

Beyond neuroscience – whatever happened to neuromarketing?

David Penn, Conquest Research, argues that the real issue raised by brain science is how research can by-pass cognitive questioning

A FEW YEARS AGO, a new land of market research study hit the headlines. At the Baylor Institute in Houston (i), neuroscientists used functional magnetic resonance imaging (fMRI) to monitor brain response during a test of taste and "brand preferences for Pepsi vs Coke. They found that in a blind product test (where preference for Pepsi vs Coke was balanced) only those parts of the brain relating to sensory judgement were active; whereas when respondents were told what they were drinking, preferences switched in Coke's favour and parts of the brain (the hippocampus) associated with emotional response also became active. The authors concluded: 'Our finding suggests that the hippocampus may participate in recalling cultural information that biases preference judgements.'

The study's publication coincided with a much-increased level of interest in emotion within the marketing world; the work of neuroscientists like Damasio and Le Doux had emphasised the role of emotion as a driver (not a consequence) of decision-making, and Malcolm Gladwell's *Blink* had popularised the notion that intuitive, instantaneous response often produces judgements superior to thought-through ones. In fact, the Baylor study more or less invented neuromarketing (although the term was first coined in 2002) and some speculated that the study of neurological response to marketing and advertising might even come to supplant conventional research techniques.

Buy buttons?

Excited journalists were soon writing articles like 'In search of the buy button' or even 'Pushing the buy button', and a new era seemed to be dawning, in which 'question and answer' research would give way to techniques based on brain imaging and physiological response. I must admit that, when I first read the Baylor study, it was like revisiting a familiar place, or looking again at a familiar painting and seeing it in a different way. After all, what was observed in the brain is a reaction that hitherto we could only infer - now we could actually see what was happening.



The real challenge to communications research is how to measure pre-cognitive response to brands and advertising

So, what has happened to neuromarketing three years on? A Google search on the subject today throws up a few recent news articles, some excited, others sceptical, but little concrete evidence of progress. In fact, the Baylor study is still being cited as the most substantial evidence of the efficacy of neuromarketing.

There have been some advances and some worthwhile studies - particularly in the area of media engagement. For example, a study undertaken by the NMA (2) used a technique called Brain Fingerprinting™ to assess the impact of newspapers as a medium, both solus and in combination with TV. Media Agency PHD has created a media planning tool based on neuroscientific principles and, if we stretch the definition of neuromarketing to include techniques other than brain imaging, we should note the re-emergence of bio-metrics, based on measures of skin conductance, heart rate and respiration.

These actually date back to the study of heart rate and skin conductance responses to word associations in the early 20th century, but modern neuroscientific understanding combined with advances in technology has made their application to market research possible. Eye-tracking has also made a reappearance, with a Danish company presenting its technique for capturing emotional response at this year's ESOMAR Congress.

Over-optimistic

Yet, despite these developments, there is precious little to repay the optimism of Clint Kilts, of the Brighthouse Institute, who, in 2003, predicted that neuromarketing would soon become part of the decision-making process, with large companies setting up neuroscience divisions. No one has yet published convincing evidence that such techniques can tell us something about brands or marketing fe-

communication that conventional research cannot.

In fact, most of the exponents of neurological/biological measures are now quick to admit that their techniques are not alternatives, but complements to conventional research - either quantitative or qualitative. OTX's Ian Wright admits that 'the most effective use of bio-measures is alongside research techniques that tap into what consumers are thinking'. He adds: 'bio measures don't tell us the nature of the response, only that there has been a response'.

Neuromarketing can tell us what, but it cannot tell us why - particularly when it comes to emotion. Mast and Zaltman (3) nail the problem neatly with their observation that 'emotion without cognitive appraisal is really just arousal'. In other words, simply observing an emotional response is not the same as experiencing that emotion, or asking the subject to describe how they feel.

Furthermore, as Page and Raymond (4) point out, neurological responses have such a vast range of mental correlates (and hence explanations), that it is often hard to make sense of them. Thus, in the Baylor study, fMRI identified the areas correlated with a brand preference, but this finding is open to a number of interpretations: perhaps we have identified a part of the brain that is strongly associated with Coke, or with brands in general, or with emotional response to brands. Alternatively, it could be that it is an area of the brain that is activated when people are certain of what they are drinking, or one that gets activated when taste and words are combined.

What brain imaging tells us for certain is that a part of the brain is active - whenever a subject is experiencing, or tells us they are thinking, a particular thing - but it cannot tell us what part of the mental process is actually happening, or why that particular part of the brain is active. A huge amount of (subjective) interpretation is required to make sense of brain imaging data, simply because of the number of possible interrelationships and possible causal links that exist between mental events and brain imaging output.

(4). It is therefore not as 'objective' as it appears.

Neuroscientist Steven Rose goes so far as to suggest that brain imaging commits a category error by assuming that we can locate thought, affect or emotion in the brain at all, because (he argues) 'such processes are not held in one location but in a pattern of dynamic interrelationships between multiple brain regions...' (5).

Looking for the pre-cognitive

However, the great advantage of neurological techniques is that they pick up on unconscious emotional responses (to, say, a brand or ad) that a respondent may not even be aware of. Verbal questioning (both quantitative and qualitative) struggles when it comes to emotion, because it seems mainly to engage our cognitive brain - the one that (consciously) analyses, reflects, calculates and makes decisions, rather than our emotional brain, which reacts spontaneously, immediately and intuitively.

But our two 'brains' do not work in isolation - there is constant interaction between them and the most fascinating challenge for marketers may be at the frontier between the two, where pre-conscious impulses emerge, sort of blinking into the light of consciousness, as verbalised thoughts and feelings.

We need to spend more time looking for the links between the cognitive and emotional brains - particularly in the way that unconscious processes underpin our conscious thoughts and utterances - allowing us to make sense of things even before we give them conscious consideration. Conventional research has always tended to focus on cognitive (thought-through) responses rather than on pre-cognitive processes - the mental shortcuts that allow us to construe meaning without having to think about it.

A simple example of a pre-cognitive response may be our instantaneous reaction to certain facial expressions - for example, when we see someone frown or smile, our brains create meaning intuitively, without the need for considered thought. Brainjuicer has developed a tool

(based on Paul Ekman's theory of universally recognised emotions), which aims to measure emotional response to brands and advertising through respondents' identification with a range of facial expressions, selected to represent seven different emotions.

I believe that the most promising route forward conies out of the new field of cognitive linguistics, which suggests that much of our thought is enabled by metaphors. Metaphors may seem to consist of words, but they are actually neural connections that create (automatic) meaning in our unconscious mind, below the conscious linguistic surface. The most powerful are primary metaphors, which are established by conflation between the sensory and emotional parts of our brain. Simple examples are that intimacy correlates with proximity, affection with warmth, and so on (6).

Metaphor and emotion

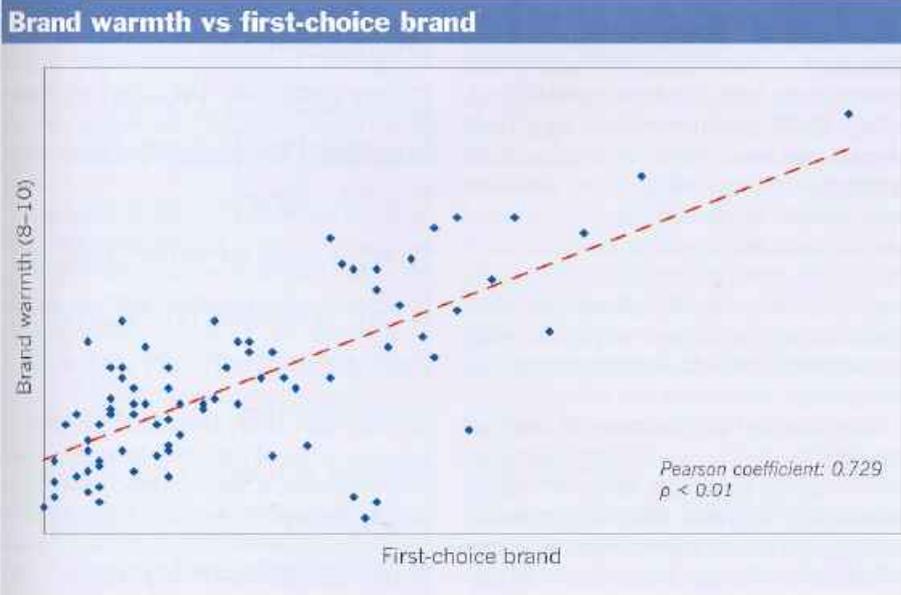
Metaphors seem to express emotions more vividly than literal language because they evoke an emotional response *directly*, without the need for

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FIGURE 1



rational consideration - literal communication mostly involves the cognitive brain, which consciously processes information, whereas metaphorical communication speaks to the unconscious and emotional parts of the brain, creating meaning without our being aware of what is happening. Since images that have emotional significance seem to have greatest resonance, it is almost certainly the metaphors that link directly to our emotions that are most powerful.

It is ironic that marketers inhabit a world of imagination and metaphor yet so easily default to prosaic and literal means of measuring it. Typically, the scales we use to measure brand communication are language-based and literal, not visual or metaphorical - the problem being that people need to consider their response before answering. When we think and consider, we get further away from our emotions: the emotion may still be present, but it becomes blended with our thinking and more prone to (post) rationalisation.

Conquest's Metaphorix™ approach incorporates visual metaphoric scales based on those (primary) metaphors linked with emotional states - such as love, affection and intimacy - which have particular relevance to brand

engagement. These online scales use a range of engaging visual devices to represent metaphors associated with these different emotional states, using visual depictions of proximity/closeness and warmth.

The respondent sees no numbers, but, behind the screen, response can be calibrated quantitatively. Figure 1 shows the correlation between the top three deciles of a Metaphorix™ brand warmth scale and the proportion who make the same brand their first choice. The results indicate that brand warmth is a statistically significant predictor of market success (7).

Conclusion

If the unconscious power of emotion, operating through somatic markers, drives the consumer's decision-making, then the implications, for both marketing and marketing research, are far-reaching:

> First, if we are unaware of all we know, then the contents of our conscious mind will not reveal what we actually do know about brands and advertising.
> Second, most conventional approaches to measuring emotional engagement will fail, because neither we, nor the questioner, can experience the invisible operations of the unconscious mind. It is

because our conscious mind provides only glimpses of the existence of these forces, that it is so tempting to dispense with conventional measurement altogether, and go down the neuromarketing route instead. But a brain image is just that - a picture or snapshot of what is happening in the brain, not an explanation.

Neuromarketing is not the same as neuroscience, which has been hugely helpful in opening our minds to the possibility of unconscious, emotional response, and in moving us away from the linear persuasion models that so dominated marketing and market research for much of the 20th century. Too much conventional research concentrates on cognitive (thought-through) responses when it should be focusing on the mental shortcuts, such as metaphor, that allow us to construe (emotional) meaning without having to rationalise. The real challenge for communications research is how to measure pre-cognitive response to brands and advertising - because the more we think about and consider our response, the further away we get from our emotions. ■

1. *SM McClure, J Li, D Tomlin, K S Cypert, L M Montague and P Read: Neural correlates of behavioural preference for culturally familiar drinks. Neuron, Vol. 44, 379-387. Cell Press, 2004.*
2. *M Duffy and A Foster: Neuroscience and the power of newspaper advertising. Admap, September 2007.*
3. *FMast and G Zaltman: Anatomy of Engagement in Definitions about the Anatomy of Engagement. The \$2ndARF Convention, 2006.*
4. *G Page and J Raymond: Cognitive Neuroscience, Marketing and Research. FSOMAR Congress, 2006.*
5. *S Rose: The 21st Century Brain. Jonathan Cape, London, 2005.*
6. *G Lakoff and M Johnson: Philosophy in the Flesh. Basic Books, New York, 1999.*
7. *D Penn: Beyond Neuroscience: Engagement and Metaphor. ESOMAR Congress paper, 2007.*

