

Behavior and Brain Lab IULM

Neuromarketing and Consumer Behavior Research Center

Neurothechnology for business

Prof. Vincenzo Russo



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Behavior and
Brain Lab
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Neuromarketing and Consumer
Behavior Research Center



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Neuromarketing and Consumer Behavior Research Center “Behaviour and Brain Lab” IULM University

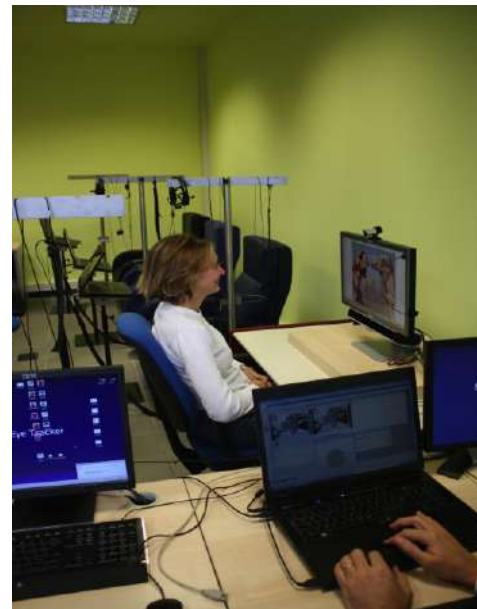
From the partnership between IULM University and ICT Companies, the Behaviour and Brain Lab has been funded on **2008** as the first lab of neuro and psychophysiology with **5 simultaneous stations** enabling the **acquisition of emotional** reactions by means of biological data combined with eye-tracking techniques aimed to study communication and consumers behaviour.



Behavior
and Brain
Lab



Massachusetts
Institute of
Technology

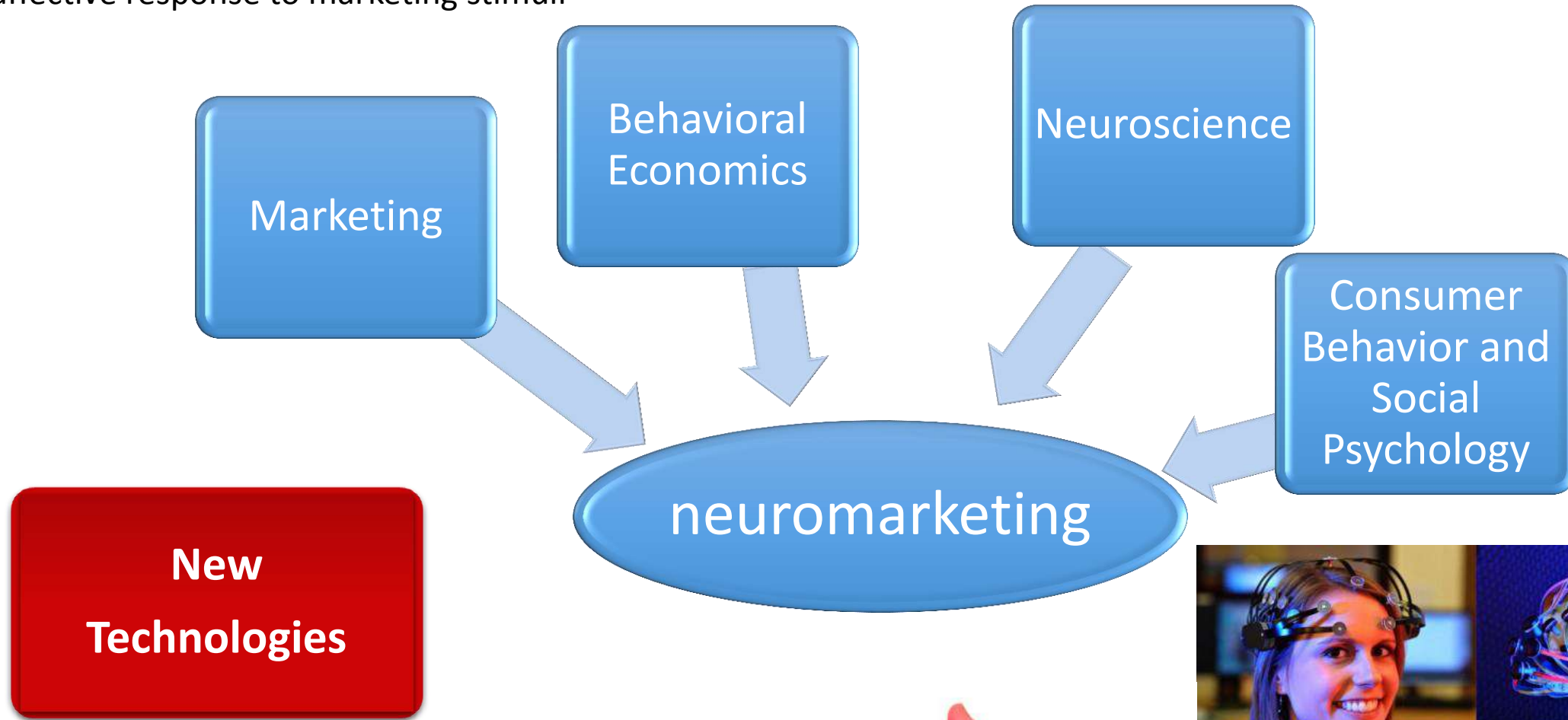


What is
NEUROMARKETING?

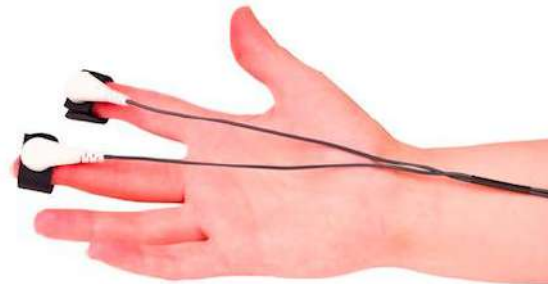
an introduction



Neuromarketing is a new field of marketing research that studies consumers' sensorimotor, cognitive, and affective response to marketing stimuli

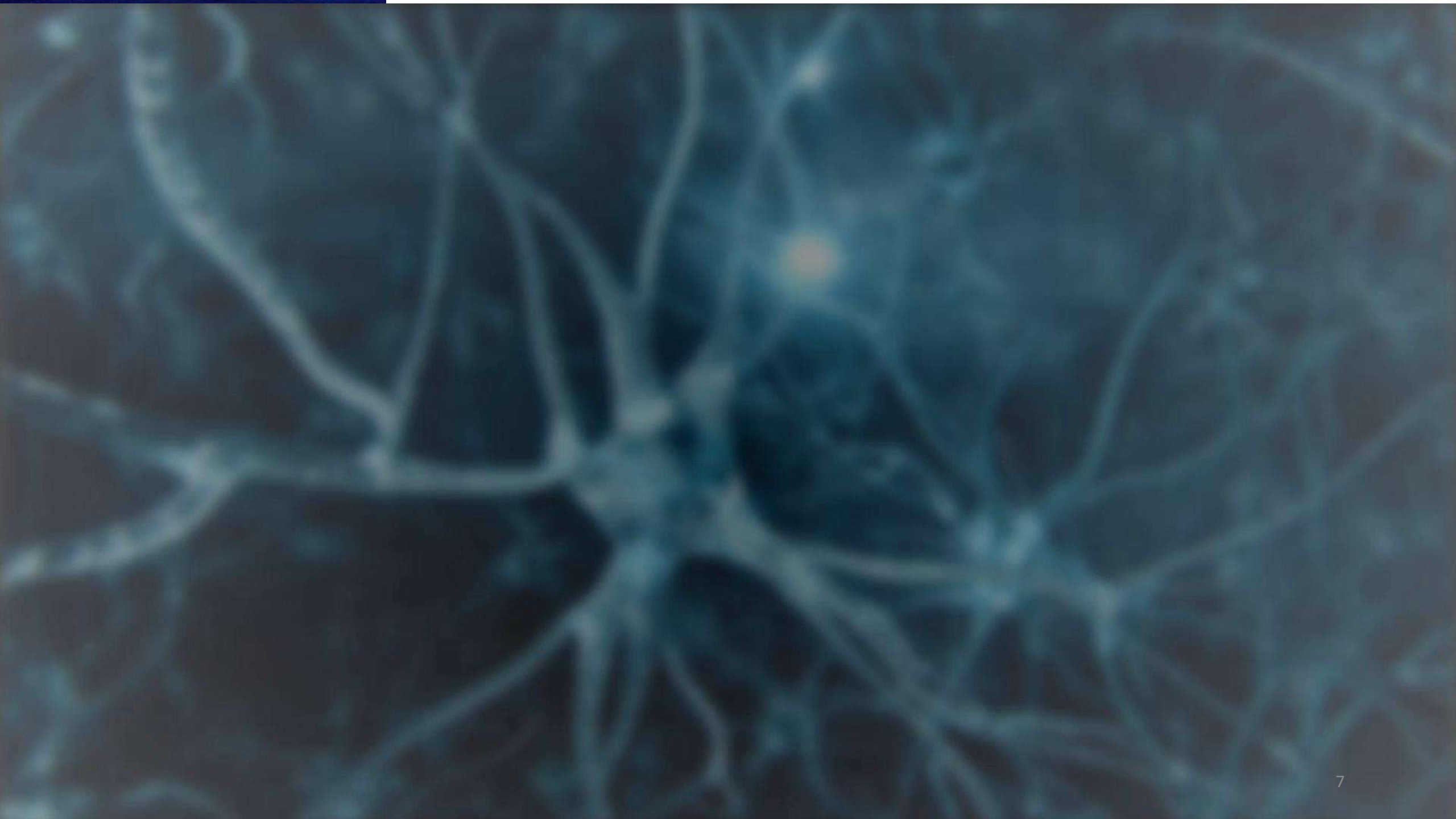


- The term was used the first time by Ale Smidts in 2002
- Neuromarketing is built on top of different disciplines



Neuromarketing Applications



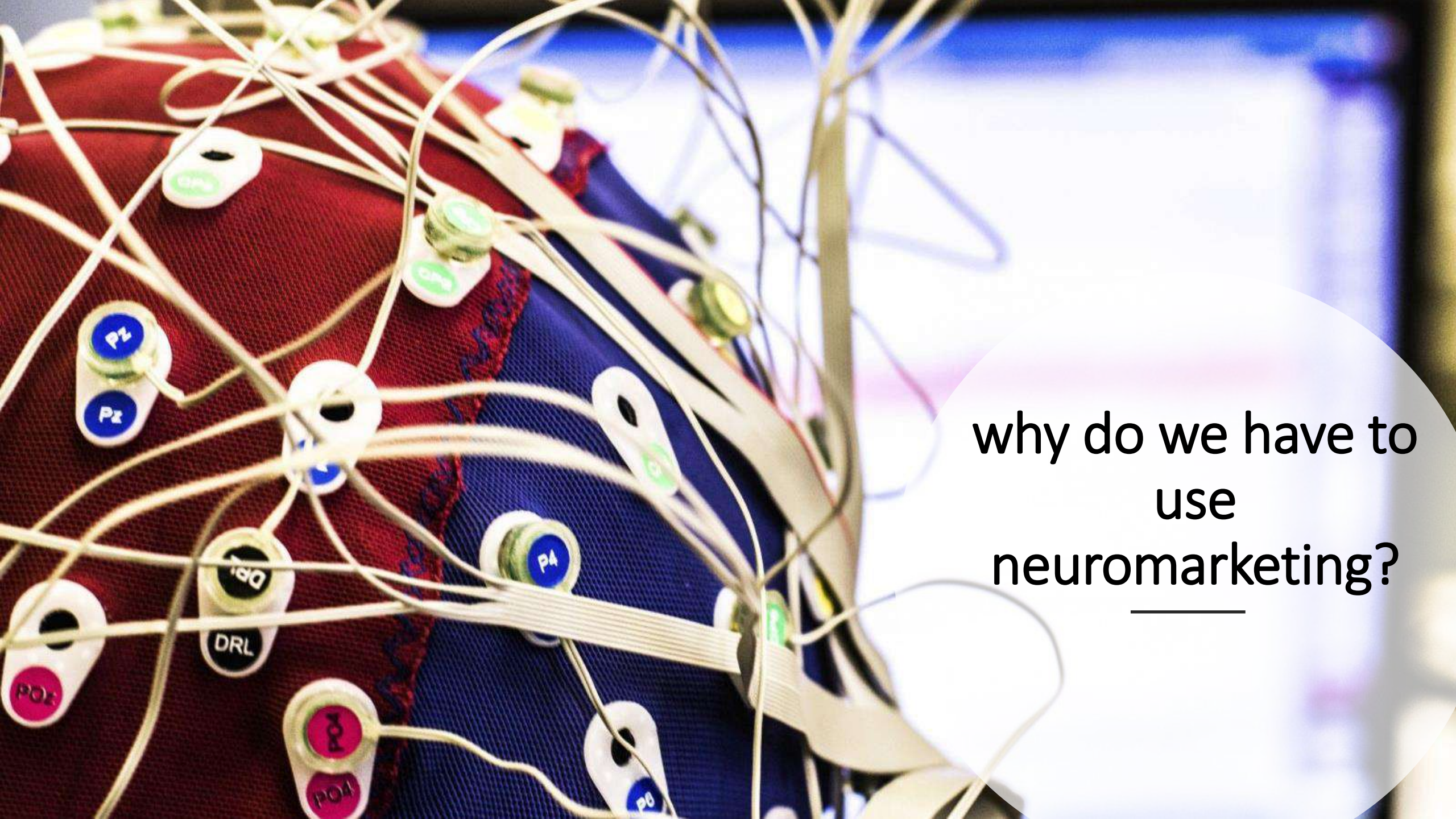


Some Collaborations





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why do we have to
use
neuromarketing?



“Half the money I spend on advertising is wasted; the trouble is I don't know which half.”

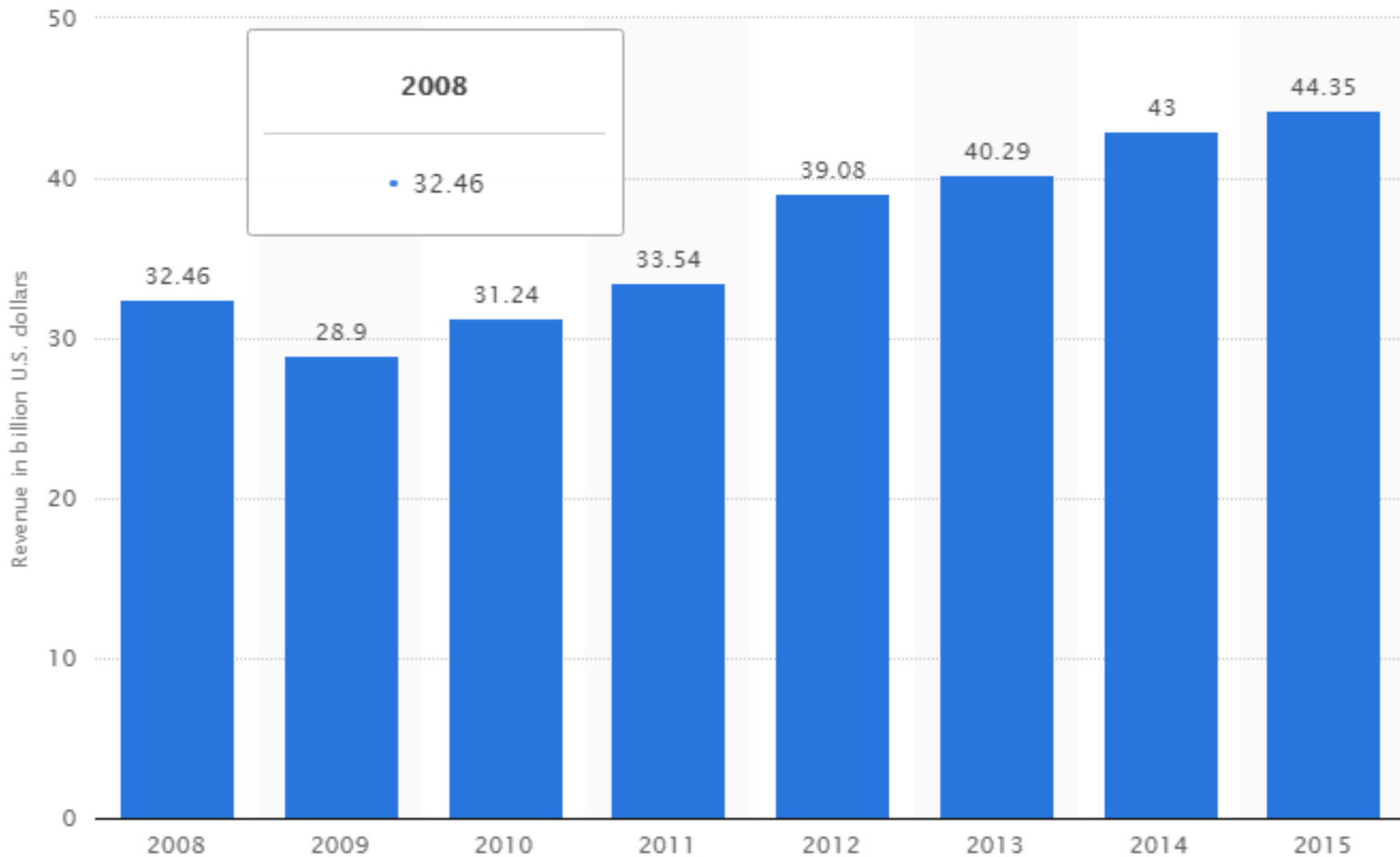
John Wanamaker

US department store merchant (1838 - 1922)



Market Research Effectiveness

we can control and reduce the loss
of money for incorrect investments
with **market research**



**Investments in
market research
in the World**

(in billion of dollars)

The results are not so positive and reassuring

ACCELERATING IN SOME CATEGORIES

Overall, innovation activity is on the rise in Europe; new product launches grew 9% in 2015 vs. 2014.

Change in number of SKUs launched in select categories (2015 vs. 2014)



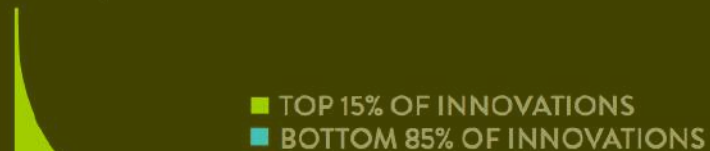
INNOVATION VALUE

The average new SKU in Europe rakes in €160,000 in its first year, which is approximately 60% of the average amount generated by new and established SKUs.



THE GREAT DIVIDE

There's a large gap between successful new launches and the rest of the pack. Across most categories, 10-20% of innovations account for approximately 80% of new product sales.



Sales



Behavior and BrainLab IULM

Growth of new products
(cometiles is failure)

80% of new product sales derive only from 20% of the brands launched

According to Nielsen, more than 85% of new fast-moving consumer good (FMCG) products fail in the marketplace

Considering 8,650 product launches in Western Europe (2011-2014), only 1% of new products has consolidate on the market.

there are so many products without hope, without the possibility of success

In Italy, over the last two years, 19.6% of new brand products have been added to the GDO and 18.7% have been released and left the marketplace

Breakthrough Innovation Report Nielsen 2015 IRI INFOSCAN CENSUS

Consumer.ology

Truth about Consumers and Psychology of Shopping

Which questions does it answer?

“The 80% of the new products proposed and developed with traditional research analysis does not have success on the market” (Graves 2010)



GRAVES



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POLITICA

Brexit, il primo exit poll: Remain 54%, Leave 46%

g.castellini



Ue e Gran Bretagna ancora insieme



No Brexit vince, ma di poco. Gli inglesi per ora decidono di restare nell'Ue

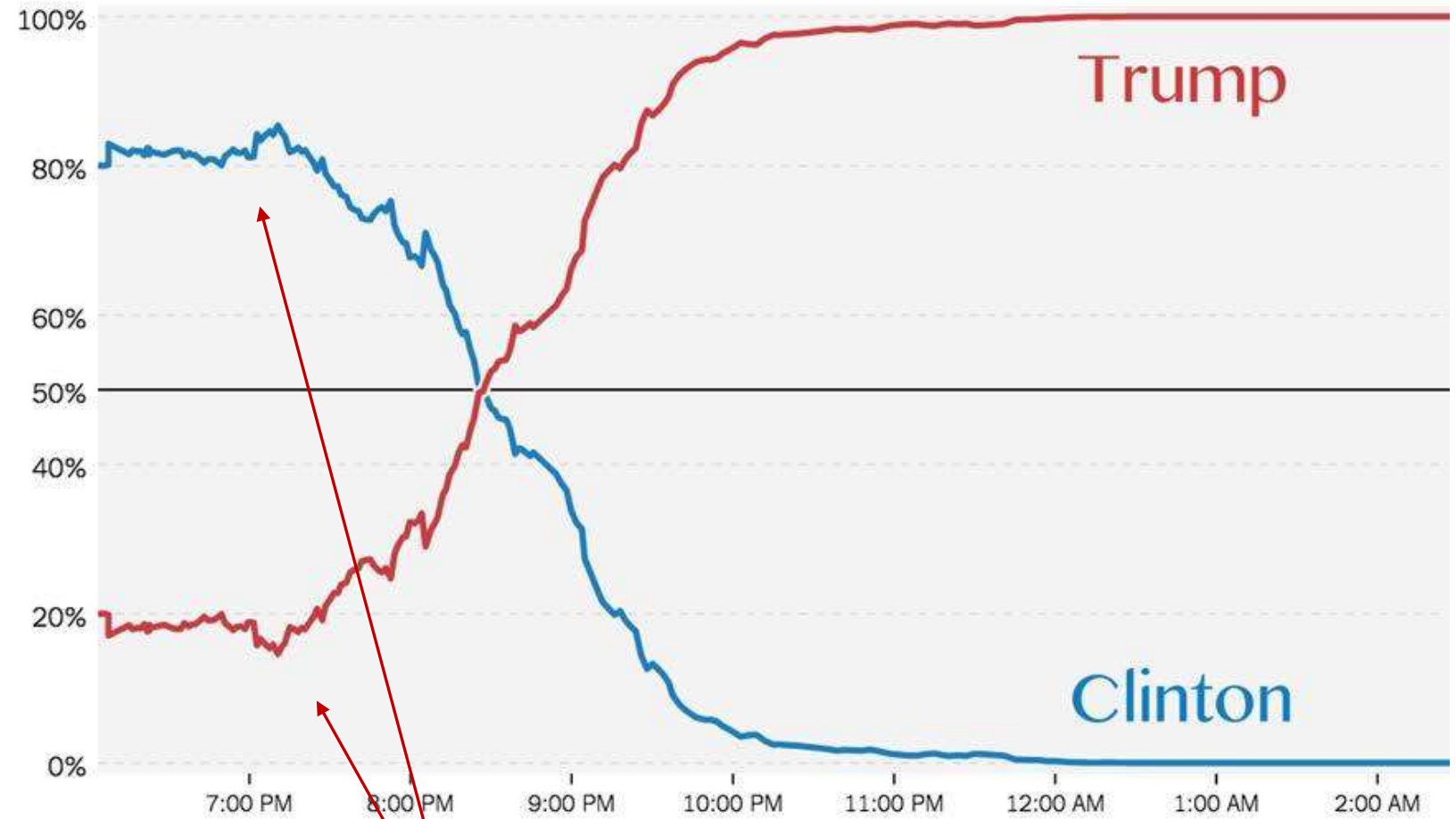


People do not tell us
what they voted for

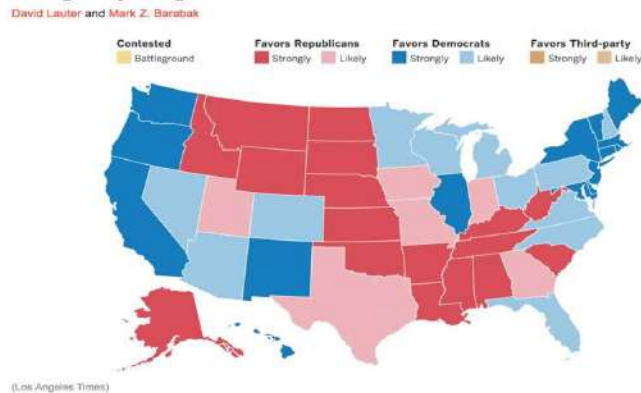
People do not tell us what they voted for



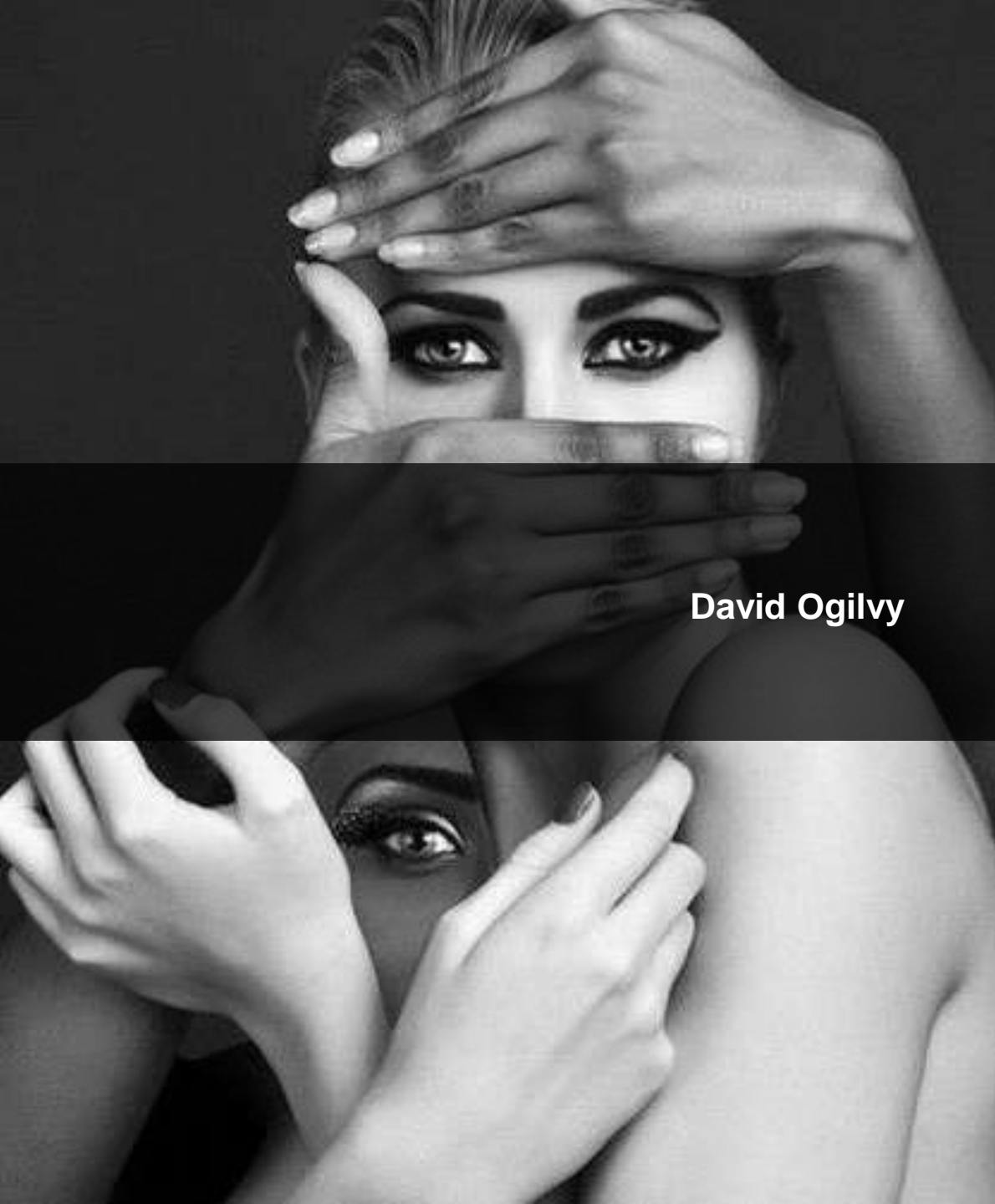
Chance of Winning Presidency



NOV. 8, 2016, 3:04 PM.
Our final map has Clinton winning with 352 electoral votes.
Compare your picks with ours.

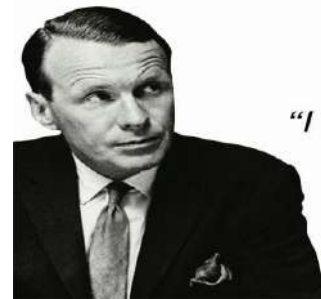


The result of the **exit polls** and the effect on the **journalists**, the journalists began to write about the Clinton victory



David Ogilvy

“ Consumers don't think how they feel.
They don't say what they think
and they don't do what they say,”



“I am a lousy copywriter”

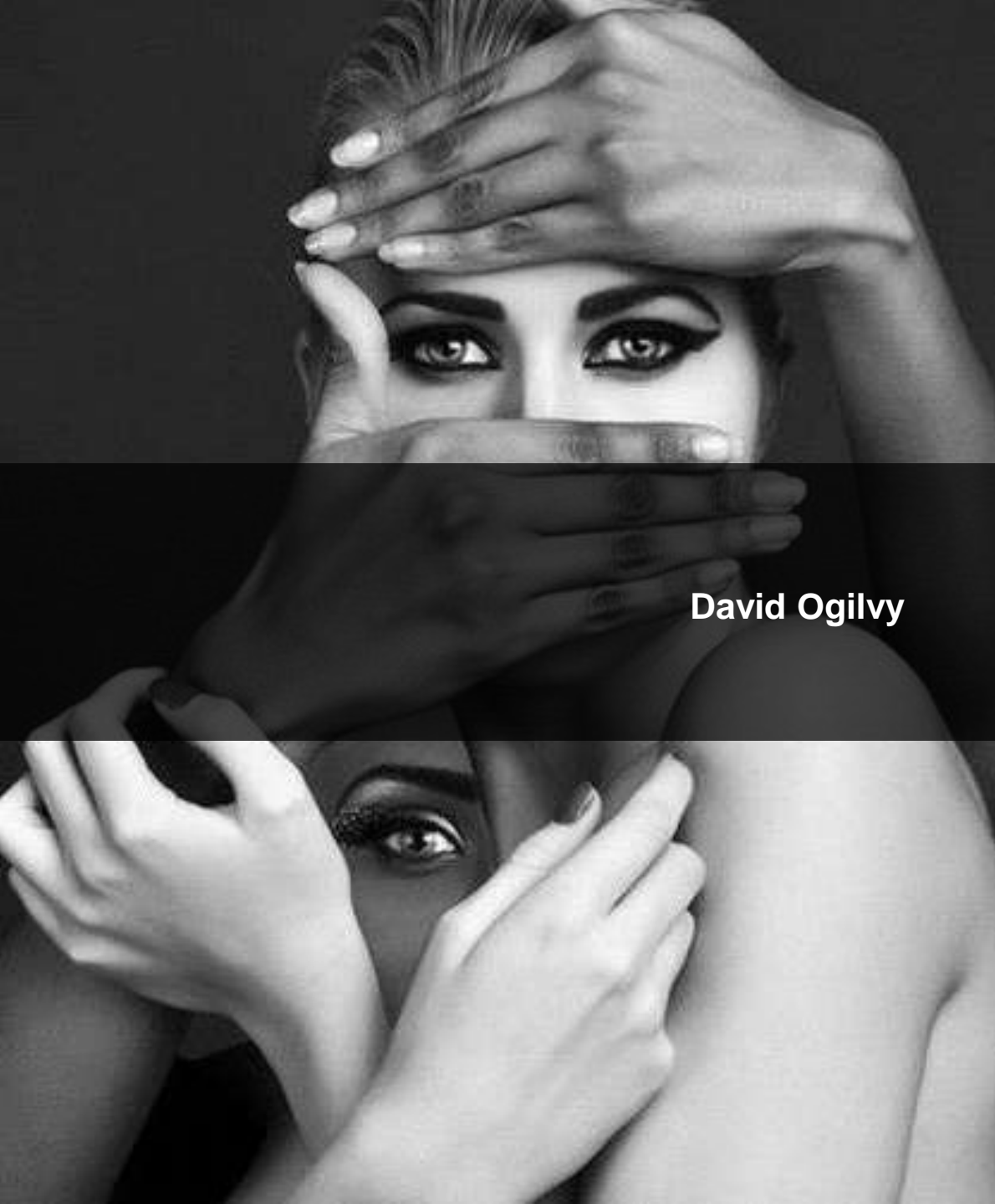
- David Ogilvy

Social Desirability Effect



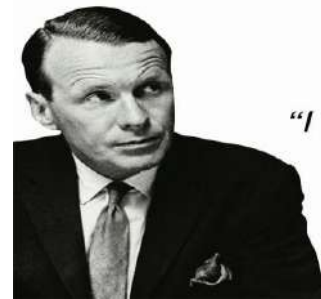
Why does people not tell what they think?

- People provide answers in order to **preserve their self-image** (*Paulhus 1984*) or to manage the image of themselves conveyed to others (*Crosby, Bromley and Saxe 1980; De Maio 1984; Maass, Castelli and Arcuri 2000, Camerer, Loewenstein, and Prelec 2005*).
- People (*Marlowe and Crowne 1961; Edwards 1957; Roccato 2003*) **may lie** to engage in socially desirable responding or unintentionally, due to the **lack of introspection abilities** (*Boca 1996; Greenwald and Banaji 1995; Kitawaki and Nagabuchi 1998; Banaji 2001*) and to the **difficulty to verbalizing emotions** (*Penn 2006*).



David Ogilvy

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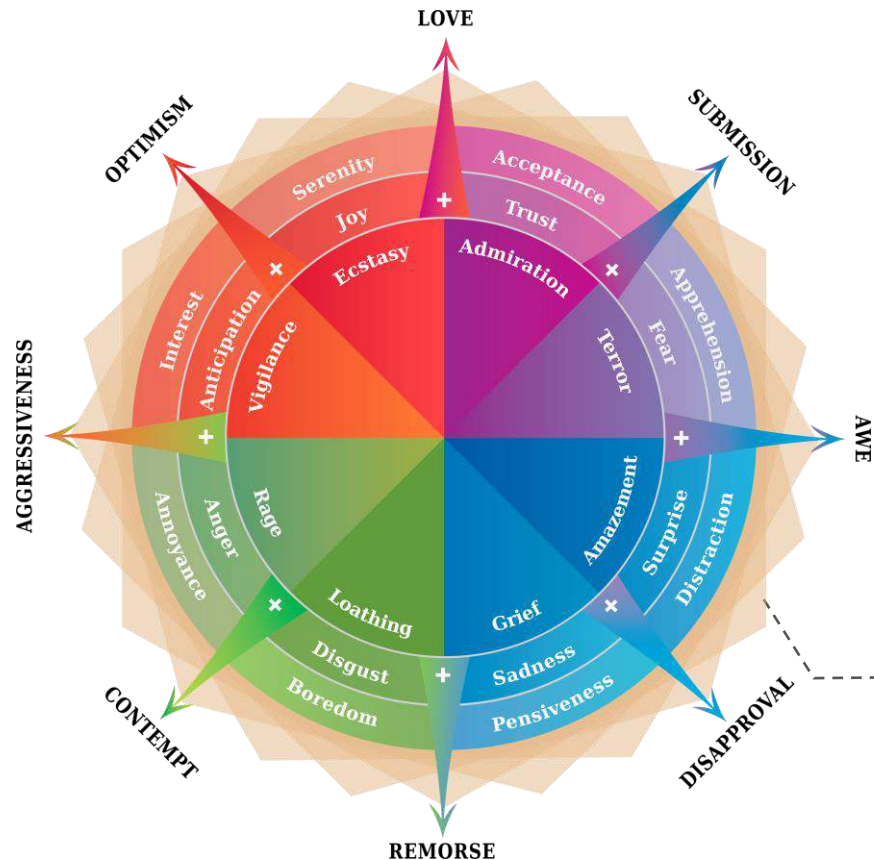
“I am a lousy copywriter”

- David Ogilvy

“THE REASON LEADS TO THINK, THE EMOTION LEADS TO ACTION»

D. Calne (neurologist)

The emotional response is particularly important in the field of marketing communication, since it is closely linked to the advertising main objectives:



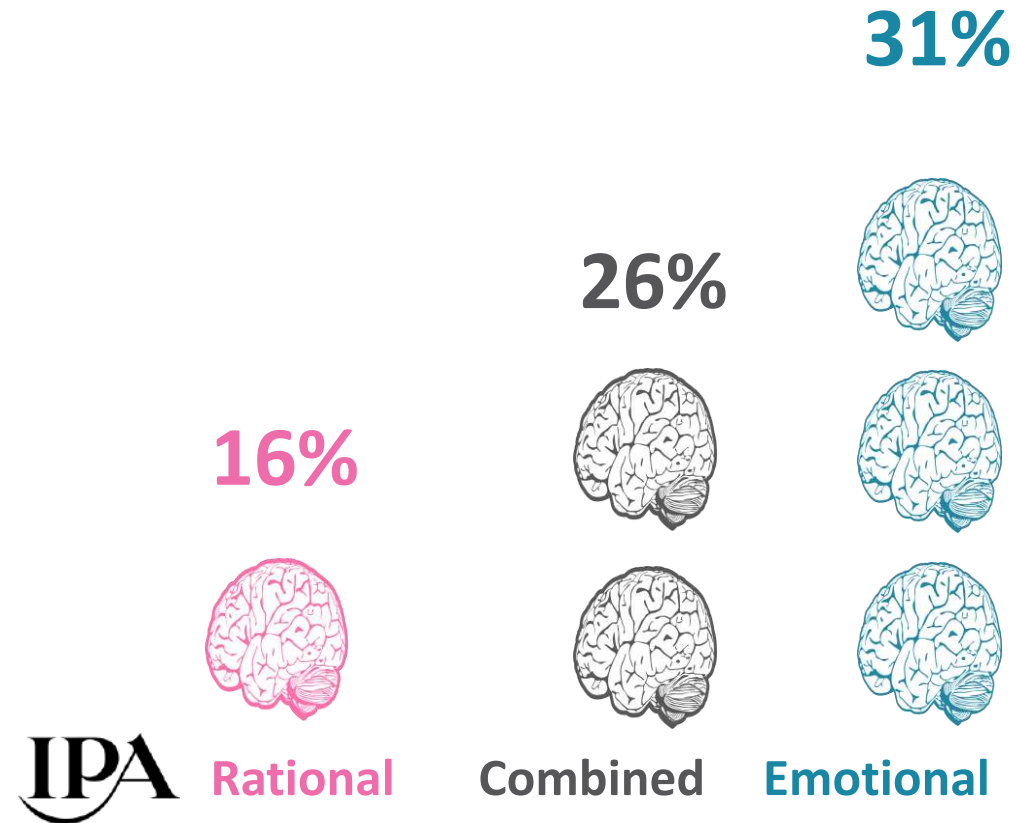
- TO ATTRACT ATTENTION
(ADAVAL, 2001; BOWER, & CHOEN, 1982; VAN RAAIJ)
- TO BE REMEMBERED
(BRADLEY ET AL., 1982; BOLLS ET AL., 2001; LANG ET AL., 1996; REVELLE, & LOFTUS, 1992)
- TO CHANGE THE BEHAVIOR
(HAYMAN, & MALENKA, 2001)
- TO PERSUADE
(GRESHAM, & SHIMP, 1985; HAZLETT, & HAZLETT, 1999)
- TO ENTERTAIN
(ZILLMAN, 1991)

● Route of emotion di Plutchik

“THE REASON LEADS TO THINK, THE EMOTION LEADS TO ACTION»

D. Calne (neurologist)

Institute of Practitioners in Advertising (IPA) analyzed around **1400 advertisements**, founding that emotional commercials are almost **twice** as successful as those that use a rational and informative message



% of ADV gain from: Institute of Practitioners in Advertising – 2016:
“Marketing in the Era of Effectiveness”

The Decision
Making
Process
Rational
Consumer
Model





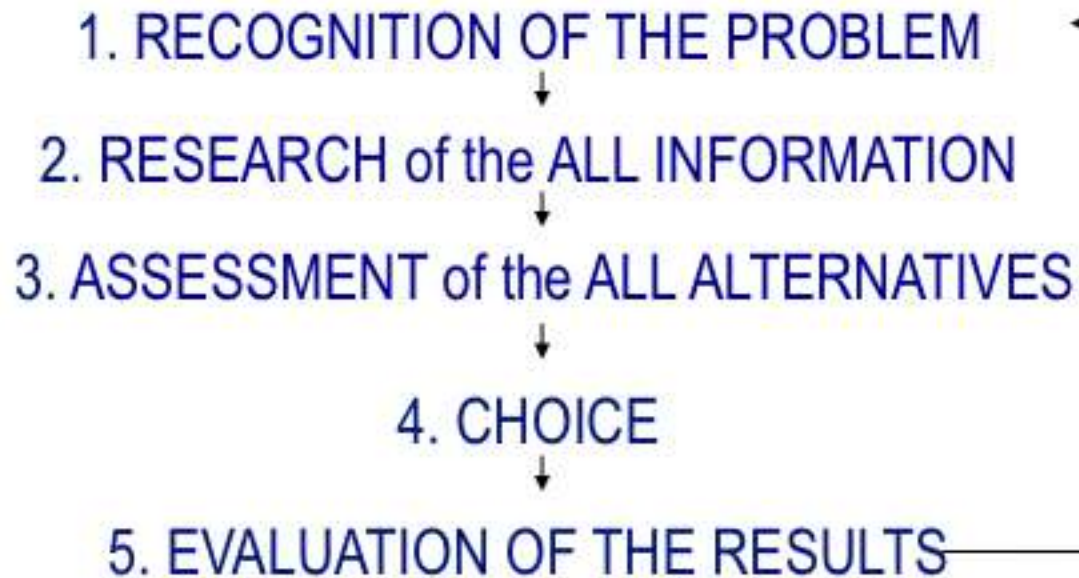
Mr Spock **thinks in term of information**: His brain seeks information to make decisions, emotions play no important role

Mr Spock **evaluates this information accurately**. His brain operates like a computer

Mr Spock **uses cost-benefit calculations** to make a decision

Mr Spock's **preferences can be changed** if, and only if, he is presented with new information that alters his beliefs about the product o promotion

The only way marketing and advertising communications can influence Mr Spock is if he consciously recalls **their persuasive arguments**



DISSONANCE

Bounded rationality

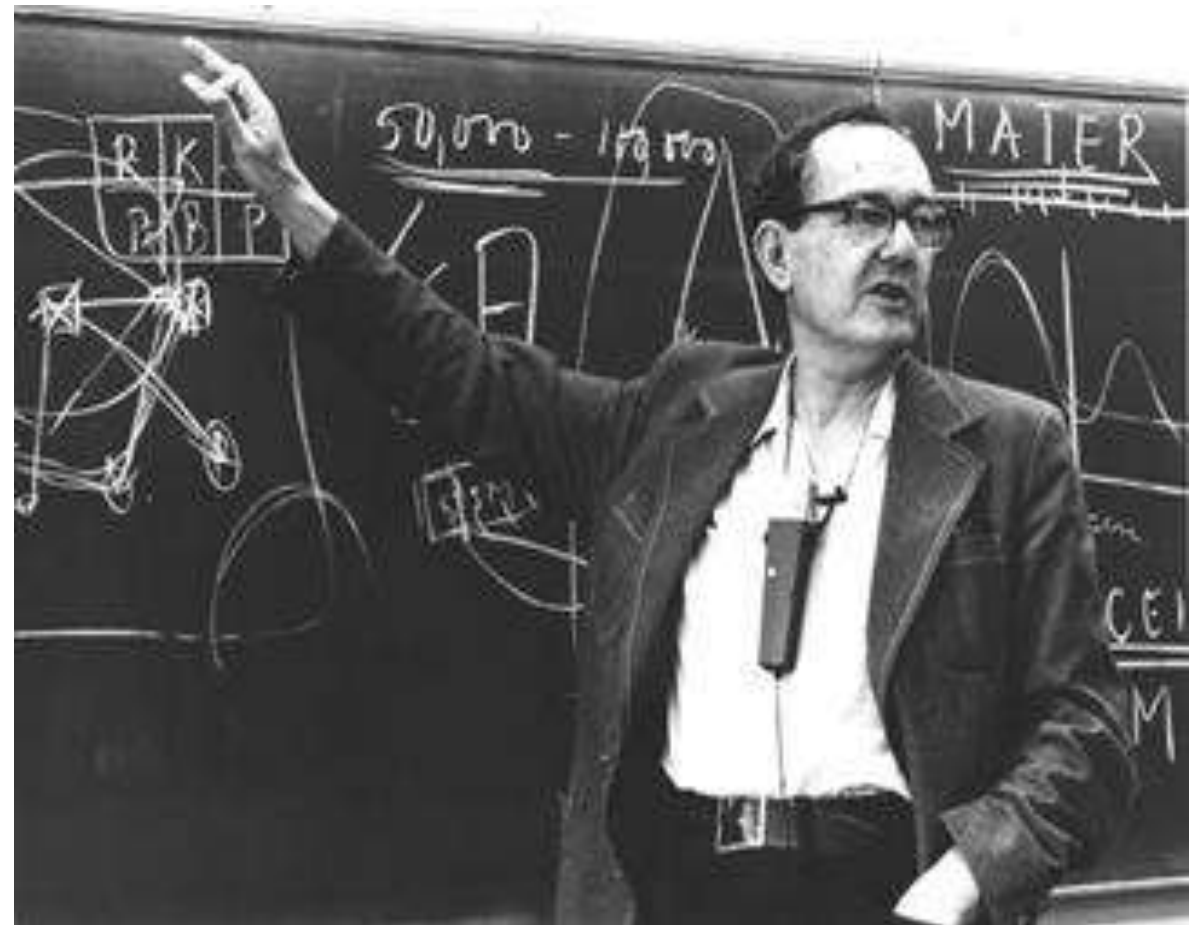
HERBERT SIMON

Already a long time ago....

For H. Simon Decision-makers seek a **satisfactory solution** rather than an **optimal** one (1957)

Consumers use the **most satisfactory information**, not all information

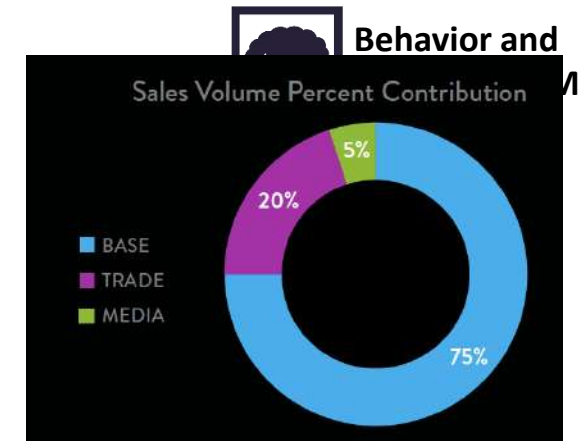
(Nobel Prize winner Economics 1978)



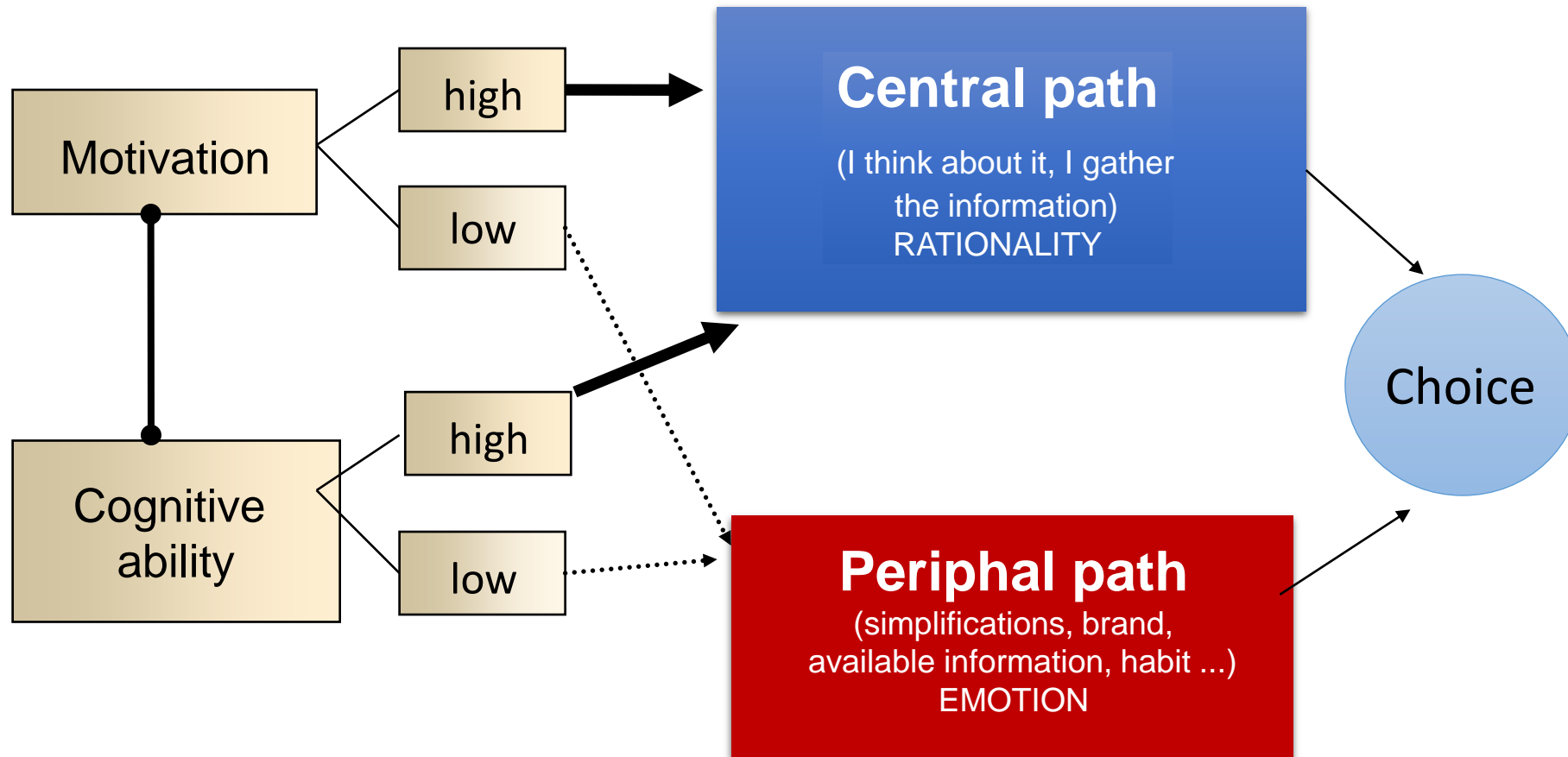
European consumers most often discover new products through friend and family recommendations (58%) and while shopping in store (56%).

Nielsen, 2017

Beyond a brand's base equity, trade promotion—including displays, instore advertisements and promotions—is **the most effective volume driver.**



The two decision ways
(ELM - Elaboration likelihood model Petty e Cacioppo, 1981)



Sensory System: Expectation and Emotion



What is the strongest coffee?

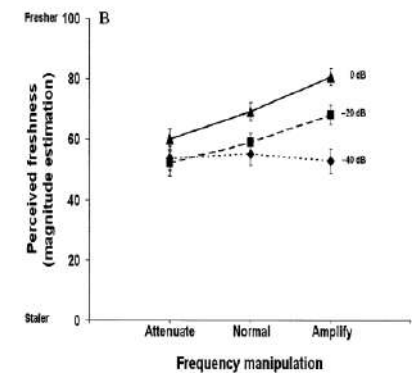
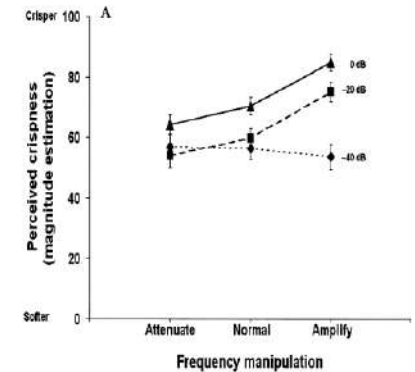
- **Yellow** = less strong
- **Blue** = medium
- **Red** or **brown** = strongest

Relation of Taste and Colour

- Colored liquids (with **odorless** and **tasteless** colors) are perceived to be more **strongly odorous** than colorless ones (Engen, 1975, Zellner et al 2005, Hidaka and Shimoda, 2014).
- A **red colored** drink (with oenocyanin) is perceived **sweeter** than 10% like the equivalent addition of sugar (Johnson e Clydesdale 1982)



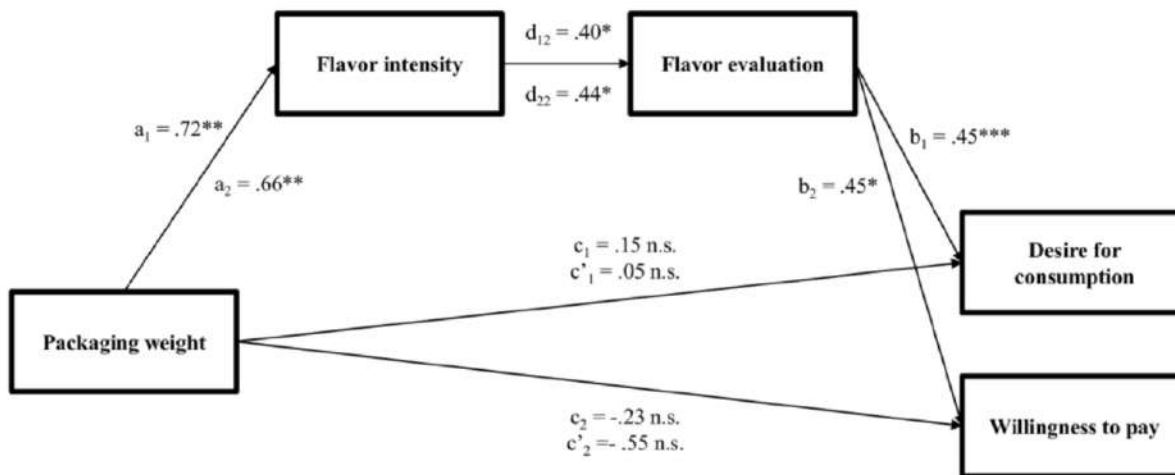
- Spence won the Ig Nobel Prize for Nutrition 2008
- Spence has shown that the **crunchiness** and **freshness** of potato crisps can increase by amplifying the sound of the bite
- With high-frequency background music the **crunchiness** and the **pleasantness** of the potato grows
- *(Zampini e Spence, 2004 - The role of auditory cues in modulating the perceived crispness and staleness of potato chips)*



the effect of weight



- a heavier box makes the product perception and the taste better
- If the **weight** of a box of chocolates is higher, the scent of these is perceived to be more intense
- this can also increase the desire to purchase it



Notes: Study 1 with pralines ($n = 78$); $** p < 0.01$; $* p < 0.05$; n.s. = non-significant effect; unstandardized coefficients.

Fig 1. Direct and indirect effects of packaging weight on flavor intensity, flavor evaluation, desire for food, and willingness to pay.

Gatti et al. (2014)

Does food and drink taste better if you pay more for it?

Some Neuroscientists investigated what happened in the brain of wine drinkers when given different, and sometime misleading, information about the price of a red wine.

A 5\$ bottle of wine was either correctly described or else mislabeled as a 45\$ bottle. The price was displayed on a monitor, whenever a small amount of wine was squirted in to the participant's mouth

(Plassmann, et al. 2008)

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Proceedings

Marketing actions can modulate neural representations of experienced pleasantness

Hilke Plassmann ^{*}, John O'Doherty ^{*}, Baba Shiv [†], and Antonio Rangel ^{*}, [‡]

[+ Author Affiliations](#)

Edited by Leslie C. Ungerleider, National Institutes of Health, Bethesda, MD, and approved December 3, 2007 (received for review July 24, 2007)

Abstract

Despite the importance and pervasiveness of marketing, almost nothing is known about the neural mechanisms through which it affects decisions made by individuals. We propose that marketing actions, such as changes in the price of a product, can affect neural representations of experienced pleasantness. We tested this hypothesis by scanning human subjects using functional MRI while they tasted wines that, contrary to reality, they believed to be different and sold at different prices. Our results show that increasing the price of a wine increases subjective reports of flavor pleasantness as well as blood-oxygen-level-dependent activity in medial orbitofrontal cortex, an area that is widely thought to encode for experienced pleasantness during experiential tasks. The paper provides evidence for the ability of marketing actions to modulate neural correlates of experienced pleasantness and for the mechanisms through which the effect operates.



Marketing actions can modulate neural representations of experienced pleasantness

Hilke Plassmann^a, John O'Doherty^a, Baba Shiv^a, and Antonio Rangel^{a,b}

Everyone **reported liking** the expensive wine more than cheap wine. Crucially, analysis of the brain scans revealed increases in blood flow in the **reward center of the brain associated with the price cue**. More activation of the OPC

Telling people that the wine was more expensive led to an increase in activation in the medial **orbital-frontal cortex**, a small part of the brain located just behind the eyes

By contrast, no change in blood flow was observed in the primary taste cortex the part of the brain that processes the sensory-discriminative attributes of taste

When the same wines were presented eight weeks later now without any indication as to their price **no significant** difference in pleasantness were reported

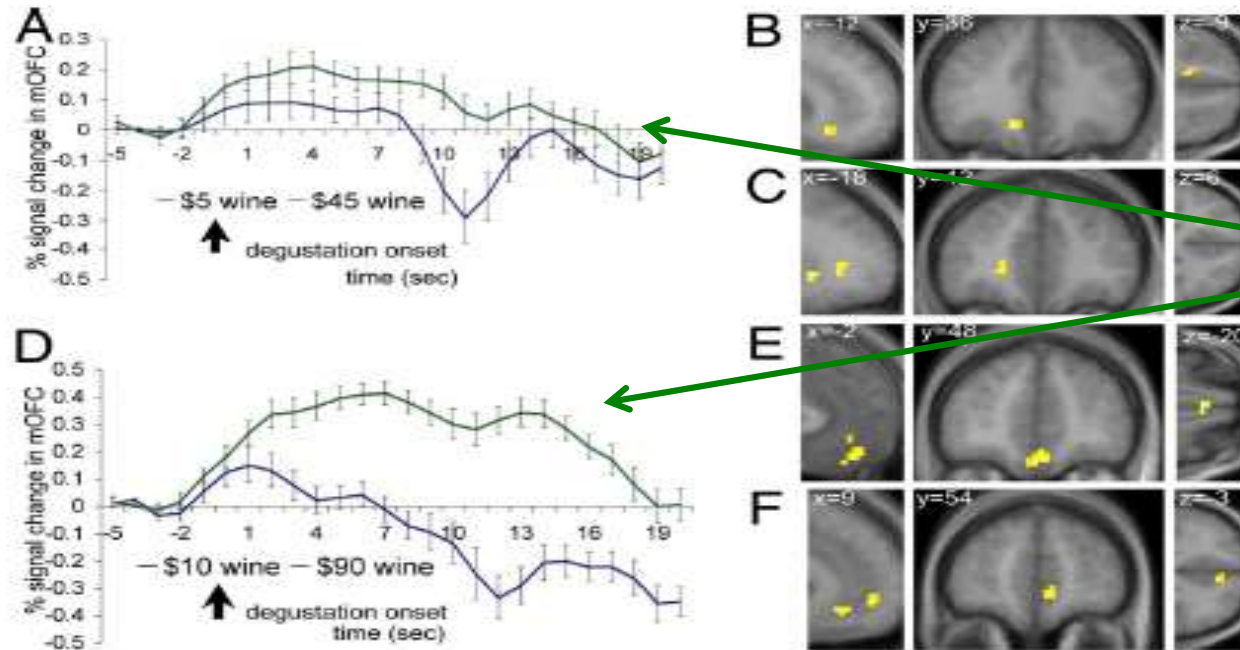
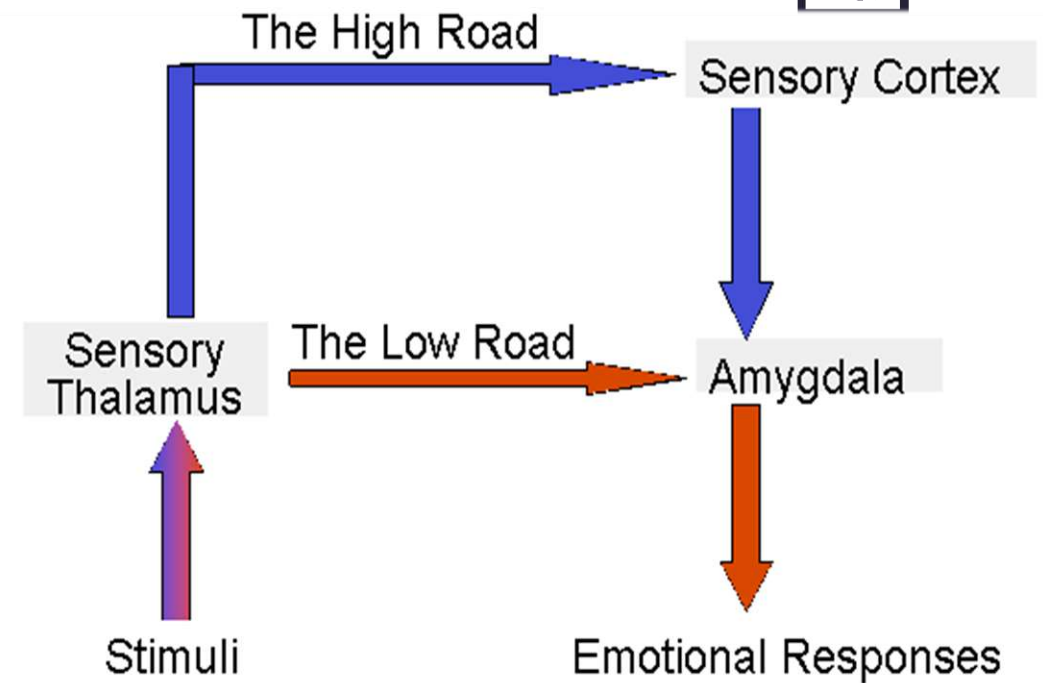
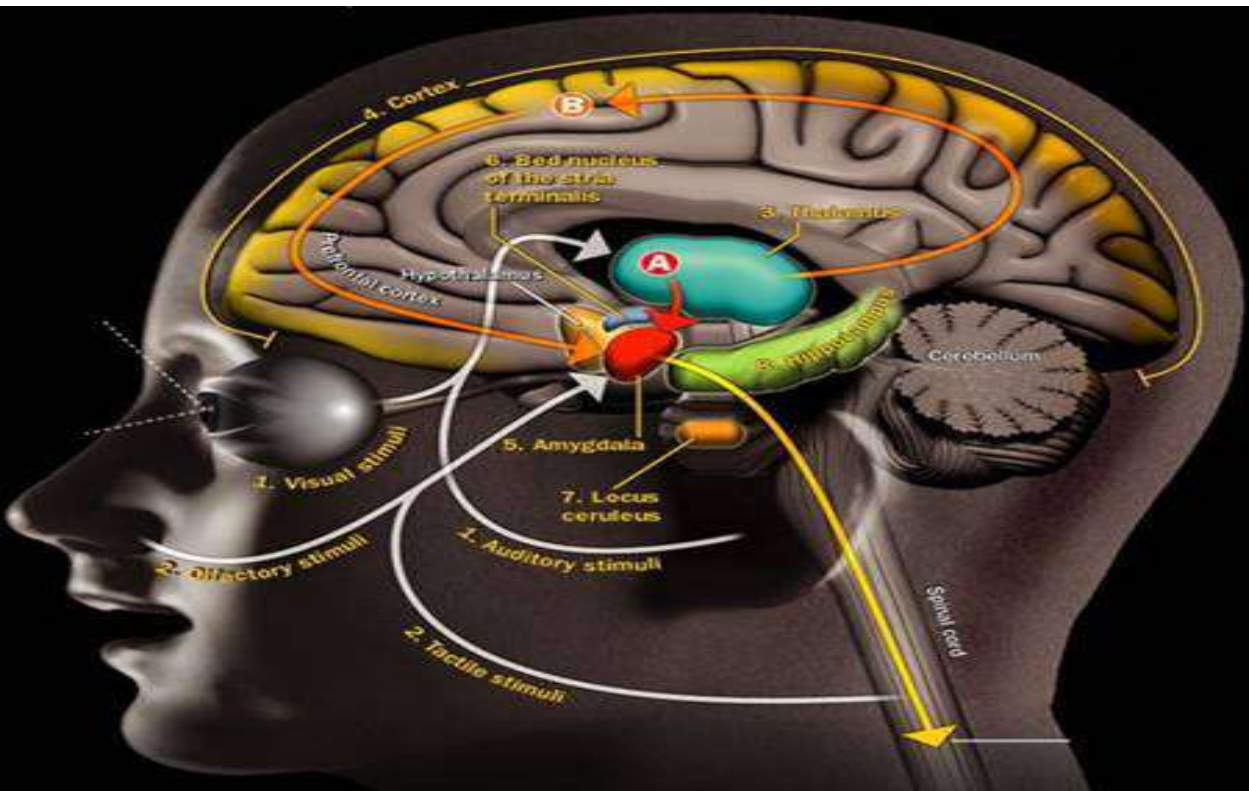


Fig. 2. The effect of price on each wine. (A) Wine 1: averaged time courses in the medial OFC voxels shown in B (error bars denote standard errors). (B) Wine 1: activity in the mOFC was higher for the high- (\$45) than the low-price condition (\$5). Activation maps are shown at a threshold of $P < 0.001$ uncorrected and with an extend threshold of five voxels. (C) Wine 1: activity in the vmPFC was also selected by the same contrast. (D) Wine 2: averaged time courses in the medial OFC voxels shown in E. (E) Wine 2: activity in the mOFC was higher for the high- (\$90) than for the low-price condition (\$10). (F) Wine 2: activity in the vmPFC was higher for the same contrast.

The emotional brain (Le Doux, 1996)



LeDoux: Tracing Emotional Pathways (NY Times Nov. 5, 1996)

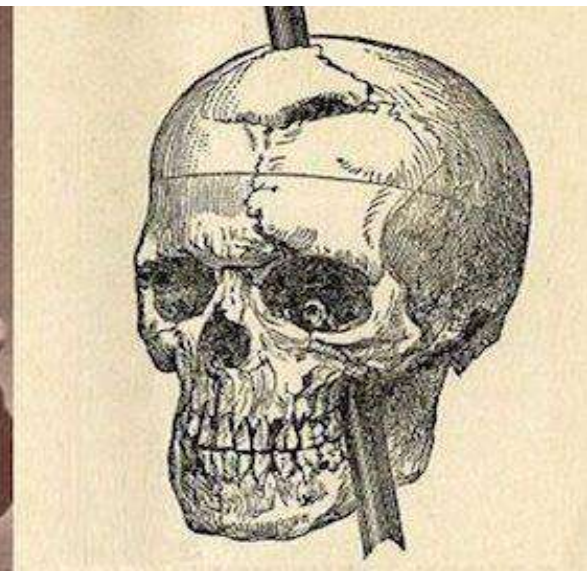
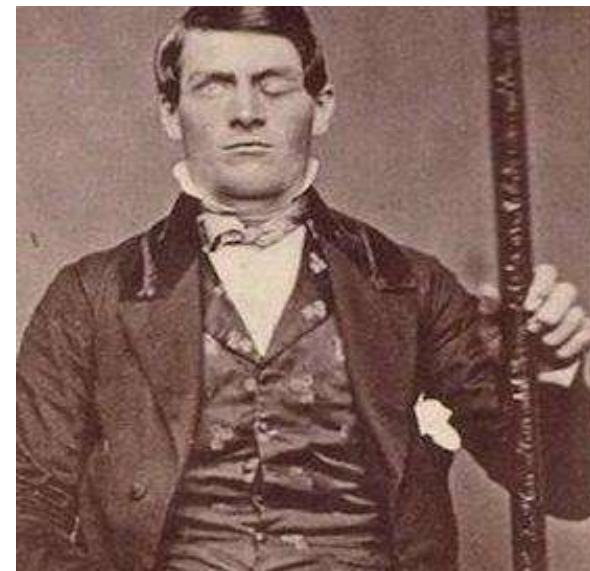
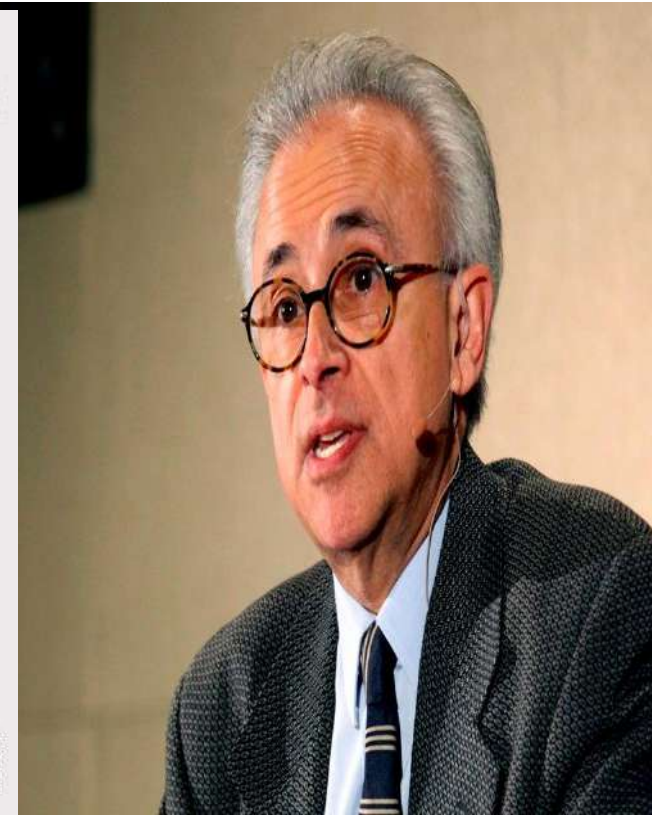
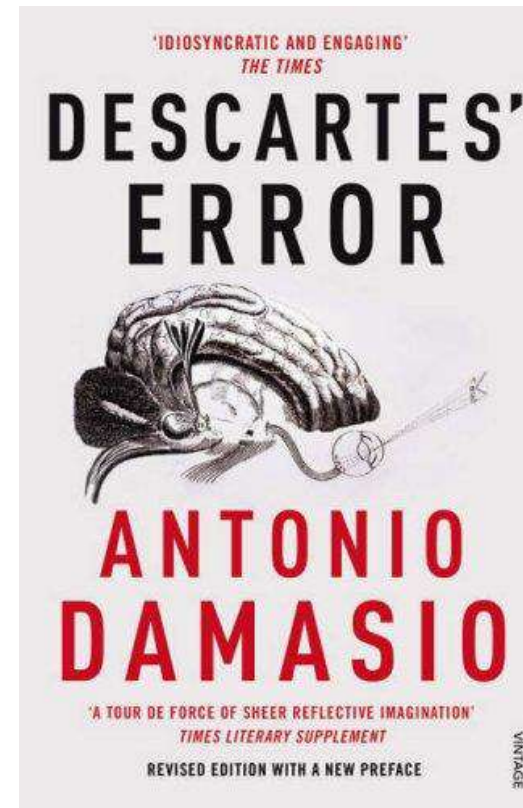
Two different ways characterise brain functioning:

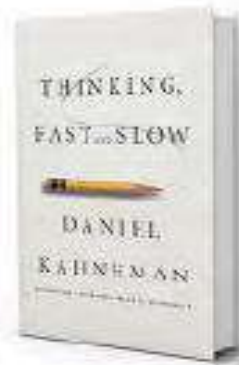
- Fast, immediate, unconscious, adaptive function (Low Road)
- Slower, effortful, conscious (High Road)

“We are not thinking machines.

We are feeling machines that think.”

(Damasio, 1994)





A Higher Caseload Translates to Greater Reliance on System 1

SYSTEM 1

- Fast/automatic/easy
- Performs familiar or practiced routines
- Fine for small talk
- Undemanding
- Can perform while tired, sick or stressed
- Impressions/intuitions/feelings
- Susceptible to errors

SYSTEM 2

- Slow/effortful/hard
- Necessary for novel decisions or routines
- Useful for harder questions
- Tiring/draining
- Impaired by fatigue, illness or stress
- Logic/analysis/reflection
- Can override errors through careful thought

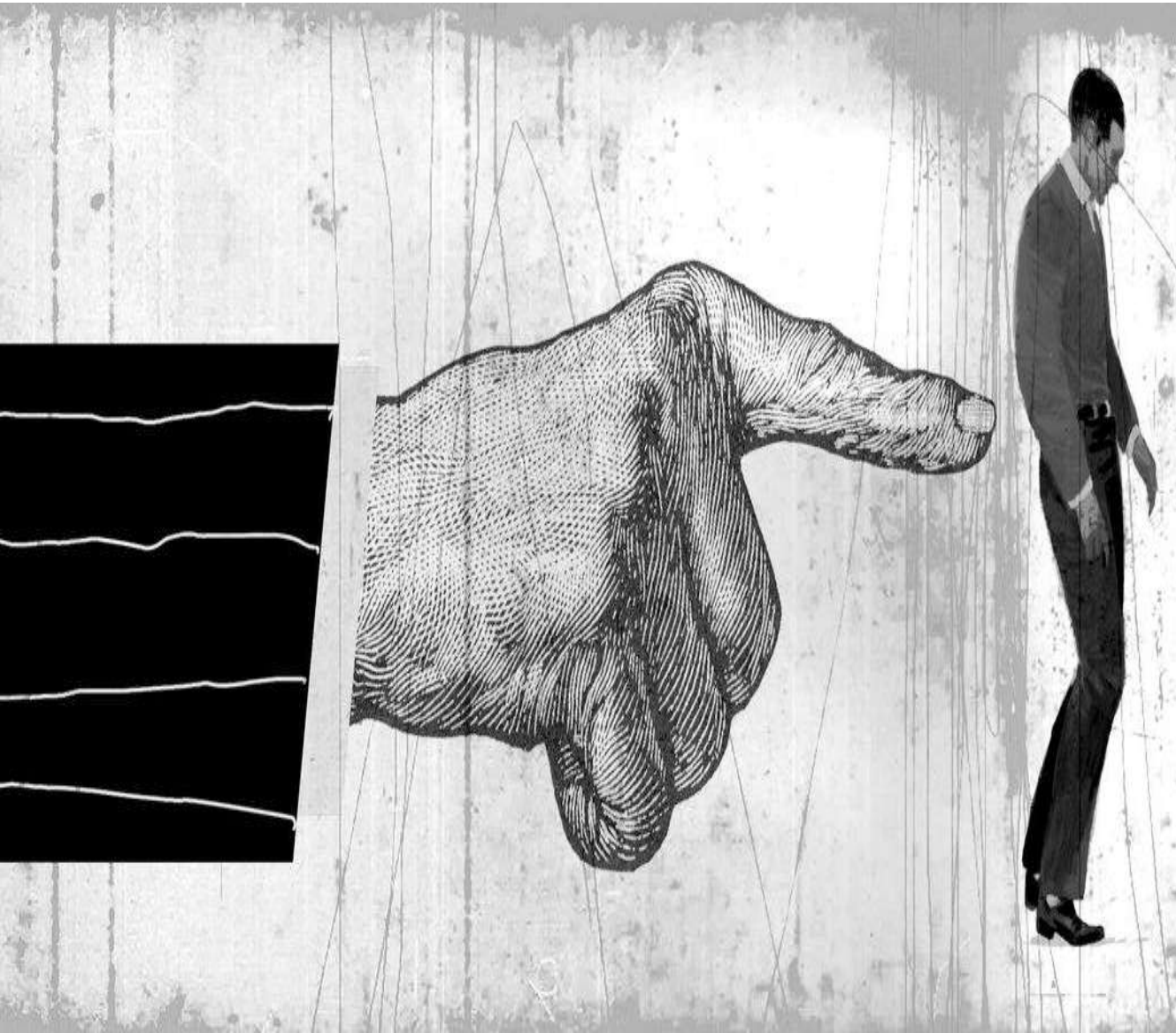
50-95% DAILY BEHAVIOUR AT UNCONSCIOUS LEVEL

One is implicit, intuitive and automatic, not under individuals' control.

The other one is explicit, deliberate and conscious

(Kahneman and Frederick 2002; Stanovich 1999).

Nudge - Architettura della Scelta



2017

Richard Thaler

Behavioural Economics Explained





Nudge

Nudge is a concept in behavioral science, political theory and economics which proposes positive reinforcement and **indirect suggestions** as ways to influence the behavior and decision making of groups or individuals.

Nudging contrasts with other ways to achieve compliance, such as education, legislation or enforcement.



Indications to reduce kilocalories

- «you know how many kilocalories you lose climbing every step»

Nudge



how to increase attention to the respect of the environment with an image

We know that...



We use **instinct** when processing information and making decisions

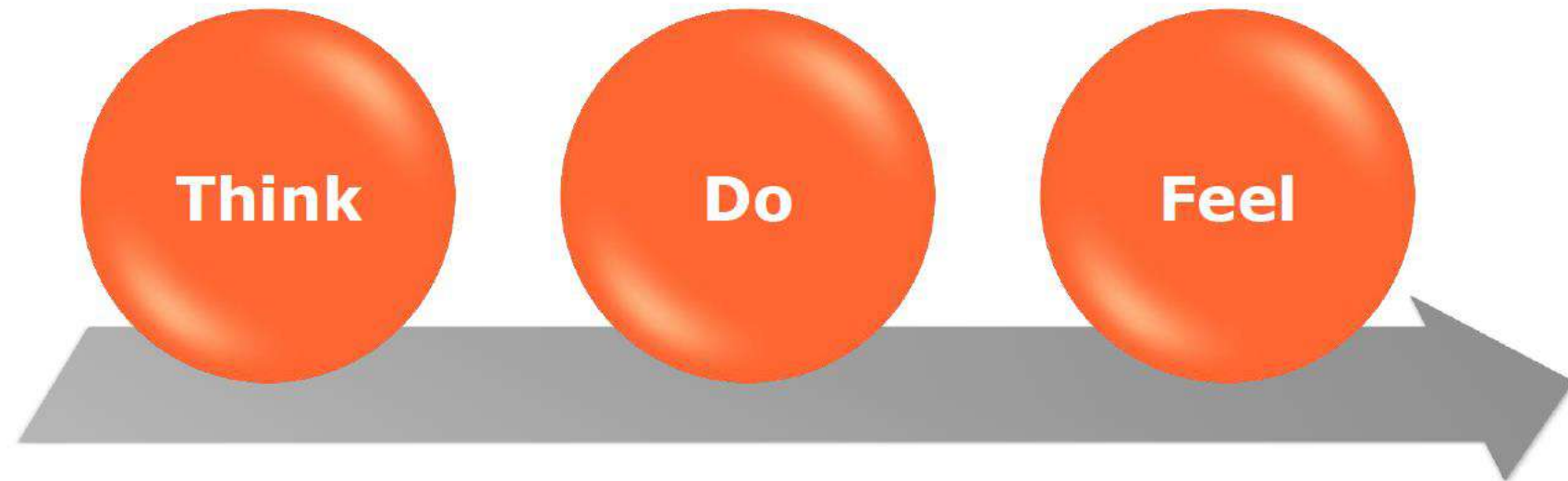


We are able to come up with explanations, but these are often **post-rationalisations**



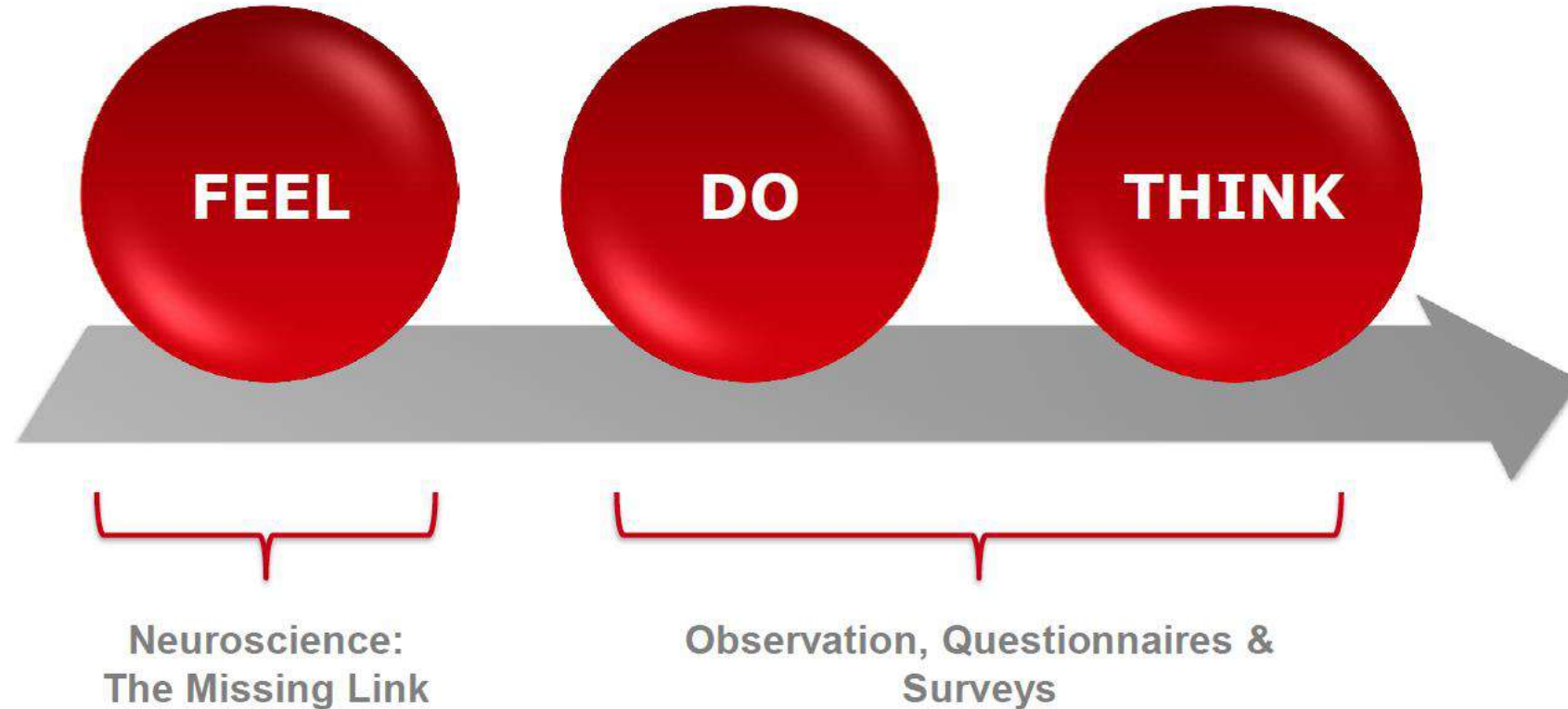
We can not explain our **motivations** at an aggregate emotional level- what "feels right" to us

if we have used this old scheme for a long time



now we must use this new scheme

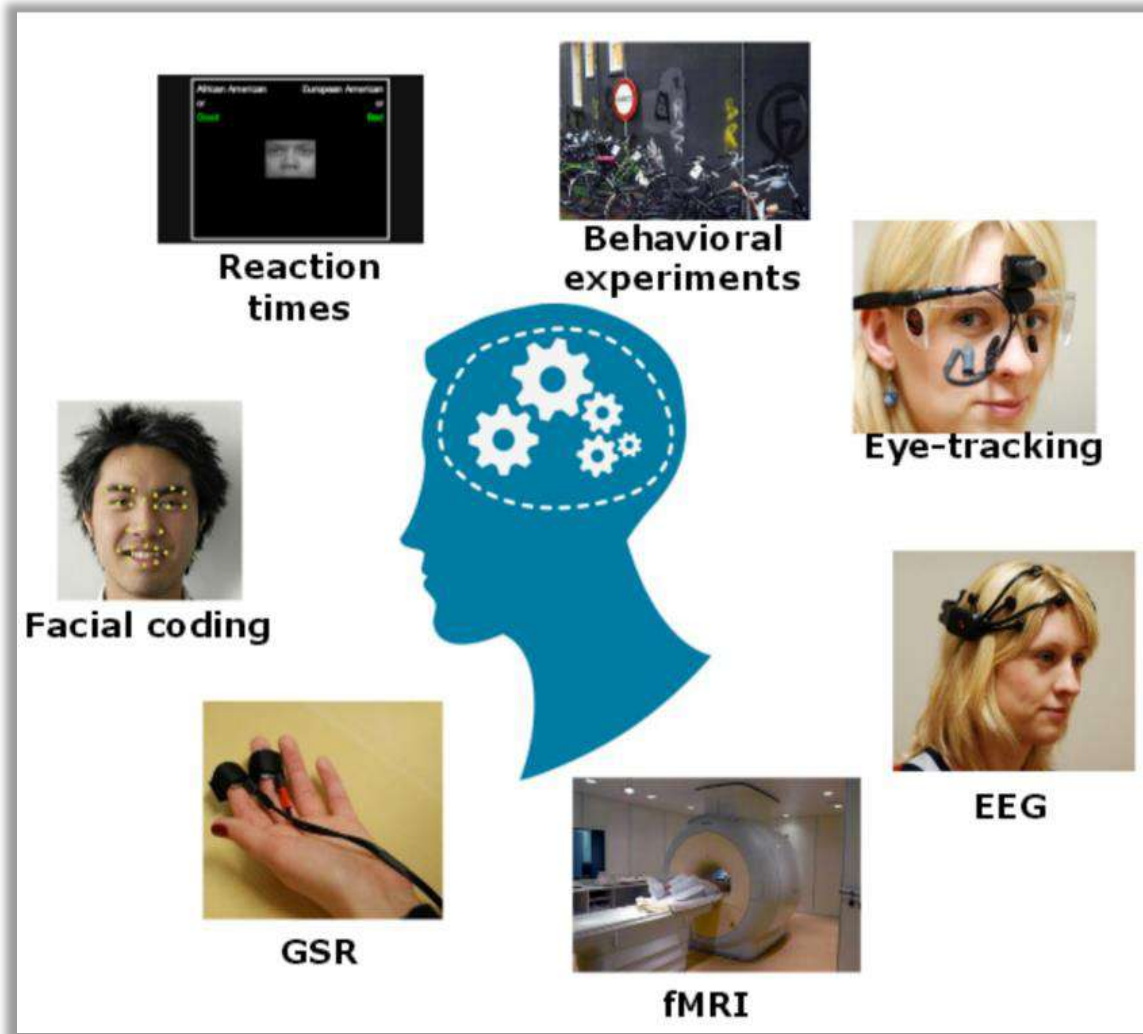
THE OLD PARADIGM THE EMOTIONAL REVOLUTION





Neuromarketing





Non-invasive brain-imaging techniques of neuromarketing such as psychophysiological tools (eye tracking, skin conductance) and brain imaging tools (e.g., fMRI, EEG) made it possible to actively make brain observations during the execution of certain tasks, providing marketers with additional information about consumers.

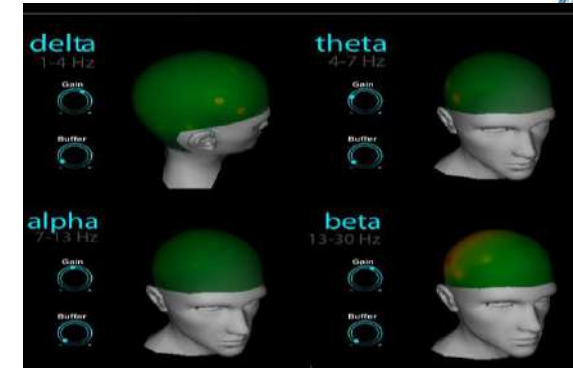
(Dimoka, et al, 2012; Calvert, & Brammer, 2012; Venkatraman et al., 2012)

... And what about people?

“Despite many common beliefs about the inherently evil nature of marketing, the main objective of marketing is to help match products with people” (Ariely & Berns, 2010).

R. J. Davidson, P. Ekman, C. D. Saron, J. A. Senulis, and W. V. Friesen, "Approach-withdrawal and cerebral asymmetry: Emotional expression and brain physiology," *J. Pers. Soc. Psychol.*, vol. 58, no. 2, pp. 330–441, 1990.

NEURO TRACKER: INDICATORE DI INTERESSE

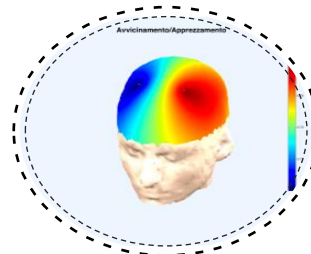


APPROACH-WITHDRAWAL AND CEREBRAL ASYMMETRY INDICE DI ASIMMETRIA CEREBRALE FRONTALE (BANDA ALPHA): FAA (FRONTAL ALPHA ASYMMETRY) BASATO SULLA LATERALIZZAZIONE EMISFERICA (DAVIDSON, 2012)

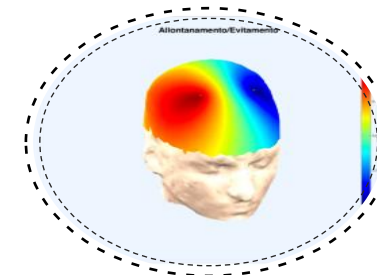


VALORE POSITIVO:
MAGGIORE ATTIVAZIONE CORTECCIA PREFRONTALE SINISTRA

APPROCCIO VERSO LO STIMOLO, PROPENSIONE, **INTERESSE**



VALORE NEGATIVO:
PREDOMINANZA EMISFERO DESTRO "EVITAMENTO" DELLO STIMOLO, **DISINTERESSE**

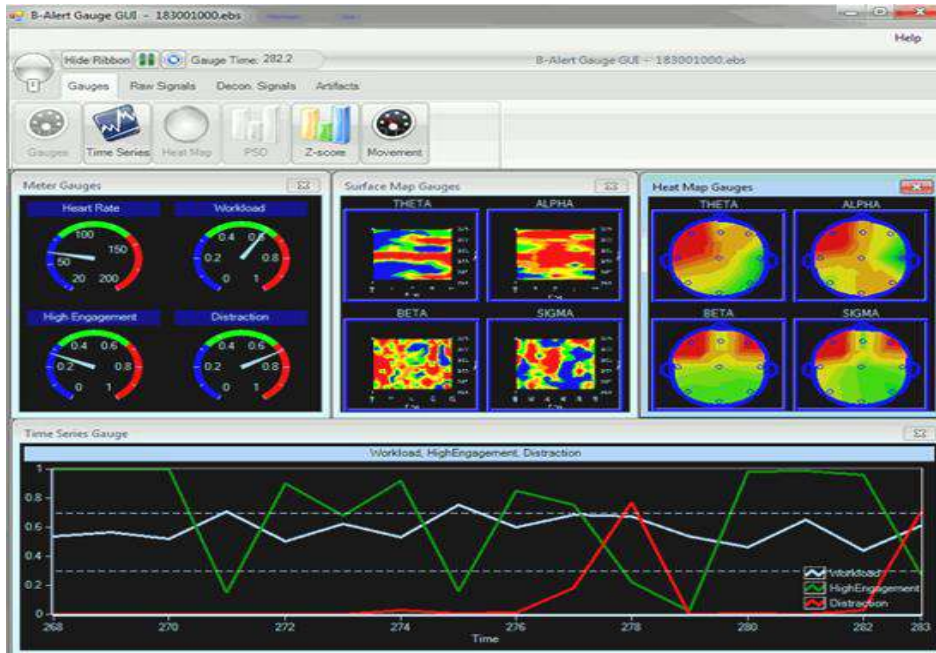


(Harmon-Jones et al., 2003; 2010; Sutton & Davidson, 1997; Berkman, & Lieberman, 2010; Carver, & Harmon-Jones, 2009; Rutherford, & Lindell, 2011) .



- **Memorization Index** (Onde Theta su area prefrontale sinistra) (Summerfield e Mangels, 2005; Werkle_Bergner et al., 2006);

$$MI = \frac{1}{N_Q} \sum_{i \in Q} x_{\theta_i}^2(t) = \text{Average power}_{\theta_{\text{left, frontal}}}$$

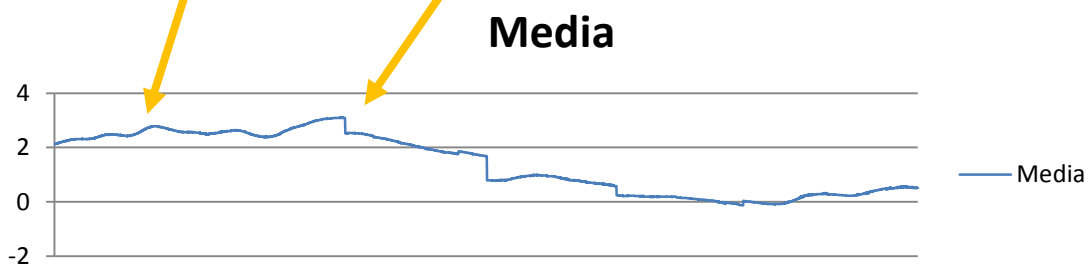
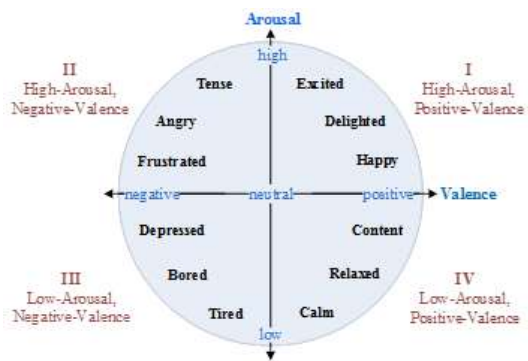


- **Attention Index** Modifica ritmo delle Onde Alpha sulla zona prefrontale (Klimesh 1999; Petersen e Posner, 2012)

$$AI = -\frac{1}{N_Q} \sum_{i \in Q} x_{\alpha_i}^2(t) = \text{Average power}_{\alpha_{\text{frontal}}}$$

SK e Eye Tracking data.

Emotional Index GSR e HR (Russel e Barrett, 1999) i due parametri correlano con la **valenza** (Critchley 2002) e **arousal** (Mauss e Robinson 2009)



Il dato Eye Tracker può essere combinato con il dato Skin Conductance permettendo così di connotare frame by frame il livello di difficoltà.

Shimmer

$$EI = 1 - \frac{\beta}{\pi}$$

$$\beta = \begin{cases} \frac{3}{2}\pi + \pi - \vartheta & \text{if } GSR_Z \geq 0, HR_Z \leq 0 \\ \frac{\pi}{2} - \vartheta & \text{otherwise} \end{cases}$$



➤ Facial EMG

Offers accurate and automated recording of muscle activity of facial expressions



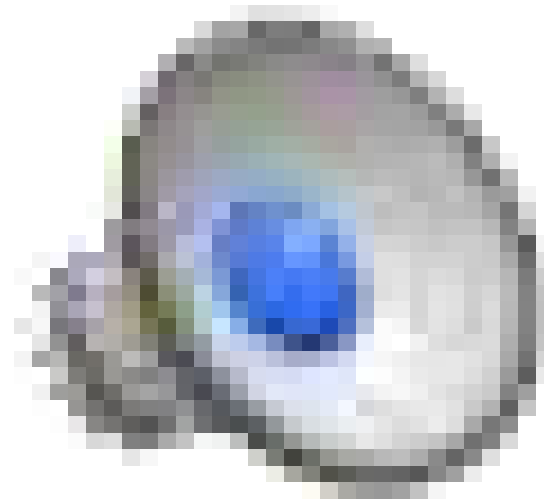
Eye Tracking

Heat map shows where the eyes focus more



Gaze plots shows the path of vision

Eye Tracking



✓ Packaging Analysis



NEURO TRACKER:



EYE TRACKING:



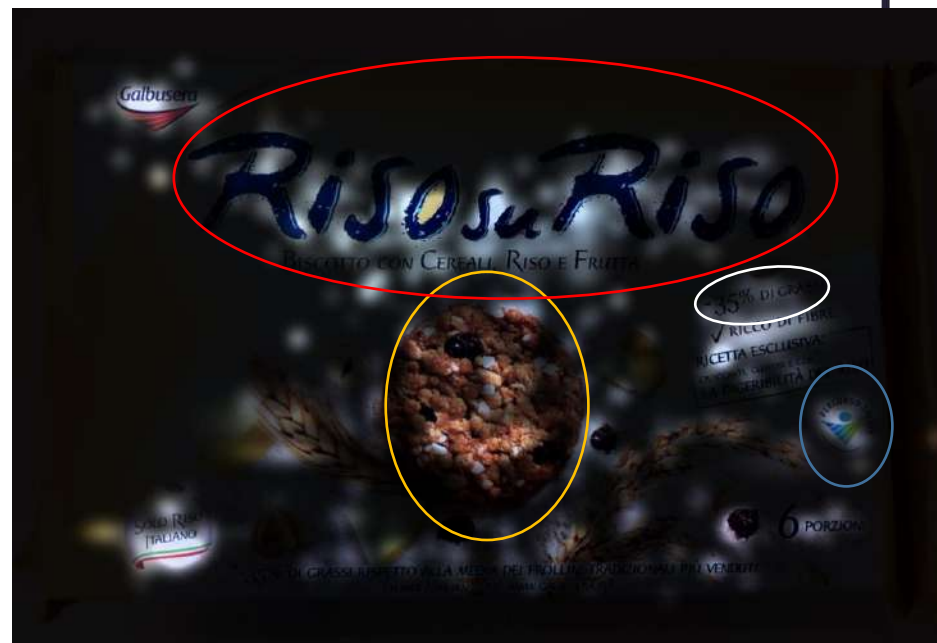
BIO TRACKER:



Il ruolo dell'etichetta: VALUTAZIONE EFFICACIA SCELTE GRAFICHE



Il ruolo dell'etichetta: VALUTAZIONE EFFICACIA SCELTE GRAFICHE



Ad on-line: Banner blindness





Interest grid Area (AOI):

BRAND	
Sequence	4
Entry time	1837 ms
Dwell time	216 ms (3%)
Hit ratio	6/18 (33%)
Revisits	2
Revisitors	3/6
Average fixation	74 ms
First fixation	66 ms
Fixation count	0.9

NOME PRODOTTO	
Sequence	2
Entry time	850 ms
Dwell time	1086 ms (14%)
Hit ratio	18/18 (100%)
Revisits	2
Revisitors	17/18
Average fixation	259 ms
First fixation	278 ms
Fixation count	4.0

CONTENUTO GRASSI	
Sequence	5
Entry time	2370 ms
Dwell time	444 ms (6%)
Hit ratio	14/18 (78%)
Revisits	1
Revisitors	8/14
Average fixation	199 ms
First fixation	194 ms
Fixation count	1.6



GUSTO	
Sequence	6
Entry time	3205 ms
Dwell time	370 ms (5%)
Hit ratio	10/18 (56%)
Revisits	1
Revisitors	5/10
Average fixation	198 ms
First fixation	149 ms
Fixation count	0.9

NO CONSERVANTI	
Sequence	7
Entry time	3534 ms
Dwell time	370 ms (5%)
Hit ratio	11/18 (61%)
Revisits	1
Revisitors	3/11
Average fixation	286 ms
First fixation	278 ms
Fixation count	0.9

PRODOTTO	
Sequence	1
Entry time	681 ms
Dwell time	2109 ms (26%)
Hit ratio	18/18 (100%)
Revisits	4
Revisitors	18/18
Average fixation	312 ms
First fixation	242 ms
Fixation count	7.0





3%

Per 3 mesi

Scegli Conto Corrente Arancio

- Zero canone
- Zero spese di apertura e di gestione
- 3% per 3 mesi su Conto Arancio

[Vai](#)



Si scrive ING, si legge Migliore Banca del Mondo 2016

The Banker, magazine del Financial Times, premia il Gruppo ING
 Il riconoscimento è frutto di una strategia basata sull'innovazione e sulla costante attenzione al cliente.

[> Scopri](#)



La solidità di ING Group

CET 1 pari al 14,5%: uno dei più alti in Europa
 Facciamo parte di ING Group, uno dei gruppi bancari più solidi in Europa con oltre 35 milioni di clienti in 40 Paesi.

[> Scopri](#)



ATTENTION AND VISION



PACK Plastic



PACK Plastic (similar to paper – cardboard)

CARDBOARD



PACK PLASTICA

Less time on the information (188 ms)



PACK Plastic (similar to paper – cardboard)

More attention to the information

The label:

Sommelier



Type of Vine



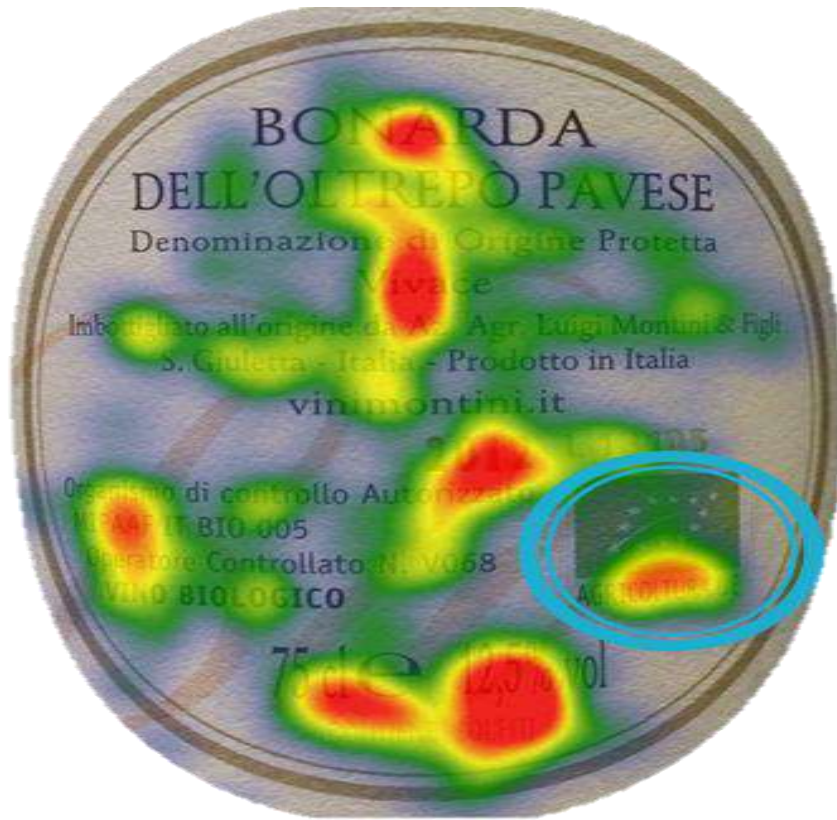
Inesperti



Capacity of the bottle

Organic
certification

Alcohol grade



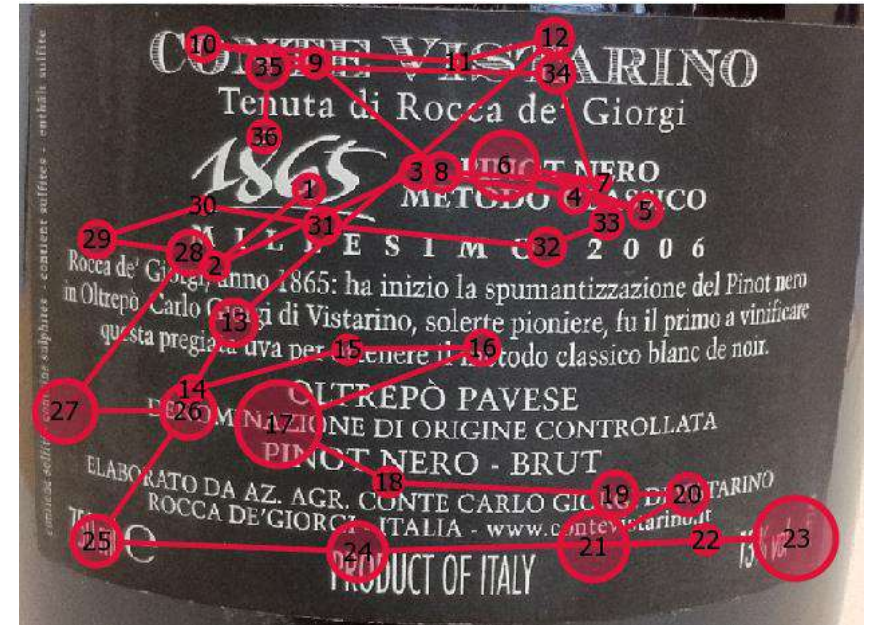
No Expert



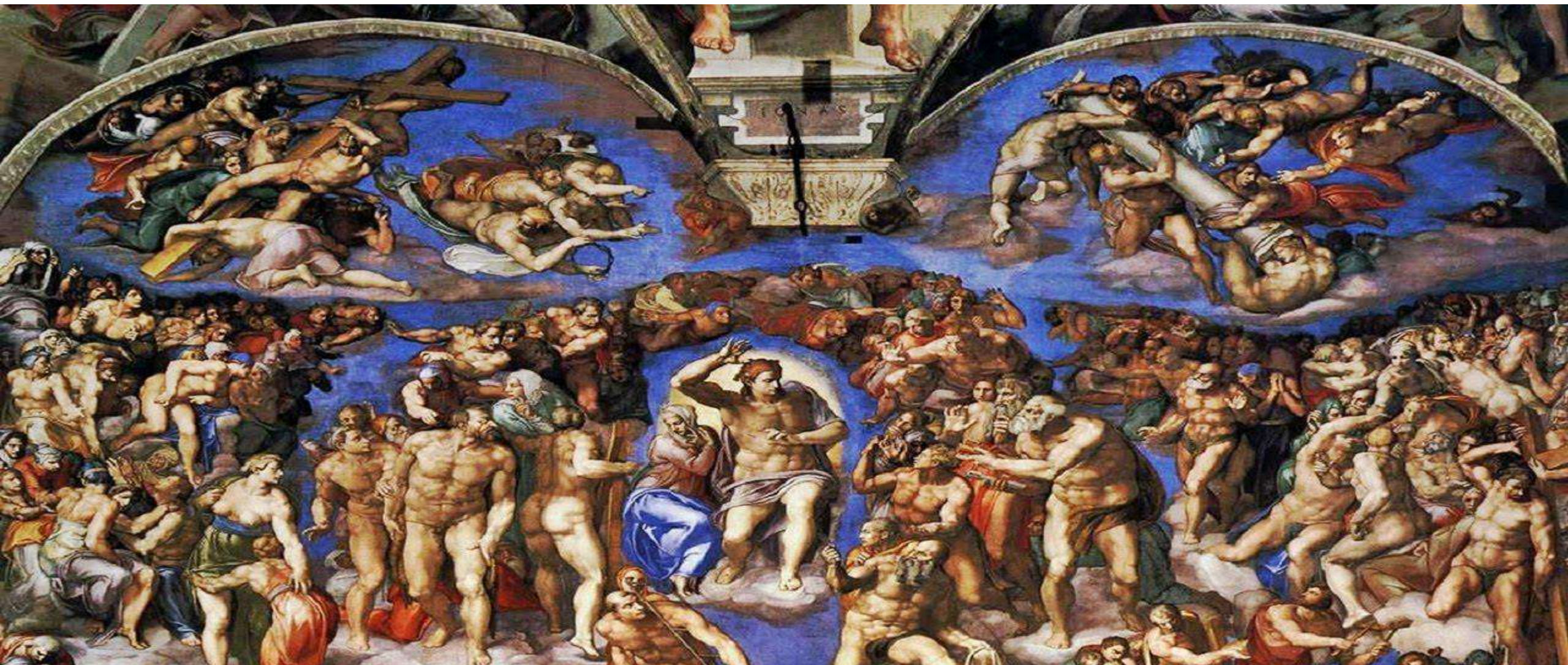
Expert



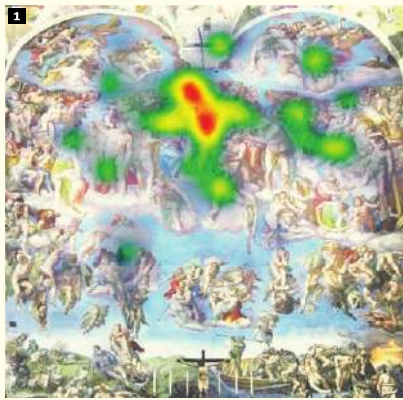
Man



Woman



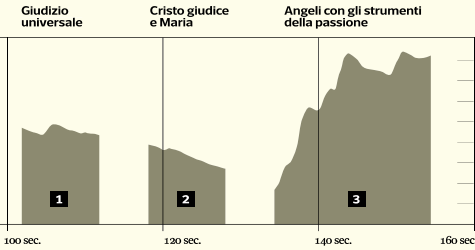
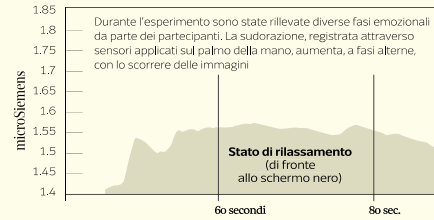
Giudizio Universale di Michelangelo (Cappella Sistina)



Cosa vedono gli uomini

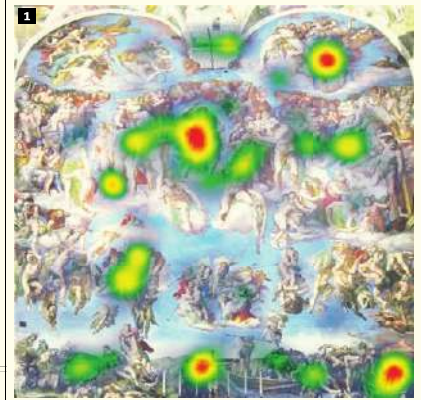
Nelle immagini di sinistra è rappresentata una mappa di calore (heat map) che evidenzia in rosso le aree maggiormente osservate, sfumando verso i toni più freddi del verde per gli elementi poco notati. Anche qui sotto lo studio dello sguardo dimostra un comportamento visivo caratterizzato da un'esplorazione specifica e dettagliata di poche zone dell'affresco. Gli uomini non prendono in considerazione tutte le informazioni disponibili, ma ne selezionano solo alcune. Per questo motivo vengono definiti dagli studiosi «selettivi», selective processors

ATTIVAZIONE EMOZIONALE (livello di sudorazione)



Cosa vedono le donne

Le mappe di calore a destra mostrano l'atteggiamento del pubblico femminile nei confronti dell'opera. Le donne, definite «inclusive» comprehensive processors, a differenza degli uomini sono più sensibili ai molteplici dettagli che compongono una scena visiva. Di conseguenza, la loro elaborazione cognitiva, che potrebbe sembrare dispersiva, risulta più completa. Inoltre, nella descrizione verbale dell'affresco, le donne usano parole che indicano sentimenti come paura e sofferenza, mentre gli uomini tendono a inserire termini che localizzano le immagini osservate: verso, centro, basso



IL TRACCIATO OCULARE L'attenzione visiva è misurata attraverso l'Eye-tracking: di ognuno dei 14 partecipanti (7 uomini e 7 donne) è stato registrato il percorso oculare con colori diversi

Il percorso visivo è indicato attraverso una progressione numerica (da 1 in avanti) con spostamenti diversi in dimensione e ordine. Non tutti gli esaminati raggiungono lo stesso numero di tappe. La superficie dei cerchi indica l'ampiezza di visione

2 Cristo giudice e Maria

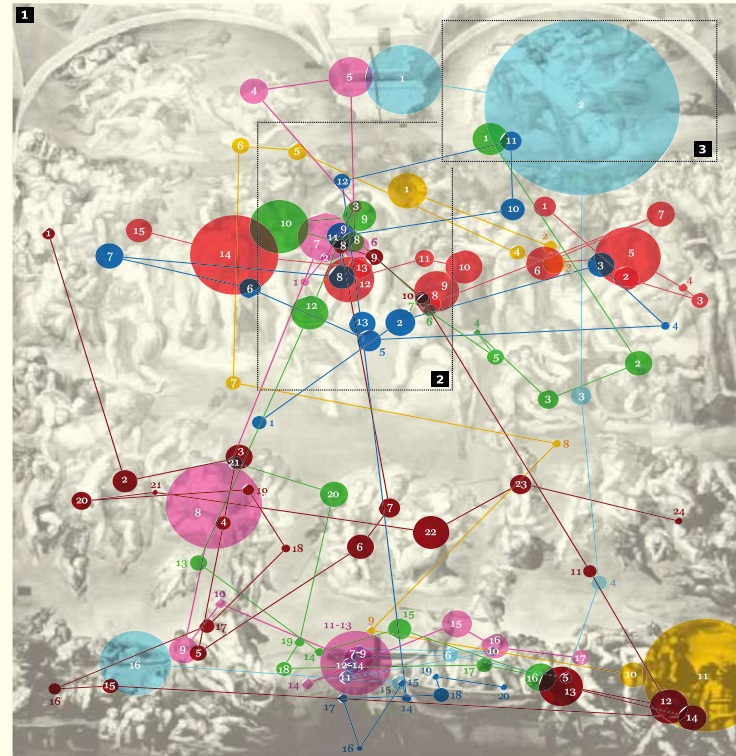
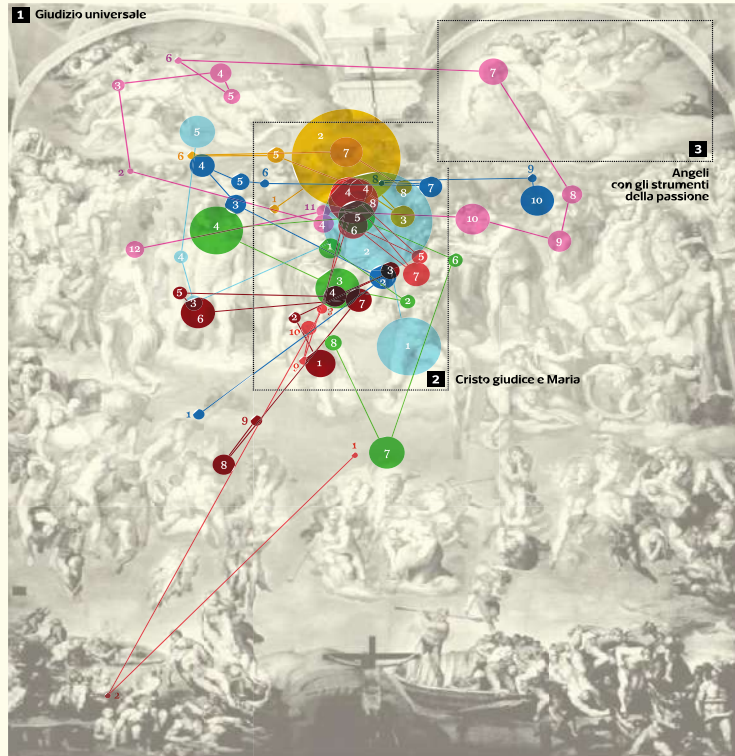


Si tratta del dettaglio maggiormente osservato dai partecipanti di sesso maschile. Le mappe di calore indicano che gli uomini tendono a osservare maggiormente le figure femminili rispetto a quelle maschili.

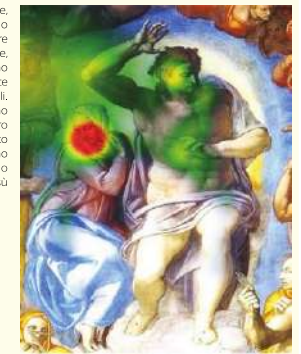
3 Angeli con gli strumenti della passione



In questo particolare, nella lunetta destra dell'affresco, lo sguardo degli uomini si sofferma soprattutto sull'azione e su alcuni dettagli dell'opera: la forza muscolare degli angeli e i loro genitali



2 Cristo giudice e Maria



Anche le donne, pur affermando di preferire le figure di sesso maschile, osservano maggiormente quelle femminili. Inoltre, notano un maggior numero di particolari rispetto agli uomini: la mano sinistra e il braccio destro di Gesù

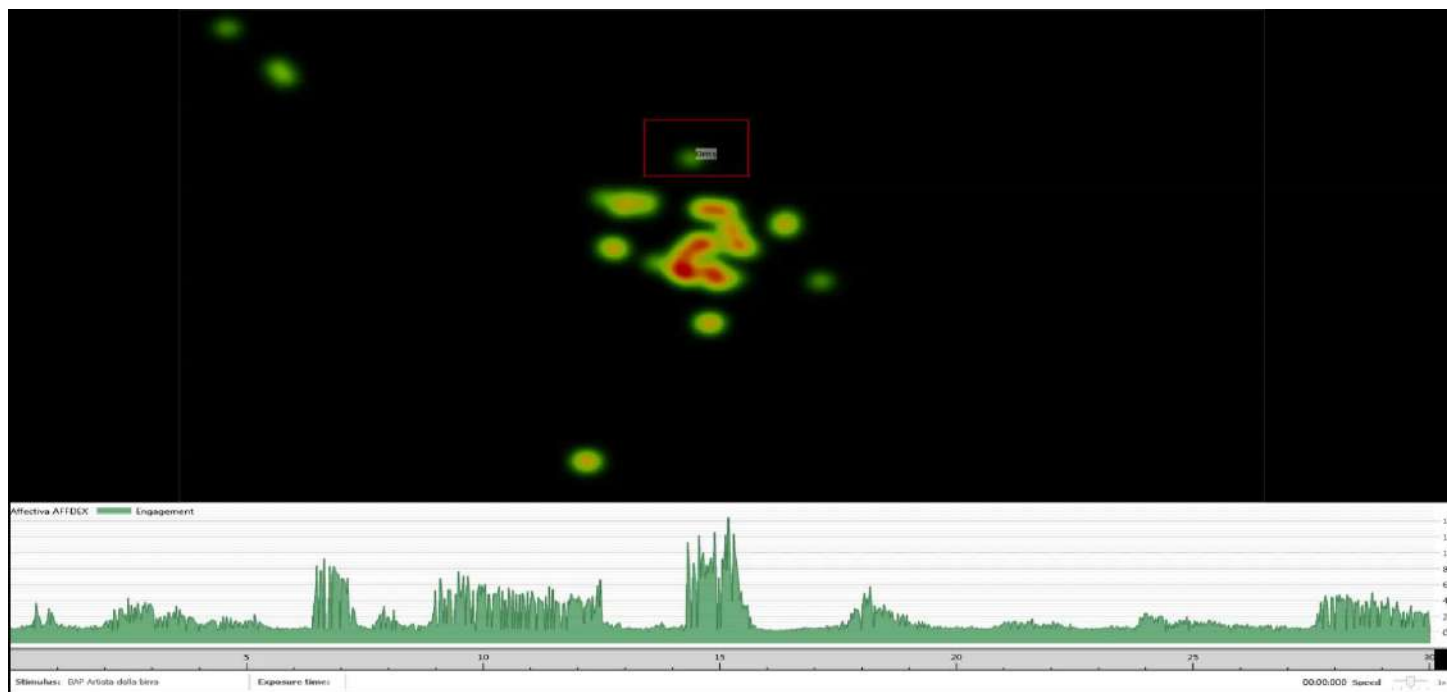
3 Angeli con gli strumenti della passione



Nella loro osservazione le donne si soffermano soprattutto sui volti, elemento emozionale per eccellenza. Nessuno sguardo è dedicato ai corpi degli angeli, tantomeno alle loro parti intime



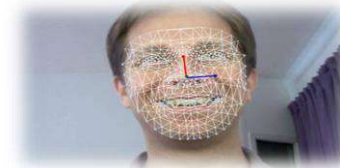
Emotions (facial expression analysis) Spot BAP - Beer artist



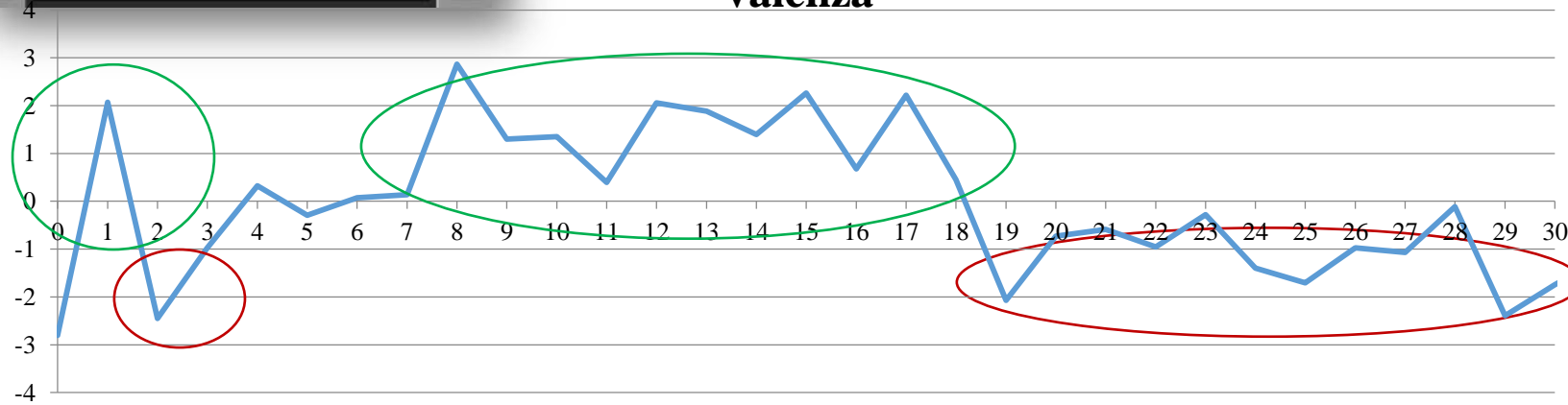
The emotional trend



Espressioni del volto

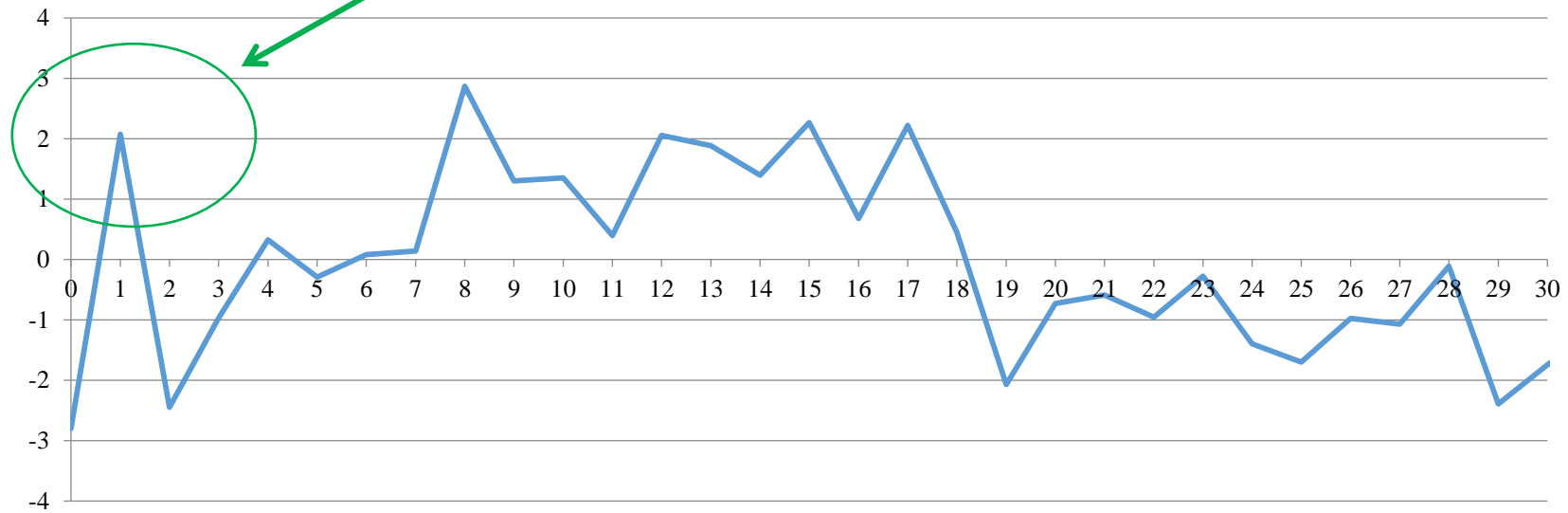


Valenza



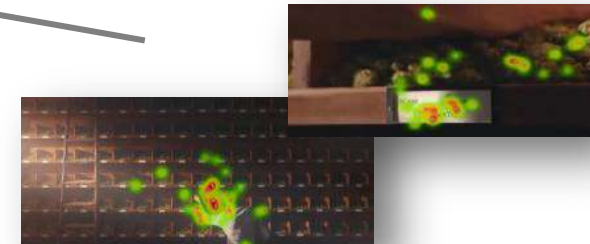
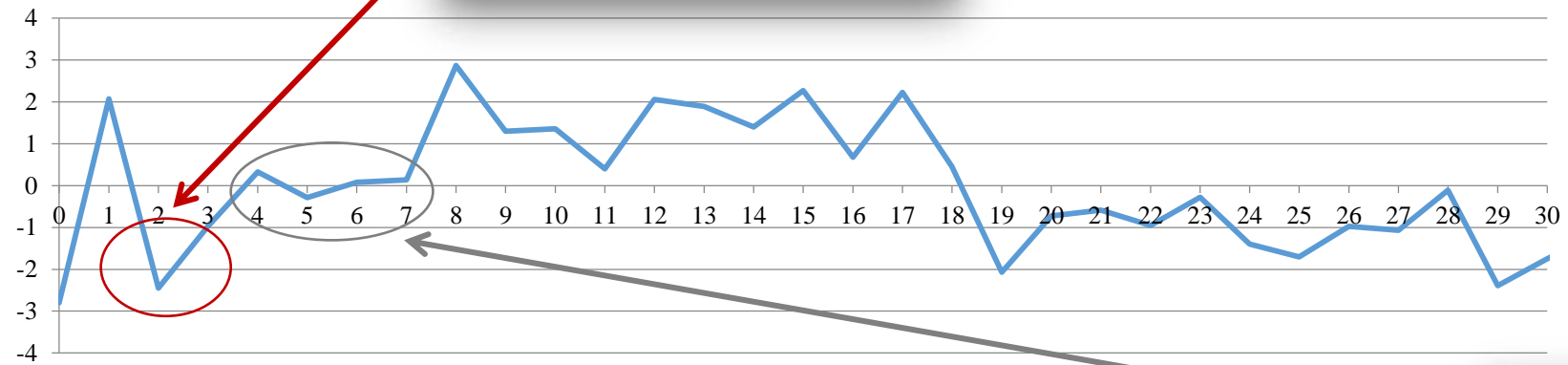
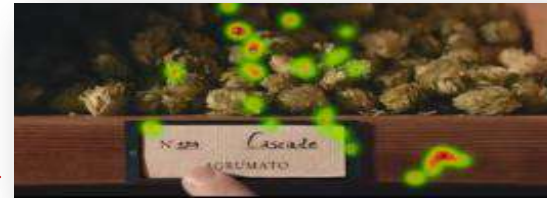
The emotional trend

Espressioni del volto



L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



Espressioni del volto

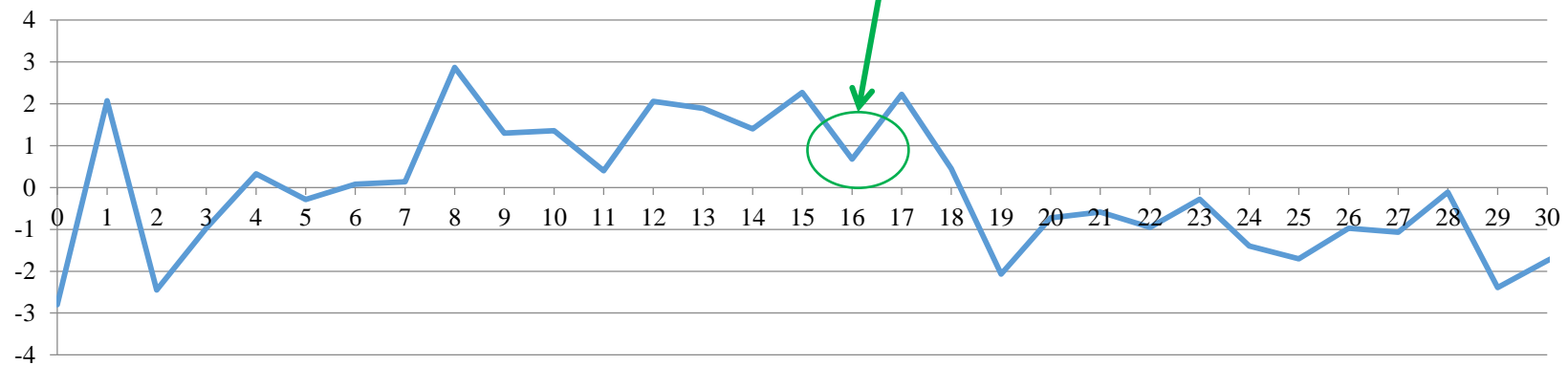
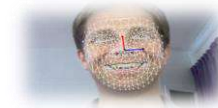
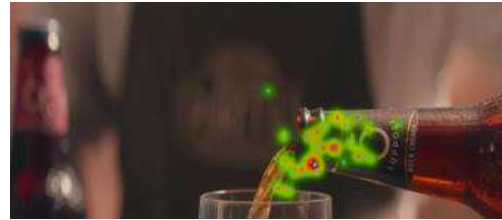
Espressioni del volto



- La valenza è elevata nella sequenza che mostra l'artigiano e le vasche di fermentazione della birra, con la voce narrante che parla dell'arte della produzione (comunicazione **coerente ed efficace**)



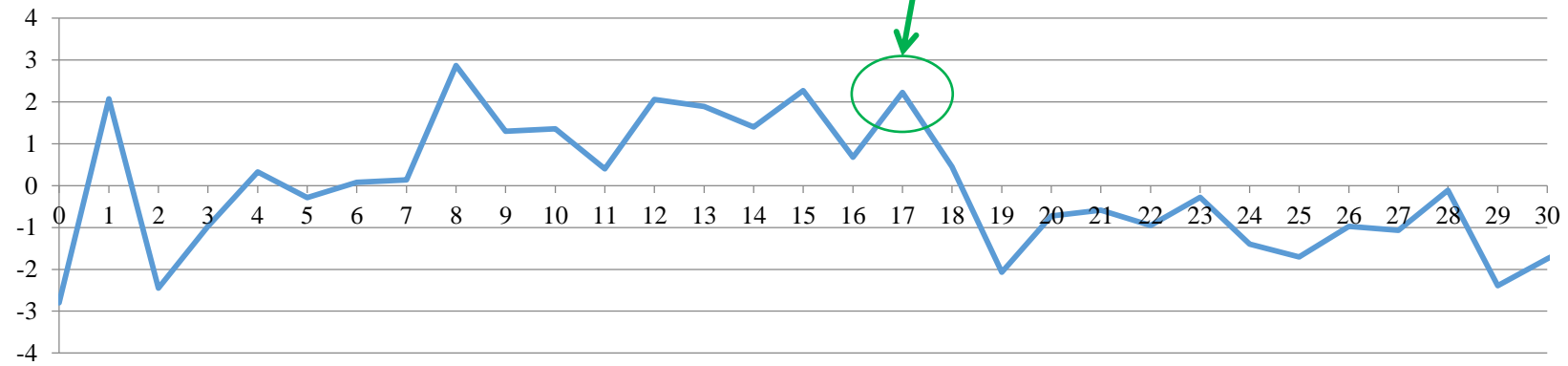
Espressioni del volto



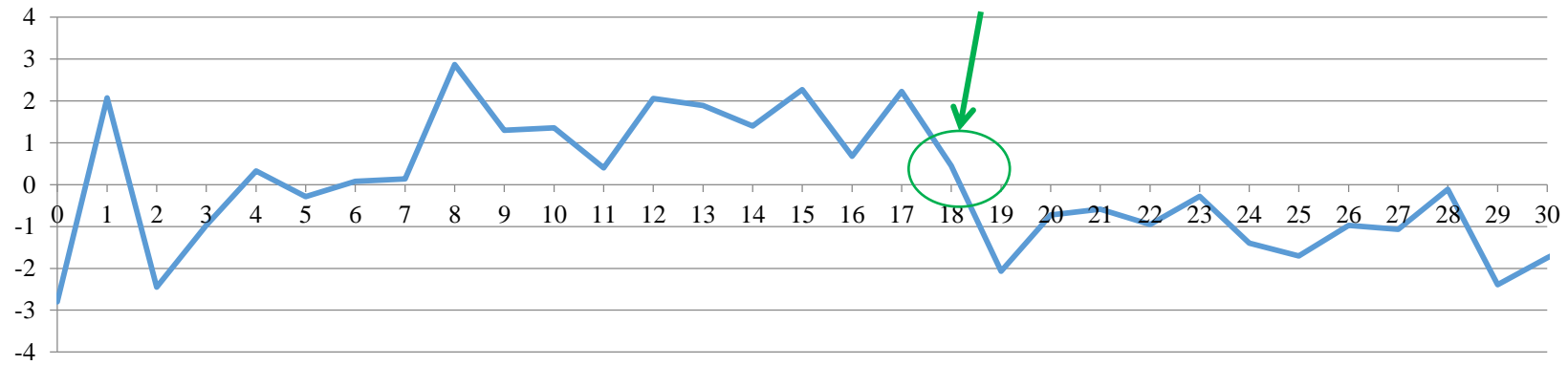
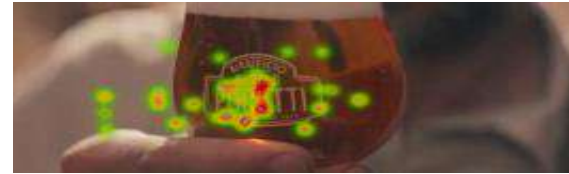
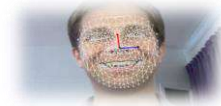
- Si riscontra un abbassamento della valenza (che rimane comunque positiva) in corrispondenza del secondo 16, in cui si mostra la birra che viene versata nel bicchiere.



Espressioni del volto

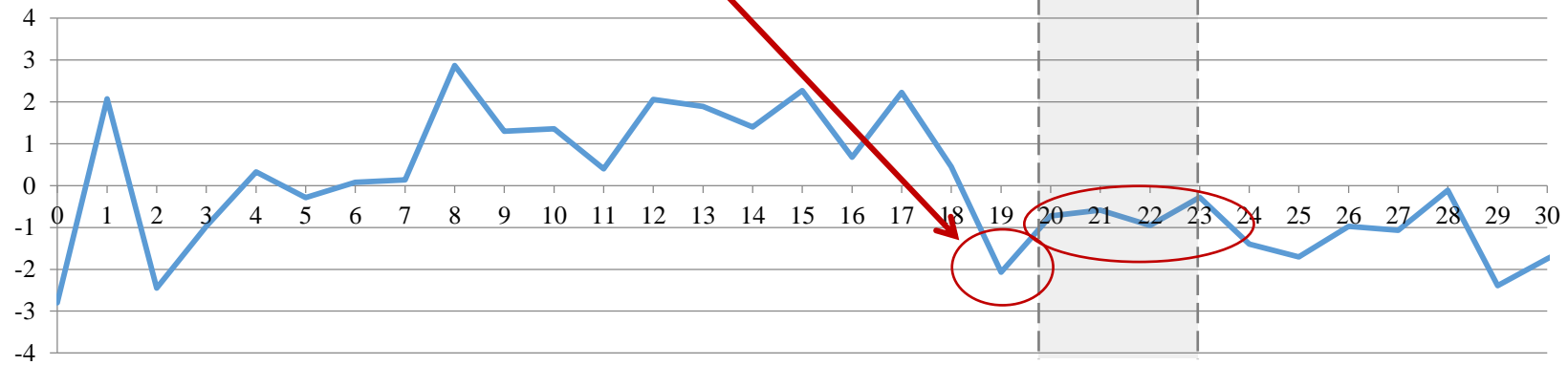


Espressioni del volto



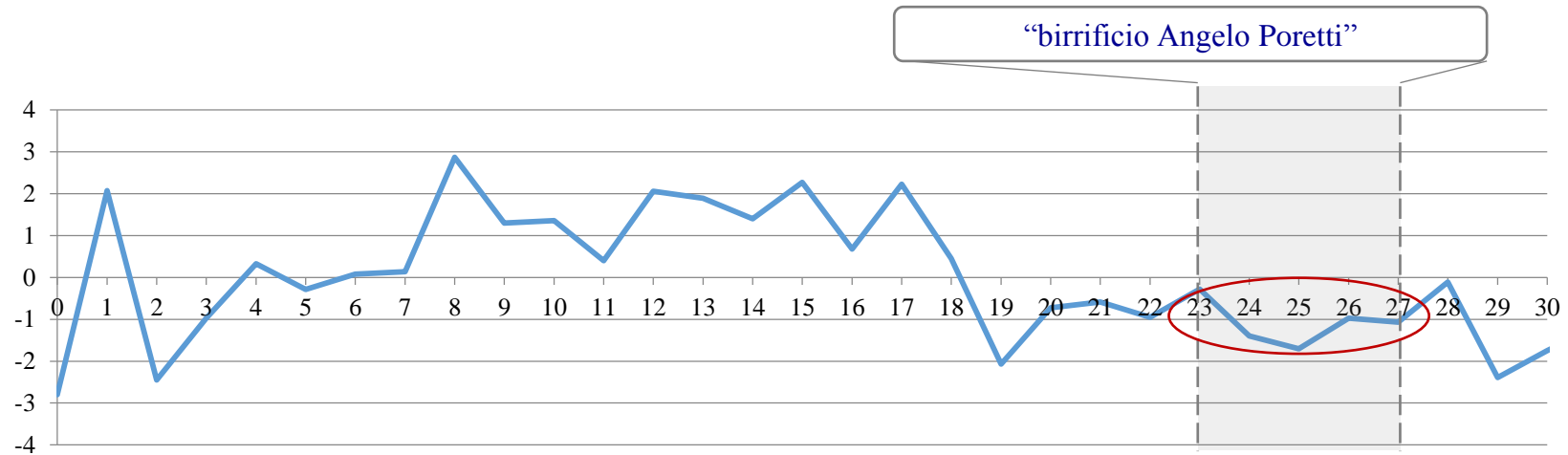
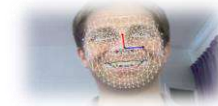
L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



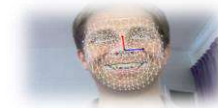
L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto

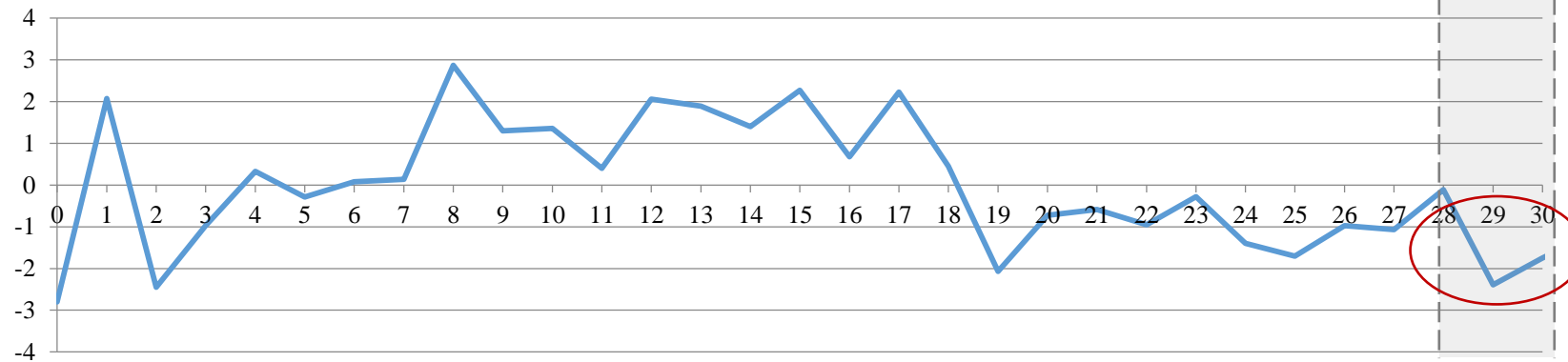


L'andamento emotivo – Spot BAP – Artista della birra

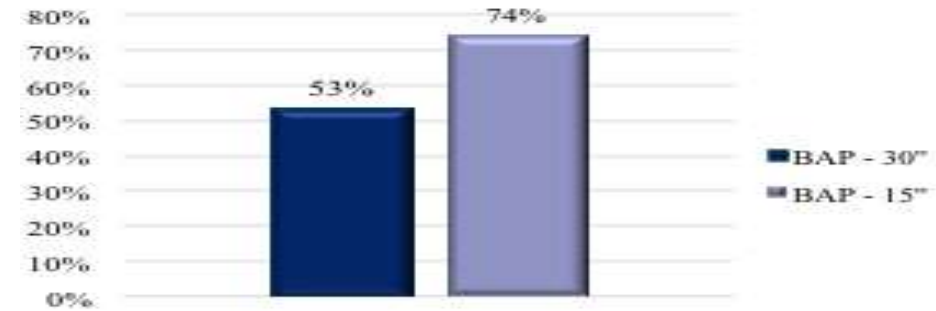
Espressioni del volto



“maestri del luppolo”

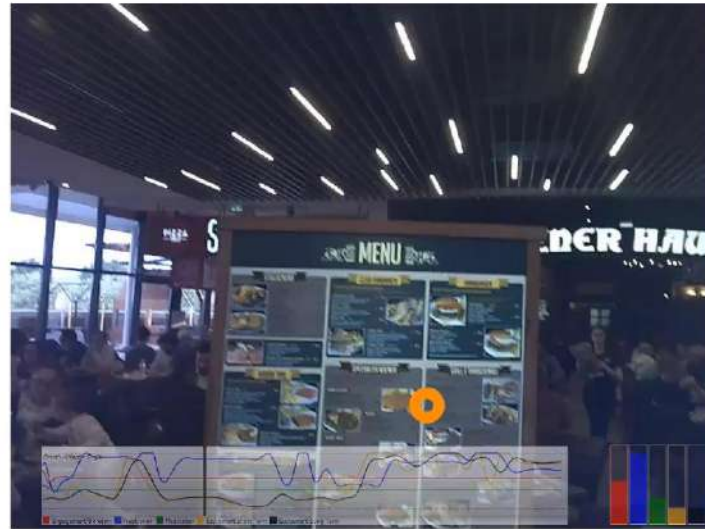


Finale birra poretto





Neuromarketing on field



Heart Signal

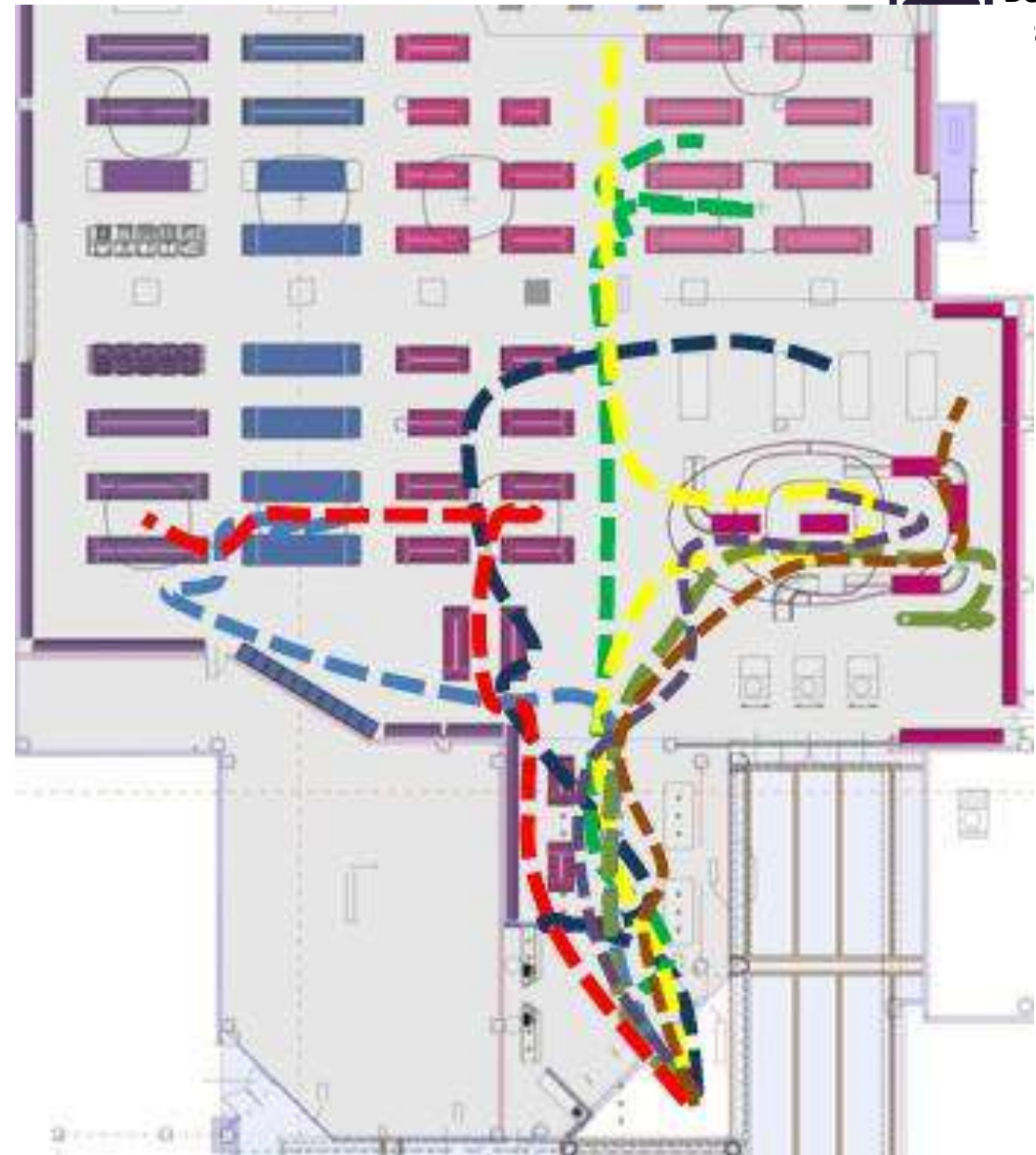


Skin Conductance



In store and movements of the consumers

Initial exploratory path



MAZZONI


LIVE LIKE
AN ITALIAN


...FALL IN LOVE

 Enter to win.
Like us on Facebook
to get started.

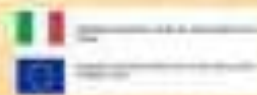


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The Neuromarketing of wine



蒙菲酒庄 CANTINE SETTESOLI

酿酒是一门令人着迷的事业：你需要具备智慧，明晰的选择，更重要的是，如何集合团体的力量，共同分担工作，然后大家在付出的同时，拥有一种使命感，知道自己正在进行一项伟大的事情。这就是50年前启发2, 300酒农聚集成立蒙菲酒庄联盟的基础。今天的蒙菲酒庄已是西西里岛的最大酒庄，拥有岛上5%的葡萄园，年产量在2千8百万瓶。酒庄最初致力于酿造本土葡萄品种，后来，一些国际知名的品种如赤霞珠，莎当妮也并入产品线。

CAMPAGNA FINANZIATA ACCORDO TO RE REGULATION N. 1214/07

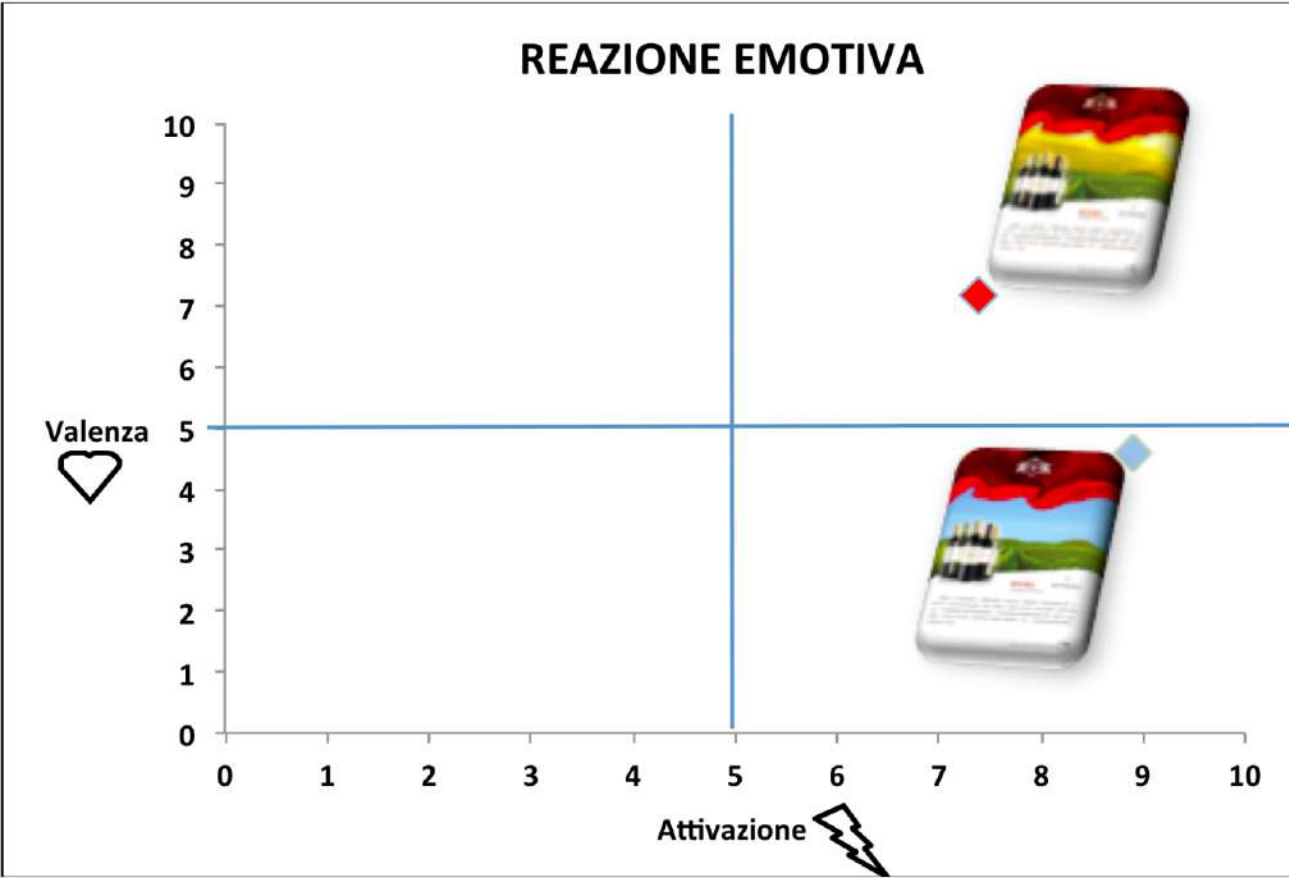


蒙菲酒庄 CANTINE SETTESOLI

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CAMPAGNA FINANZIATA ACCORDO TO RE REGULATION N. 1214/07

The Neuromarketing of wine





~~“Half the money I spend on advertising is wasted; the trouble is I don't know which half.”~~

John Wanamaker

US department store merchant (1838 - 1922)



Behavior and
BrainLab IULM



Behavior and
Brain Lab
IULM MILANO

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