those deficits, I began to see that more

dolls had come into view, with more than just simple reading, writing and speaking deficits. But those new dolls (and their deficits) didn’t surface until more practice exposed their presence.

The more I practiced, the more deficits I saw. But the more deficits I saw, the more the deficits seemed to appear in the process of disappearing with more practice.



Yet, I still had no idea that all of my activities provided the active ingredients of speech therapy without my

knowing that they were therapeutic. The appearance and subsequent disappearance of various nested deficits were part and parcel of plasticity in motion.

I had thought that all of my problems were massive and monolithic.

It turned out that all of my damaged modalities (reading, writing and speaking) each had their own extended family of dolls with both their nested deficits as well as the accompanying tools adaptively designed to ameliorate those same deficits.

As an example, I couldn't read a paragraph, an article or a book. However, I did see various signs on the street: traffic signs, store signs, gas signs, church signs (and more), and started to realize that I *could* read some of them.

The first sign I saw was a STOP sign and I could read it and knew what it meant! The next sign was SPEED LIMIT and I could read that too. But when I encountered other signs with more words, I discovered that I couldn't "read" them.

At that point, I realized that much of the damage to my language didn't have a lot to do with the words themselves as much as the damaged or missing couplings between them.

At the start of my therapy sessions, there was very little actual writing. But there were plenty of writing exercises including; finding one word missing in a sentence, pointing at a picture of an item (a toothbrush), and completing the word "toothbrush" with missing letters (t_ othbrush).

It was fun and, for the most part, I did well with *those* kinds of exercises but not all of them. I had been asked to write a sentence on a computer but I couldn't do it. I would get as far as typing "I" and that was it. My fingers were frozen at the keyboard.

But ironically, I had also started writing in my diary for what turned out to be a 500-page diary. I wrote fluently by hand without knowing that what I was writing didn't make

any sense. I couldn't write on a computer but I could write in a diary? How could that be?

I began to understand that a stroke can strike anywhere in the brain and damage different modalities in different ways. I would never have seen the difference of some of those deficits without saving the evidence that created the neurological feedback that induced plasticity.

I spoke well almost from the beginning. What I didn't know was that the words that came out of my mouth weren't the words I intended them to be. That is a big problem but only up to a point.

I started recording myself while walking in the neighborhood. I would record my thoughts and play them back for me to hear. As I listened to my voice, I thought that everything sounded fine. It wasn't until I had all my recordings transcribed and I could *see* my speaking problems.

It was the first time when I became aware that the problem was being *unaware* of the problem itself. That was when I realized that awareness has its own skill, its own deficits, and a doll of its own.

The damage to reading, writing, speaking and awareness is just the start of understanding how the brain works and repairs itself.

The real neurological injury (to those who have lost their language) is the destruction of millions of cells and the concomitant loss of speed, connectivity and the damage

to the neuronal networks with both the skills *and* deficits buried deep in the nested dolls of our language.

Signed: *The Johnny Appleseed of Aphasia Awareness, Author, Advocate, Activist*