

## Generating Brain Waves That Pierce Attention.

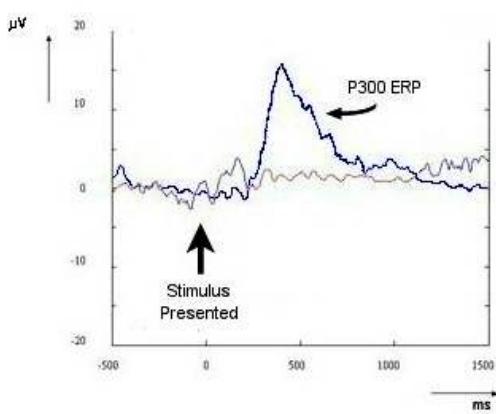
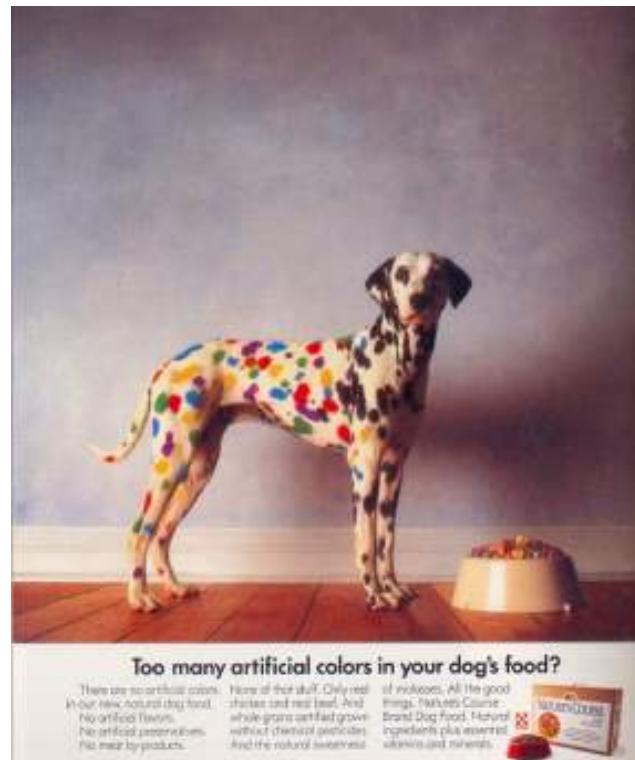
By Max Sutherland

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When reading newspapers and magazines we scan ads with our minds on autopilot. We look at a print ad for no more than two seconds<sup>1</sup> on average so the visual (or the headline) only has that frighteningly short time to jolt us out of autopilot and motivate us to read further.

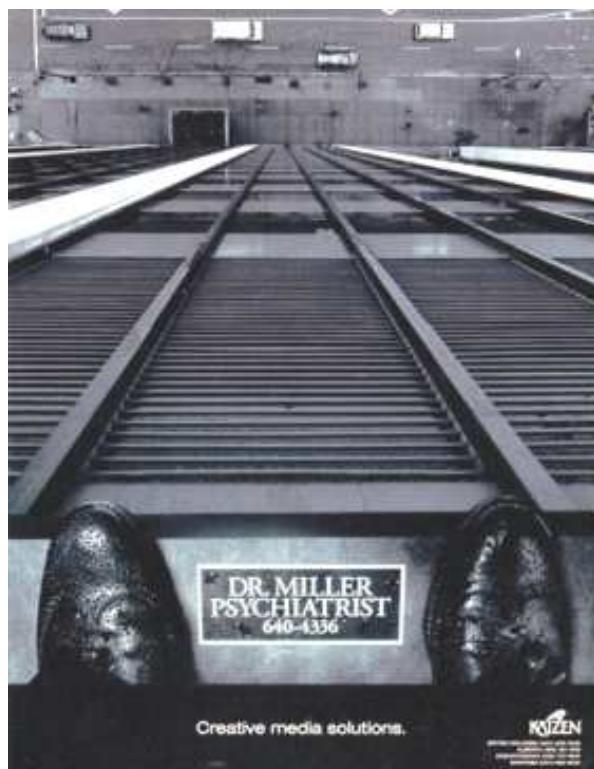
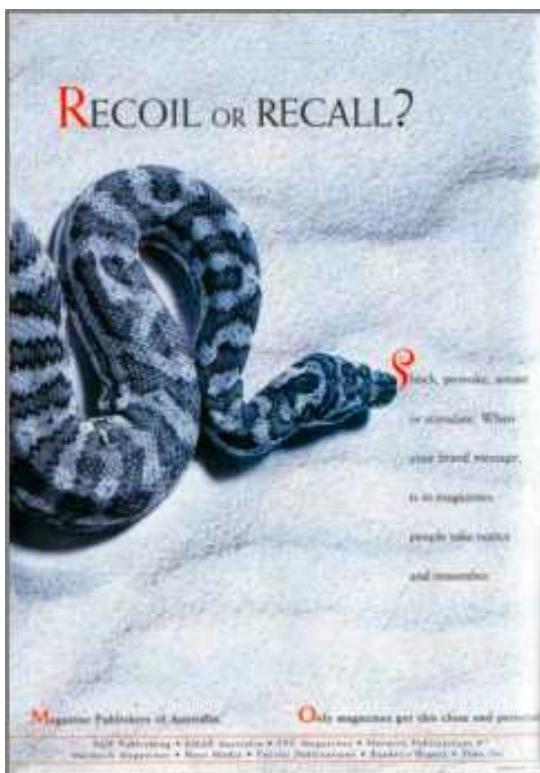
One way to jolt an audience out of autopilot is to use visuals that trigger the mind's 'intruder alert'. I described this in this column two years ago. (["Capturing Attention by Triggering the Mind's 'Intruder' Alert"](#), AdNews, August 2003). When something seems not quite right in an ad, (e.g. the ad pictured here showing a dog with technicolor spots), it triggers this 'intruder alert' and captures attention.

Brainwave monitoring (of Event Related Potentials –ERPs<sup>2</sup>) in medicine and psychology now extends our understanding of this. Surprising stimuli such as a dog with technicolor spots trigger several types of brain waves. The most consistent one is known as the P300 - (so called because it happens around 300 milliseconds after exposure to the stimulus – a delay of about a third of a second)<sup>3</sup>. This P300 wave is triggered by novelty, surprise or any departure from expectation. (Even the unexpected absence of an event will trigger it such as the omission of one click in an otherwise regular series of clicks.)



The height of that wave indicates the amount of attention that the stimulus triggers. So this P300 wave acts like a measure of cut-through. Its amplitude is proportional to the amount of attention engaged in processing the stimulus.<sup>4</sup> Even when such a stimulus is totally irrelevant to what we are doing, it will trigger a P300 and jolt us into attention.

What is revealing is that the types of stimuli that trigger the P300 are not just novelty, incongruity and surprise. Any stimulus that is 'adaptively relevant or biologically salient' will trigger it. What does this mean? Check out these next two ads and see if you don't feel your P300 kicking in.



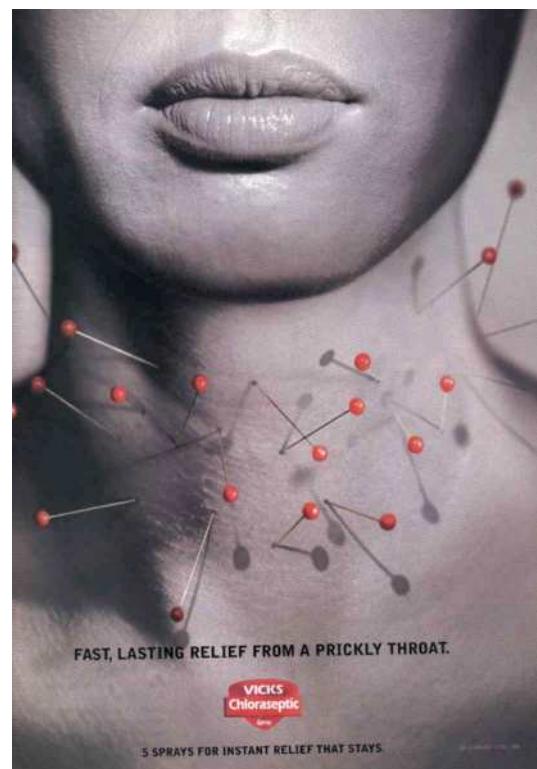
Our attention system has evolved adaptively over the millennia so that important survival stimuli (even though they are not relevant to what we are immediately attending to) will break-through into attention. Threatening stimuli (such as snakes or standing on a skyscraper-ledge) will trigger a P300, as will a possible 'intruder' like a dog with technicolor spots, because 'its ID is not quite right' and our minds have no existing mental template that fits it.

When this 'intruder alert' goes off it compels the mind to investigate and *check it out*. This alert is how we are protected from lots of recognition mistakes that we would otherwise make while the mind is on autopilot. The intruder alert turns out to be related to threat because it is adaptively relevant to survival.

#### **Emotional Amplifier.**

The amount of attention triggered by the intruder alert and indicated by the size of the P300 is amplified even further when the stimulus is both novel and emotive. Check out this next ad. It triggers both surprise and emotion.

Just as you can get a visceral feeling watching somebody on a ledge at great height, or from seeing a snake, so too can you get a visceral feeling from seeing somebody with pins stuck in their throat. This



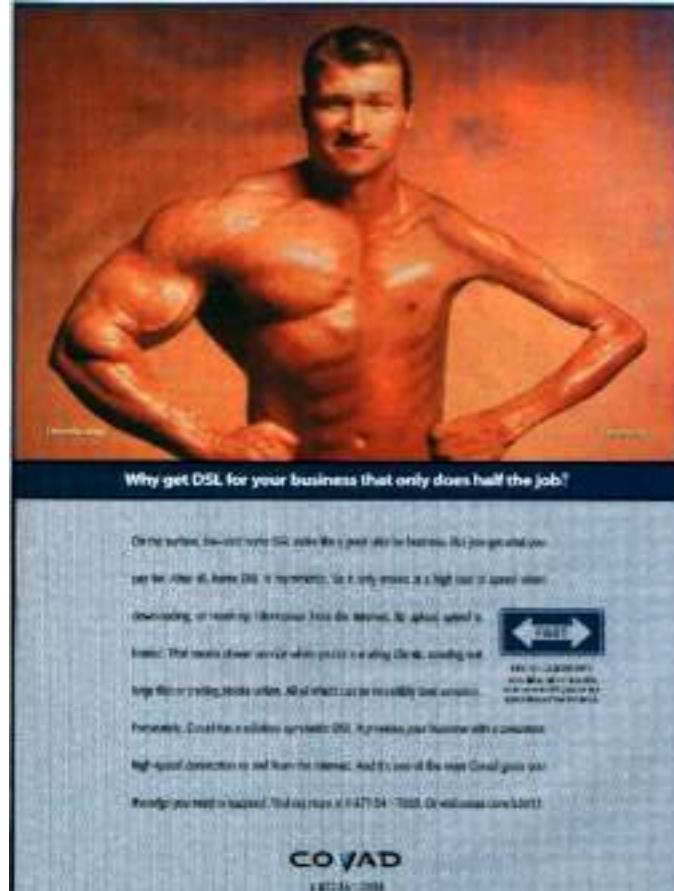
ad for Vicks throat spray works on the same shock effect that punk rock and body piercing tap into. The visceral reaction acts like a high-involvement amplifier of attention.

The greater the emotion amplifying the intruder alert, the larger the P300 and the greater the amount of attention it engages. Here's another example that works similarly. It depicts a man who on one side of his body looks like Arnold Schwarzenegger while on the other side he is thin and scrawny with a wasted physique like a very old person whose muscles have atrophied. We have never seen anything like this before so it will trigger the mind's intruder alert because it doesn't fit any existing template in our mind. But more than that, there is a visceral feeling about the stimulus (almost mildly repulsive) that further amplifies the P300.

Amplifying the P300 with emotion like this can generate an even more compelling stimulus. But be cautious because more emotion and more attention are not always better. Attention is important, but it is only one of the key ingredients in the overall effectiveness of an ad.

### **Caution 1: Withdrawal and Recall**

Ads based on the 'intruder alert' amplified by emotion are indeed compelling stimuli. Emotion generates attention, but beyond a point, too much emotion can become a turn-off that can curtail exposure.<sup>5</sup> There is evidence from recall and recognition studies to indicate that if emotion gets too high, memory for the ad may suffer. So eliciting attention is good, but over-amplifying it with too much emotion may result in a reversal of the overall effectiveness.



### **Caution 2: Negative Emotion Needs to be Dissipated.**

Negative emotion such as that evoked in some of the ads here, makes for an even more compelling stimulus<sup>6</sup> - possibly generating even higher P300s than positive emotion. But negative emotion is only appropriate for 'problem avoidance' advertising (that is what the last two examples are). In other words, if the emotion is negative, the ad needs to offer a product solution that dissipates the negative visceral feeling (an internet service that doesn't do just half the job. A throat-spray for lasting relief from a prickly throat).

### **Caution 3: Exaggerate the Branding**

The greater the emotion in an ad, the more the ad needs to err on the side of over-prominence in the branding elements. Brand registration will very likely fail despite riveted attention if this is not done. Victims of mugging often cannot remember the face of their attacker because their attention was understandably fixed on the weapon. Similarly brand recall will fail if reader attention is too riveted onto the attention-getting stimulus.

**Conclusion:**

- The P300, triggered by novelty/surprise and emotion, looks to be an indicator of attention or cut-through.
- Discovered by psychological and medical researchers, the P300 has yet to been taken up into any widespread commercial use.<sup>7</sup> It seems only a matter of time before we see investigation of it for advertising.
- Using emotional stimuli to amplify the P300 triggered by the intruder alert can produce quite compelling stimuli.
- But attention is not all and too much emotion can lead to 'turn-off'.
- Amplification of the P300 by negative emotion is appropriate only for 'problem avoidance' advertising that offers product solutions to dissipate those negatives feelings.
- When deploying any attention-getting device, be sure to exaggerate the brand prominence.

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**Notes and References**

<sup>1</sup> Franzen, G. (1994). Advertising Effectiveness: Findings from empirical research. Oxfordshire, NTC Publications.

<sup>2</sup> A.K.A. 'Evoked Response Potentials'

<sup>3</sup> Gray, H. M., N. Ambady, et al. (2004). "P300 as an index of attention to self-relevant stimuli." Journal of Experimental Social Psychology 40 (2004) 40: 216–224.

<sup>4</sup> Johnson, R., Jr. (1988). "The amplitude of the P300 component of the event-related potential: Review and synthesis." Advances in Psychophysiology 3: 69-137.

<sup>5</sup> Thorson, E. and X. Zhao (1994). Television viewing behavior as and index of commercial effectiveness. Society for Consumer Psychology, Advertising & Psychology Conference.

<sup>6</sup> Ito, T. A. and J. T. Cacioppo (2000). "Electrophysiological Evidence of Implicit and Explicit Categorization Processes." Journal of Experimental Social Psychology 40 (2004) 36: 660-676.

<sup>7</sup> Other than lie detection forensics.