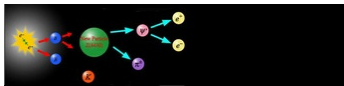


PHYSICAL SCIENCES »



Sagittarius A* Black Hole In Our Galaxy Gets Triangulated...

By watching the motions of 28 stars orbiting the Milky Way's most central region... Read >

- Fully Upgraded C-5M Super Galaxy to Extend Lifetime...
Predicted Planet Gets Imaged - For Only The Second...
New Polymer Coatings Bring Self-Healing Cracks...
Magnetic Behavior At One Billionth Of A Meter

All Physical Sciences »

EARTH SCIENCES »



Tree Carbon Calculator - Now Californians Can Measure The...

U.S. Forest Service scientists at the Center for Urban Forest Research are... Read >

- Droughts In Asia Aggravating Global Warming
An Elemental Look At Evolution In Ancient Oceans
America's Future is not the Internal Combustion Engine
Climate Change Made (And Broke) Empires

All Earth Sciences »

LIFE SCIENCES »



Regressive Autistic Spectrum Disorder - When The Terrible...

We all know how infants can act up during their terrible twos, but when these... Read >

- When Did Nut Allergies Descend Into Sensationalism?
Compulsive Overspending - Are Men Hard Wired For it?
Fits Of Anger Linked To Status, Sex - And Even...
Population Study Finds Genetic Variants For 9...

All Life Sciences »

MEDICINE »



Dispelled - High Fructose Corn Syrup Causal Link To Obesity

A supplement in the December 2008 edition of the American Journal of Clinical... Read >

- Causes Of Death On Mount Everest Explored - And...
Dieting - Not All Fats Are Created Equal
Low Blood Pressure Implicated In AIDS
Forensics - What The Eyes Can Tell Us About The...

All Medicine »

SOCIAL SCIENCES »



Cognitive Efficiency Determines How Advertising Affects...

As we watch TV, listen to the radio or flip through the pages of a magazine... Read >

- The Meaning Of Milton 400 Years Later
What Happens To Santa When Kids Reach The Age...
Red Or Green? The Sex Issue In Skin Color
How Will Religion Regard Nanotechnology?

All Social Sciences »

CULTURE »



Math Under Stress - The Working Memory Key

We've all had it happen; you're sitting in class, hopelessly unprepared because... Read >

- Warm Up Before Exercising Is Common Sense (Though...
You May Not Be Born Into A Race, Says Sociologist...
Women And Sex - Condoms Decrease Pleasure, Says...
Mathematics, Cells And Organelles

All Culture »

BLOGS »

Christmas Shopping Advice You Won't Be Using For 2008

By Hank Campbell
From Esquire magazine, 1949:"A word to the wives is sufficient. And the word is NO. When you... more »

Let's Add Some Scientific Blogging Features Again

By Hank Campbell
As December moves along, we're going to be adding a lot of stuff (we hope) but two things are just... more »

A Brave New World, Re-revisited

By Becky Jungbauer
I was astounded to read the news about scientists essentially promoting pills to improve brain... more »

Calling fellow bloggers

By T. Ryan Gregory
Calling fellow bio bloggers -- help get the word out for the special issue of Evolution: Education... more »

Rodar à Esquerda

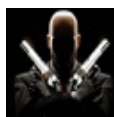
By Luis Azevedo Ro...
(Publicado no jornal O Primeiro de Janeiro a 29/11/2007)O actual governo "devia governar... more »

All Blogs »

Popular class of diabetes drugs doubles risk of fractures in women
Two common diabetes drugs double the risk of fractures in women

more

Who's Online?



250 guests

HOME > SOCIAL SCIENCES > PSYCHOLOGY > ERIN&#039;S SPIN

SCIENTIFIC BLOGGING
SCIENCE 2.0

Cognitive Efficiency Determines How Advertising Affects Your Brain

By Erin Richards | December 9th 2008 02:36 PM | 0 comments

[Share / Save](#)

[Erin Richards](#)

As we watch TV, listen to the radio or flip through the pages of a magazine, most of us ignore the relentless onslaught of advertising. But are we in fact being persuaded and influenced by the glossy pages of that magazine or that 30 second commercial? The prevalence of advertising on consumer preference has long been debated by communication and psychology

professors alike, none of whom can agree to the meanings of their research, which have all yielded vague and inconclusive results. A new area of study has suggested that human response to advertising is based on our cognitive efficiency instead of marketing manipulation.

New research, led by cognitive scientist Mark Changizi of Rensselaer Polytechnic Institute, could shed light onto the dubious effects of advertising on the human psyche. His results, published in *Perception*, show why direct exposure to repeated ads increase consumer preference for those products and is most significant for advertisements which consumers are the least aware of even having seen.

ABOUT ERIN RICHARDS

I am a graduate from the University of California, Davis with a degree in Biological Sciences. I have a background in English and Journalism and a passion for writing about science.

I have a... [Full Bio](#)

MORE FROM ERIN RICHARDS

[Cognitive Efficiency Determines How Advertising Affects Your Brain](#)

[Will This HIV Vaccine Succeed Where Others Have Failed?](#)

[Gene Therapy Cures Sickle Cell In Mice](#)

[All](#)

KNOW SCIENCE AND WANT TO WRITE?

Register Now To Get Your Own Column!

TODAY'S TOP ARTICLES

1. Sagittarius A* Black Hole In Our Galaxy Gets Triangulated, Except Using 28 Stars
2. What Our Genes Tell Us About Race
3. The Chemistry Of Love
4. You May Not Be Born Into A Race, Says Sociologist, You May Acquire It
5. T. rex ate coconuts
6. MAVEN, Deuterium And A Mission To Mars
7. Should we care about race?

WHAT PEOPLE ARE SAYING

"Perhaps I'm just being hysterical. Or harpy-ish. I'm sure a good forceful NO and a slap will take..."

"I haven't been around in a while. It looks very very good. The rich text editor works..."

"Feelings of control are so important to people that a lack of control is inherently threatening..."

""I thought the debate over group selection was about selection in individual organisms vs. selection..."

""I thought the debate over group selection was about selection in individual organisms vs. selection..."



To find out how Shell is helping prepare for the new energy future, visit www.shell.com/us/realenergy



Seth Shostak on the Set of 'The Day the Earth Stood Still'

Food Allergy Hysteria Is Nuts

New Observations Detail Milky Way's Big Black Hole

Half-Dose Flu Shots Work In Adults, Study Finds

Small Spiders Get More Action

Fake Christmas Trees Not So Green

Robbie Knievel to Jump Vegas Volcano

[more](#)

Science Codex

Team led by Purdue professor first to record key event that breaks continents apart

Long-term use of diabetes drugs by women significantly increases risk of fractures

Overweight children at increased risk of arm and leg injuries following motor vehicle crash

Popular class of diabetes drugs doubles risk



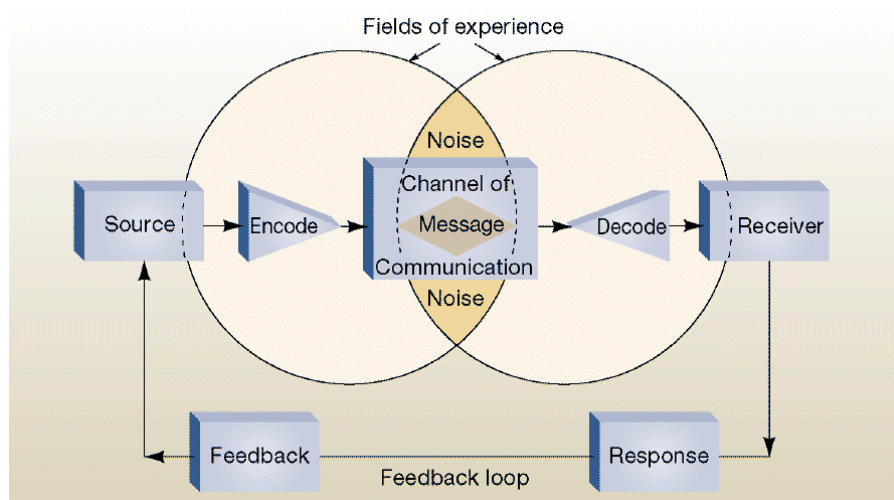
Visual exposure to objects can unconsciously affect our consumer preferences and affect the way we feel about and buy products. *Photo credit: Ed Web Portal School of Education*

It has long been acknowledged that repeated visual exposure can initially increase preference for that stimulus, but this is not a limitless phenomenon. The advertising preference scale is a bell curve. Over-exposure can cause saturation of the stimuli, which can cause annoyance and then distaste for the previously preferred product or media content. Imagine a song heard on

the radio, as you listen to the song a couple of times, you enjoy hearing it. But then imagine that the song was played every time you got in your car. Eventually the over-saturation of the song would lead to distaste instead of enjoyment. The same holds true for advertising. Although this curve seems to be irrational, Changizi argues that this is an ancient cognitive mechanism.

"A rational animal ought to prefer something in proportion to the probable payoff of acting to obtain it," said Changizi. "The frequency at which one is visually exposed to an object can provide evidence about this expected payoff, and our brains have evolved mechanisms that exploit this information, rationally modulating our preferences."

According to Changizi, a small number of visual exposures to a product will raise the probability of acquiring the product, due to our piqued interest and idea of rarity and value which all increase our preference toward it. Overexposure to a product informs the brain that the object is overabundant, and not as valuable, lowering our preference for the product and reducing our probability of consumption.



This image shows how we view messages and advertising. Images may affect our preferences for products initially being positive and then negative when image is over exposed. Photo credit: [San Diego State University- Rohan Academic Computing](#)

The study also showed a significant increase in product preference for advertising that remains unrecognized by consumers. When the visual exposure occurs without conscious recognition, the preference is enhanced.

"This non-conscious mechanism exists because visual exposure information alone, without conscious judgment, has implications for the expected payoff of one's actions," said Changizi. "In many natural situations, observers potentially have both exposure schedule information and consciously accessible information about the object, in which case the predicted degree of preference modulations from visual exposure will be dampened, as the visual information is competing with the information from conscious recognition of the object and any subsequent judgment."

When exposed to subtle advertising, such as products or logos featured in movies or television, consumers rarely notice these efforts, but our brains register their presence and moderate our preferences based on this non-conscious exposure.

Although our preferences may be affected by the amount of exposure that we encounter when viewing media, perhaps if we are more aware of what is entering our visual filters, we can be more conscious about the types of products that we purchase.

References:

Changizi M A, Shimojo S, 2008, "A functional explanation for the effects of visual exposure on preference" *Perception* **37**(10) 1510 – 1519

of fractures in women
Two common diabetes drugs double the risk of fractures in women

more

SPONSORED LINKS

Ads by Google

Life Science Protocols

Precise information gets results. Join for free and get yours today!

www.scienceboard.net

BOOKS BY WRITERS HERE

more