

---

Jayne Tubb



---

## ON THE BORDER

*Info & insights from the interface between energy healing & science*

**August 2011**



Welcome to the August 2011 edition of 'On the Border'.

For those of you new to 'On the Border', this is Jayne's monthly Ezine newsletter about the latest information and insights into energy fields, healing and science. Each month I share with you some of the latest research and how it applies to healing, energy work & (daily) life. There's a Fascinating Facts section and also a 'Freebie' where you get something for nothing, gratis.

### **Why Speaking Another Language is Good for Your Brain.**

Many of you have (or are still) spending your Summer holidays outside your own country. This probably means that you have been trying to speak a few words of the local lingo....probably with mixed reactions, but probably lots of memorable fun too. Speaking different languages has always been something I've enjoyed, and the motivation (plus an ability) to do so has been invaluable when working and living around the world. I used to dread family beach holidays – with my fair skin and freckles I burned as soon as the sun even looked at me. But trying out my school-French as a teenager on (another beach) holiday in Southern France, opened up a whole new world to me by being able to chat to locals (I wrote about my language adventures in a Dutch article entitled [‘Tien voor Taal’](#)). Thankfully, trying to talk to locals is something I've not stopped doing :=)

In recent years, scientists have found that being able to speak different languages may actually facilitate the development of certain language and cognitive skills. These aptitudes include mental flexibility, abstract thinking and working memory, a type of short-term memory essential for learning and problem solving.

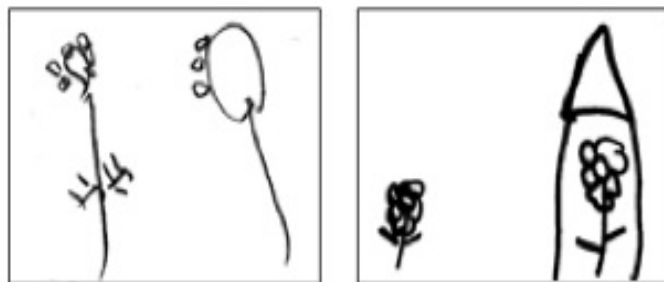
It is quite funny to realise that until the mid-1800s, bilingualism was common in the United States. But in the 1880s popular sentiment began to turn against immigrants, and psychologists proclaimed that exposure to more than one language made children intellectually inferior. Although researchers began to discredit these early studies in the 1960s, the idea that children needed to choose a dominant language persisted. The hypothesis was that the brain is preset for only one language.

According to this hypothesis, a bilingual child's mind is engaged in a constant tug-of-war, which leads to verbal delays and confusion over which language to use. But in a series of studies begun in 2001, it was found that children exposed to two languages before the age of 10 reached key language milestones, such as saying their first words and learning to read, at the same time as their monolingual peers. Children seem to understand that they have two different languages right from the start, and are not confused.

Recent research suggests that not only can children differentiate between two languages at any early age, the cognitive benefits from being exposed to a second language start as early as infancy. In a study in 2009 of "crib bilinguals," a visual test was used to measure what neuroscientists call cognitive flexibility in preverbal seven-month-olds. Scientists wanted to see how quickly the infants could adapt to changing rules. They taught the infants a pattern consisting of speechlike sounds. At the end of the sequence, a visual reward in the form of a puppet would appear in one part of a computer screen. The infants were expected to learn that a given sound pattern predicted the appearance of the puppet in that location. Both bilingual and monolingual infants showed that they associated the sound sequence with the puppet's location equally well by looking in the right place for the puppet to appear. But when the sequence was modified—and the puppet was moved—the bilingual infants adjusted, switching their gaze to the new location. The monolingual infants, however, continued to look for the puppet in the original location.

### Shaping the Cerebrum

Other research suggests that being raised bilingual improves other cognitive skills once a child becomes verbal. In a study published in 2010, researchers found that four- to five- year-old bilingual children showed more creativity than did their monolingual peers when asked to draw a fantastical house or flower. The monolingual children tended to draw flowers with missing petals or leaves, whereas the bilingual children drew imaginary hybrids, such as a "kite-flower" and a "robot-house," indicating a superior ability to grasp abstract concepts [see illustration]. Meanwhile data from a 2008 study suggested that children from English-speaking homes who attended half-Spanish, half-English schools perform better on reading tests than those in English-only programs.



Several studies have also linked bilingualism to improved working memory, which is associated with both reading and math skills. Bilingual seven-year-old children outperformed their monolingual peers on two working memory tests—one requiring them to recall and rearrange a series of numbers and the other to retrace a pattern of hops made by an animated frog on a computer screen.

All these cognitive differences imply that learning a second language tweaks the structure of the developing brain. Although standard brain-scanning technology, functional MRI, is not generally recommended for young children, a relatively new noninvasive neuroimaging technique called functional near-infrared spectroscopy now enables scientists to compare the brains of bilingual children with their monolingual peers. So far studies indicate that the language areas of monolingual and bilingual brains develop similarly, but certain regions, such as the inferior frontal cortex, which is involved with both language and thinking skills, appear to be more active in bilingual children, particularly when they are reading.

Researchers say the best way to become proficient in a second language is to start young and practice often. Daily exposure to the second language is ideal, experts note. Children growing up in multilingual environments can reach this level of exposure naturally, but those from monolingual backgrounds may need more intensive instruction.

### **Words of Wisdom**

Becoming fluent, or even just reasonably competent, in more than one language not only advances a child's thinking skills, it also confers cognitive gains in adulthood. In particular, something about being bilingual seems to bolster the brain against mental decline. In 2010 psychologists reviewed the mental health and education records, including language training, of 211 patients diagnosed with dementia. They found that as a group, the 102 patients classified as bilingual had been diagnosed 4.3 years later (and reported the onset of symptoms 5.1 years later) than had the 109 monolinguals, despite all of them having roughly equivalent cognitive function and similar occupational demands while they were all healthy. These data, which confirm those from an earlier study, indicate that bilingualism may help delay the onset of dementia.

Knowing a second language somehow seems to moderate the effects of encroaching pathology in the brain. The brains of 450 monolingual and bilingual patients diagnosed with Alzheimer's-like dementia were scanned for lesions and structural changes. The subjects all displayed a similar degree of cognitive function, but the bilingual subjects' brains showed more atrophy and damage in regions involved in long-term memory, language recognition and auditory perception. Scientists hypothesize that by virtue of being bilingual, the patients can somehow compensate for the greater structural damage.

Speaking more than two languages may offer an even better defense. Also in 2011 researchers reported evaluating the neuropsychological health of 230 elderly men and women who spoke two to seven languages. They found that the people who spoke three or more languages were one quarter as likely to be mentally impaired than those who spoke just two. That greater amounts of language learning seem to offer stronger protection buttresses the contention that this training is constructing some kind of cognitive shield.

Such findings fit with the more established idea that learning and education thwart intellectual decline by building up the brain's overall capacity for thought—its so-called cognitive reserve. Bilingual adults are apparently

quicker and more efficient at certain tasks involving the use of skills known as executive functions, such as planning and problem solving. Of course, a person's mental capacity can influence his or her ability to learn a new language, raising the possibility that the bilingual speakers had better cognition to begin with. But other work has indicated that learning a second language can promote beneficial brain changes. For example, it can boost the neuronal cell density in certain areas important for cognitive functioning. And research underscoring the cognitive advantages of growing up bilingual reinforces the notion that something about learning to say oui, sí or hai helps to shore up the thinking parts of your brain.

Tot de volgende keer, until next time et à la prochaine!

### **References**

- ◆ New Discoveries from the Bilingual Brain and Mind across the Life Span: Implications for Education. Laura-Ann Petitto, *Mind, Brain, and Education*, vol. 3, no. 4, pages 185–197; 2009.
- ◆ The Benefits of Multilingualism. Jared Diamond. *Science*, vol. 330, pages 332–333; 2010.
- ◆ The Bilingual Advantage Learning: a second language can give kids' brains a boost. Erica Westly. *Scientific American Mind*, vol. 22, no. 3, pages 38-41; 2011.

### **Fascinating Facts**

Did you know that.....

- The number of living languages is 6912
- The language with the greatest number of native speakers is Mandarin Chinese (followed by Hindi, Spanish, then English; Dutch doesn't make even the Top 30!)
- The first language ever written was Sumerian or Egyptian in about 3200 BC
- The oldest written language still in existence is Chinese and Greek (about 1500 BC)
- The language with the largest alphabet is Khmer (74 letters), the official language of Cambodia
- The language with the shortest alphabet is Rotokas (12 letters), in East Papua
- The most widely published language is English
- The language which has won the most Oscars is Italian (12 Oscars for Best Foreign Film)
- The most translated document: Universal Declaration Of Human Rights, written by the United Nations in 1948, has been translated into 321 languages and dialects

### **August Freebie**

In this section you get the chance to get something for nothing. Helemaal gratis. Always a pleasure!

I have received the following link from a few different subscribers, which must mean that I am supposed to let more of you have it ;=)

If you are wanting to know what is in store for you this month, then check out the YouTube link [for Astrology for August 2011](#)

### **Contact Details**

Email: [jayne@jaynejubb.com](mailto:jayne@jaynejubb.com)

Website: [www.jaynejubb.com](http://www.jaynejubb.com)

Telephone: 020-6206680, or from outside The Netherlands ++31 20 6206680.

### **Back Issues**

If you have missed any of the previous issues, then the main articles and full newsletter pdf links can be found at [www.jaynejubb.com/backissues.htm](http://www.jaynejubb.com/backissues.htm) The Freebies each month are only valid for that month....

### **Subscription Management**

On The Border is a monthly Ezine/Newsletter published the second Tuesday of each month. This Email was sent to you because you are on my mailing list and/or have subscribed directly to it. If you no longer wish to receive this then please unsubscribe by clicking either clicking on the link at the end of the original Newsletter Email, or send me directly an Email – and I'll unsubscribe you immediately.

If you have received this Ezine Newsletter from a friend because you are not on my list, but would like to be, then please send me an Email and I can get you signed up immediately.

My subscriber list is not made available to other companies or individuals. You are trusted and valued clients and I certainly will not abuse that trust!