

Aphasia Insights!

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“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.

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Aphasia Recovery & Coppicing Trees: Regrowing the Learning Field

By Tom Broussard, Ph.D.

We went to visit Celebration Tree Farm & Yoga, a tree farm in Maine, to cut down our tree for Christmas last year.

It is a beautiful place with an old (but sturdy) barn and several walking trails taking you to the trees lots and forest behind the fields. We took our bow saw with us and went looking for the best Christmas tree ever!

I had been to tree farms before but I had never seen anything quite like this. As we entered the forest, many of the trees had one (or more) mature and ready-to-cut trees growing out of the same stump. It is called coppicing and is a method of tree management based on the regeneration of new trees when the original tree has been cut.

When a tree is cut down it creates a stump. Depending on the type of

tree, young trees can sprout trees from the original stump, resulting in many “generations” of Christmas trees from a single parent tree.

The wooded areas are divided into sections and the trees are cut down



Coppicing tree, Celebration Tree Farm & Yoga (Broussard)

in rotation (between 10 to 25 years) not unlike farm crops in rotation. Because of coppicing, trees can live a longer and more productive life producing timber, firewood, furniture, and many other uses.

But when I saw those trees growing out of stumps, all I could think of was aphasia and recovery. When trees are cut down (especially for Christmas trees), I assumed that whatever stump there were would never grow a new tree on top of those stumps. I thought that stumps were just *stumps* and couldn't grow anything!

Not unlike regaining my language from a stroke, it took years for me to understand that the remaining brain cells (after a stroke that had destroyed millions of my cells), have the capacity to grow new

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branches (dendrites) and leaves (synapses) with *those remaining cells*. Once I saw the stumps growing new trees, it hit me that nature has more tools than we know of.

Experience-dependent (reading, writing, speaking) activities are the key to neuroplasticity's growth. Persistent and repetitive language activities are the active ingredients that are needed to grow and repair the brain.

Photosynthesis *converts* sunlight into sugar and green leaves (including coppicing trees!) that use that capacity to grow new growth.

In the same way, neuroplasticity *converts* thought and cognitive activities into the neural branches and leaves, regrowing the learning field.

Signed: *The Johnny Appleseed of Aphasia Awareness*