



Brands on the Brain (Feb. 2003 column)

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There is a revolution happening in brain research driven by new techniques of brain imaging and anatomical analysis. This is the birth of a new science called 'neuroscience'.

Today we have brain scanning or brain imaging technology that lets us look into the brain while it is working. Brain wave recording devices have been available for decades but these new devices map more precisely which regions are active by tracing the way blood flows to specific regions during various mental tasks.



Brain Scan

Anatomical analysis outside the body, further enables scientists to study individual neurons, keeping them alive for a number of weeks. They can make them grow connections and study how electrically stimulating one affects the other. They can study how a neuron 'learns' and with repeat stimulation how it learns to change its response to another. This is learning at the most primitive level - in a dish.

As a result of these developments, we now know something very fundamental about long term memory as opposed to short term memory. The big surprise is that, it requires protein synthesis and *structural* changes to the brain.¹ Eric Kandel won the Nobel prize in 2000 for his work in this area.

When a word or an activity becomes more familiar, numerous connections (known as synapses) actually *grow* onto the neuron (or batch of neurons) that represent it. In a sense it extends its own personal network and influence in the same way as you do, by making more connections.

Studies of brands using these new technologies have only just begun but the basic research with other things is consistent with this notion that the mass of brain devoted to something, increases directly with its use and repetition. Just as physical exercise builds muscle mass, it seems mental exercise builds mental mass – through connections.



Brain Scan Machine

Right handed violinists and guitarists use their left fingers in patterned movements. These fingers 'learn' more than those of the other hand. Using a brain scanning technique (called 'functional magnetic resonance imaging' -fMRI), we can actually see this difference in the brains of string instrument players. The area of brain devoted to

those fingers is substantially larger than the corresponding fingers of the other hand.² (A difference also exists between players and non players.)

So, are brands like this? Do they literally grow on us? Could it be that as a brand becomes more familiar we might observe the growth in its mass of network connections?

It would be a huge stretch to think that we will see a day soon when we track the effect of a commercial by imaging peoples' brains and observing the growth in the precise connections created by that commercial. The technology is nowhere near that fine-grain in resolution. The best we can do is to locate what brain *region* must be activated to enable long term memory. With the older brainwave technology, we could do that too, albeit not as precisely.

Indeed an Australian study of TV commercials in 2001 using brain wave technology (steady-state probe topography) indicated that the left brain was crucially involved in long term memory for pictures.³ This was contrary to expectation as it was previously thought that crucial processing of pictures, as opposed to words, was located in the right brain.

Using the newer brain scanning technologies the first studies of *brands* started to appear last year. One USA study looked at exactly where *brand names* are processed in the brain and found more activity in the right brain than for other words.⁴ Another study examined people making a choice between brands and brand familiarity showed up mostly in the right brain in a place called the parietal cortex. The researchers have their fingers crossed that this will turn out to be where brand equity resides.⁵

We can expect a continuing accumulation of these studies. The implications for marketing at the moment are problematic and mostly in the realm of speculation. In any hot field, there is often a period where confusion reigns between speculation and fact. This provides a fertile environment for the growth of pseudo experts in marketing, pedaling exaggerated claims and 'powerful new marketing services'.

Beware commercial consultants pedaling unproven and exaggerated 'hidden powers' based on this new science. One company already claims to provide its clients with 'unprecedented insight into their consumers' minds' from neuroscience and claims that it can be used as the basis for new advertising campaigns and branding techniques.

At this stage, *neuromarketing* as it is being called in some quarters, is dominated more by sales pitch than science. The smoke and mirrors merchants are out there running well ahead of the pack.

For a *balanced* marketing perspective and a realistic review of this new field, I highly recommend the book "*The mental world of brands : mind, memory, and brand success*" by Giep Franzen and Margaret Bouwman (World Advertising Research Centre. 2001, U.K.)

References

¹ Larry Squire and Eric. Kandel, *Memory: From Mind to Molecules*. Scientific American Library, N.Y. 1999

² See reference 1, p199

³ John Rossiter, Richard Silberstein, P. Harris, G. Nield,. Brain-imaging detection of visual scene encoding in long-term memory for TV commercials. *Journal of Advertising Research*, 2001, 41, 13-21.

⁴ Possidonia Gontijo, Janice Rayman, Shi Zhang & Eran Zaidel. *How Brand Names are Special: Brands, Words and Hemispheres*. Psychology Department, Anderson School of Management University of Los Angeles, California. 2002

⁵ Tim Ambler, John Stins, Sven Braeutigam, Steven Rose & Stephen Swithenby. *Salience and Choice: Neural correlates of shopping decisions*. London Business School. Centre for Marketing Working Paper No. 01-902. April 2002