

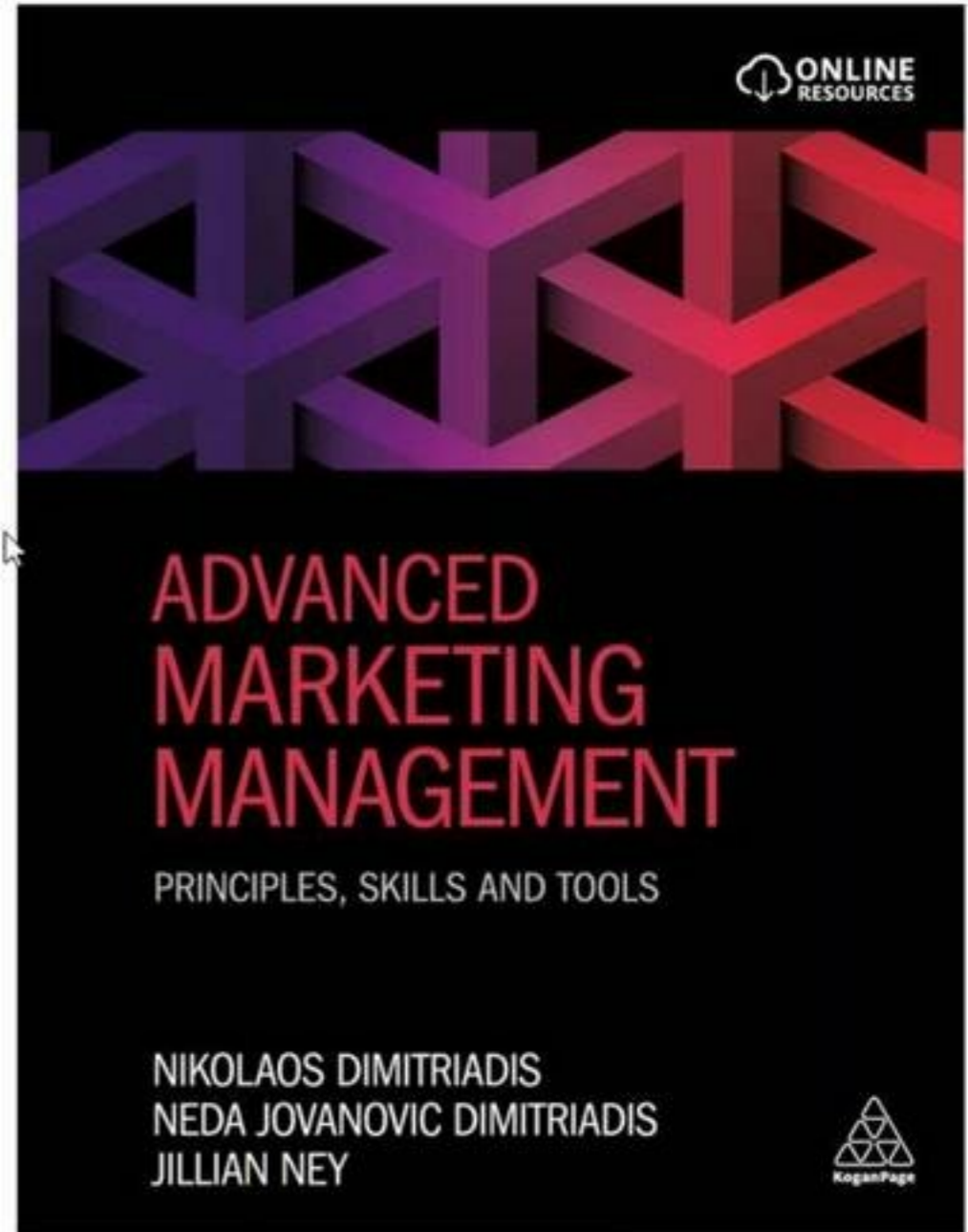
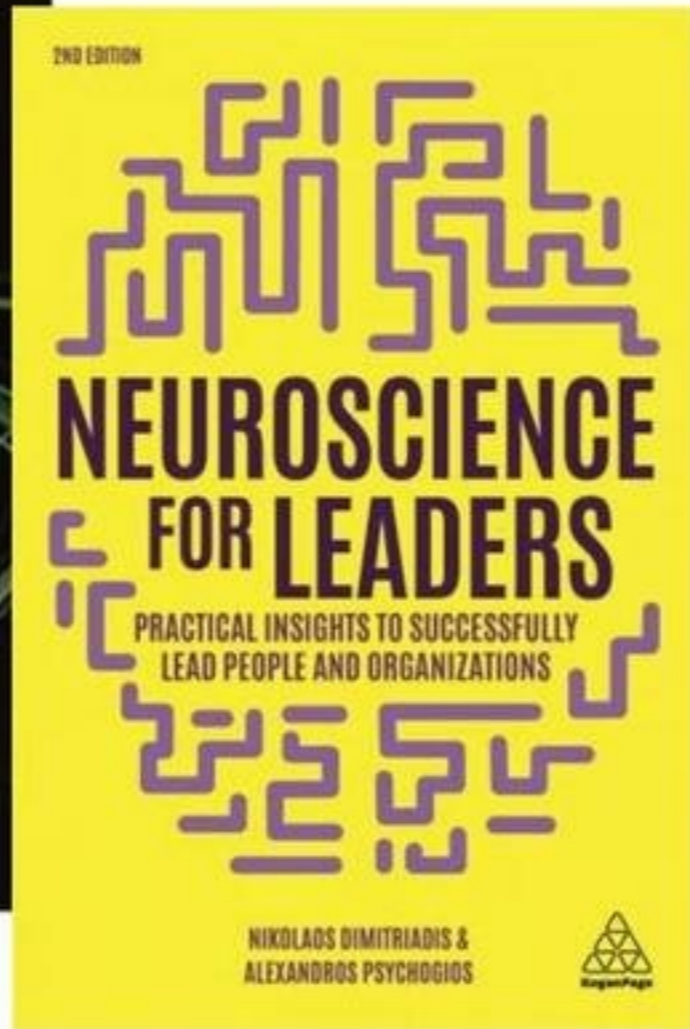
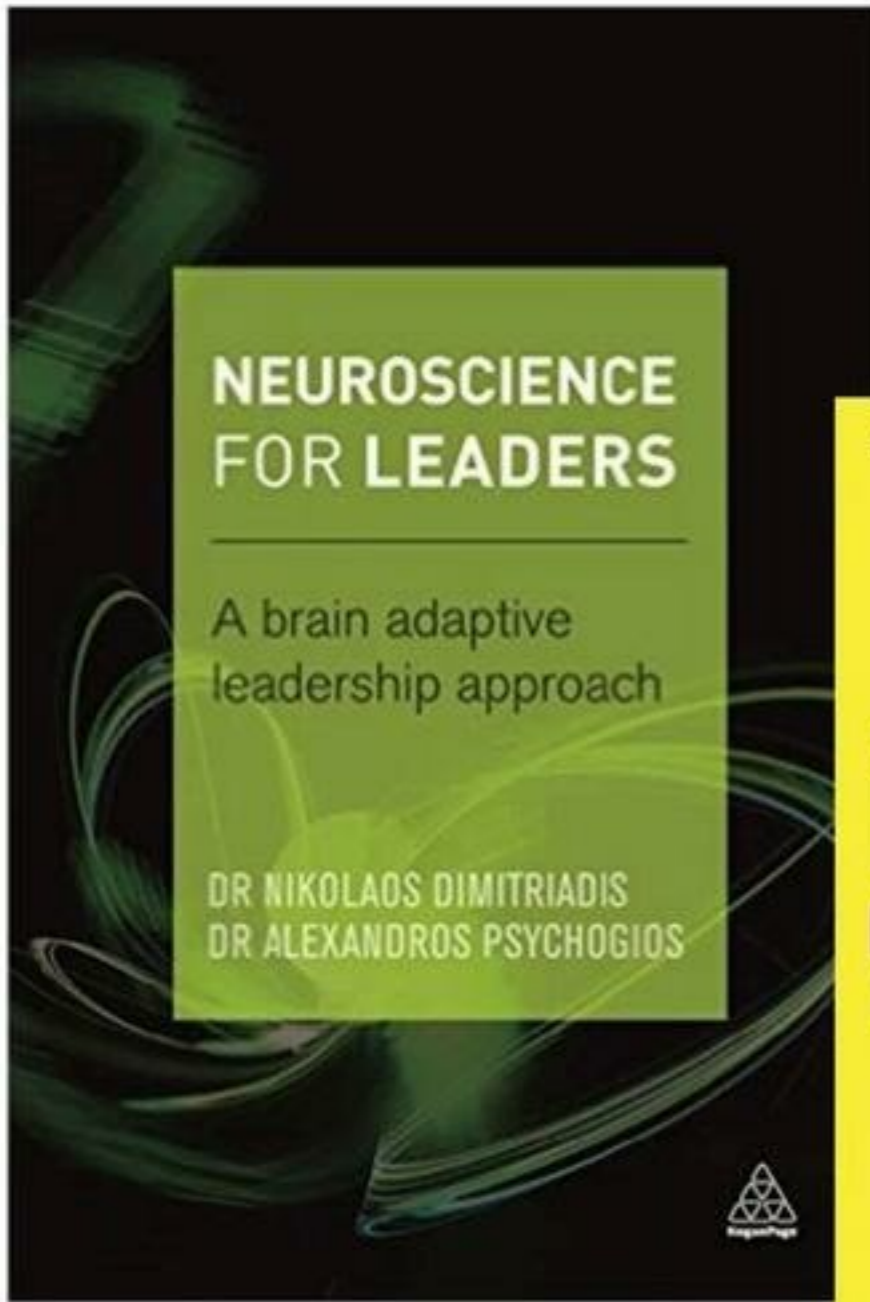


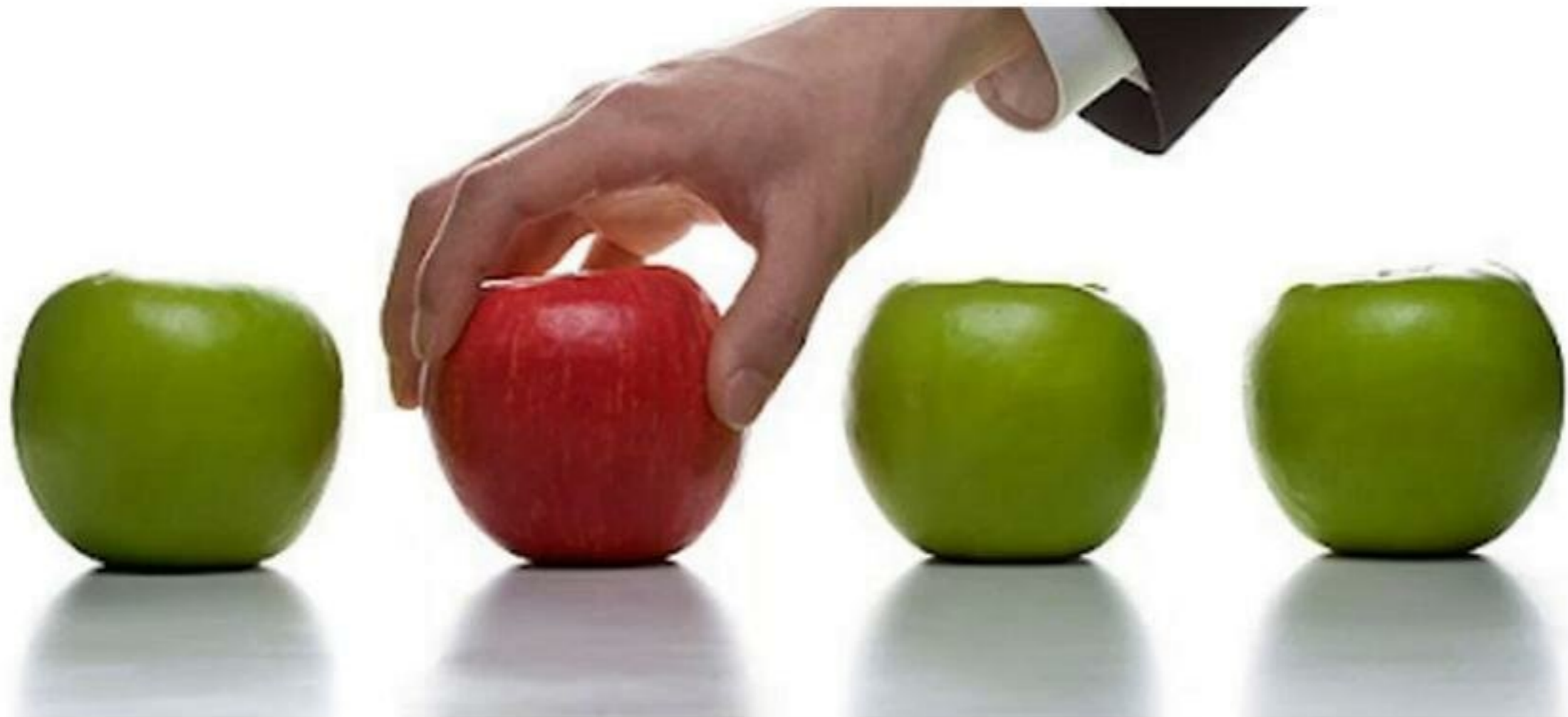
Neuromarketing

How to Influence Behavior and Convince More!

Dr Nikolaos Dimitriadis

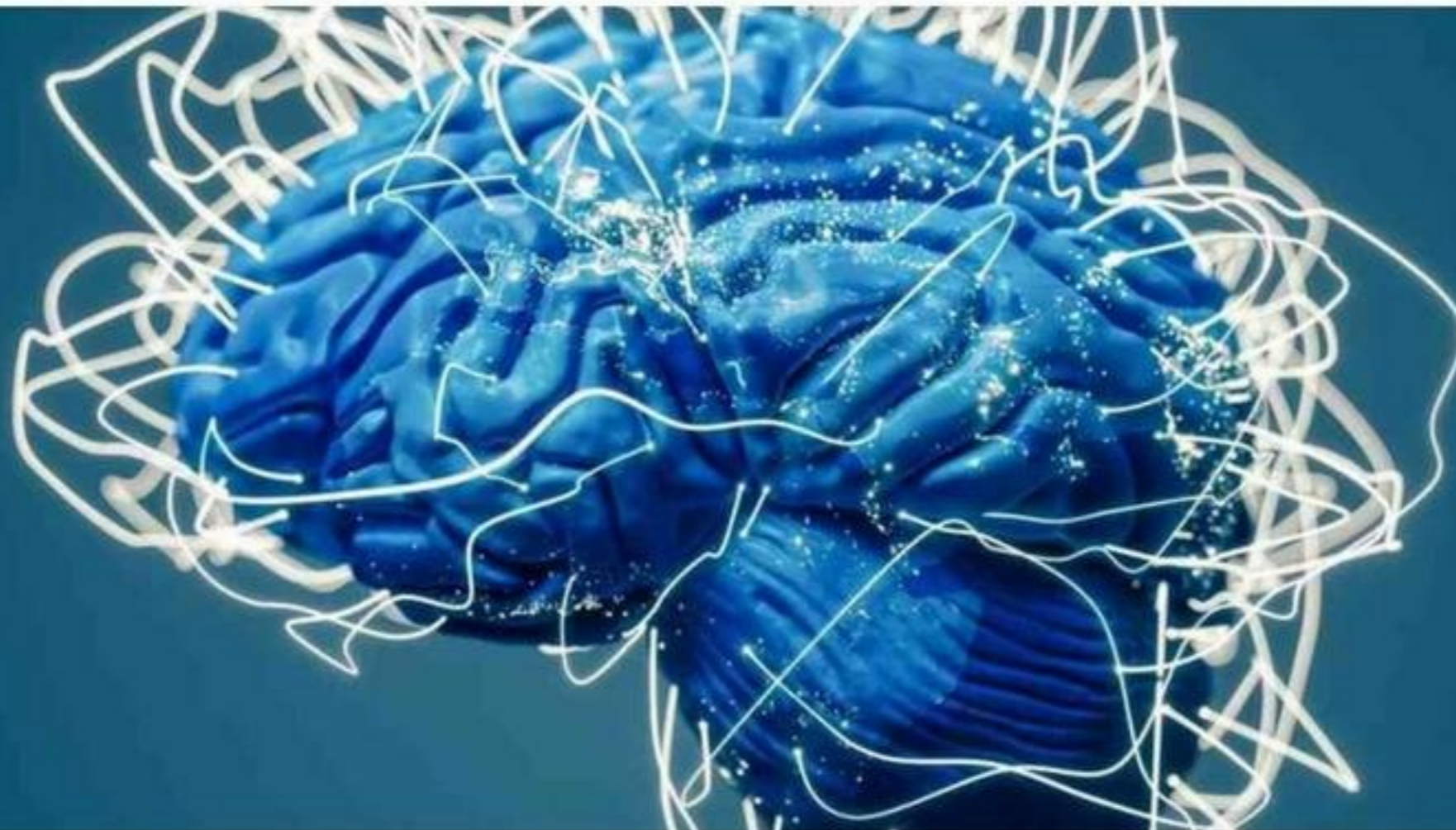
Head of Neuro Consulting Services, OptimalHRGroup





95% of decision-making is unconscious, therefore people are not fully aware of why they choose something and why they like it.

(Zaltman, 2003, *How Consumers Think: Essential Insights into the Mind of Market*, Harvard Business School Publishing).



Out of 10 million bits of information received by the brain per second, only 50 bits are processed in our conscious mind.

(Nease, 2016, *The Power of Fifty Bits: The New Science of Turning Good Intentions Into Positive Results*, Harper Collins Publishing).



The human brain decides unconsciously **up to 11 seconds** before people are aware of it.

(Koenig-Robert et al., 2019, *Decoding the Contents and Strength of Imagery Before Volitional Engagement*, Scientific Reports).



In January 2013 the
EU pledges 500m
Euros to the
Human Brain
Project.





In April 2013 the US pledges 100m Dollars to the Brain Initiative.

the WHITE HOUSE

PRESIDENT OBAMA IS CALLING ON THE SCIENCE COMMUNITY TO JOIN HIM IN PURSUING A GRAND CHALLENGE

BRAIN INITIATIVE BRAIN RESEARCH THROUGH ADVANCING INNOVATIVE NEUROTECHNOLOGIES



\$100 MILLION

Approximate investment to give scientists the tools they need to get a dynamic picture of the brain and better understand how we think, learn, and remember.

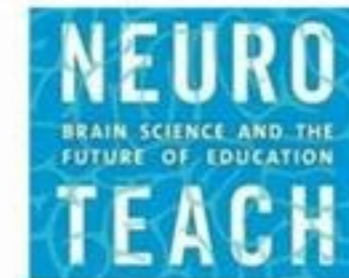
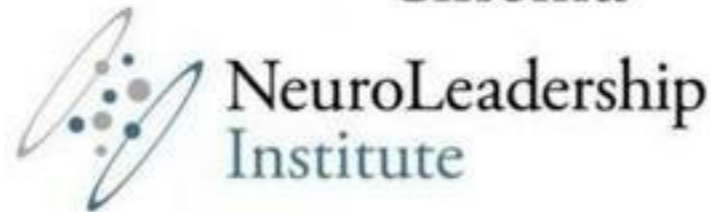


Elderly women in Shanghai, China, suffering from dementia, one of the diseases the new effort may tackle. ©LAI SHEN/IN PICTURES LTD./CORBIS/GETTY IMAGES

Here's how China is challenging the U.S. and European brain initiatives

By Dennis Normile | May. 22, 2018 , 4:35 PM

SHANGHAI, CHINA—The nascent China Brain Project took another step toward reality last week with the launch of the Shanghai Research Center for Brain Science and Brain-Inspired Intelligence. The new center and its Beijing counterpart, launched 2 months ago, are expected to become part of an ambitious national effort to bring China to the forefront of neuroscience. But

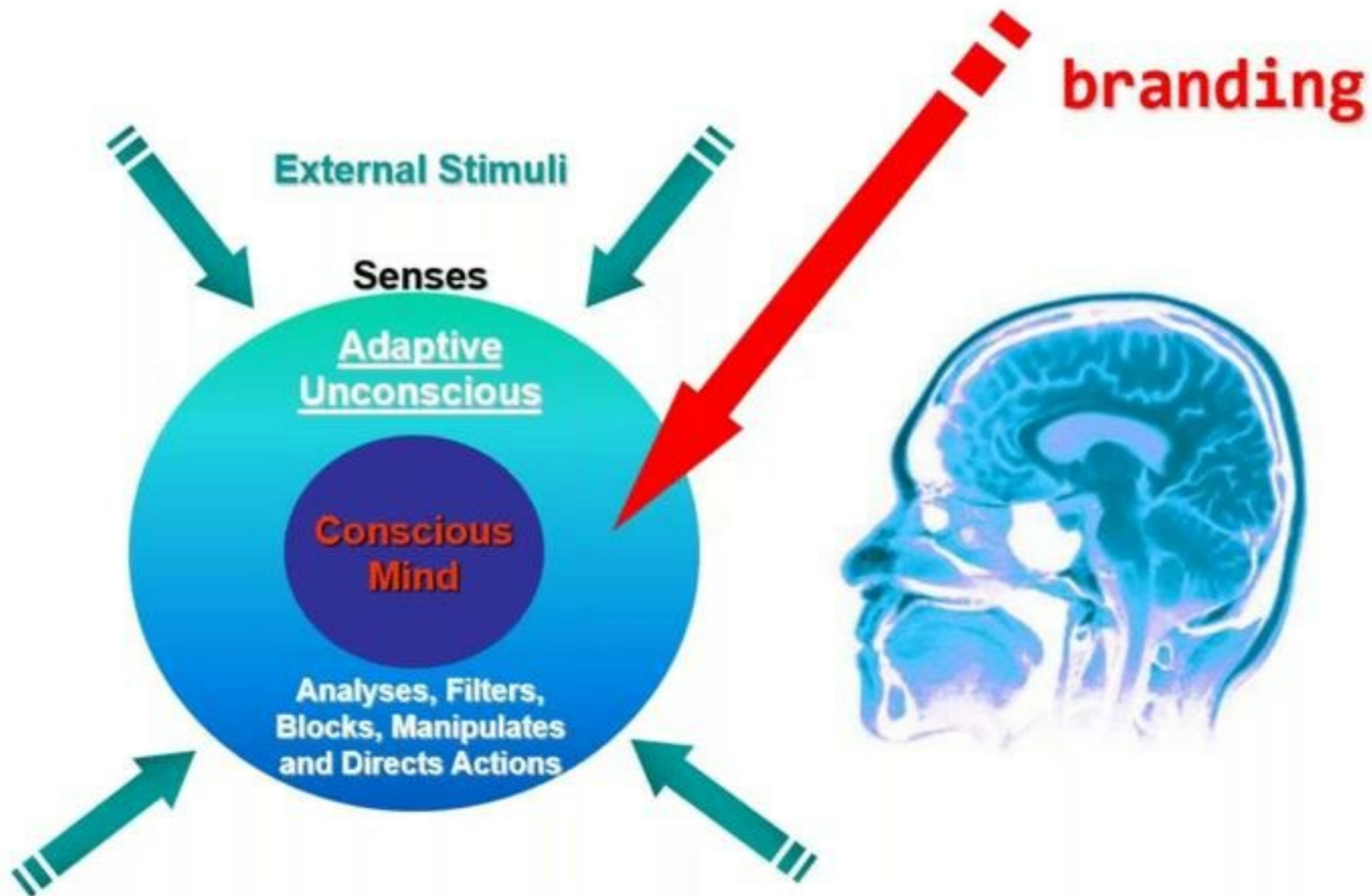




Neuralink



How does it work? (simplified)





In blind taste-tests of the same cornflakes, those who preferred Sample A over Sample B increased from 47 to 59 percent when they were told that Sample A is Kellogg's and B a non-brand.

When identical TV sets were sold in a study, those branded Hitachi sold for \$75 more than those branded GE.



Sixty three children of 3 to 5 years old, almost universally preferred food, saying it tasted better, when it was wrapped in McDonald's packaging than in plain packaging. It was the same food.

Don't listen to people!



24 flavors, more trials,
less purchases (3%)
6 flavors, less trials, more
purchases (30%)



America's taste just got better.

So much better you won't believe it.
We're rushing to bring you the
greatest Coca-Cola® you ever had!
Get set for a surprise.
It's Coke -- all Coke -- but a giant step better.
Better tasting. Smoother feeling.
More refreshing, more inviting than ever.
New Coca-Cola will soon be dressed in its
brand-new best. Meanwhile, look for cans and
bottles marked "NEW." That's your Coke.

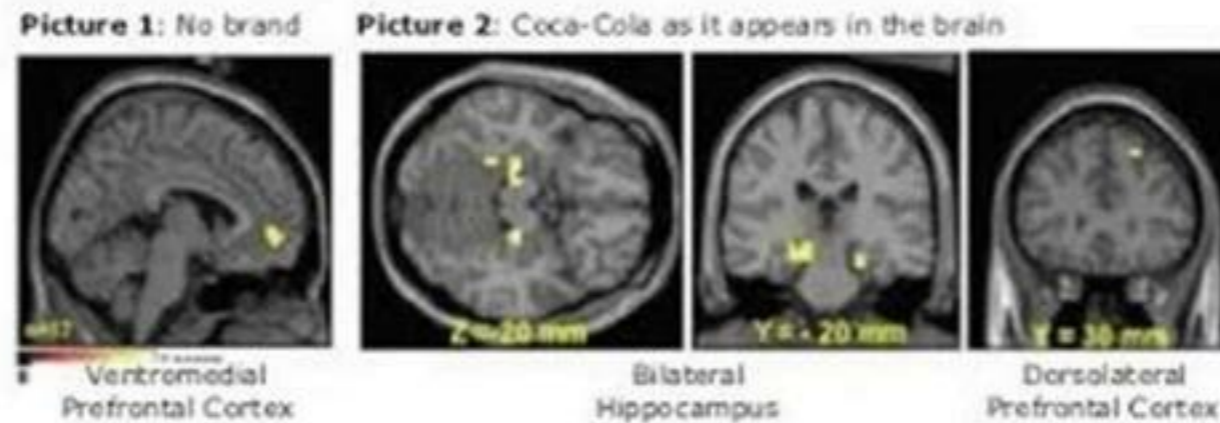
Now, more than ever...
Coke is it!

©1995 The Coca-Cola Company. "Coke is it," "Coca-Cola," and "Coke" are registered trademarks of The Coca-Cola Company.

New Coke Case Study

- Market research on 200,000 subjects showed that consumers preferred a sweeter version of the Coke drink over both Classic Coke and Pepsi...
- **SO WHAT WENT WRONG?**





- When the brand was not visible, VMPFC, or the ventromedial prefrontal cortex was highly activated.
- This part of the brain, “is strongly implicated in signaling basic appetitive aspects of reward”. This means taste rules when not viewing labels.
- When the brand was visible, great brain activity was shown in the DLPFC or the dorsolateral prefrontal context, the hippocampus and the midbrain.
- The first two are strongly associated with “modifying behavior based on emotion and affect” and “the DLPFC is commonly implicated in aspects of cognitive control, including working memory”.
- This means that logos and brand names carry cultural value within our brains, but not all an equal one.

New Coke Case Study

"The simple fact is that all of the time and money and skill poured into consumer research on a new Coca-Cola **could not measure or reveal** the depth and abiding **emotional attachment** to original Coca-Cola felt by so many people."

Donald Keough, the former president of the Coca-Cola Company

https://www.youtube.com/watch?v=t_djFC9Uhuw



Petrified Forest

National Park
Arizona

The Two Messages

1. Many past visitors have removed the petrified wood from the park, changing the natural state of the Petrified Forest. (with a picture of many visitors stealing pieces of wood)

The Two Messages

1. Many past visitors have removed the petrified wood from the park, changing the natural state of the Petrified Forest. (with a picture of many visitors stealing pieces of wood)
2. Please don't remove the petrified wood from the park, in order to preserve the natural state of the Petrified Forest. (with a picture of a lone visitor trying to steal, and a red circle and a bar)

Results

Results

Results

- Average before messages: **2.92% stole**
- Message 2 (you do it alone and you have to stop): **1.67% stole**
- Message 1 (many people do that bad thing, so we have to stop): **7.97% stole**

Results of Neuro Study in Tobacco



EEG

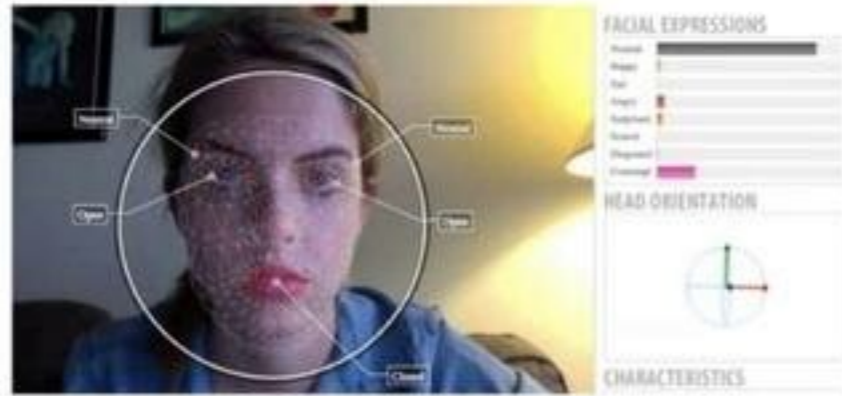
Electroencephalogram



Eye tracking



Emotional face analysis



Biometrics

skin conductance, blood pressure and heartrate



Emotional voice analysis

