

Aphasia Insights!

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“The next result is that *habit diminishes the conscious attention with which our actions are performed.*”

“...but habit soon brings it about that each event calls up its own appropriate successor without any alternative offering itself, and without any reference to the conscious will, until at last the whole chain, *A, B, C, D, E, F, G*, rattles itself off as soon as *A* occurs, just as if *A* and the rest of the chain were fused into a continuous stream.”

The Principles of Psychology, Volume One & Two, William James. Dover Publications, Inc., New York, 1918 (1890) pg. 114.

Aphasia Nation, Inc. is committed to educating the wider public about stroke and aphasia and the “*Aim High for Aphasia!*” international Aphasia Awareness campaign.

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The Process of Aphasia Recovery: The Internalization of Higher Psychological Functions.

By Tom Broussard, Ph.D.

Following my stroke, the first instance of my language problems started with numbers, the alphabet, clock time, days of the week, months of the year and year time.

I started recording my thoughts on my iPhone a few days after my first speech session. My speech sounded good to me at the time but after listening to it carefully I could tell that there were some problems. I used duplicate words. I needed to hear (and found that I had to say) an entire sequence of a set of numbers to get to the right number. It was 9AM that morning, and instead of just looking at the clock, I said, “*1 o'clock ... 1, 2, 3, 4, 5, 6, 7, 8, 9 ... 9 ... 9 AM.*”

By then I realized that I couldn't “find” particular words within a train of related items. In order to

“find” it, I had to start at the beginning and go through the entire process until I came to the one I wanted. If today was a Thursday, and I couldn't find “Thursday” in order to say it, I would start at Monday, Tuesday, Wednesday and then, (usually with more emphasis in my voice) **Thursday!** The same thing happened with numbers, days of the week and months of the year.

As time went by, I continued to use this repetitive process. I had no idea that what I was doing was

therapeutic. That came later. I only started doing it when I realized that it would allow me to find the word I wanted, pure and simple. I could tell (in many cases, but not all) that I

was making errors especially with *these* kinds of errors using very easy words I knew. I couldn't understand why the easy things were so hard until nature took over.

The more I used the process to find ‘*that thing*’, what the speech therapists call “automatics” (numbers, letters, days of the weeks, etc.), I started to say the words out loud and said “*1, 2, 3, 4, 5, 6, 7, 8, 9*” with normal conversational cadence.



Chambered Nautilus

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<https://commons.wikimedia.org/w/index.php?curid=19711>

But after a bit, I felt an urge to go faster, as if there was an engine governor (that limits the speed) loosening up and the engine wanting to go faster *on its own*.

I said “123456789” as fast as I could. No gaps, no hesitation. Then I started whispering to myself. That allowed me to go even faster because I didn’t need to pronounce each item each time. I would zip forward to get to the right word as fast as I could.

Little by little, I was going faster and faster. Like the commercials on TV, condensing the legal product warning into 5 seconds rather than the 30 seconds that are really needed. After that, I started skipping ahead, like throwing a flat rock on a smooth pond, jumping and skipping 5, 10, 15 hops over the water to get to thing I wanted.

I had adopted new and more “efficient” techniques (going faster, less talking, skipping) and could see that it took less time and energy than what I had been doing before.

I had started using the same set of activities (with the automatics) but now talking on the inside, mentally going down the same track that had originally started on the outside.

I could tell that I was finding the word/number faster and faster without repeating the track over and over again. I was also aware that those activities had moved (or morphed) from the outside

(physical activities) to the inside (mental activities) without yet knowing that what I was seeing (or at least experiencing) was recovery in the making.

As I got better, I started searching for any scientific literature that could help substantiate my actions using the evidence of those activities.

Lev Vygotsky was a Soviet psychologist, known for his work on psychological development and his work on the relationship between language and thought, the development of language, and a general theory of development through actions and relationships.

Aleksandr Luria, another distinguished Soviet psychologist and brain scientist was one of Vygotsky’s students. I will describe more about the work of Lev Vygotsky and Aleksandr Luria in following articles.

I have been reading about Vygotsky’s work including *Mind In Society, The Development of Higher Psychological Processes* (Vygotsky, 1978) and found his explanation of how the brain learns through the internalization of higher psychological functions as described by Vygotsky below:

“Development, as often happens, proceeds here not in a circle but in a spiral, passing through the same point at each new revolution while advancing to a higher level.

We call the internal reconstruction of an external operation *internalization*.

...the process of internalization consists of a series of transformations:

- a) *An operation that initially represents an external activity is reconstructed and begin to occur internally.*
- b) *An interpersonal process is transformed into an intrapersonal one.*
- c) *The transformation of an interpersonal process into an intrapersonal one is the result of a long series of development events (Vygotsky, 1978, pg. 56-57).”*

It is apparent to me that I was in the process of internalization and being transformed through “a long series of development events” that led to my recovery.

Signed: *The Johnny Appleseed of Aphasia Awareness*