

SLIPSTREAM

Making Ads That Whisper to the Brain



NeuroFocus

NeuroFocus, a neuromarketing company, tests volunteers' subconscious reactions to images by having them wear a fabric cap with brain sensors and an eye-tracking device.

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WHAT happens in our brains when we watch a compelling TV commercial?

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For one thing, certain brain waves that correlate with heightened attention become more active, according to researchers who have used EEGs, or electroencephalographs, to study the brain's electrical frequencies. Brain waves that signal less-focused attention, meanwhile, tend to subside.

In other words, this is your brain on ads.

Or so say neuromarketers, a nascent group of researchers who use techniques from neuroscience to analyze people's responses to products and promotions.

Neuromarketing's raison d'être derives from the fact that the brain expends only 2 percent of its energy on conscious activity, with the rest devoted largely to unconscious processing. Thus, neuromarketers believe, traditional market research methods — like consumer surveys and focus groups — are inherently inaccurate because the participants can never articulate the unconscious impressions that whet their appetites for certain products.

If pitches are to succeed, they need to reach the subconscious level of the brain, the place where consumers develop initial interest in products, inclinations to buy them and brand loyalty, says A. K. Pradeep, the founder and chief executive of [NeuroFocus](#), a neuromarketing firm based in Berkeley, Calif.

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Volunteers in NeuroFocus marketing tests wear a fabric cap that houses EEG sensors and an eye-tracking device while they look at a commercial, use a Web site or view a movie trailer. The dual devices enable researchers to connect the volunteers' brain patterns with the exact video images or banner ads or logos they're viewing.

“By measuring brain waves, we are able to measure attention, emotion and memory,” says Dr. Pradeep, who holds a Ph.D. in engineering. “We basically compute the deep subconscious response to stimuli.”

Add all those electrical patterns together, he says, and “you find it represents the whispers of the brain.”

And the brain-whispering business seems to be booming.

A handful of neuromarketing firms, like [EmSense](#), [Sands Research](#), [MindLab International](#) and [NeuroSense](#), now specialize in the latest mind-mining techniques — EEGs, [M.R.I.](#)'s, eye-tracking — or in older biometric methods that track skin, muscle or facial responses to products or ads.

Companies like [Google](#), [CBS](#), [Disney](#), [Frito-Lay](#) and [A & E Television](#), as well as [some political campaigns](#), have used neuromarketing to test consumer impressions. And, in 2008, Nielsen invested in NeuroFocus, the largest of these firms, adding credibility to the field.

Trying to tap into the consumer subconscious in the hope of moving more merch isn't new. More than 50 years ago, Vance Packard, a journalist and social critic, wrote a seminal book called “[The Hidden Persuaders](#),” which described how advertisers played on people's unconscious desires in trying to influence them.

Neuromarketing is simply the latest incarnation, says [Joseph Turow](#), a professor of communication at the Annenberg School for Communication at the [University of Pennsylvania](#). “There has always been a holy grail in advertising to try to reach people in a hypodermic way,” he says.

Major corporations and research firms, he says, are jumping on the neuromarketing bandwagon because they are desperate for any novel technique to help them break through all the marketing clutter. “It's as much about the nature of the industry and the anxiety roiling through the system as it is about anything else,” he says.

But should we worry that a technique that probes subconscious brain patterns might be used to unduly influence consumers, turning them into shopping robots without their knowledge and consent? Indeed, neuromarketing is setting off alarm bells among some consumer advocates, who call it “brandwashing” — an amalgam of branding and brainwashing.

“It's having an effect on individuals that individuals are not informed about,” and should be regulated, says Jeff Chester, executive director of the [Center for Digital Democracy](#), which works to safeguard digital privacy.

Mr. Chester says the government traditionally hasn't restricted advertising for adults because adults have defense mechanisms that can distinguish between truth and untruth. “But if the advertising is now purposely designed to bypass those rational defenses, then the traditional legal defenses protecting advertising speech in the marketplace have to be questioned.”

Proponents of the technique, however, say neuromarketing is simply a more accurate barometer of consumer response than traditional focus groups.

[Dr. Pradeep of NeuroFocus](#), for one, says his company will never use subliminal techniques — like embedding stimuli that last 30 milliseconds or less — that people can't

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consciously register. And while other neuromarketing firms have been involved in political campaigns, testing candidate speeches and ad scripts, NeuroFocus has not.

“If I persuaded you to choose Toothpaste A or Toothpaste B, you haven’t really lost much, but if I persuaded you to choose President A or President B, the consequences could be much more profound,” Dr. Pradeep says. “The fact that we can use this technology to do this doesn’t mean we should.”

Moreover, at this point, neuromarketing probably isn’t sophisticated enough to realize some of its critics’ worst fears.

EEGs, for example, can be used to determine whether a person is engaged, but not to decipher the nuances of that engagement, says [Dr. Robert T. Knight](#), a professor of neuroscience and [psychology](#) at Berkeley as well as the chief science adviser at NeuroFocus. That means, he says, that neuromarketing may distinguish whether a person’s emotional response is positive or negative, but not whether the positive response is awe or amusement.

“This is not a mind reader,” Dr. Knight says. “We can only measure whether you are paying attention.”

SKEPTICS also note that the technique has yet to prove that brain-pattern responses to marketing correlate with purchasing behavior.

The enthusiasm for neuromarketing is based on a mistaken belief that triggering certain brain activity can be a more real and powerful influence than people’s behavioral responses, says [Paul Root Wolpe](#), a bioethicist who is director of the [Emory Center for Ethics](#). He calls neuromarketing an “iffy technology,” a kind of pop neurology that at best may provide cues and clues on how companies can better position products.

“The idea is that somehow neuromarketing is going to be so much more powerful that, like zombies, we are all going to go out and buy soap,” Professor Wolpe says. “But that is just not realistic in terms of the way the brain works.”

Efforts are now under way to try to validate these techniques. In September, the Advertising Research Foundation, an industry group, [announced a “NeuroStandards Initiatives” project](#). It is to review research from participating firms and to establish some industrywide standards for neuromarketing.

NeuroFocus isn’t participating because it already has its [own standards](#), Dr. Pradeep says. But the NeuroStandards project has still attracted some serious interest: sponsors include [General Motors](#), [Clorox](#), [American Express](#), [Campbell Soup](#) and [MTV Networks](#).

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