



Нейроэкономика:

Нейробиология принятия решений
& нейромаркетинг



Рынок в головах: нейромаркетинг

Василий Ключарев
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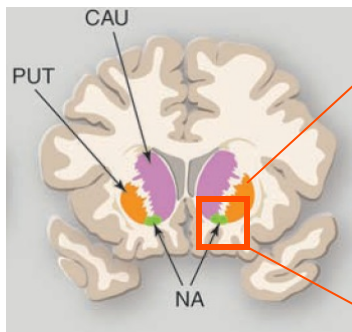
<http://www.neurobiotech.ru/ru/node/1035>

Neuromarketing

- What is ‘neuromarketing’? (Lee et al., 2006)
- In business schools, marketing research is essentially about understanding, explaining, and predicting individual, group, and organizational behaviour relevant to markets.
- A buy button? Is there a danger that brain imaging will be used in ways that infringe personal privacy to a totally unacceptable degree” (Kennedy, 2004).
- Commercial brand and consumer behavior applications?
- It is about collaboration between neuroimaging and marketing researchers can advance our knowledge of many key areas pertaining not only to consumer choice, but how we interact, relate, and behave in the context of markets and organizations.
- It is a part of **neuroeconomics**.

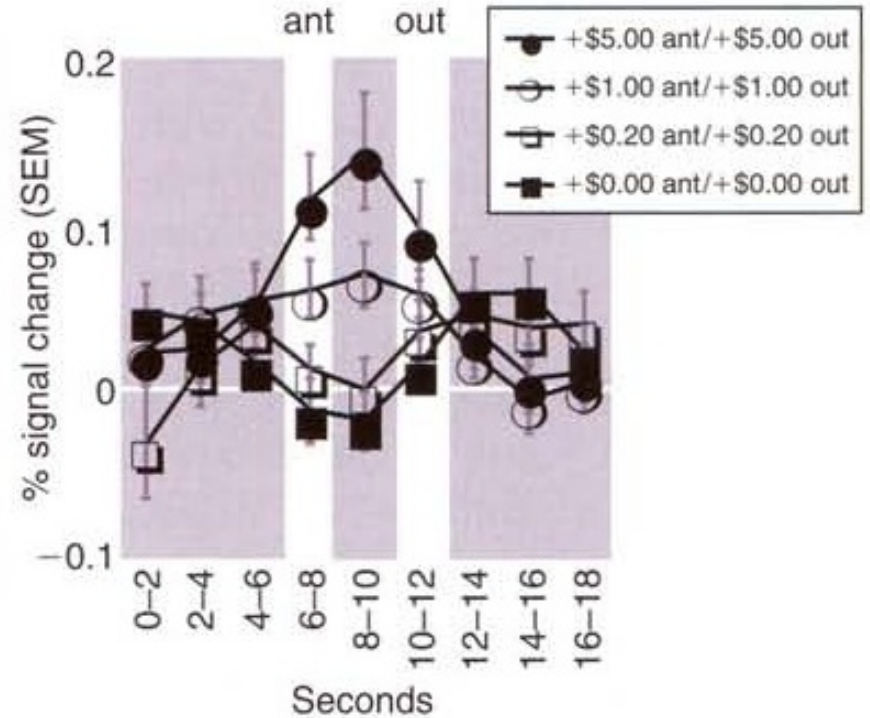
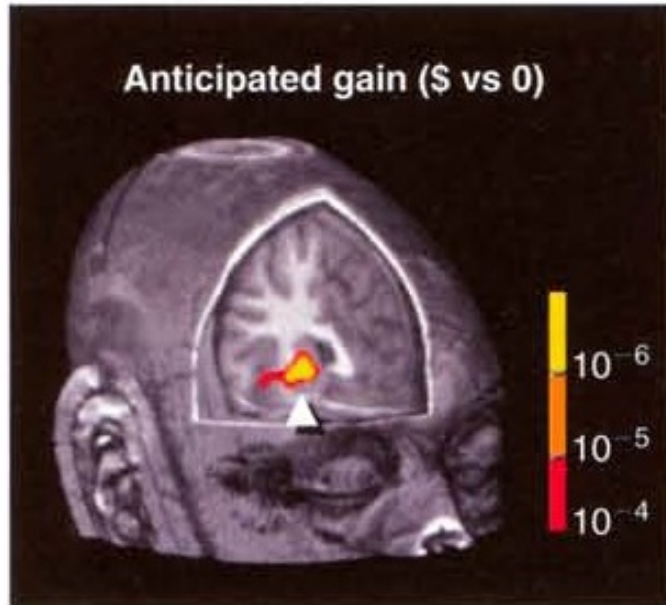
Assigning a value...

- Value is an objective measure e.g. 122 \$
- But real values subjective:
- ✓ In decision theory, **utility** is a measure of the desirability of consequences of an action.
- ✓ Neuroeconomics utility is a **subjective value** (real number) – the averaged firing rate (0,2,...1000 etc) of a population of neurons that encodes the subjective value of the object. It predicts choices. When expected utility correctly predicts choices it is proportional to subjective utility



$$\text{Subjective value} = r \text{ (firing rate)} = \sum r_n / n$$

Anticipated gains and NAc



Shopping & Brain



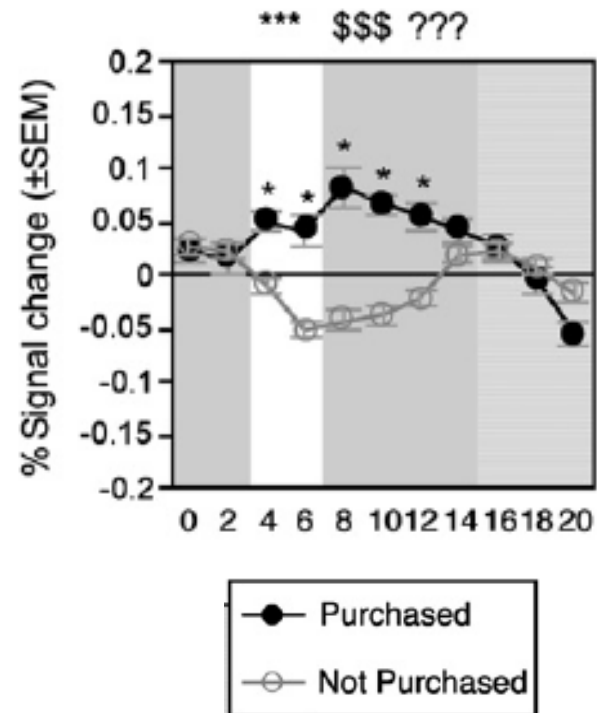
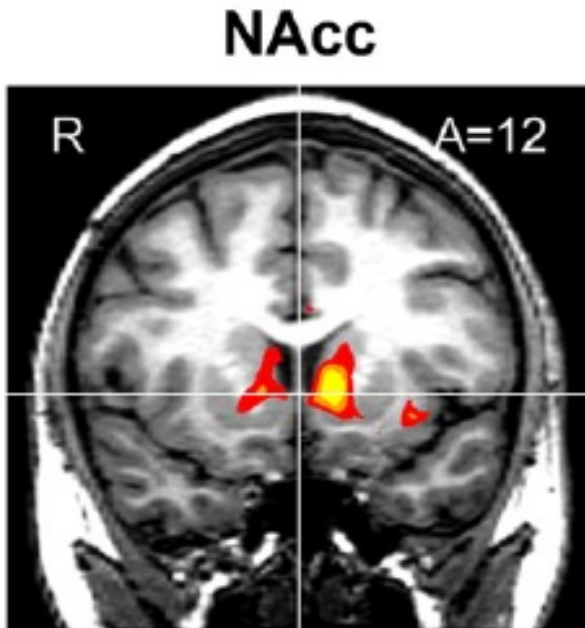
Neural Predictors of Purchases

Brian Knutson,^{1,*} Scott Rick,² G. Elliott Wimmer,¹ Drazen Prelec,³ and George Loewenstein²

Neuron 53, 147–156, January 4, 2007 ©2007 Elsevier Inc. 151

Product preference and NAc

Purchasing

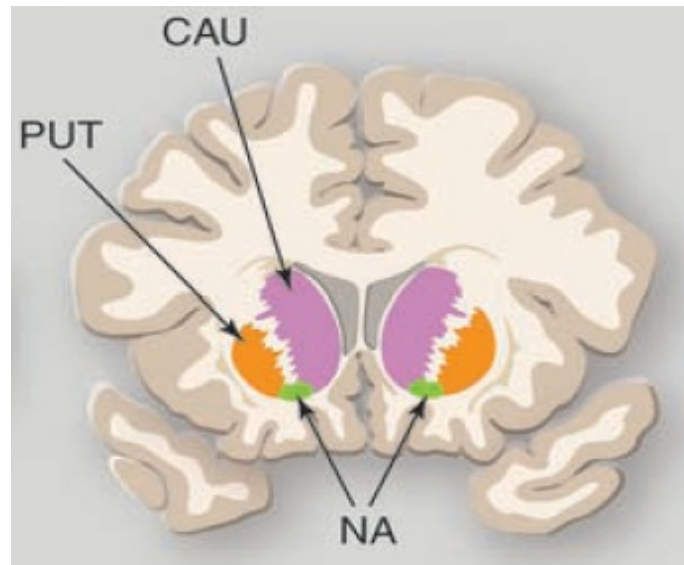


Neuron 53, 147–156, January 4, 2007

***, product period; \$\$\$, price period; ???, choice period;

Neuromarketing Notes:

- Subcortical *nucleus accumbens* (NA) activated proportional to anticipated gain magnitude.
- Product preferences are encoded by the nucleus accumbens.



Brands & Brain



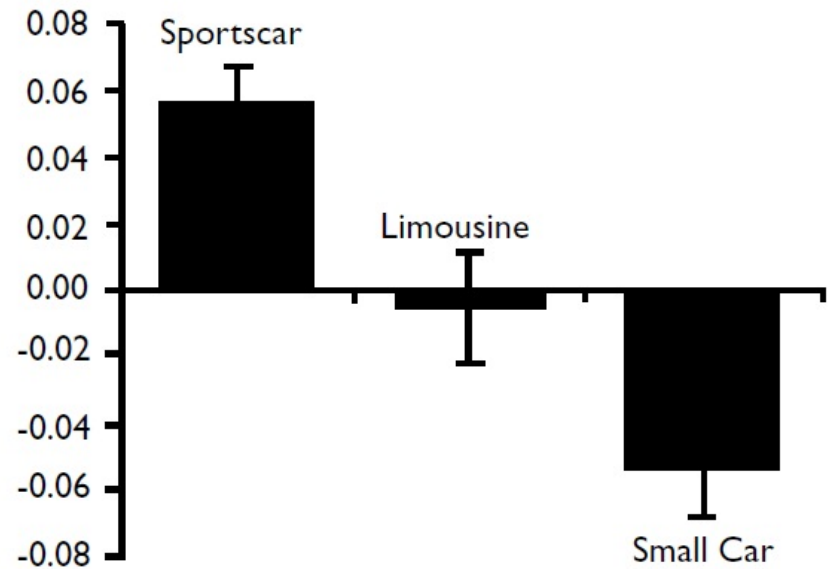
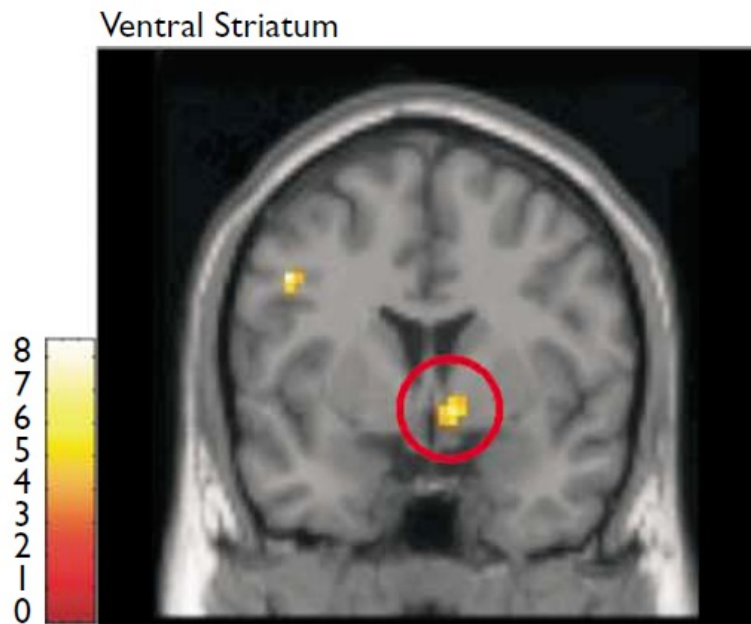
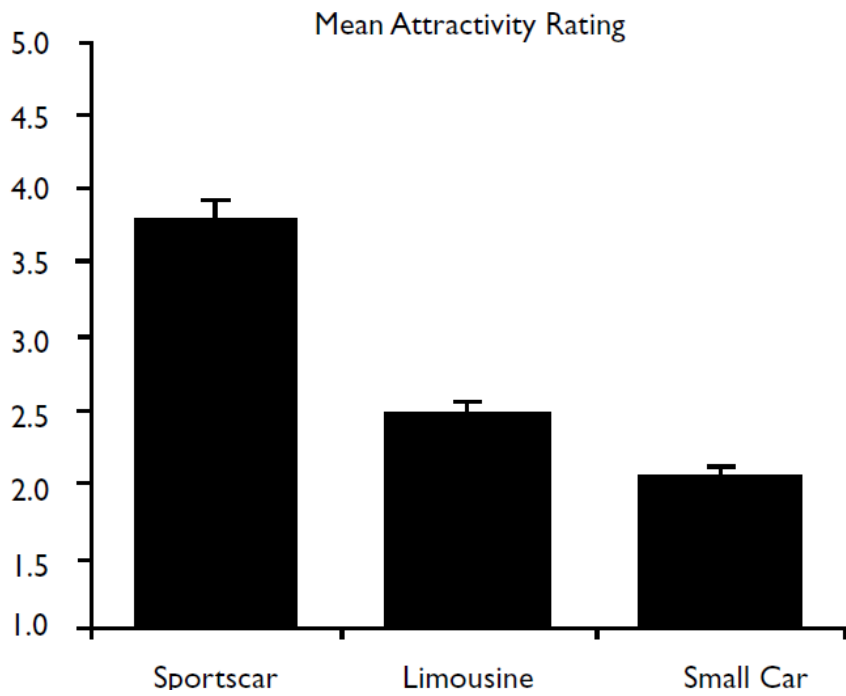
Are true preferences coded in reward prediction areas?

Sportscars

Limousines

Small Cars






Neuromarketing Notes:

- NAc is activated by sports cars in contrast to other categories of cars.
- We could thus demonstrate that brands associated with wealth and social dominance elicit activation in reward-related brain areas.

Advertisement & Brain



JULIA ROBERTS
for
LANCÔME
PARIS

*Lancôme, the number one beauty brand in the world,
is proud to welcome Julia Roberts as our new ambassador.*

*We invite you to discover Julia's favorite products:
Dual Finish compact foundation, Définicils mascara,
and L'Absolu Rouge Fleur Impressioniste lipcolor.*

Discover more at Lancome.com or at Lancôme counters.

*In the premium cosmetics market - Euromonitor, 2008



Santa Sede L'«Osservatore Romano» e le scarpe del Pontefice
L'annuncio del Vaticano:
«Il Papa non veste Prada»

I cappelli

I copricapi di Ratzinger



ROMA — Sembrava uno scherzo l'annuncio dell'Osservatore Romano che «il Papa non veste Prada», firmato ieri da un religioso che si chiama Juan Manuel de Prada. Invece si tratta di un vero articolo sulle «vesti liturgiche secondo Ratzinger». Padre de Prada ha risposto alle considerazioni sull'«eleganza» di Ratzinger. Si è affrettato a ricordare che il cassock, il copricapo di velluto rosso bordato di ermellino od il «saturno rosso», un panama ecclesiastico, erano stati largamente utilizzati anche dai suoi predecessori. Mentre ha categoricamente ammesso che le sue scarpe rosse siano state disegnate da Prada. Si sa che è un artigiano novarese, Adriano Stefanel, a realizzare i mocassini rossi (nel



B. B.



Un'Ape per Benedetto XVI

Due Ape-Celestino sono stati consegnati al Papa al termine dell'ultima giornata pontificia San Pietro dal presidente della



www.redcarpetfashion



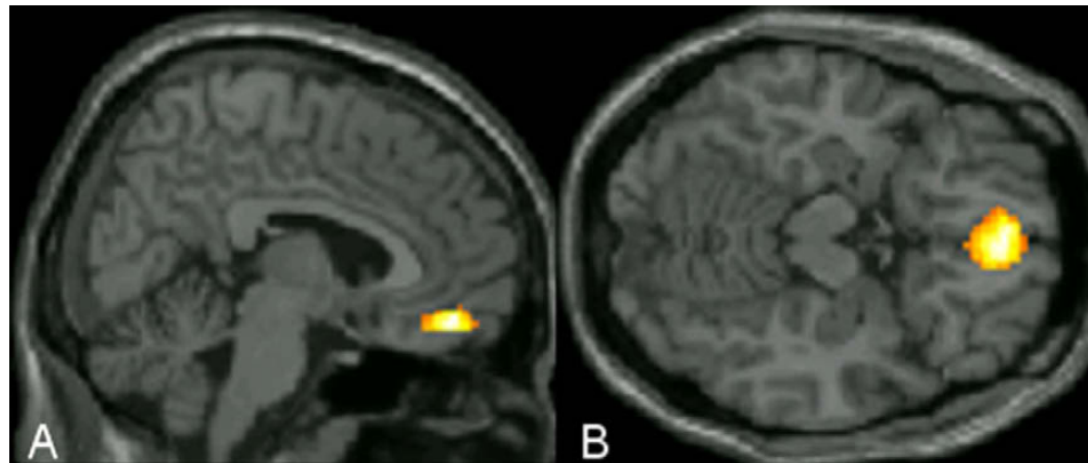
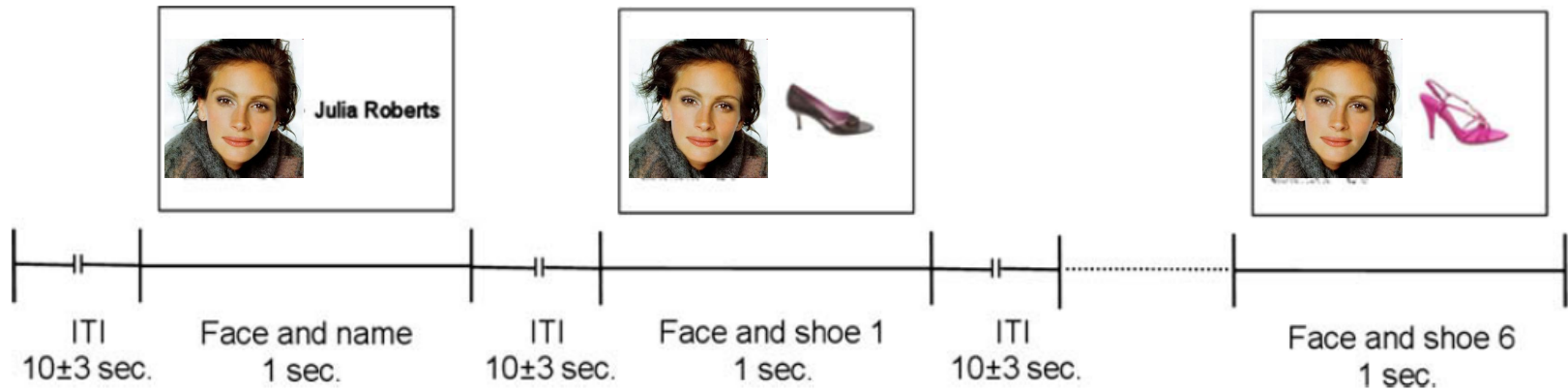


Fig. 2. Brain map showing the medial orbitofrontal cortex involved in the processing of products in the context of fame (*Shoe with Celebrity Face > Shoe with non-Famous Face*), $p < .001$ uncorrected: (A) $x = 6$; (B) $z = -16$.

Enthusiasts



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Journal of Consumer Psychology 22 (2012) 18–36

Journal of
**CONSUMER
PSYCHOLOGY**

Branding the brain: A critical review and outlook

Hilke Plassmann ^{a,*}, Thomas Zoëga Ramsøy ^{b,c}, Milica Milosavljevic ^d



Hilke Plassmann

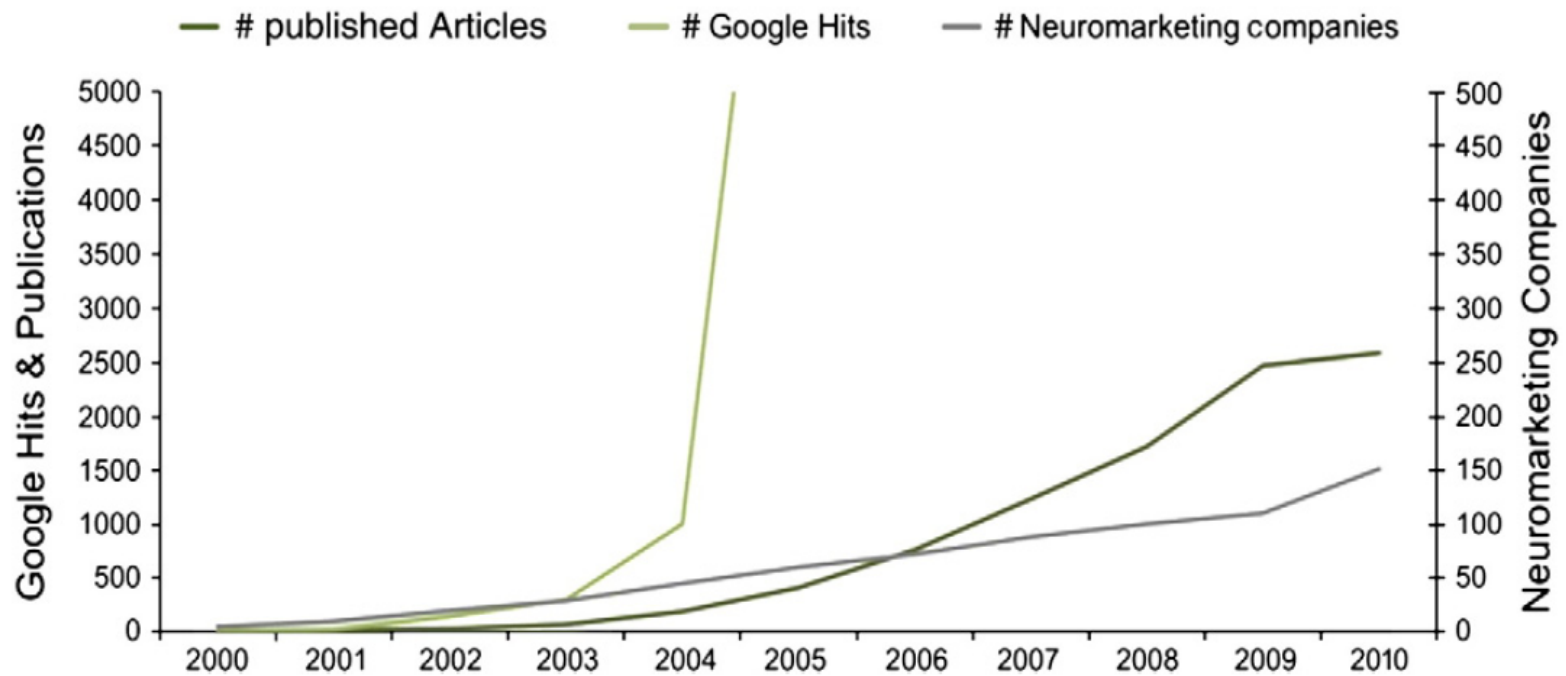


Fig. 1. Growth of research applying neuroscience to marketing over time.

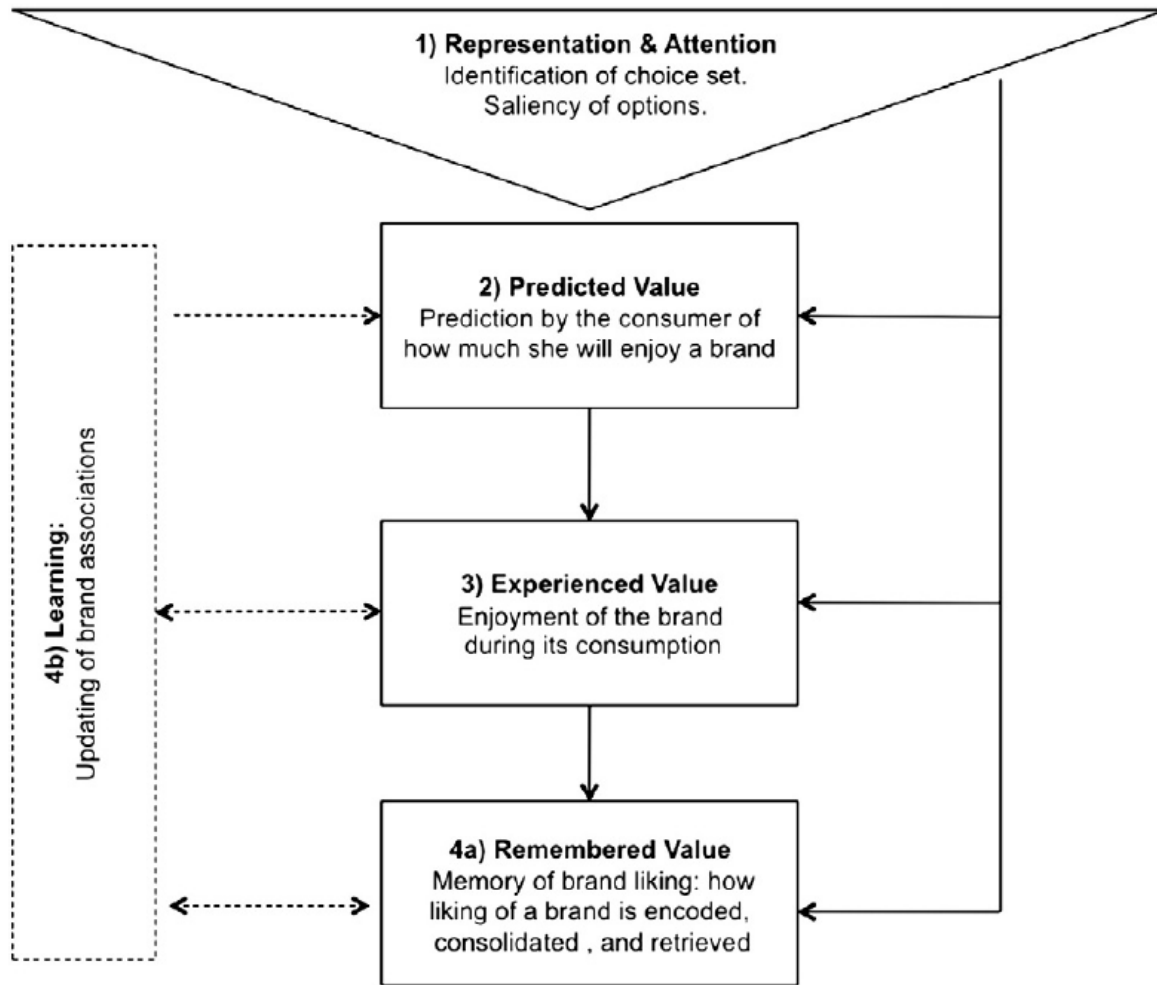


Fig. 2. Value signals important for brand decisions.

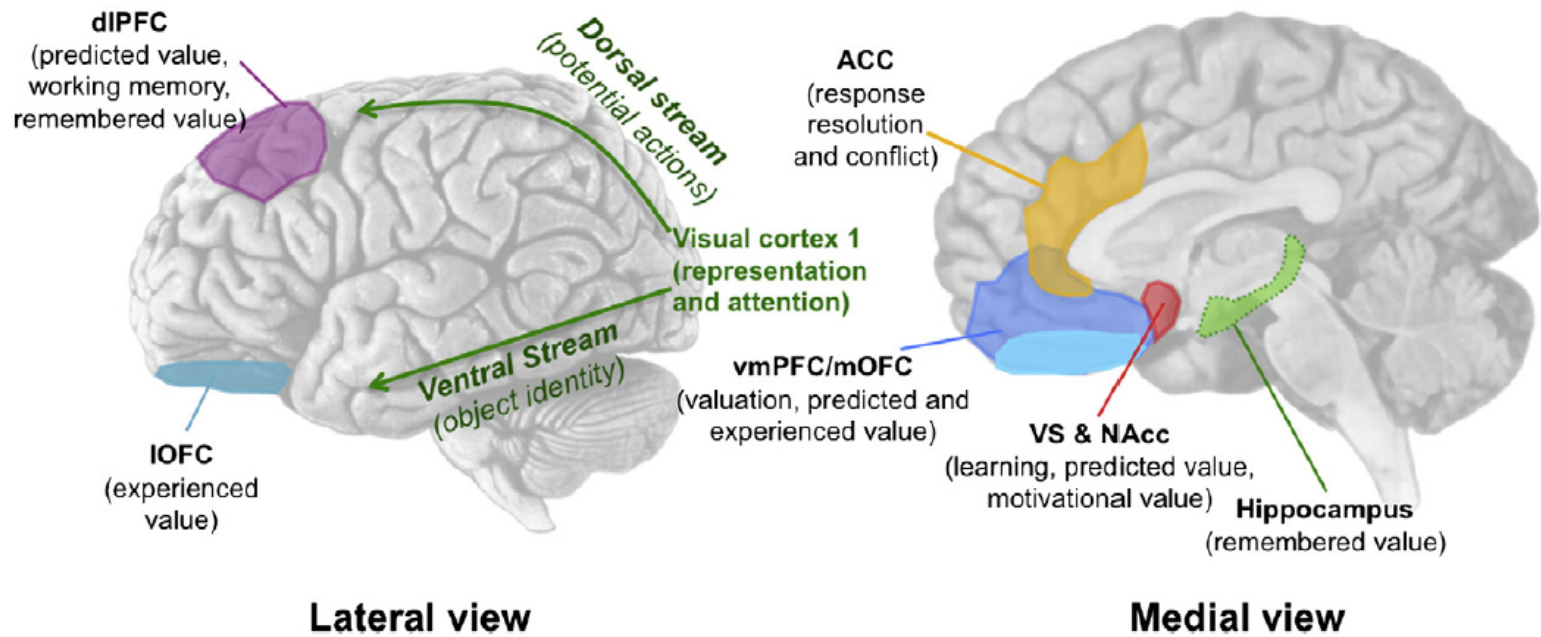
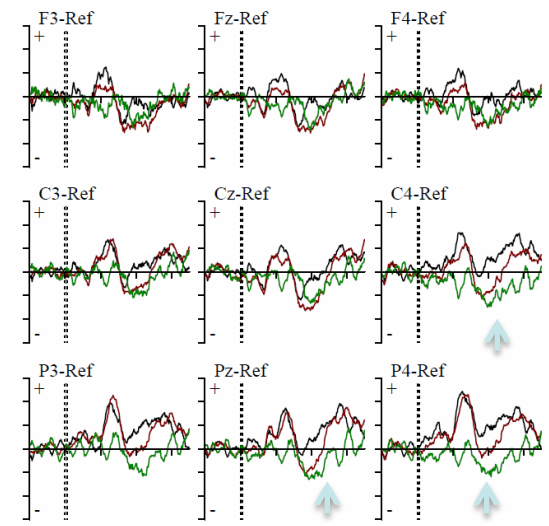
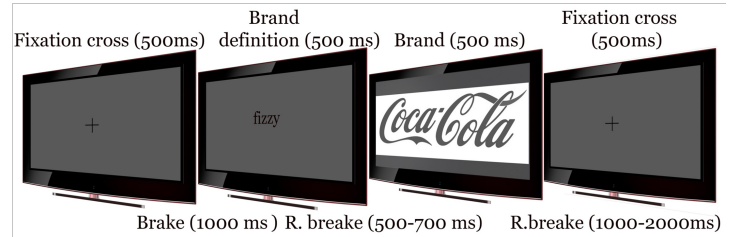
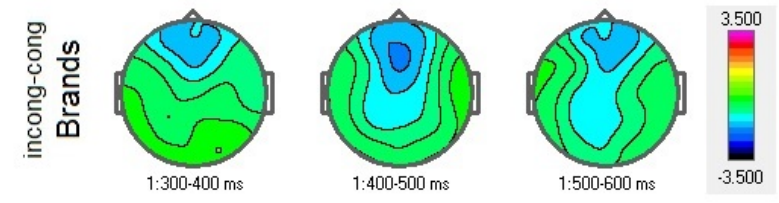
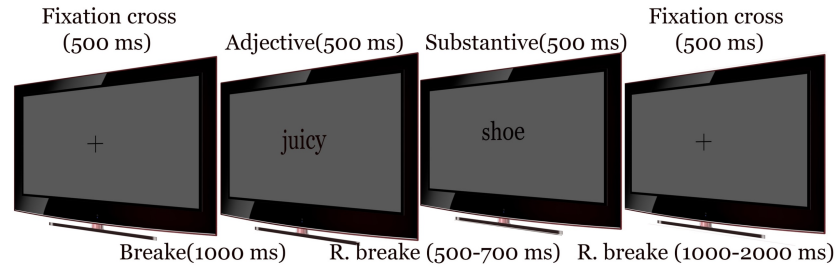
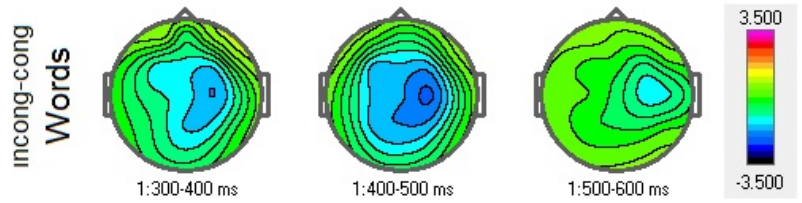
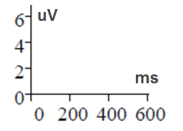
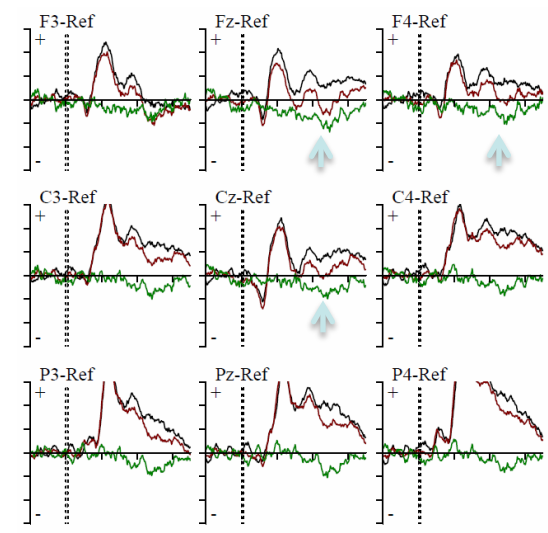


Fig. 3. Overview of prominent brain areas involved in brand decisions. Abbreviations used: ACC = anterior cingulate cortex; dIPFC = dorsolateral prefrontal cortex; IOFC = lateral orbitofrontal cortex; mOFC = medial orbitofrontal cortex; NAcc = nucleus accumbens; vmPFC = ventromedial prefrontal cortex; VS = ventral striatum.

ERP study of brand associations



— Congruent — Incongruent — Incongruent-Congruent

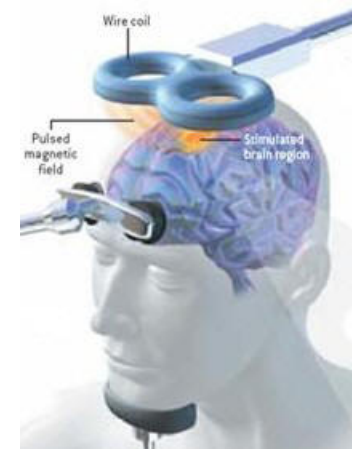
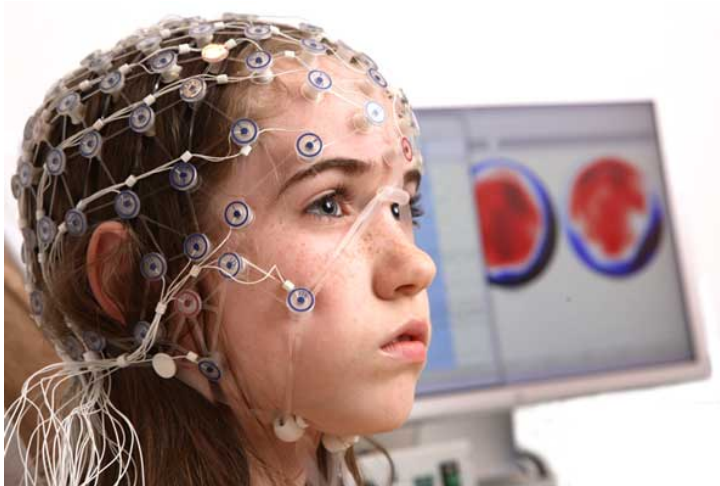
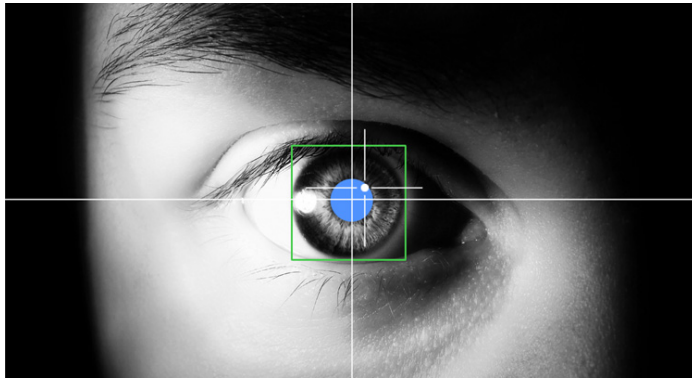


Neuro-marketing directions

fMRI	Expansive, bad time resolution
EEG	Bad spatial resolution
MEG	Expansive
Gaze-tracking (including pupil dilation)	
Skin conductance response (SCR)	Questionable specificity
Optical imaging	New technology



Center for Neuroeconomics and Cognitive studies



Thank you for your attention!

