

BRAINFOOD

INNOVATIONS FROM THE CONVERGENCE OF
BUSINESS, MARKETING AND CREATIVE STRATEGIES
WITH LEADING TECHNOLOGY

Brain Branded

The Biology of One to One Marketing

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BRAIN BRANDED

THE BIOLOGY OF ONE TO ONE MARKETING

BELIEVING IN A BRAND

In my youth, one of the intern jobs I took to break into the business was working on the Pepsi Challenge, the well-known taste-test [marketing](#) campaign that Pepsi started in 1975 and is still used to this day. I was the guy sitting in the supermarket offering customers two tiny paper cups, each exactly half-filled with either Pepsi or Coke, and asking, after they tasted the blind samples, “Which did you like better?”

Because I wanted to be in advertising and received intern credit, it was a great job. (Even though I was, and still am, a Coke over Pepsi kind of guy.) I felt like I was already in advertising. The Pepsi Challenge also taught me a lesson about marketing that was one of the most important I ever learned. In those days, Coke significantly outsold Pepsi nationally, due in some measure to Coke’s forward-thinking strategy focusing on agreements to supply outlets such as restaurants and vending machines. In searching for some marketing leverage against the better-selling and more widely distributed soda, Pepsi came up with the Challenge. Pepsi quickly discovered that, in this taste-test format, more people chose Pepsi over Coke consistently.

Videos of consumers choosing Pepsi over Coke soon became the feature of Pepsi’s TV ads (I still believe Pepsi missed a huge opportunity by not using one of the tests I conducted in a TV spot).

While Coke continued to have the larger market share, Pepsi made clear gains in market share with the Challenge campaign. That’s the reason Pepsi was careful to say in their ads, people “prefer the taste of Pepsi over Coke.”

People bought more Coke than Pepsi, but Pepsi consistently won the taste test. It was an eye-opening experience for me. Whenever I lifted up the privacy cards and showed a “Coke person” that they had chosen Pepsi, or vice versa, many would get very agitated and accuse me of any underhanded trick they could think of. “You switched the cans.” “You made one colder than the other one.” “Oh you’re wrong, I always drink Coke.”

Of course, I hadn’t cheated. We had very strict rules about keeping everything exactly the same for the comparison. Participants simply refused to believe that their senses had failed them. They held on to their firm belief in their lifelong beverage of choice. The realization of the awesome power of marketing, the very idea that advertising could ultimately have the power to make someone a lifelong true believer in something, even when their own experience tells them differently, is what finally convinced me that I had to be in this field. At that point, I didn’t actually know what a brand was, but I began to understand what it could do.

Let’s back up for a minute. If more people in the national marketplace chose to drink Coke, why did Pepsi consistently win the Challenge in the local supermarket? In his book *Blink*, Malcolm Gladwell offered one answer:

In a taste comparison, based on a small sip of each product, more people will choose the sweeter taste. Pepsi is sweeter than Coke. When drinking in normal quantities over the long-term, more people prefer a less sweet taste, so more Coke gets sold each year.

A few years ago, a neuroscientist recreated the blind taste-test Pepsi Challenge in his lab at Baylor College of Medicine. He placed his test subjects in an MRI machine and monitored their brain activity while they compared sips of Coke and Pepsi. The findings confirmed the results of the original Pepsi Challenge, the region of the brain thought to deal with feelings of reward responded more strongly to Pepsi than to Coke.

The neuroscientist, Read Montague, Ph.D., then ran a second test with one difference. For the second test, Montague told his subjects beforehand which sample was Coke. The results changed dramatically. Almost all second test subjects claimed they preferred Coke. Furthermore, in the second test, the medial prefrontal cortex of subjects, the area of the brain thought to handle high-level judgment and reasoning, showed a response to the Coke sample.

In the second test, subjects were thinking about their choice of beverage in a different, deeper, more complex way. It wasn't simply: "Oooh, sweet... I like." More evaluation was going on in this non-blind test than was the case in Montague's first blind test.

When researchers reversed the protocol for the second test and told subjects which cup contained Pepsi, the results didn't change. Coke was still the preferred choice in the non-blind version of the Challenge.

THE POWER OF BRAND OVER MATTER

So, what accounts for the strong preference for Coke when subjects know they're drinking it? It's the **brand**. People were evaluating the Coke sample in their minds in a much deeper way, connecting it to their perceptions and memories of Coke over the years, not just making a simple taste judgment.

They were thinking about "The Real Thing" **positioning**. They were thinking about the lovely portraits of Santa, illustrated by Haddon Sundblom for decades of Coke holiday print ads. They may even have been envisioning themselves standing with hundreds of others on a seaside bluff, with the wind blowing in their hair, singing, "I'd like to buy the world a Coke..." or, "I'd like to teach the world to sing..." When they knew they were drinking Coke, the test subjects reacted based on the full range of their past experiences with Coke's brand, positioning and its ads, not just the taste of that small beverage sample in their hands.

The Coke **brand** is a beautiful thing. After all these years, its power is demonstrated every day around the world. In the U.S., the Coke brand is a revered cultural and marketing icon that has led the soft drink market for over a century and a quarter, actually dominating its market for much of that time. Pepsi got a later start, stumbled along the way, and spent a lot of money on radio and print ads from the 1930s into the early 1950s to position itself as the low-price alternative to Coke, the market leader:

*"Pepsi-Cola hits the spot.
Twelve full ounces, that's a lot
Twice as much for a nickel, too
Pepsi-Cola is the drink for you."*

Catchy jingle, but the positioning of lower price is obviously not as engaging as Coke's more evocative positioning. The Pepsi brand and its positioning have simply never grabbed the national imagination the way the Coke brand did and has never established the same emotional connection with consumers that Coke has earned and enjoyed over the years. Now that's great marketing!

“Emotional connection? I thought we were talking about science and the brain?”

Well, it turns out, when it comes to responding to products and their marketing and advertising, our brains are about as rational as a family reunion. In other words, emotion rules the day. It's only in the past few years that the leading researchers such as Dr. Montague, in the neuroscience labs, have provided real evidence of the role that emotion plays in our purchase decisions.

Before we take a look at more of these neuroscience research findings, let's pop the hood on the human brain to see how the various parts go together and what type of thinking they do in terms of responding to product and marketing stimuli and establishing perceptions.

The average adult human brain weighs about 3 pounds and has a consistency similar to tofu (and don't we all know people who think as though their brains are tofu?). The brain consists of three distinct layers, each with a different type of cellular structure and function.

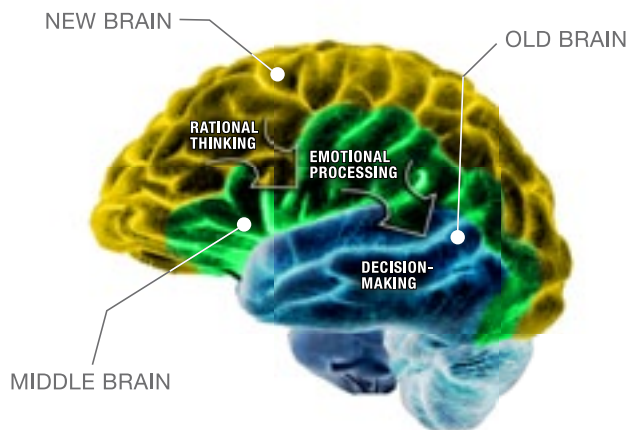
The outside layer—the cerebral cortex—**is the folded, convoluted, “gray matter” with which we're all familiar. It is the most recent part of the brain to evolve in humans and plays the key role in:**

- receiving and processing input from the senses (sight, taste, hearing, smell, touch, and balance)
- selecting and implementing voluntary movements
- organizing sensory information for coherent perceptions about the environment, abstract thinking and language

The cerebral cortex is where the brain *thinks*. For years, it was thought that economic decisions and perceptions were controlled only by the frontal cortex, the rational, thinking brain. Recent neuroscience studies have proven this to be only partially true. Longer-term financial or economic rewards are evaluated in the rational mind. But the benefit of immediate rewards—like taking advantage of the “2-for-1” sale when you only need one right now—are controlled by the second major area of the brain, the limbic system, where emotions are processed. So, in the context of a sales pitch, or any other [marketing communication](#), emotions come first.

The middle part of the brain—the limbic system—**evolved next after the cortex and was the first brain region that could process** emotion and feelings. In an evolutionary sense, this brain development was necessary for survival because mammals give birth to live young. Mammal parents needed to love and care for their offspring and this required feelings.

Finally, deep inside the brain, sitting on top of the brain stem is the “first,” “old,” “lower,” or “reptilian” brain, **which focuses on basic** survival functioning such as breathing and blood circulation. When a patient in a coma is pronounced brain dead, that is, has no conscious thought, this part of the brain continues to function. The reptilian brain (essentially the same structure as a snake's brain, although obviously much different in size) is responsible for triggering decisions, **such as “fight or flight,” based on the information processing of the cortex and limbic system.**



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There are three major brain regions that are instrumental in purchase decisions, the New Brain, the Middle Brain and the Old Brain, which control rational thinking, emotional processing and decision-making, respectively.

So, for the purposes of leveraging marketing communications, those are the three major regions of the human brain: cerebral cortex, limbic system and the reptilian brain. Brain research related to [Neuromarketology™](#) today also focuses on three smaller structures that researchers have identified as pleasure centers:

Nucleus Accumbens

A set of brain structures, part of the limbic system, associated with sexual arousal and the anticipation of pleasure or reward. That's why sex sells.

Medial Prefrontal Cortex

A region within the cerebral cortex that plays a role in planning complex thought processing, personality expression and moderating behavior for social acceptability. Here is where customers make the final decision to buy—"I want it. I'm going to do it."

Insula

This structure, also within the cerebral cortex, is associated with emotions, anticipating pain, perception, motivation, addiction and interpersonal experience. This area of the brain activates when a potential customer anticipates a possible problem with the purchase. For example, the price is too high. While the medial prefrontal cortex makes the decision to buy, the insula can negate a purchase decision.

That's a quick overview of what happens in the human brain, at least in terms of our interest in how it reacts to marketing communication.

Mirror Neurons

One of the first neuroscience studies to have direct implications for marketers took place at the University of Parma in Italy, one of the oldest universities in the world. Beginning in the 1980s, neuroscientist Giacomo Rizzolatti and several colleagues were conducting an experiment in which they placed electrodes through the skull and into an area of the cortex of monkeys' brains to study individual neurons, or nerve cells, that are associated with the control of hand and mouth movements. For example, some neurons were active when a monkey grasped a peanut and other neurons fired when the monkey put the peanut in its mouth.

One day, while preparing to run another trial in the experiment, a researcher had a monkey's brain electrodes plugged into the recording device and, when the researcher reached for a peanut to hand it to the monkey, the monkey observed the researcher and the monkey's neurons fired just as though the monkey itself had reached for the peanut. This remarkable and lucky observation led to a breakthrough in [neuroscience](#) leading to the discovery of "mirror neurons."

Eventually, Rizzolatti determined that approximately 10% of the neurons in a monkey's cortex have mirror properties and fire similarly in response to both performed hand actions and observed actions. Recently, evidence from functional neuroimaging (which is discussed below) and behavioral studies strongly suggest the presence of similar mirror neuron systems in humans, which respond during both action and the observation of action. The mirror responses in humans have been shown to come from the same brain regions as those observed in Rizzolatti's monkeys.

Mirror neurons are why, when I watch my son racing to the other end of the basketball court for a breakaway layup, my heart races as though I am running, too. The mirror neurons in my brain are telling me that I'm also driving for that layup. Mirror neurons are also why, when my son comes down awkwardly on an ankle, I wince in pain. They are also the reason that we feel good when someone smiles at us and we automatically smile back.

In his 2008 book, *Buyology* (which I recommend highly), Martin Lindstrom tells a story about Apple's Steve Jobs to illustrate the impact of mirror neurons on product and marketing dynamics. One day in 2004, Jobs was walking down Madison Avenue in New York City and he realized that a significant number of people he passed were wearing the distinctive white earbuds of his recently launched iPod. Jobs is quoted as saying, "Oh, my God, it's starting to happen." Mirror neurons, triggered by the sight of the new, cool earbuds worn by other people, were telling consumers, "You need that now to be cool." Consumers were responding by getting their own iPods. Mirror neurons are the driver behind any fad or successful product launch. We see something, we imagine ourselves having it. In anticipation of that reward, our mirror neurons cause dopamine to be released in the nucleus accumbens and prefrontal cortex, making us feel good and so we buy or commit. Yes, it's a thought process, but a

thought process based in emotion and provoked by on-target marketing that drives the anticipation of reward.

How do the neuroscientists get inside our brain to determine how and why we respond to products and their marketing? Scientific and medical ethics preclude implanting electrodes into human brains simply to figure out why the iPod is so popular (for now). But fortunately, for those of us marketers truly attempting to refine our craft, there are several noninvasive technologies that can give us insight into brain functioning as it relates to [marketing](#).

BUYING AND THE BRAIN

Electroencephalography (EEG, thankfully) is the recording and analysis of electrical activity in the brain as captured by sensors placed on the scalp and head. It is sometimes referred to as "Quantitative EEG" or QEEG. Subjects can be asked questions and shown products or images of products, while the changing electrical activity in the brain can be isolated to specific brain regions. EEG's limitation is that it can really only measure electrical activity in the outermost layers of the cortex. EEG's advantage over other methods is that it is instant reading as compared to resolution times of seconds or minutes for other methods. It is also less expensive than MRI technology.

Magnetic Resonance Imaging, specifically a specialized form known as functional MRI (fMRI), measures brain activity by graphically reporting the dynamics of blood flow within the brain. This test is performed in the widely available, but still very expensive, piece of lab equipment in the shape of a large tube into which the subject slides. Again, the subject can be asked questions or shown various items and the technology records and displays the brain activity. As mentioned above, the measurement of blood flow is slower than measuring electrical

impulses, but fMRI is more accurate in indicating where in the brain the activity is taking place.

Another older technology, eye tracking, may also be used either by itself or in conjunction with either EEG or fMRI. A lab device follows and records where the subject is fixing his or her gaze over a period of time while observing a product or advertisement. Correlating the eye tracking data with other data on brain activity can, if assimilated properly, lead to insights regarding packaging or [marketing communications](#) messaging.

BRANDING'S EMOTIONAL CONNECTION

In terms of specific, directly applicable guidance for more effective, more efficient marketing, neuroscience is by no means a perfect science today. This new information can certainly help us in reducing the risk of off-target marketing and advertising, but it is only one data point among many that we need to master in order to better communicate with prospects and customers. The emerging findings in this field must be used in conjunction with other quantitative and qualitative research data in order to provide a more complete picture of who we're selling to and what they want. When we add all these components together and then analyze our options through the magnification and granularity of these new data points, we form the nucleus of Neuromarketology™.

One big advantage that neuroscience brings to marketing is that we no longer have to rely solely on focus groups and surveys to gather data about how customers and prospects think about products and

marketing. Focus groups and surveys are notorious for being skewed by cognitive bias, which is a technical research term meaning people lie. It's human nature to want to look good and look smart, so most people will say what they think will achieve that objective in a focus group or on a survey. Neuroscience allows us to see what's happening subconsciously in the brain of the subjects before they have a chance to fluff it up a little to satisfy their egos.

Neuromarketology™ studies, to date, have proven conclusively that marketing involves a high degree of emotion and is not an entirely rational process. Here is the one simple truth about every great marketing campaign: You must get a person emotionally involved in your product or message.

Remember, it's the limbic system that deals with emotions in the brain. Only when there is an emotional connection between your brand, product and message, and your target, will the limbic system bump the final decision up to the cortex with a strong recommendation to move forward.

We're not completely controlled by perceptions, but perceptions definitely inform our decisions, and perceptions are formed unconsciously in the brain. Perceptions of branded products are the result of a complex, subconscious process that results in our conscious, rational mind deciding we have a good reason to like something and/or to purchase it. The art and science of great marketing is harnessing those points of connection and franchising those connections with your brand efficiently and with measurable consistency.

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