Behavior and Brain Lab IULM

Neuromarketing and Consumer Behavior Research Center

Neurothecnology for business

Prof. Vincenzo Russo

IULM
International University of Languages and Media
Libera Università di Lingue e Comunicazione

Behavior and

Brain Lab

IULM MILANO

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“Behaviour and Brain Lab” IULM University

Behavior and BrainLab IULM

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.

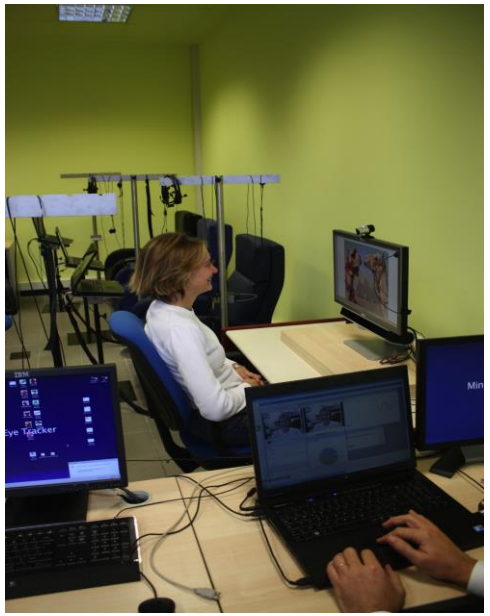
Behavior and Brain Lab

Massachusetts Institute of Technology

POLITECNICO MILANO

MindRoom Sports Science

Noldus



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What is NEUROMARKETING?

an introduction

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

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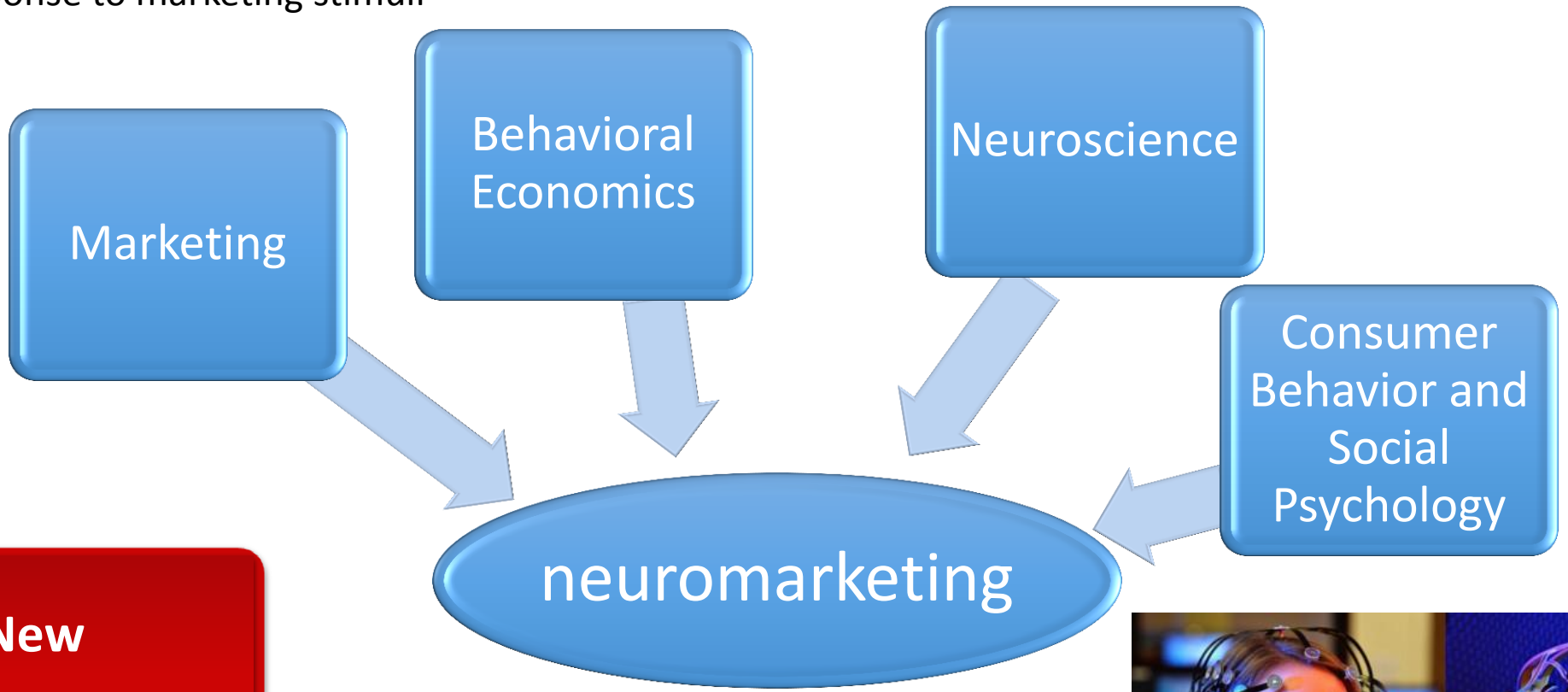
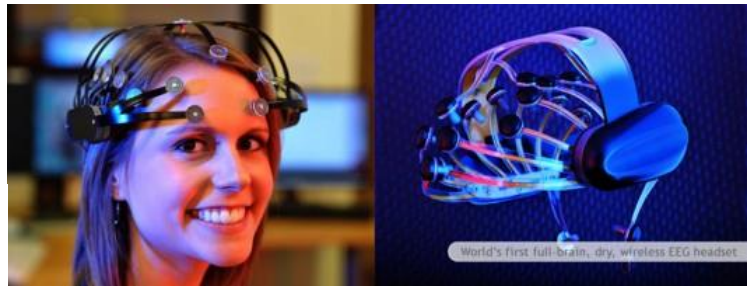
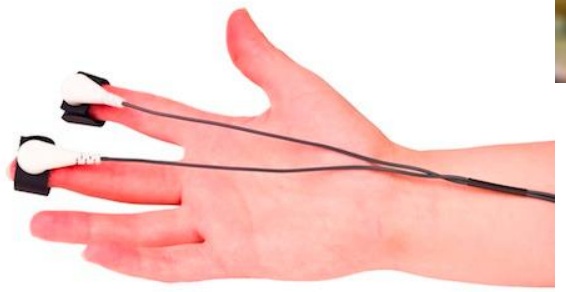


New Technologies





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

Neuromarketing Applications

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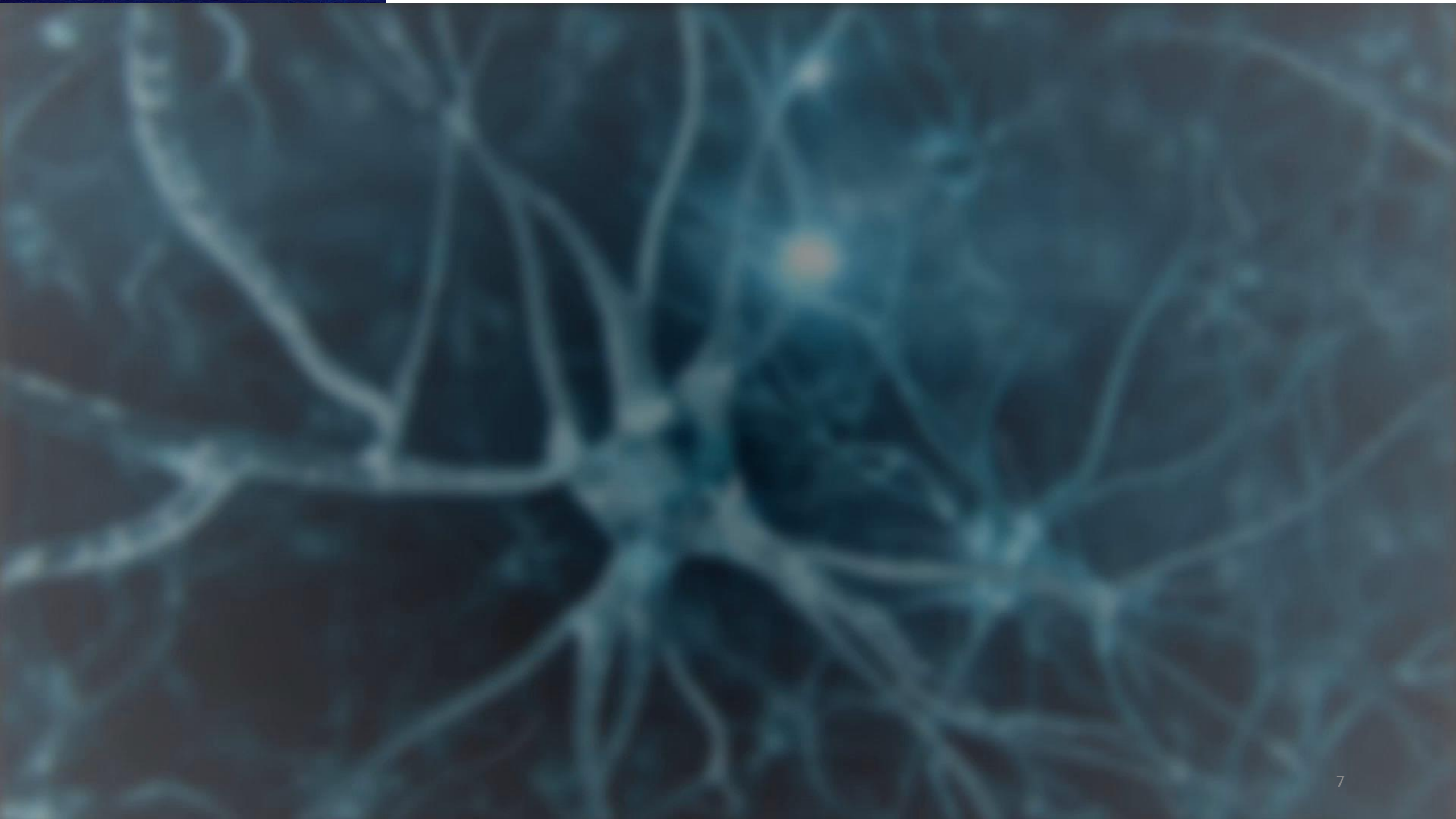

Some Collaborations

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CAMERA DI COMMERCIO MILANO

CONFINDUSTRIA RADIO TELEVISIONI
TV Locali e Radio Locali

unicef

TECHNOGYM

comieco
Consorzio Nazionale Recupero e Riciclo degli Imballaggi a base Cellulosica

partesa per il vino
passione per il vino

Carlsberg

Google

AIRC

La spesa secondo me. italmark

groupm

OLEIFICIO ZUCCHI 1810

LAMARCA

GAMBERO ROSSO

RCS MEDIAGROUP

ZEISS

WM WAVEMAKER
MEDIA. CONTENT. TECHNOLOGY.

supermedia
tecnologia a portata di mano

ITALIAN EXHIBITION GROUP
A merger of
Rimini Fiera and Fiera di Vicenza

QC TERME Roma

La Triennale di Milano Design Museum

Consorzio Tutela Vini Oltrepò Pavese

Regione Lombardia

ÉupolisLombardia

BELLA SERA
Wines of Italy

Ariete

CANTINE SETTESOLI

ANDI
Associazione Nazionale Dentisti Italiani

DENTALCOOP®

Nino Franco

GIFCO
GRUPPO ITALIANO FABBRICANTI CARTONE ONDULATO

marcopoloexperience

REGIONE SICILIANA
ASSESSORATO DELLE ATTIVITA' PRODUTTIVE

MINDSHARE

ECCO DOMANI

CANTINE DUE PALME
VITICOLTORI DEL SALENTO

SMI
SensoMotoric Instruments

Noldus

DaVINCI

UNIVERSITÀ DEGLI STUDI DI MILANO

VIGNE OLCRU

Publications from 2010

Our goal is to publish papers for the dissemination of best practices

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- Songa G. Russo V. (2017). "IAT, Consumer behaviour and the moderating role of decision-making style: an empirical study on food products. *Food Quality and Preference* DOI information: 10.1016/j.foodqual.2017.09.0
- Missaglia A.L., Oppo, Mauri M. Ghiringhelli B. Ciceri A. Russo V. (2017) "The impact of emotions on recall: An empirical study on social ads" *Journal of Consumer Behavior*. 2017; 1–
- Russo V., Re A., Angelini A., Jabes D. (2016). "An Analysis and Comparison of Expectations and Perceptions on Sustainable Tourism among Italian and German Tourists". In *Journal of Tourism and Leisure Studies*, Vol. 1 (1), pp.1-1
- Ciceri A., Stasi A., Nardone G., Songa G., Mauri M., Russo V. (2015). "Effect of information on food evaluation and willingness to buy: a study from a neuromarketing perspective". In *Neuromarketing: Theory and Practice* (14), pp.12
- Milani Marin L., Russo V. (2015). "Re-localizing 'legal' food: a social psychology perspective on community resilience, individual empowerment and citizen adaptations in food consumption in Southern Italy". In *Agriculture And Human Values*, Vol. 32 - ISSN:0889-
- Bracale R., Milani Marin L., Russo V., Zavarrone E., Ferrara E., Balzaretti C.,Valerio A., Pasanisi F., Nisoli E., Carruba M. O. (2015). "Family lifestyle and childhood obesity in an urban city of Northern Italy". *In Eating and weight disorders*, ISSN:1124-4909
- Onorati F., Mainardi L., Sirca F., Russo V., Barbieri R., (2015). "Nonlinear analysis of pupillary dynamics". In *Biomed. Eng.-Biomed. Tech*., pp. 1-12. DOI 10.1515/bmt-2015-00
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- Bustreo M., Milani Marin L., Ghiringhelli B., Russo V. (2013). "Comportamenti di consumo, culture alimentari e dieta mediterranea: incontri e confronti tra le famiglie straniere nell'area metropolitana di Milano. *Poli-Femo* n.5-6, pp 81-103, Nuova Serie ISSN: 2037-6847
- Laureati M., Jabes D., Russo V., Pagliarini E. (2013). "Sustainability and Organic Production: How Information Influences Consumer's Expectation and Preference for Yogurt". In *Food Quality and Preference*, Vol 30 (1-8
- Onorati F., Barbieri R., Mauri M., RussoV., Mainardi L. (2013). "Characterization of Affective States by Pupillary Dynamics and Autonomic Correlates". In *Frontiers in Neuroengineering* ,Vol 6 (9).
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- M. Mauri, V. Russo, R. Manzotti, P. Moderato. "Proposta di un modello applicato per lo studio dei fenomeni emotivi e attentivi durante l' esposizione a stimoli audiovisivi", *Atti dell' Ottavo Convegno Nazionale AISC (Associazione Italiana di Scienze Cognitive);* Milano, Italia; 1 – 2 Dicembre 2011.
- M. Mauri, V. Russo, R. Manzotti, P. Moderato. "Proposta di un modello applicato per lo studio dei fenomeni emotivi e attentivi durante l' esposizione a stimoli audiovisivi", Atti dell' Ottavo Convegno Nazionale AISC (Associazione Italiana di Scienze Cognitive); Milano, Italia; 1 – 2 Dicembre 2011.
- M. Mauri, F. Onorati, V. Russo. "Eye-Tracking recordings and psychophysiological reactions versus expressed opinions about advertising spots", Proceedings of 23rd *Sinergie Annual Congress on Corporate Governance and Strategic Communication*, November 10 – 11, 2011; Milan, Italy.
- M. Mauri, F. Onorati, V. Russo. "Eye-Tracking e reazioni psicofisiologiche combinate con opinioni espresse in merito a spot pubblicitari", *Atti del Convegno Nazionale AIP* (Associazione Italiana di Psicologia) Sezione Psicologia delle Organizzazioni: Senso e Prospettive dell' Applicare, Nuove Declinazioni della Psicologia del Lavoro e delle Organizzazioni"; Milano, Italia; 13 – 14 Ottobre, 2011.
- M. Mauri, F. Onorati, V. Russo. "Eye-Tracking recordings and psychophysiological reactions versus expressed opinions about advertising spots", *Proceedings of 23rd Sinergie Annual Congress on Corporate Governance and Strategic Communication*, November 10 – 11, 2011; Milan, Italy.
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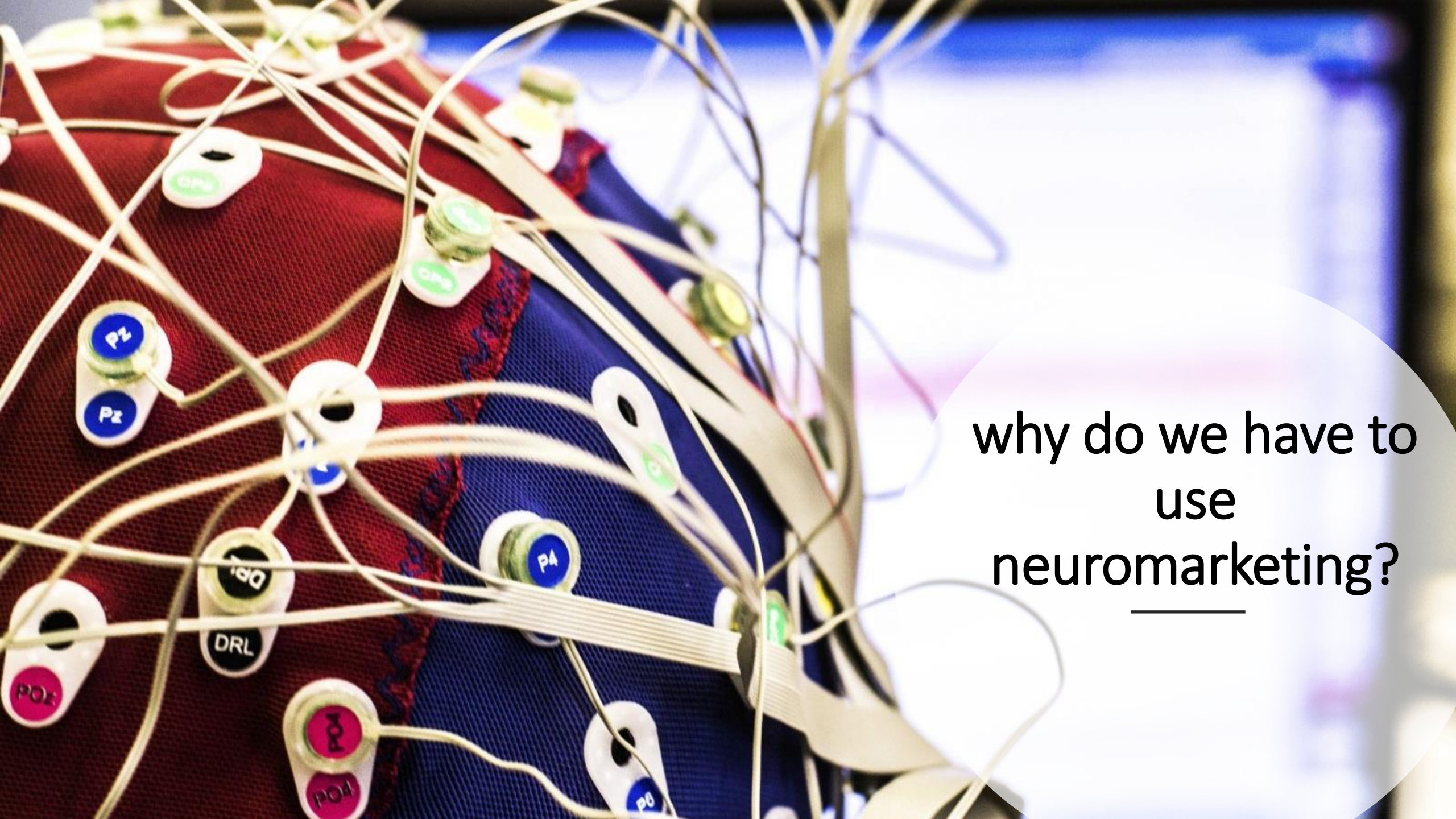
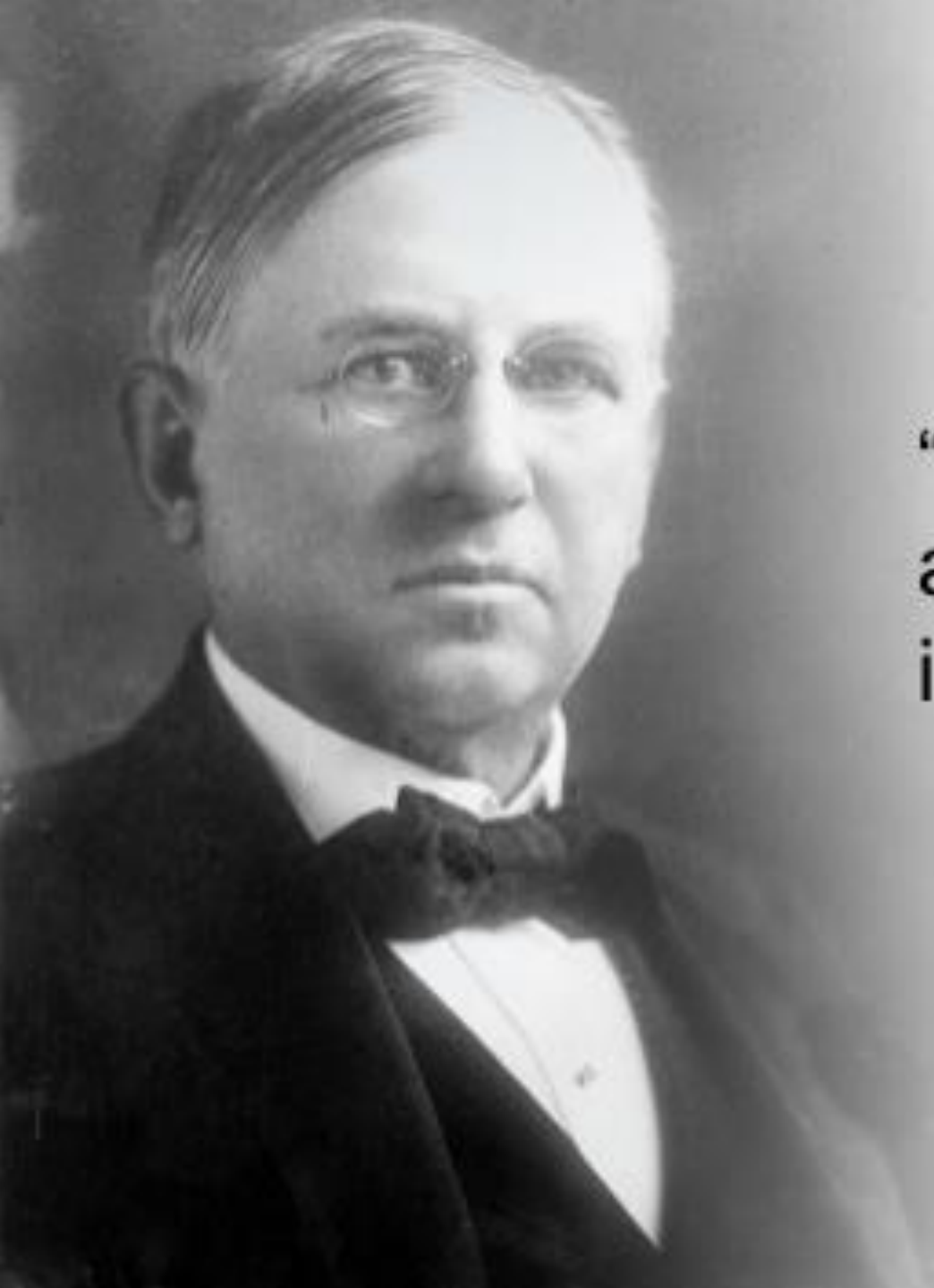
- M. Mauri, F. Onorati, V. Russo. "Psychophysiological and Eye-Tracking recordings while watching brand flyers: a Neuromarketing Experiment", *Poster presentation at IAREP (International Association for Research in Economic Psychology) Conference*; Exeter, United Kingdom; July 12 – 16, 2011.
- Y. Ostrovsky, M. Mauri, L. Citi, C. E. Preda, P. Cipresso, R. Barbieri, M. Saccani and C. Lenti; "Gaze and emotional response in visual research tasks involving faces within scenes in autistic individuals: a study combining psychophysiological and eye-tracking measures", 27th *Annual Meeting of American Academy of Child and Adolescent Psychiatry*; New York, USA; October 28 - 31, 2010. (Download pdf)
- V. Magagnin, M. Mauri, P. Cipresso, L. Mainardi, E. N. Brown, S. Cerutti, M. Villamira and R. Barbieri; "Heart Rate Variability and respiratory sinus arrhythmia assessment of affective states by bivariate autoregressive spectral analysis", *Computing in Cardiology Conference;* Belfast, Northern Ireland; September 26 - 29, 2010 (http://www.cinc.org/archives/2010/pdf/0145.pdf).
- M. Mauri, V. Magagnin, P. Cipresso, L. Mainardi, E. N. Brown, S. Cerutti, M. Villamira and R. Barbieri; "Psychophysiological signals associated with affective states", 32nd *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*; Buenos Aires, Argentina; August 31 - September 4, 2010. (Download pdf)
- M. Mauri, P. Cipresso, M. Villamira; "Psychophysiological reactions and pupil dilation during stress and relaxation", 14th *International Biofeedback Conference 2010*; Rome, Italy; April 13 - 17, 2010.



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**

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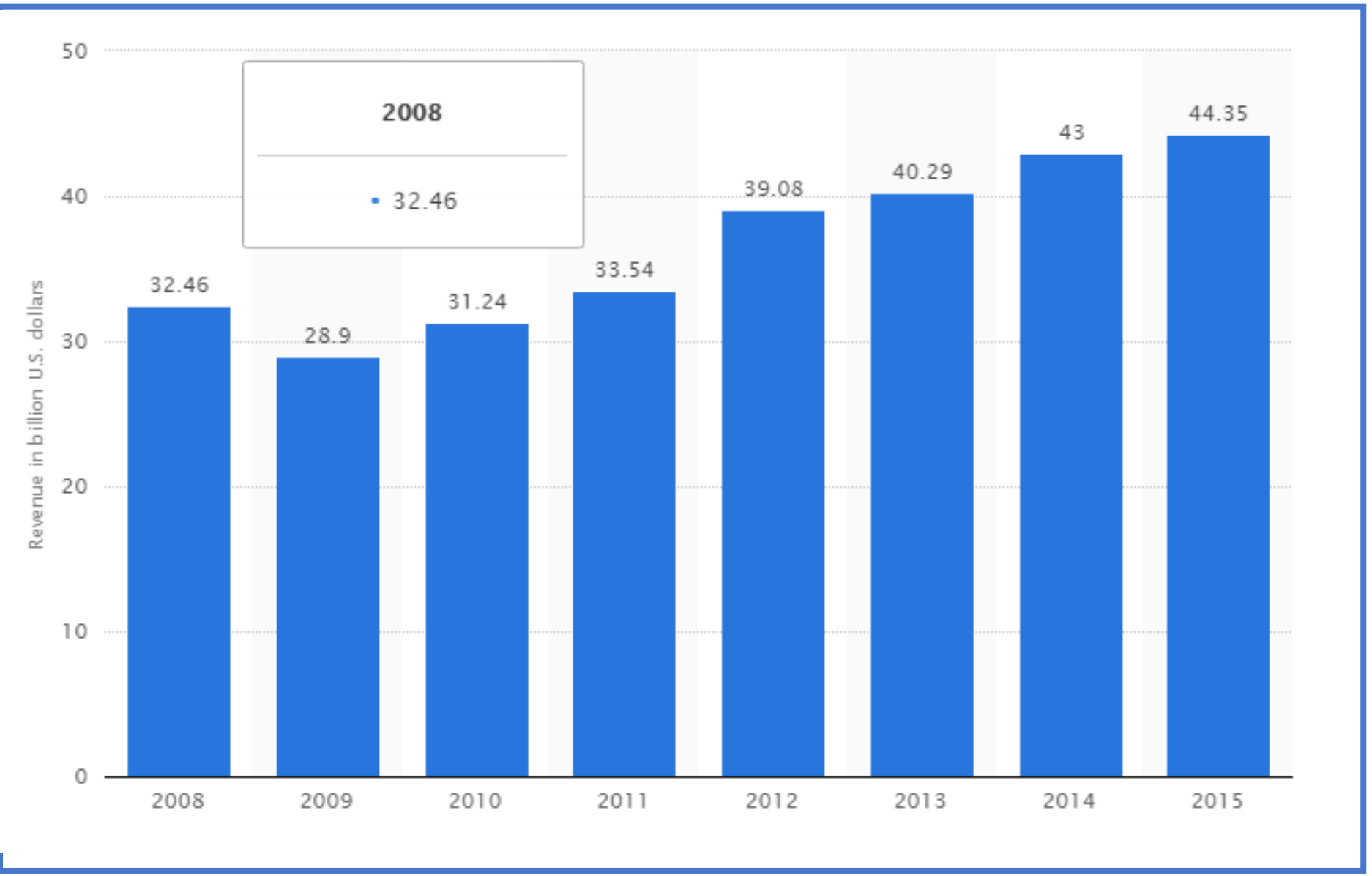


Investments in market research in the World

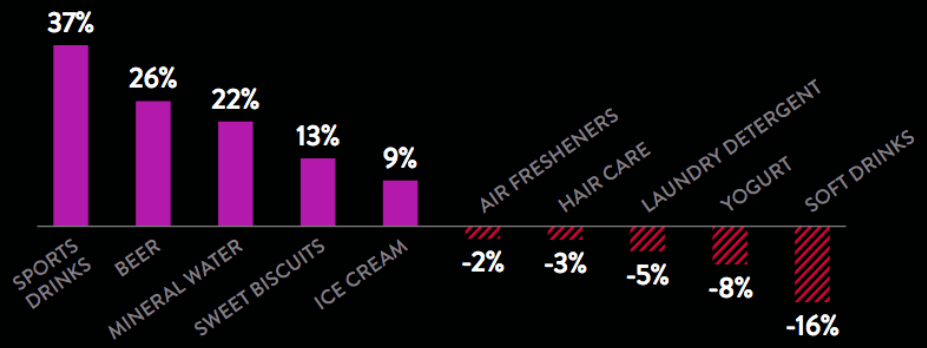
(in billion of dollars)

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)

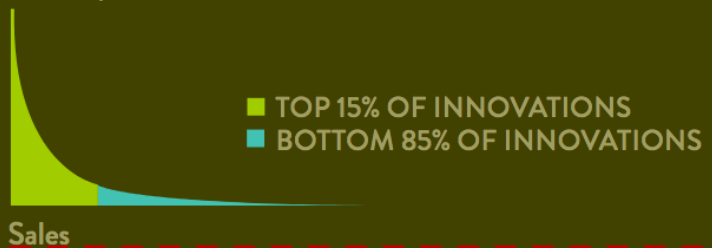


INNOVATION VALUE

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.



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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

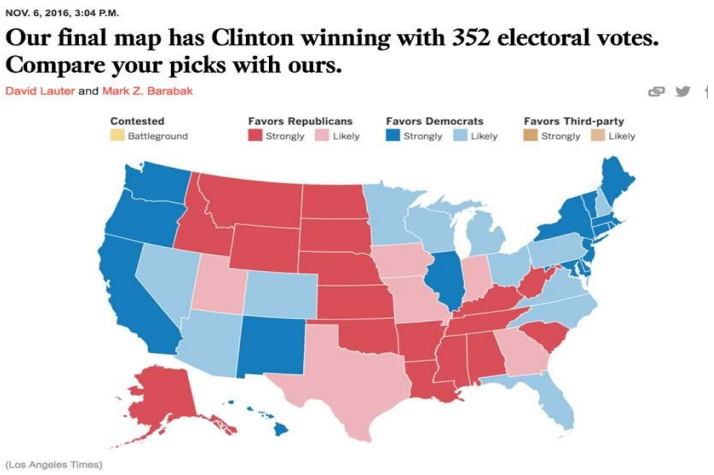
Breakthrough Innovation Report Nielsen 2015 IRI INFOSCAN CENSUS

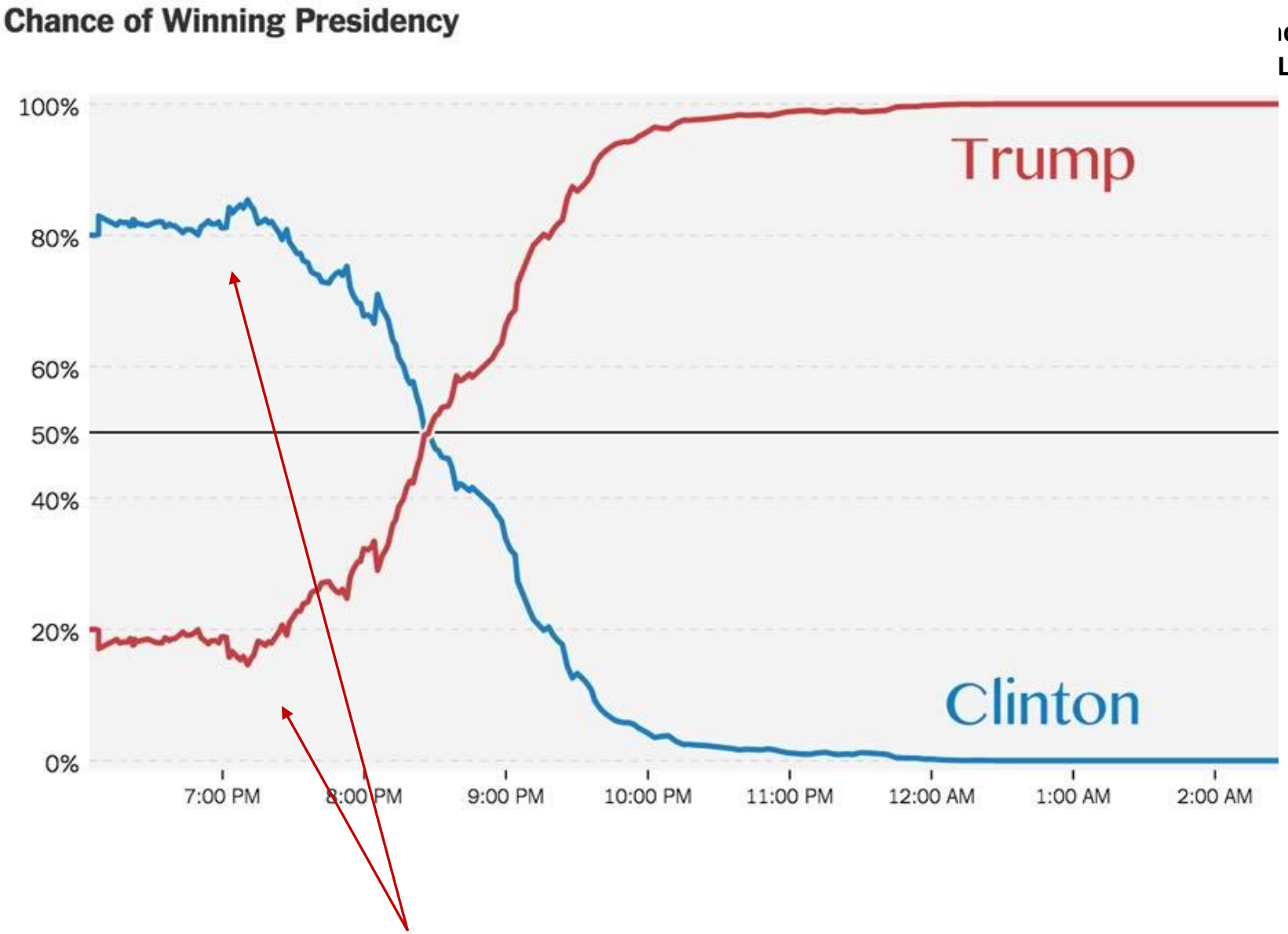
Which questions does it answer?

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

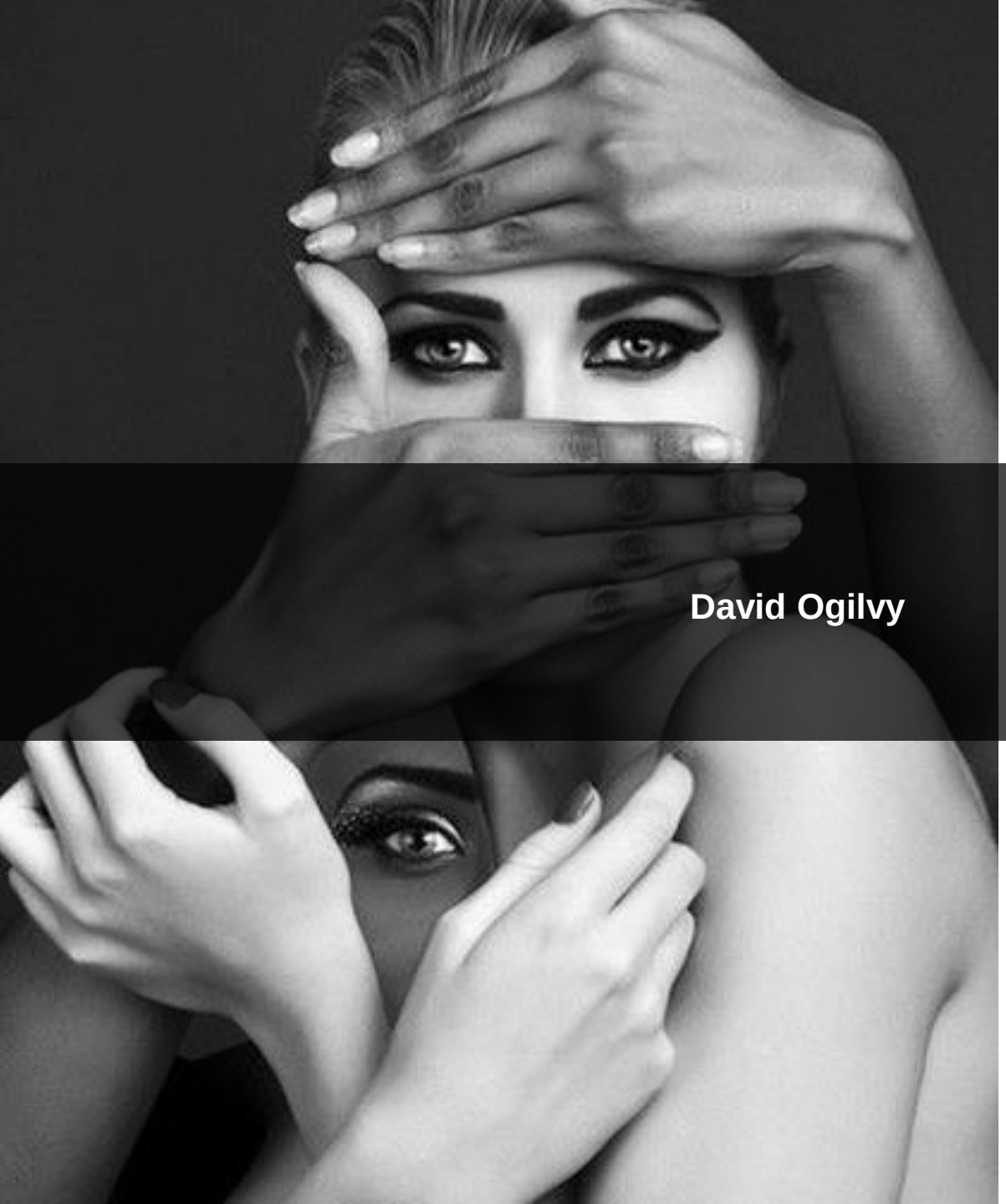
People do not tell us what they voted for

People do not tell us what they voted for





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



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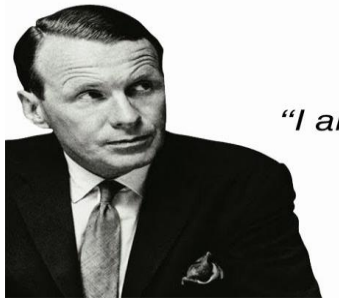
David Ogilvy

“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

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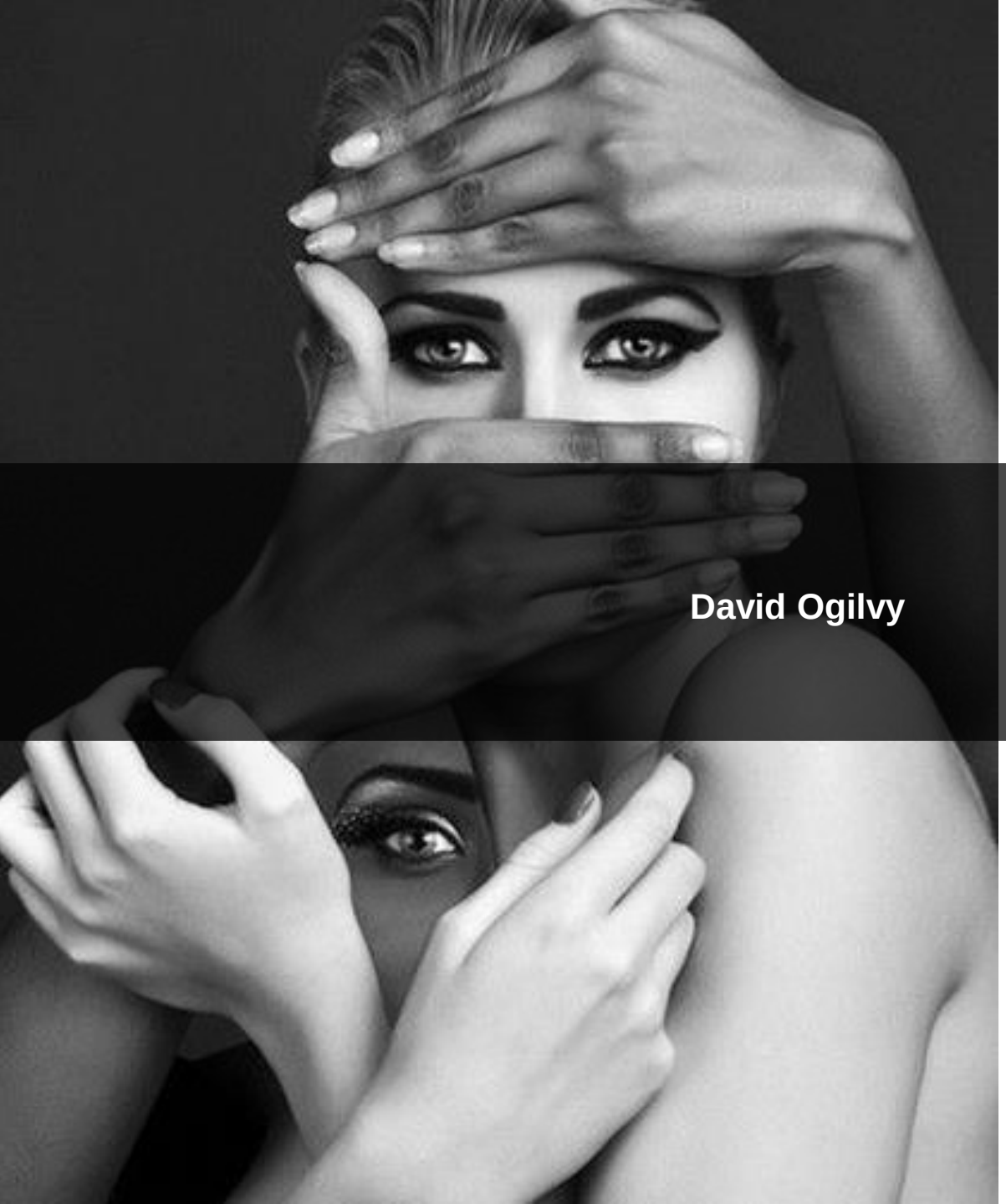
Why does people not tell what they think?

- 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).*



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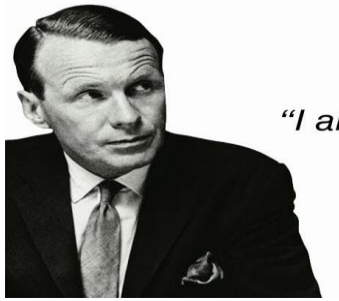

“I am a lousy copywriter”

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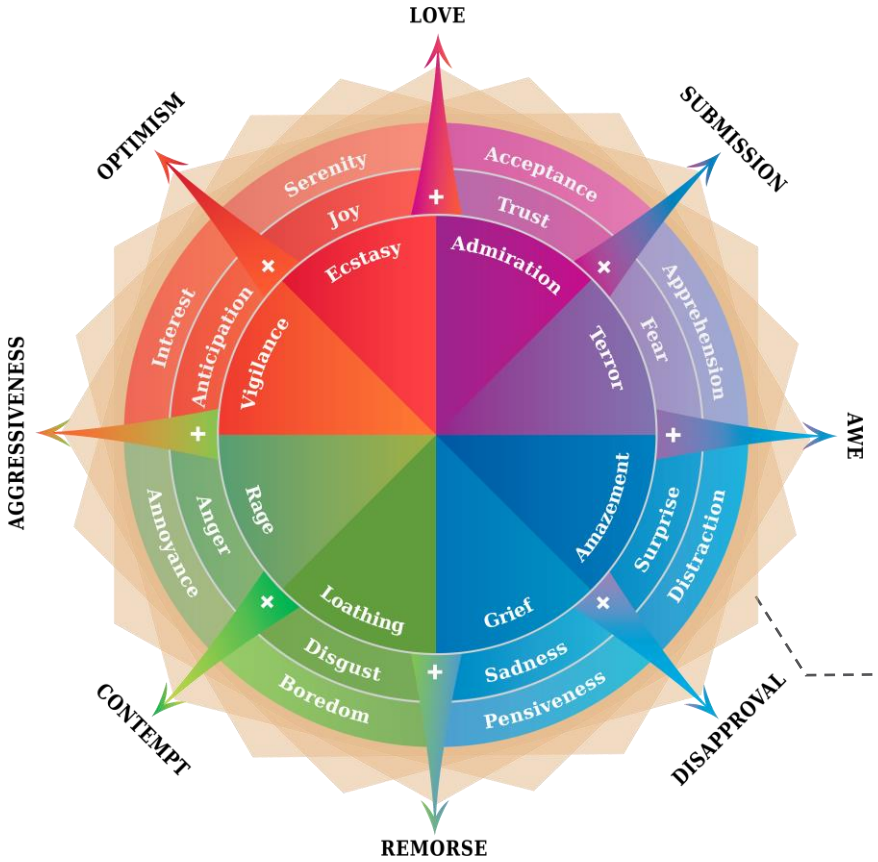
“THE REASON LEADS TO THINK, THE EMOTION LEADS TO ACTION»

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:



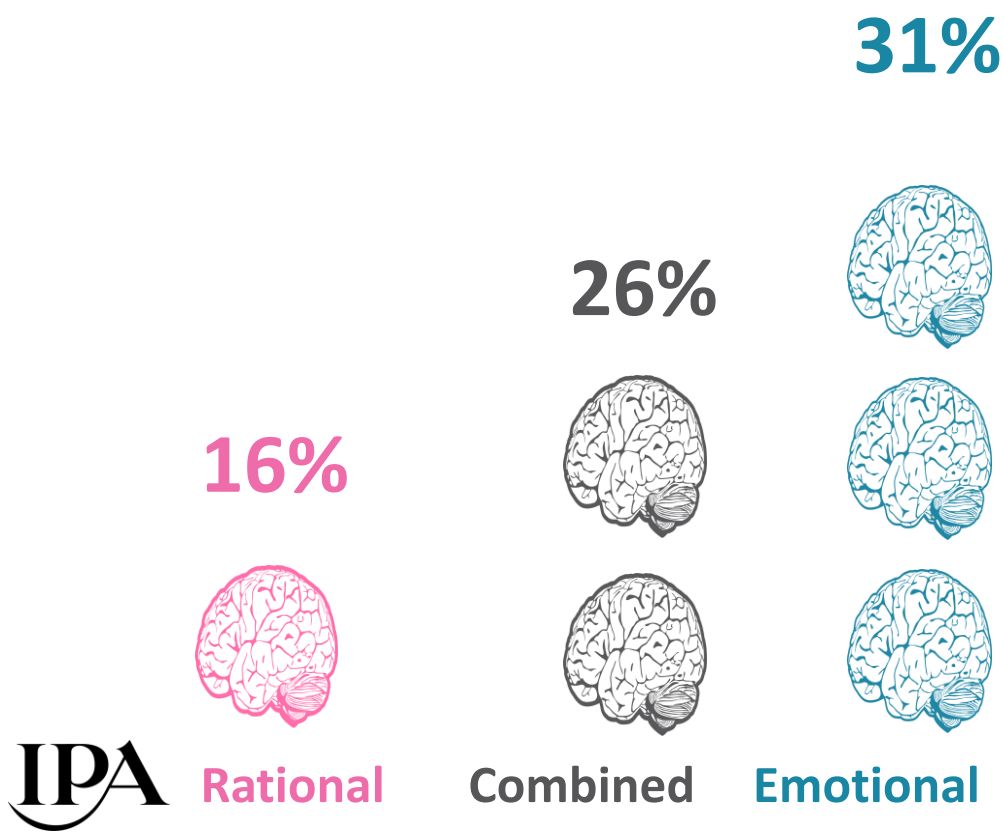
- **TO ATTRACT ATTENTION**
  (ADAVAL, 2001; BOWER, & CHOEN, 1982; VAN RAAIJ)
- **TO BE REMEMBERED**
  (BRADLEY ET AL., 1982; BOLLS ET AL., 2001; LANG ET AL., 1996; REVELLE, & LOFTUS, 1992)
- **TO CHANGE THE BEHAVIOR**
  HAYMAN, & MALENKA, 2001)
- **TO PERSUADE**
  (GRESHAM, & SHIMP, 1985; HAZLETT, &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

Route of emotion
di Plutchik

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

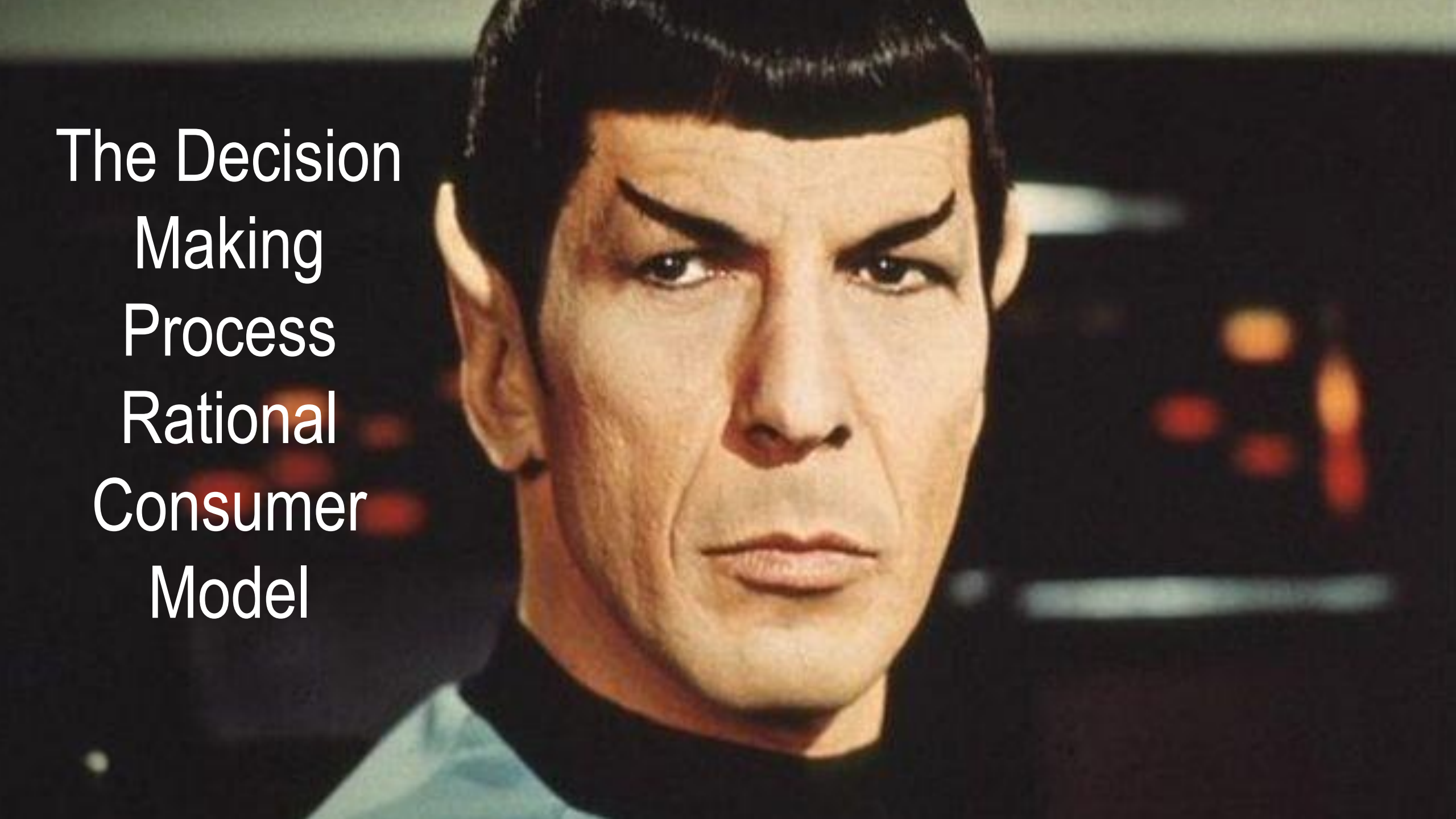
D. Calne (neurologist)

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



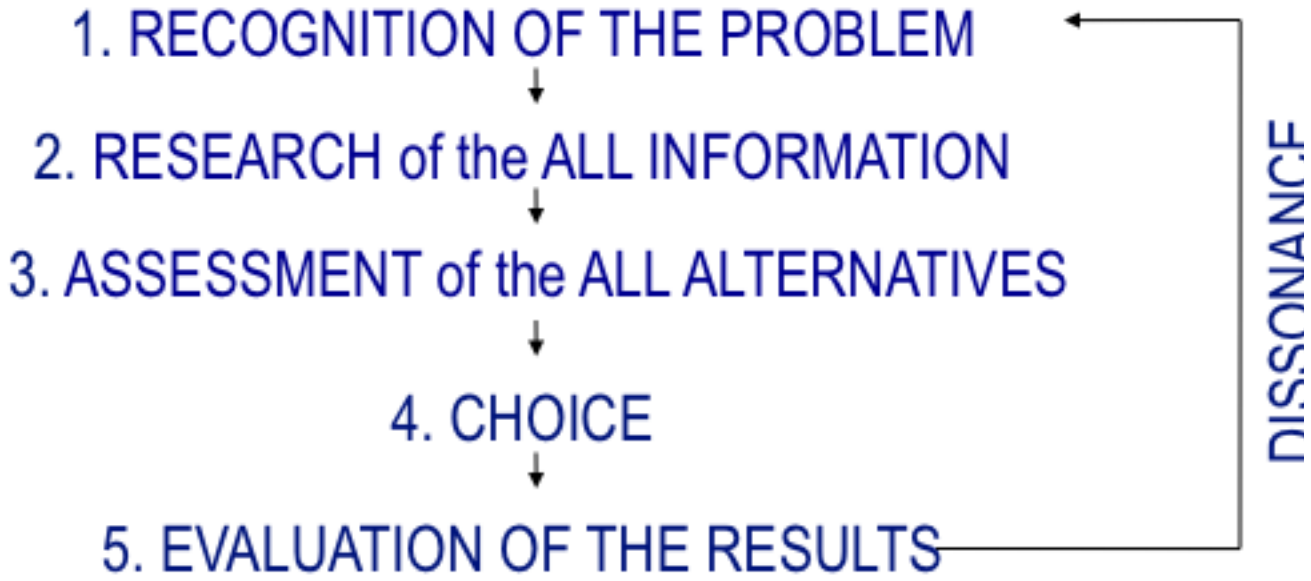
Mr Spock **thinks in term of information**: His brain seeks information to make decisions, emotions play no important role

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**



Bounded rationality
HERBERT SIMON

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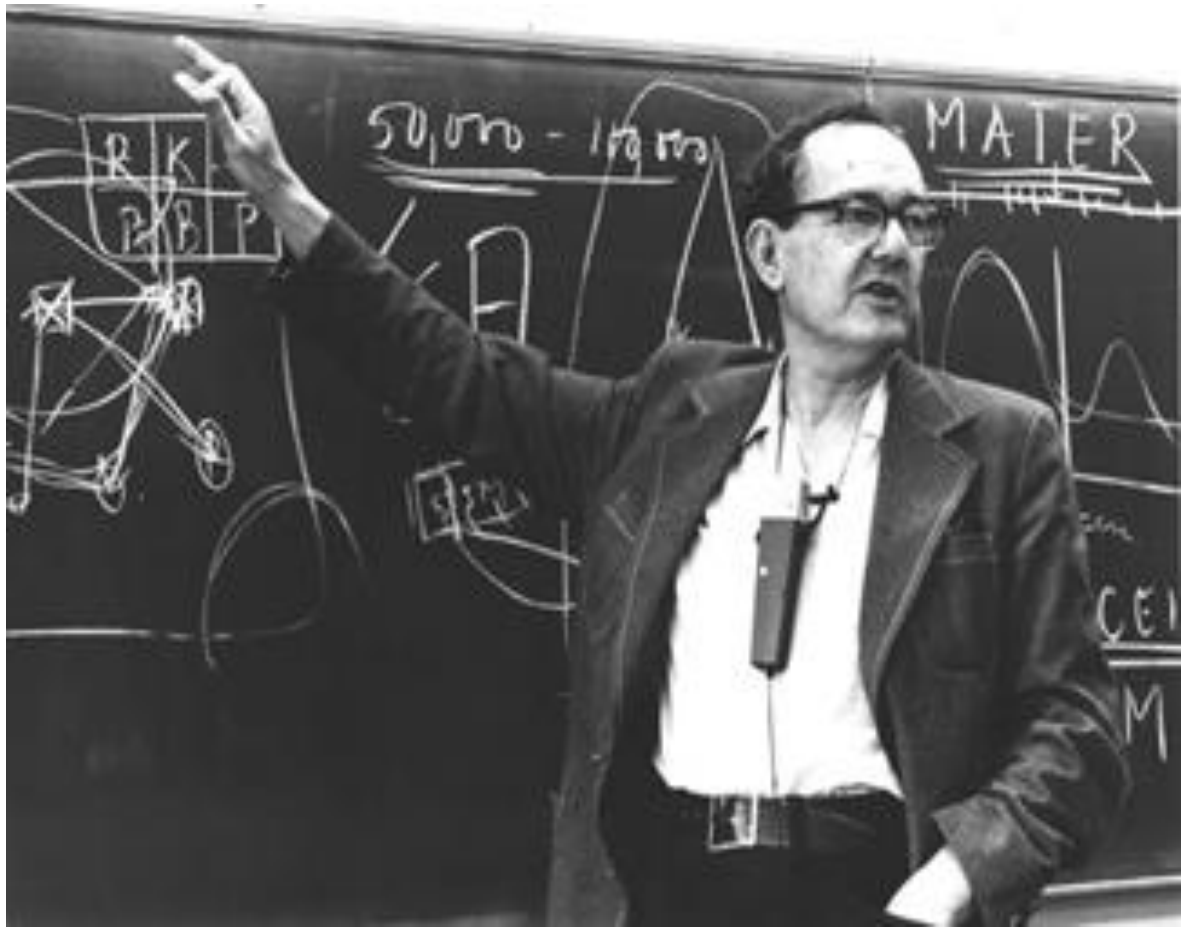
Already a long time ago....

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

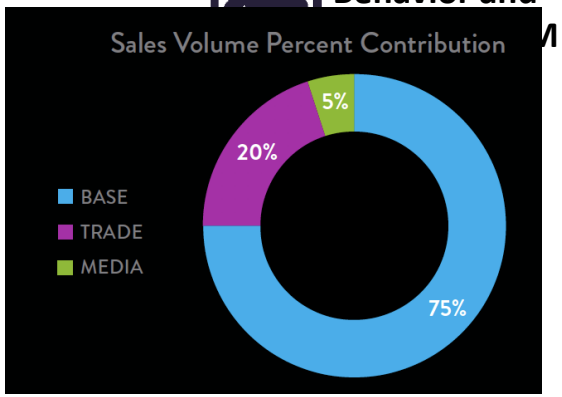
and family recommendations (58%) and while shopping in store (56%).

Nielsen, 2017

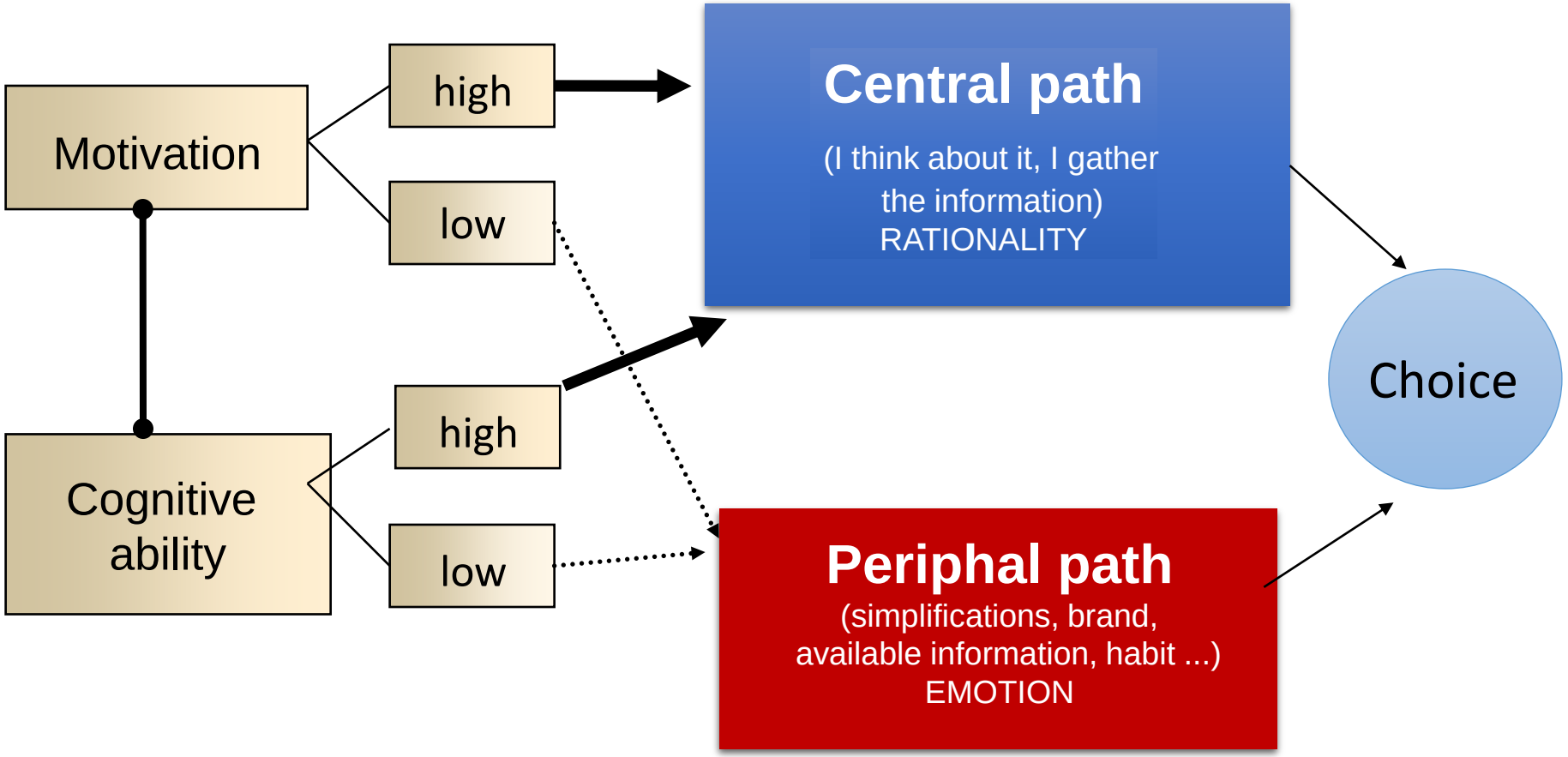
Beyond a brand's base equity, trade promotion—including displays, instore

advertisements and promotions—**is the most effective volume driver.**

Behavior and



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



Sensory System: Expectation and Emotion

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What is the strongest coffee?

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

Relation of Taste and Colour

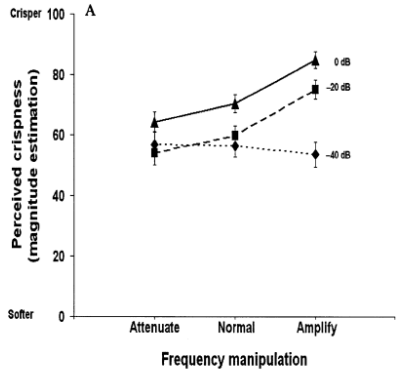
- Colored liquids (with **odorless** and **tasteless** colors) are perceived to be more **strongly odorous** than colorless ones (Engen, 1975, Zellner et al 2005, Hidaka and Shimoda, 2014).

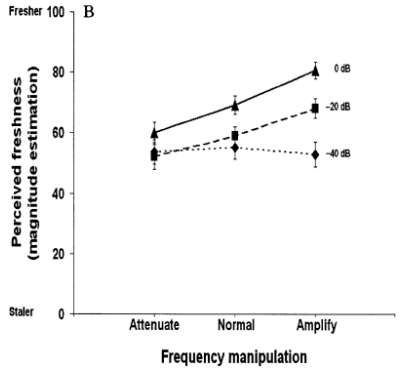
- A **red colored** drink (with oenocyanin) is perceived **sweeter** than 10% like the equivalent addition of sugar (Johnson e Clydesdale 1982)

- Spence won the Ig Nobel Prize for Nutrition 2008
- Spence has shown that the **crunchiness** and **freshness** of potato crips can increase by amplifying the sound of the bite

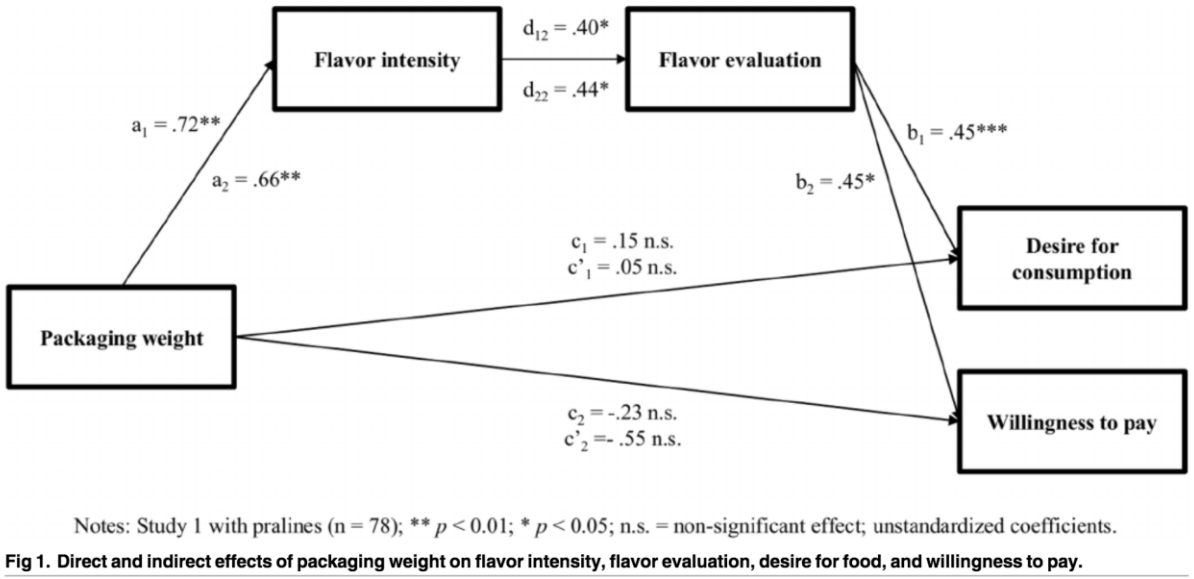
- With **high-frequency background music** the **crunchiness** and the **pleasantness** of the potato grows

- *(Zampini e Spence, 2004 - The role of auditory cues in modulating the perceived crispness and staleness of potato chips)*





the effect of weight



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.

- 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
- his can also increase the desire to purchase it

Gatti et al. (2014)

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

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Some Neuroscientists investigated what happened in the brain of wine drinkers when given differen,t 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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Proceedi

Marketing actions can modulate neural representations of experienced pleasantness

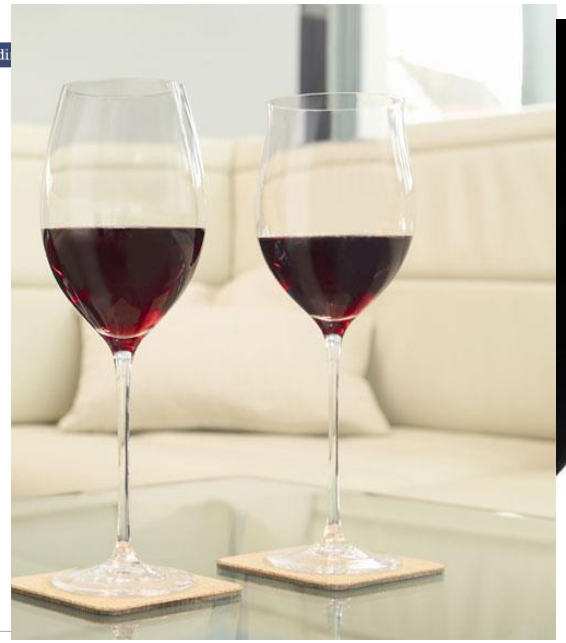
Hilke Plassmann *, John O'Doherty *, Baba Shiv †, and Antonio Rangel *, ‡

+ Author Affiliations

Edited by Leslie G. 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.



Behavior and Brain Lab

Marketing actions can modulate neural representations of experienced pleasantness

Hilke Plassmann*, John O'Doherty*, Baba Shiv†, and Antonio Rangel*‡

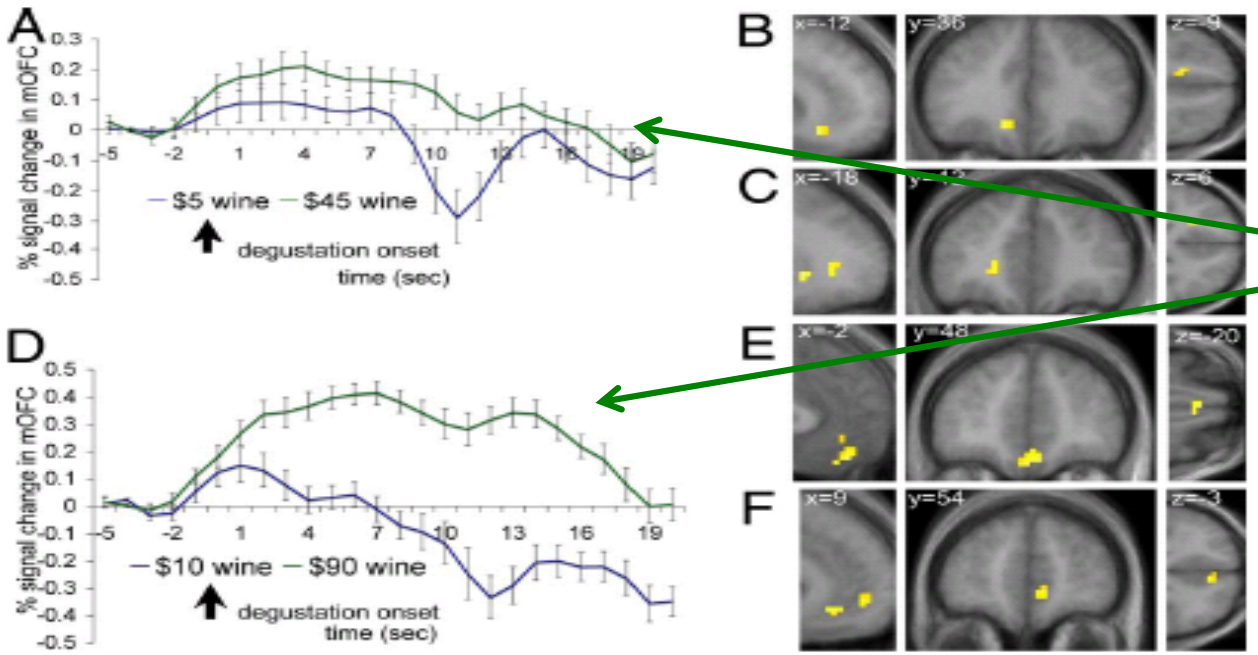


Fig. 2. The effect of price on each wine. (*A*) Wine 1: averaged time courses in the medial OFC voxels shown in *B* (error bars denote standard errors). (*B*) Wine 1: activity in the mOFC was higher for the high- ($45) than the low-price condition ($5). Activation maps are shown at a threshold of $P < 0.001$ 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.

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

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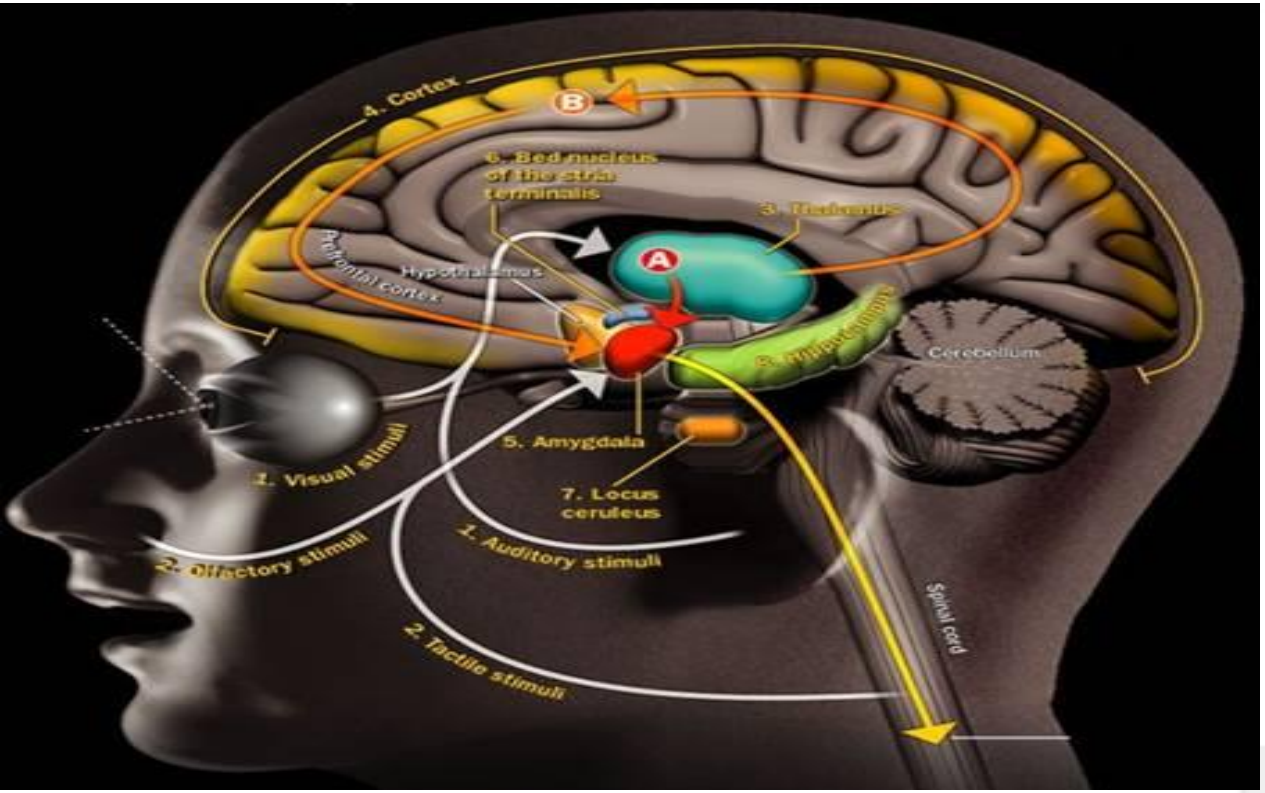
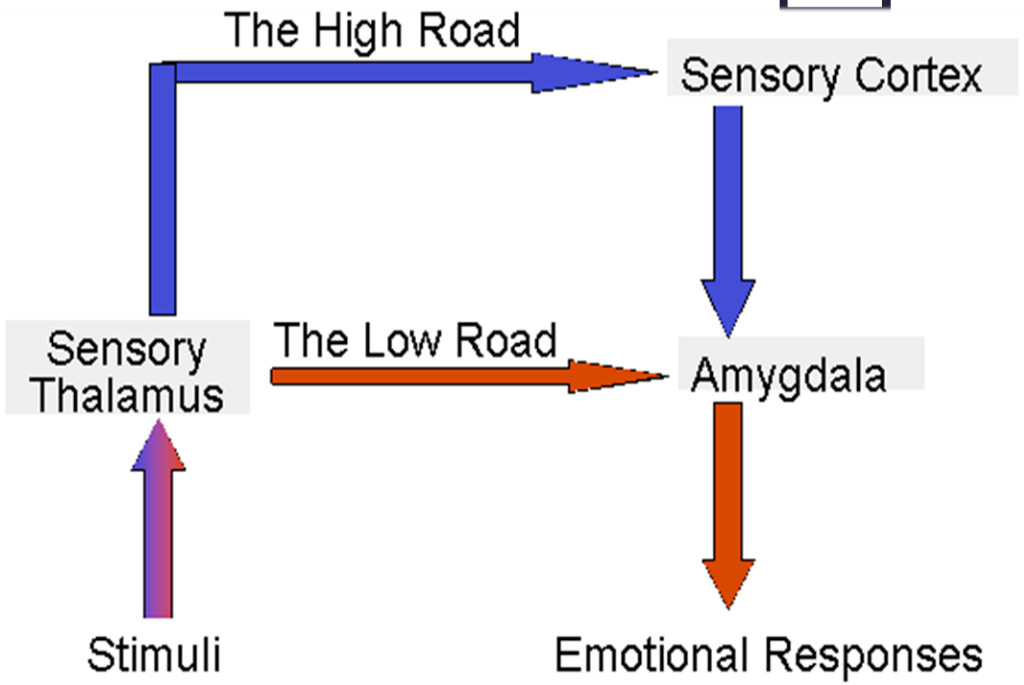
Behavior and Brain Lab

The emotional brain (Le Doux, 1996)





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

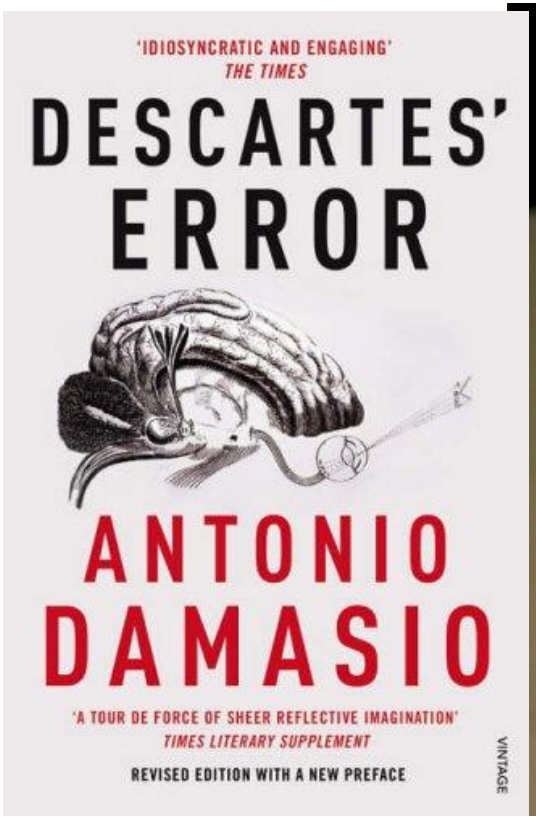
Two different ways characterise brain functioning:

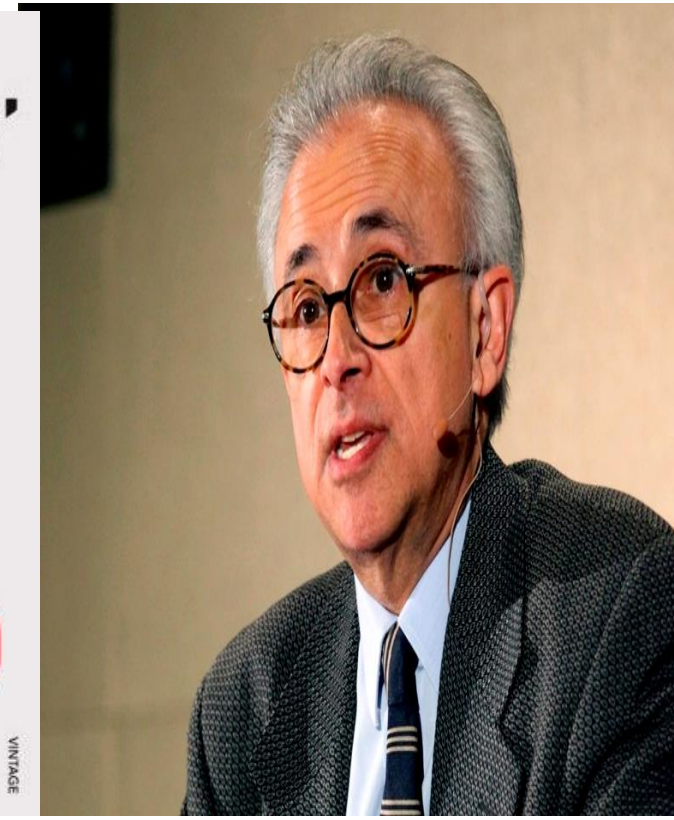
- Fast, immediate, unconscious, adaptive function (Low Road)
- Slower, effortful, conscious (High Road)

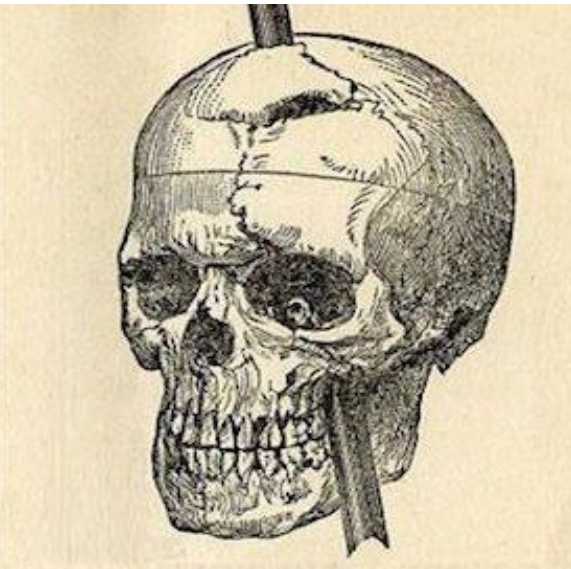
“We are not thinking machines.

We are feeling machines that think.”

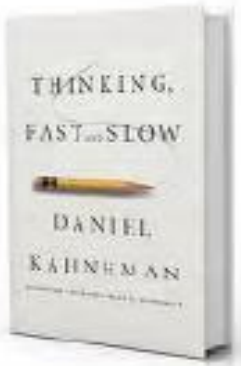
(Damasio, 1994)







SYSTEM 1 & SYSTEM 2



Behavior and BrainLab IULM

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

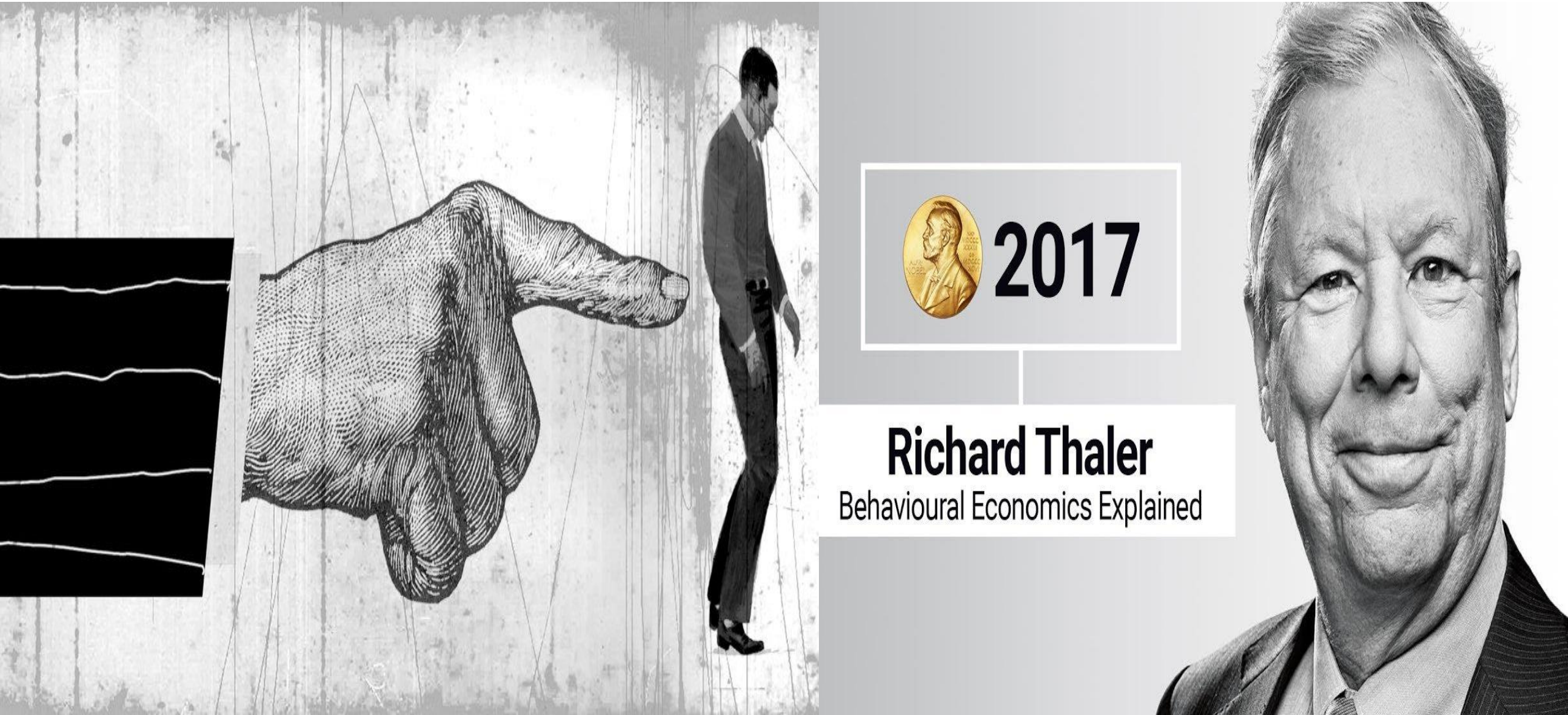
50-95% DAILY BEHAVIOUR AT UNCONSCIOUS LEVEL

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

Behavior and
BrainLab IULM



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.

Behavior and
BrainLab IULM

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

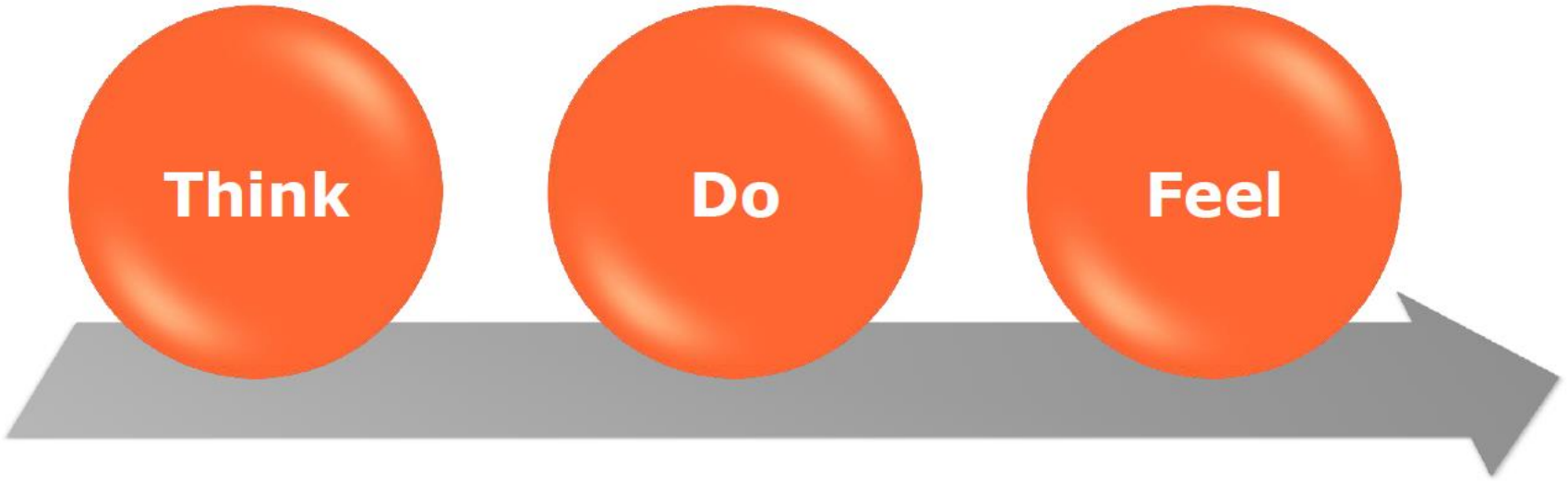
We know that...

We use instinct when processing information and making decisions

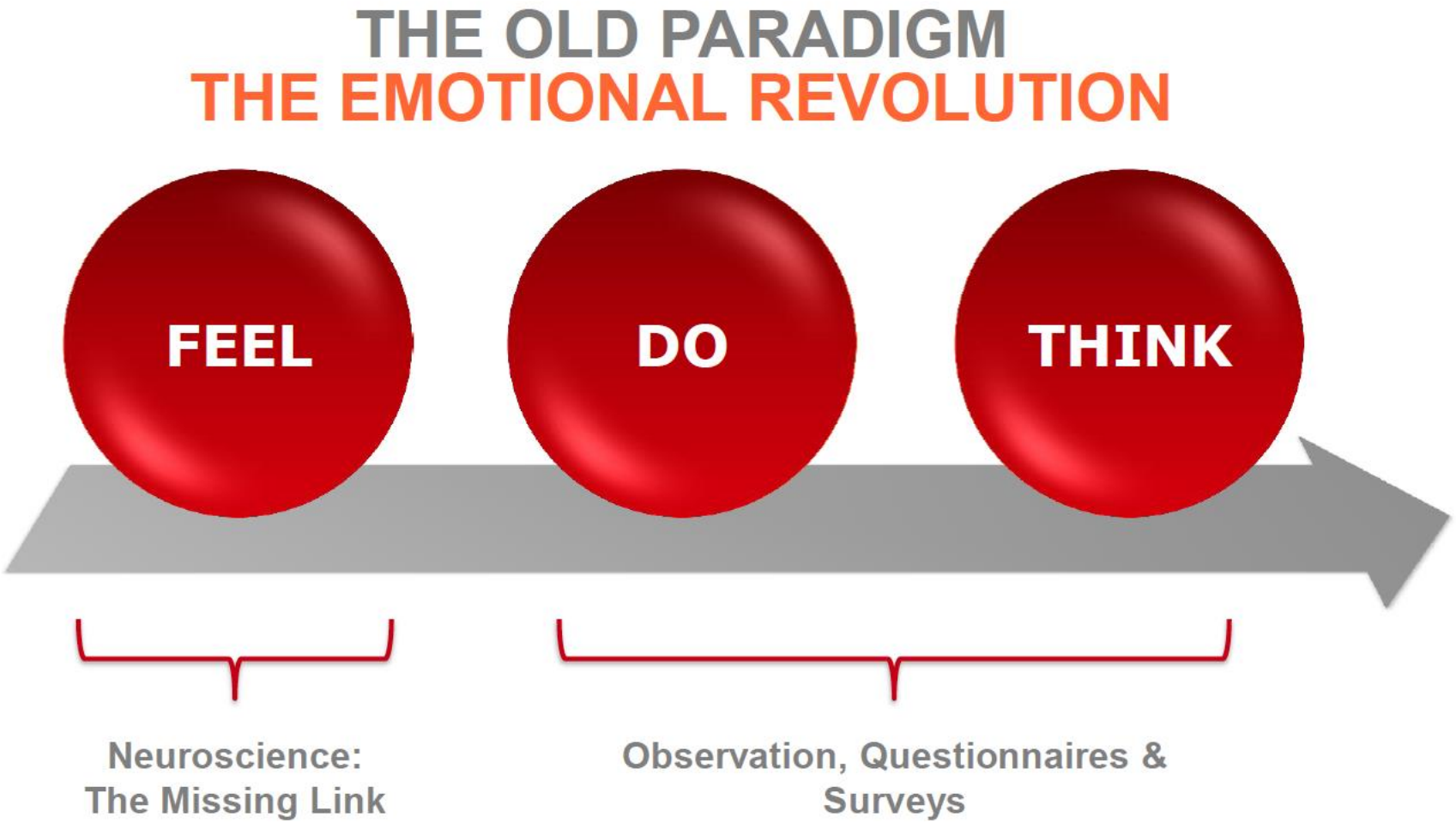
We are able to come up with explanations, but these are often post-rationalisations

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

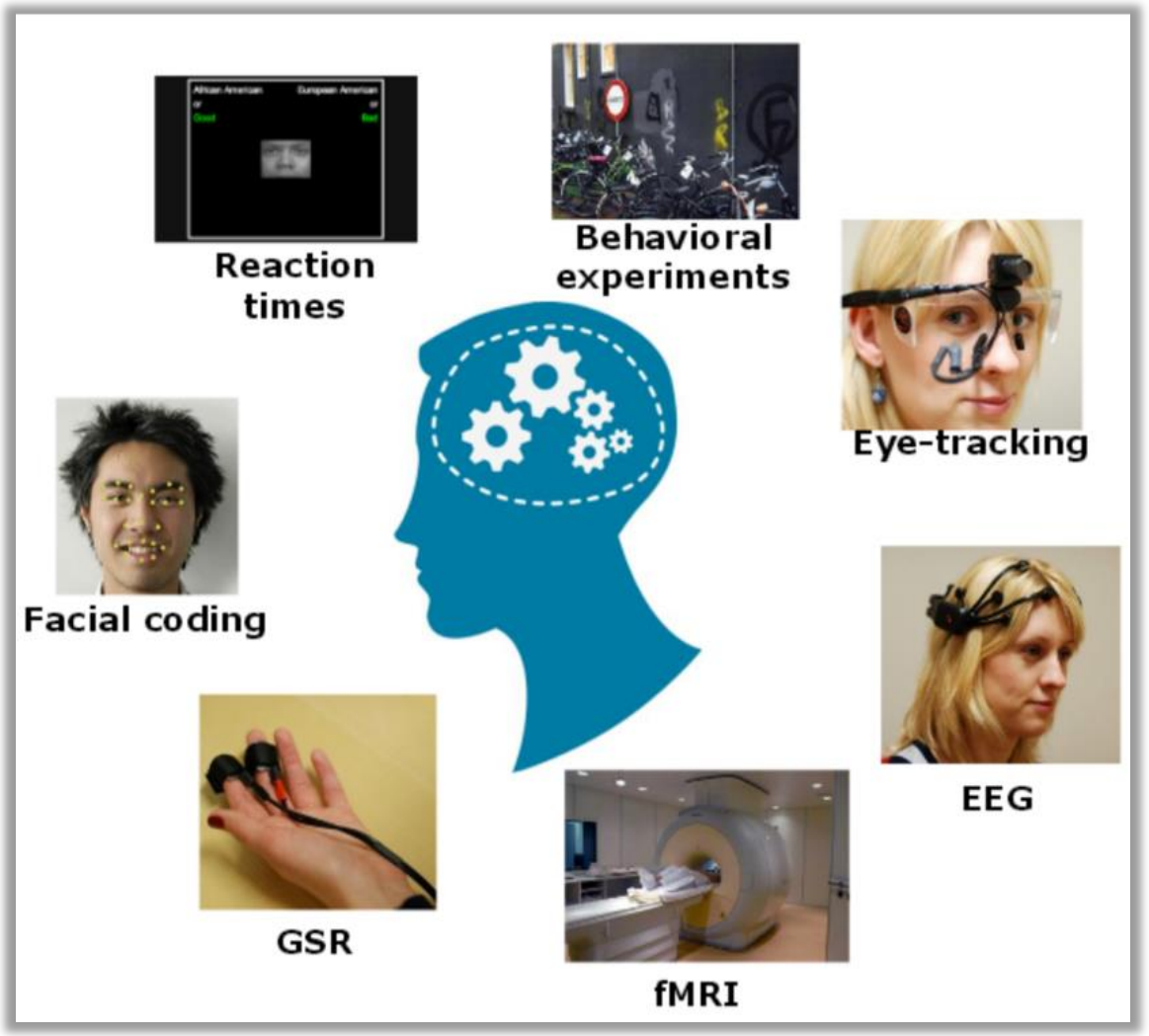
if we have used this old scheme for a long time



now we must use this new scheme



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.

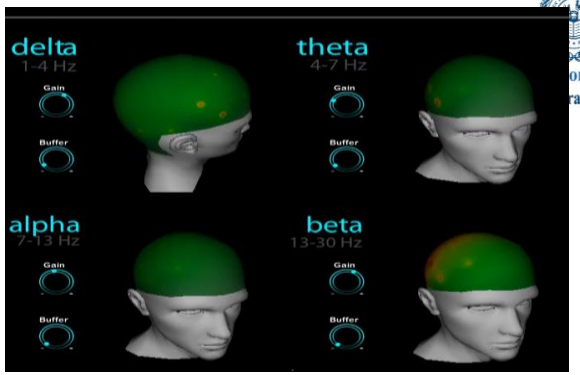
(Dimoka, et al, 2012; Calvert, & Brammer, 2012; Venkatraman et al., 2012)

… 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).

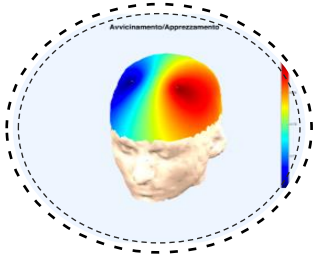
R. J. Davidson, P. Ekman, C. D. Saron, J. A. Senulis, and W. V. Friesen, "Approach-withdrawal and cerebral asymmetry: Emotional expression and brain physiology," J. Pers. Soc. Psychol., vol. 58, no. 2, pp. 330–441, 1990.

- **NEURO TRACKER: INDICATORE DI INTERESSE**

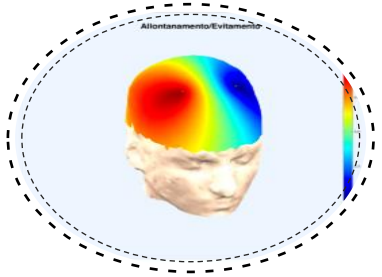


APPROACH-WITHDRAWAL AND CEREBRAL ASYMMETRY INDICE DI ASIMMETRIA CEREBRALE FRONTALE (BANDA ALPHA): FAA (FRONTAL ALPHA ASYMMETRY) BASATO SULLA LATERALIZZAZIONE EMISFERICA (DAVIDSON, 2012)

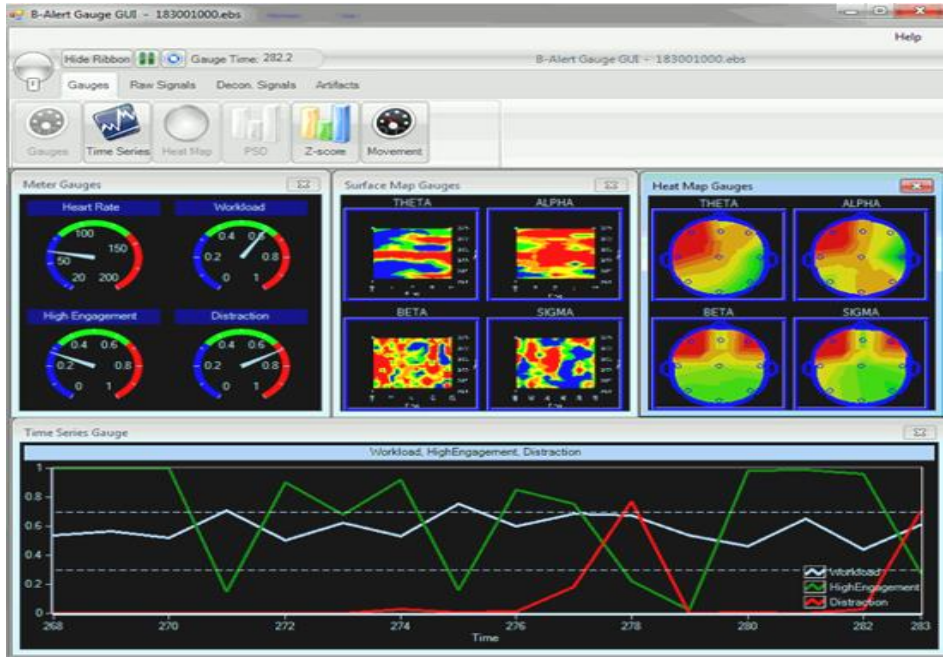
- **VALORE POSITIVO:** MAGGIORE ATTIVAZIONE CORTECCIA PREFRONTALE SINISTRA → APPROCCIO VERSO LO STIMOLO, PROPENSIONE, **INTERESSE**



- **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);

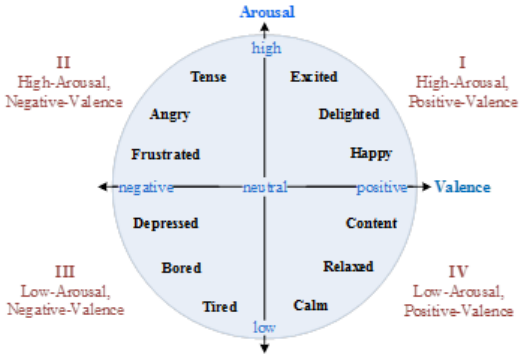
$$\mathrm{MI} = \frac{1}{N_Q} \sum_{i \in Q} x_{\theta_i}^2(t) = \text{Average power}_{\theta_{\text{left,frontal}}}$$

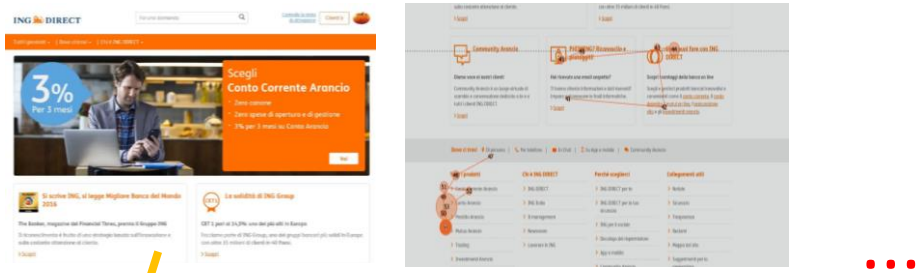
- **Attention Index** Modifica ritmo delle Onde Alpha sulla zona prefrontale (Klimesh 1999; Petersen e Posner, 2012)

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

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)





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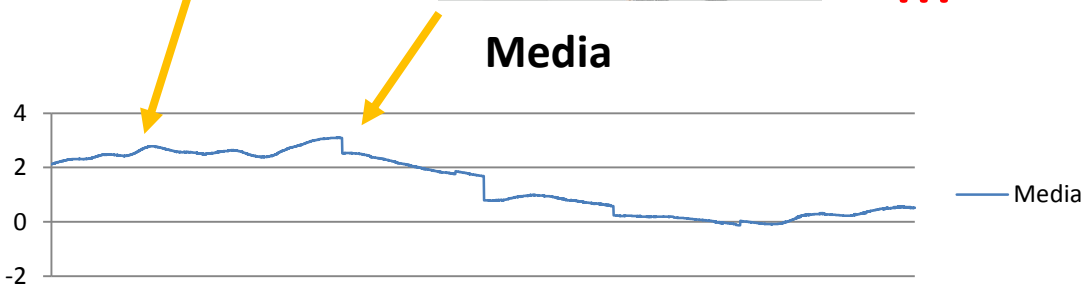
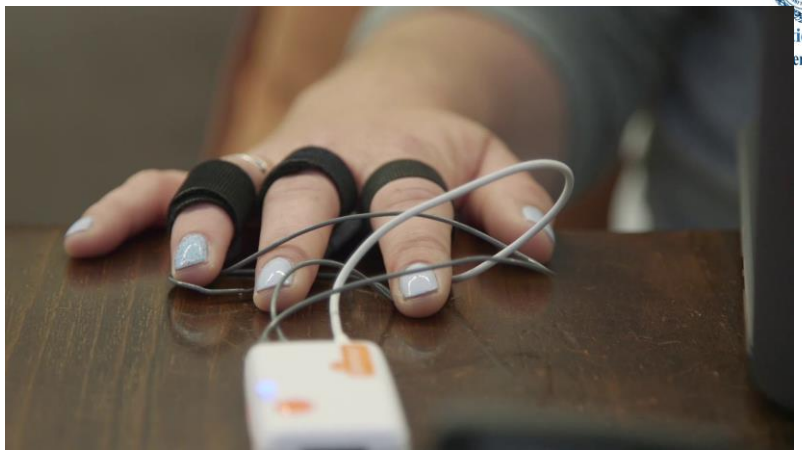




Il dato Eye Tracker può essere combinato con il dato Skin Conductance permettendo cosi di connotare frame by frame il livello di difficoltà.

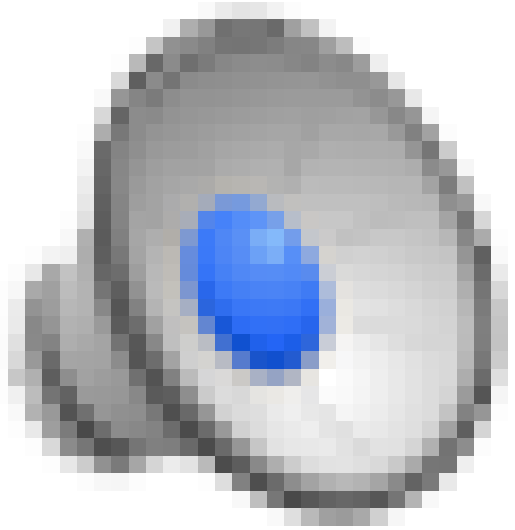
Shimmer

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

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

➢Facial EMG

Offers accurate and automated recording of muscle activity of facial expressions



Noldus
Information Technology

Behavior and
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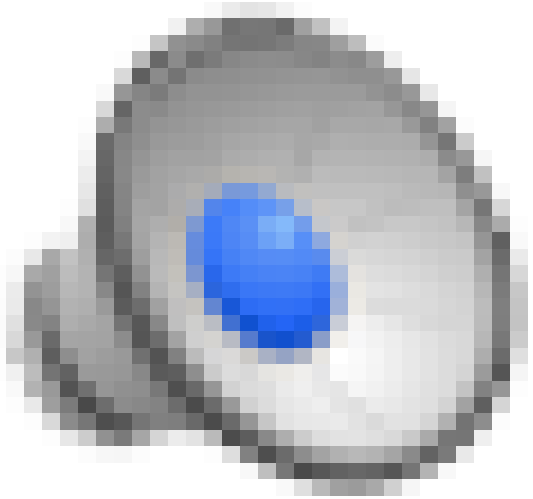
Eye Tracking

Heat map shows where the eyes focus more

Gaze plots shows the path of vision

Eye Tracking



Behavior and
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✓Packaging Analisys

NEURO TRACKER:

EYE TRACKING:

BIO TRACKER:

Il ruolo dell'etichetta: VALUTAZIONE EFFICACIA SCELTE GRAFICHE

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Il ruolo dell'etichetta: VALUTAZIONE EFFICACIA SCELTE GRAFICHE

Ad on-line: Banner blindness

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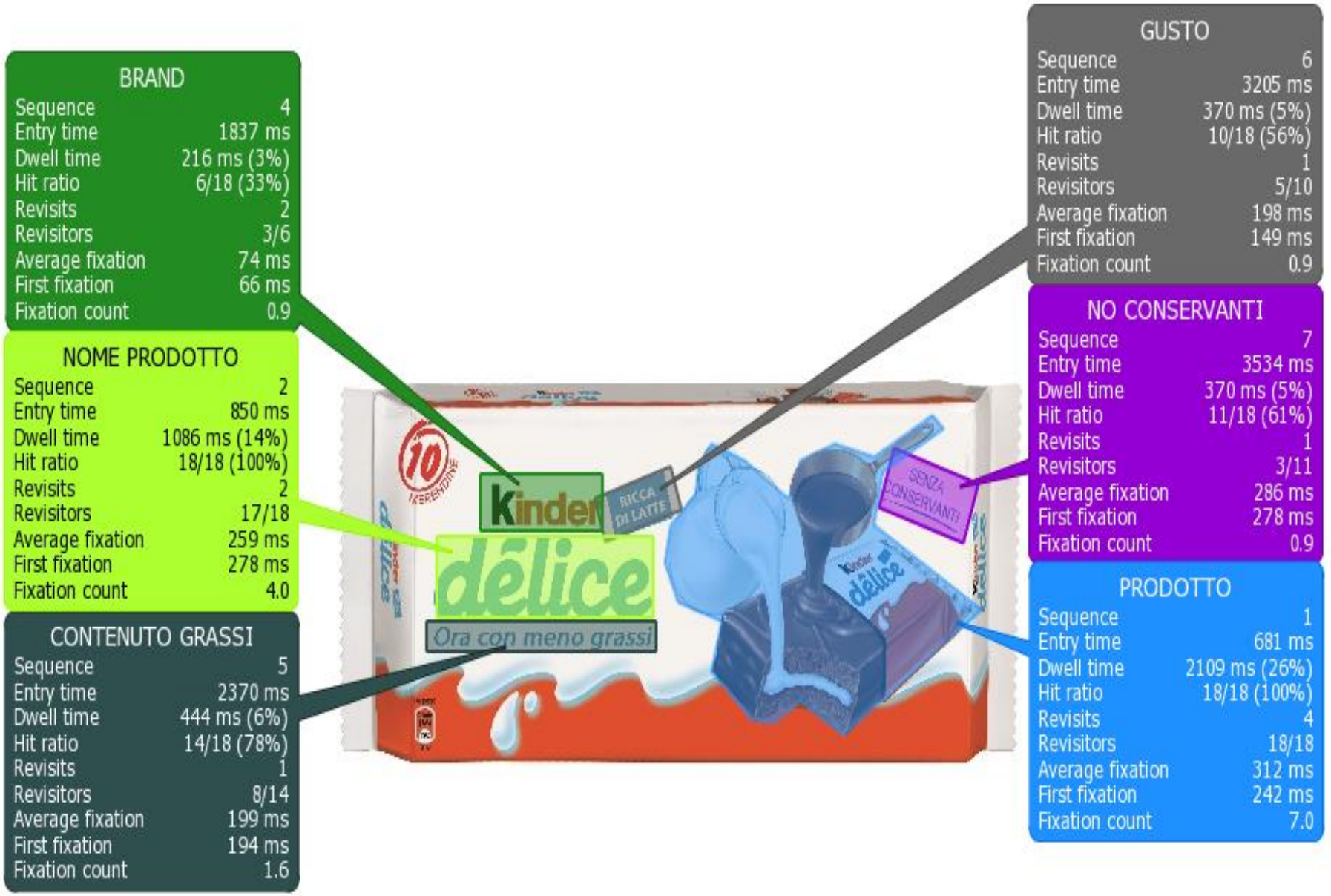
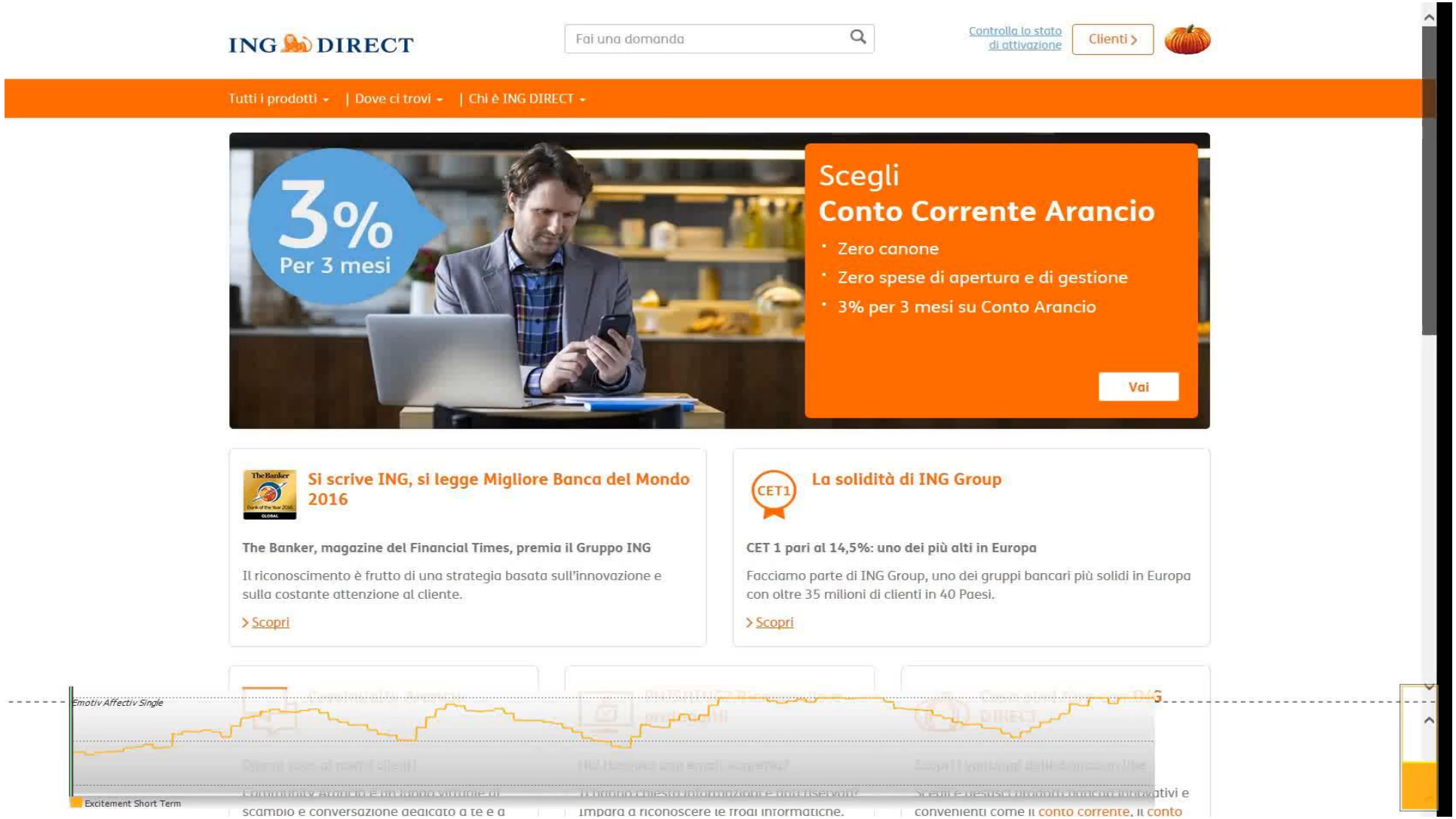
Output

Behavior and BrainLab IULM

Interest grid Area (AOI):




ING DIRECT
Fai una domanda
Controlla lo stato di attivazione
Clienti
Tutti i prodotti
Dove ci trovi
Chi è ING DIRECT
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
Emotiv Affectiv Single
Excitement Short Term

ATTENTION AND VISION

Behavior and BrainLab IULM

PACK Plastic

PACK Plastic (similar to paper – cardboard)

Behavior and Brain Lab

ATTENTION AND VISION

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CARDBOARD

PACK PLASTICA

PACK Plastic (similar to paper – cardboard)

Less time on the information (188 ms)

More attention to the information

Behavior and Brain Lab

The label:

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Sommelier

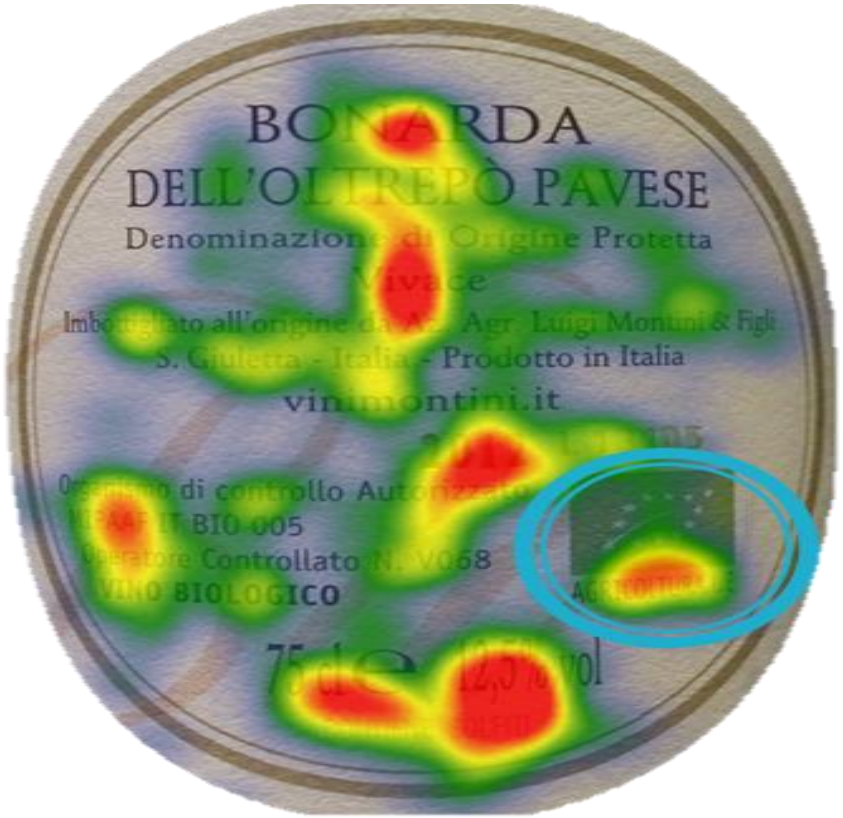
Inesperti

Type of Vine

Capacity of the bottle

Alcohol grade

Organic certification

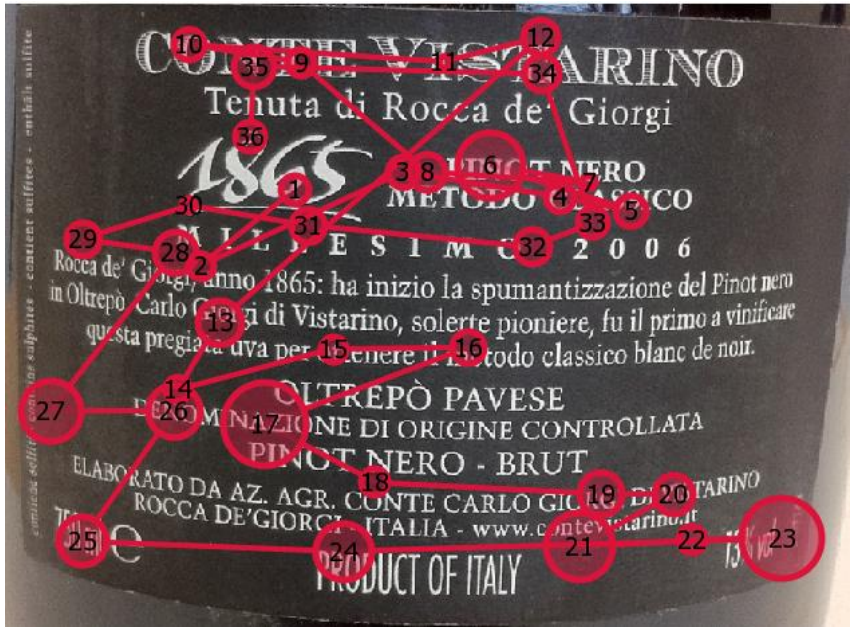


No Expert

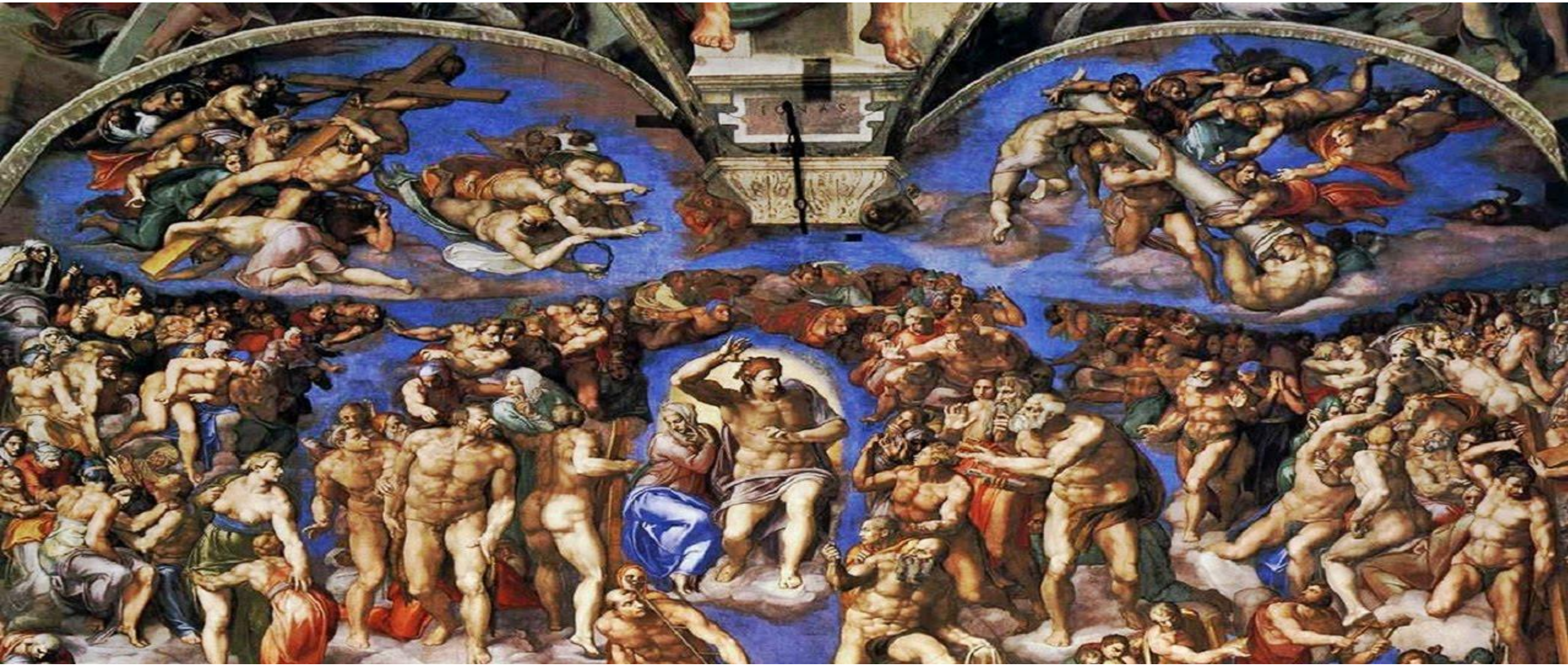
Expert

CONTE VISTARINO
Tenuta di Rocca de' Giorgi
1865
PINOT NERO
METODO CLASSICO
OLTREPÒ PAVESE
DENOMINAZIONE DI ORIGINE CONTROLLATA
PINOT NERO - BRUT
ELABORATO DA AZ. AGR. CONTE CARLO GIORGI DI VISTARINO
ROCCA DE'GIORGI - ITALIA - www.contevistarino.it
750 ml
PRODUCT OF ITALY
13% vol

Man


Tenuta di Rocca de' Giorgi
1865
METODO CLASSICO
Rocca de' Giorgi, anno 1865: ha inizio la spumantizzazione del Pinot nero
in Oltrepò Carlo Giorgi di Vistarino, solerte pioniere, fu il primo a vinificare
questa pregiata uva per ottenere il metodo classico blanc de noir.
OLTREPÒ PAVESE
DENOMINAZIONE DI ORIGINE CONTROLLATA
PINOT NERO - BRUT
ELABORATO DA AZ. AGR. CONTE CARLO GIORGI DI VISTARINO
ROCCA DE'GIORGI - ITALIA - www.contevistarino.it
PRODUCT OF ITALY

Woman

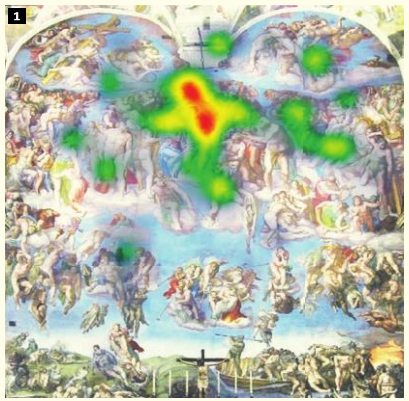


Giudizio Universale di Michelangelo (Cappella Sistina)

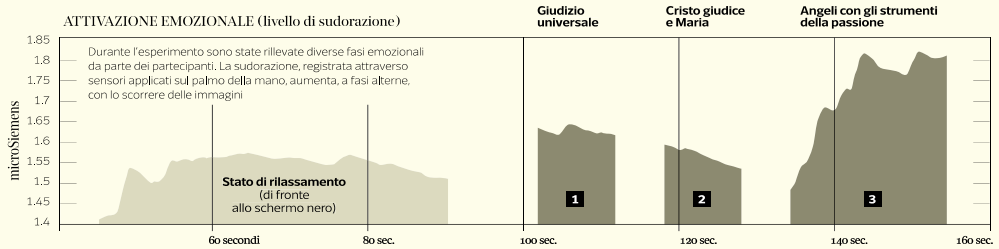
Cosa vedono gli uomini

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*

1



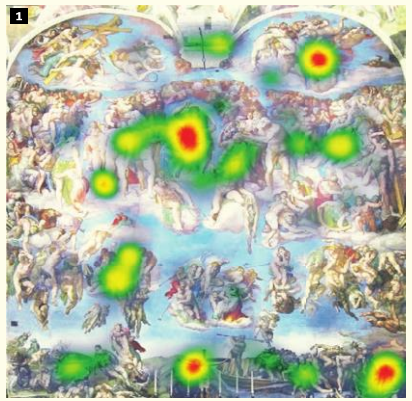
ATTIVAZIONE EMOZIONALE (livello di sudorazione)



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

1



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.

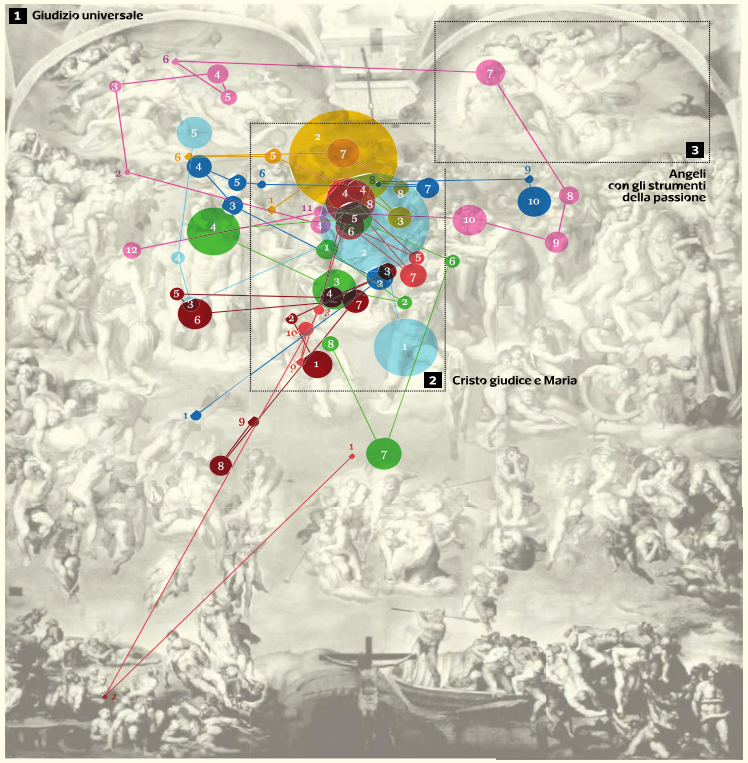
3 Angeli con gli strumenti della passione

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

IL TRACCIATO OCULARE

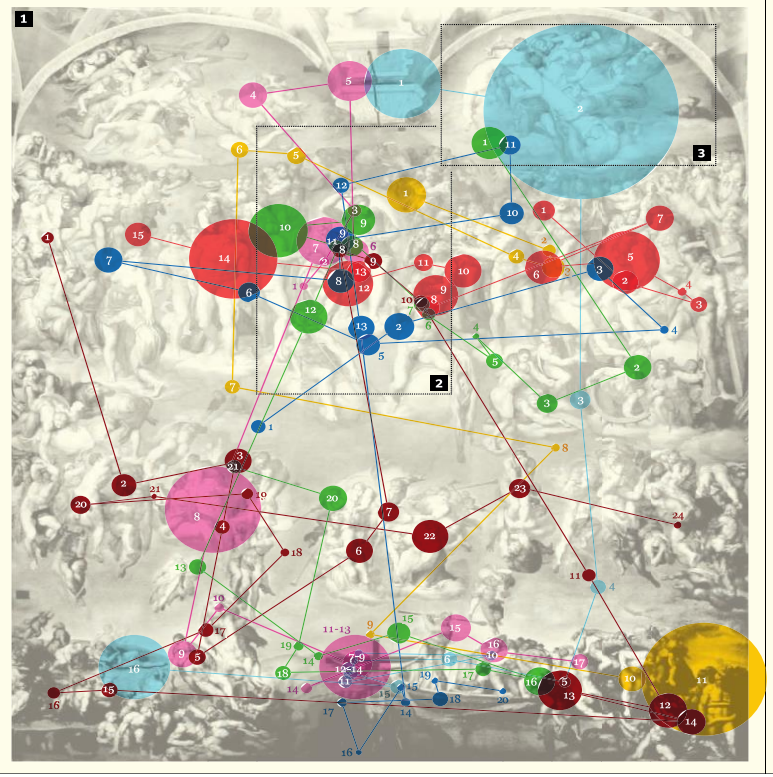
L'attenzione visiva è misurata attraverso l'*Eye-tracking*: di ognuno dei 14 partecipanti (7 uomini e 7 donne) è stato registrato il percorso oculare con colori diversi

1 Giudizio universale



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

1



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

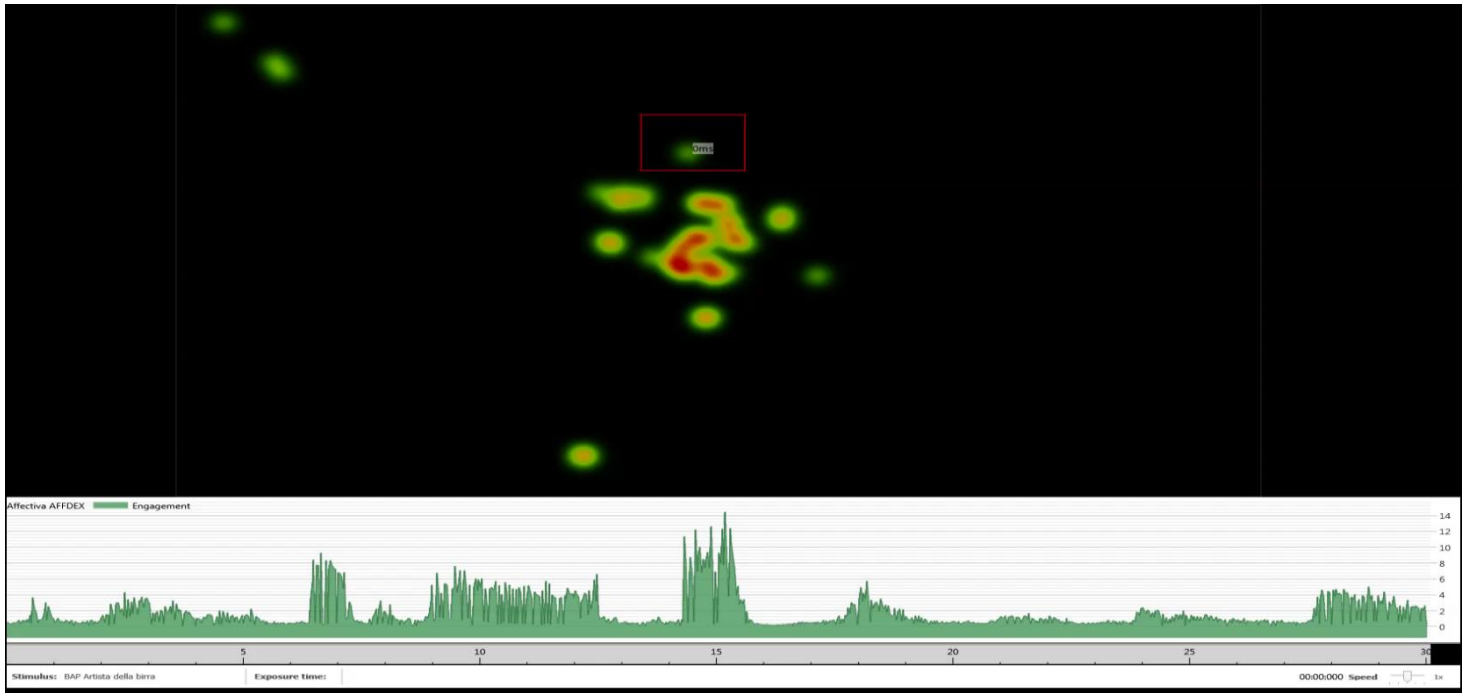
2 Cristo giudice e Maria

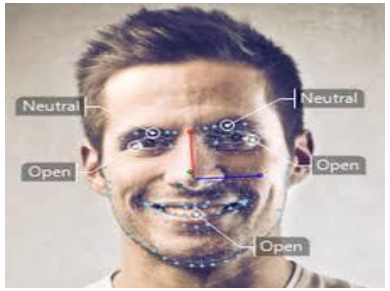
3 Angeli con gli strumenti della passione

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

Elaborazione dati di: Andrea Ciceri, Giulia Songa, Rita Laureanti. Studio condotto presso il Centro di Ricerca di Neuromarketing «Behaviour and Brain Lab» dell'Università Iulm

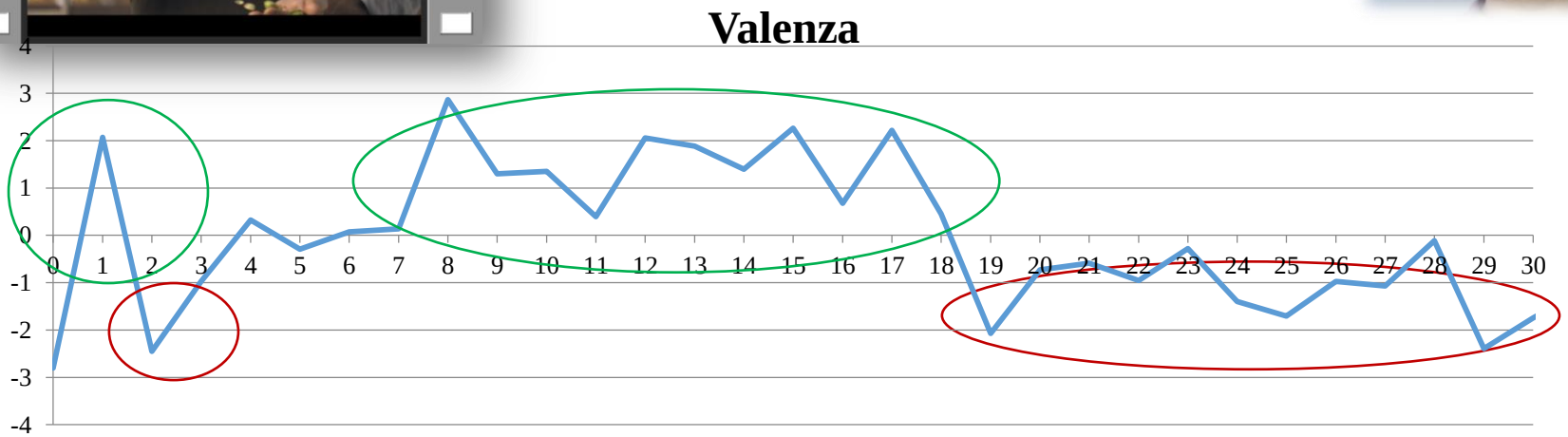
Emotions (facial expression analysis) Spot BAP - Beer artist





The emotional trend

Espressioni del volto

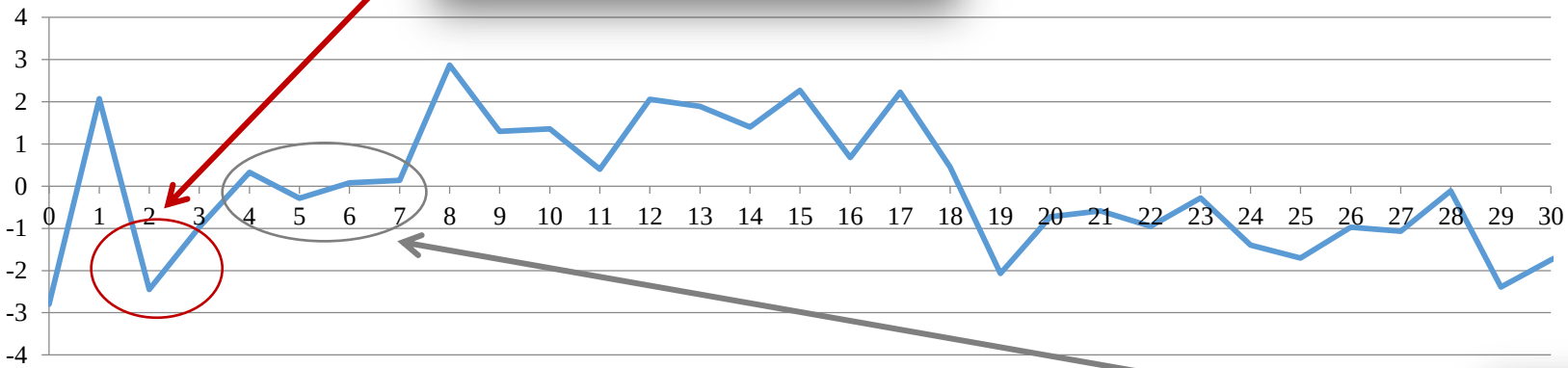


The emotional trend

Espressioni del volto

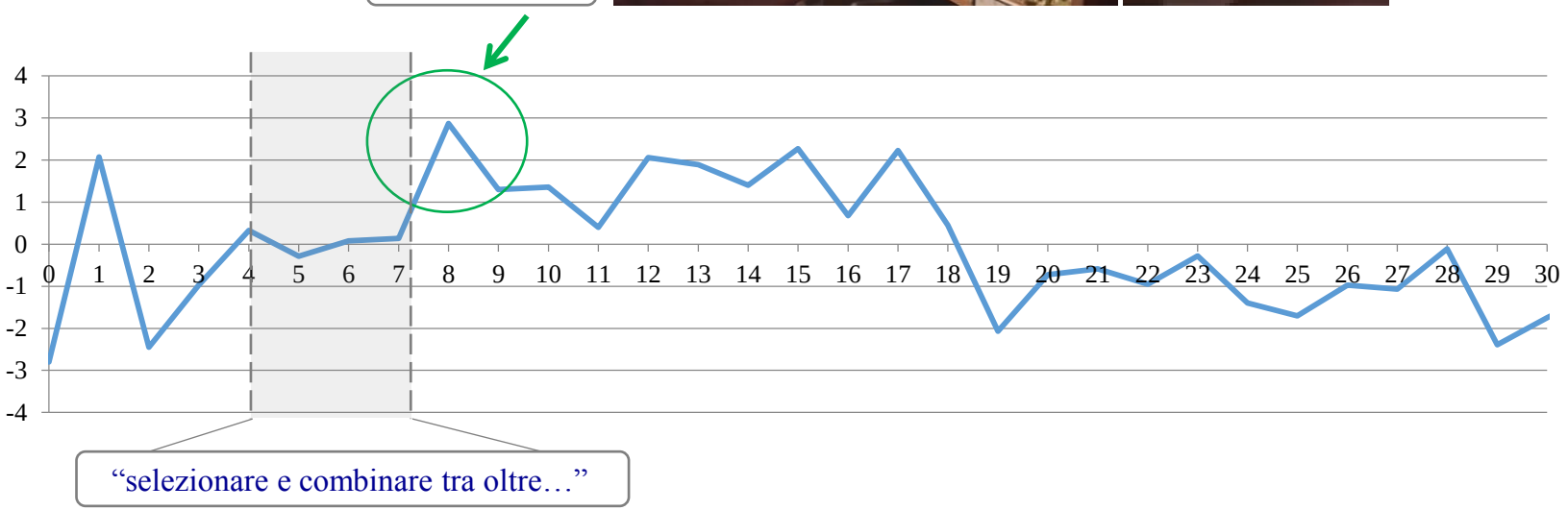
L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



L’andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



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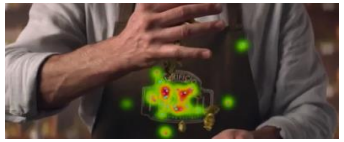

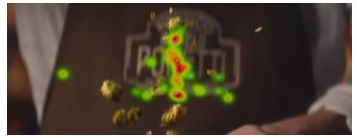

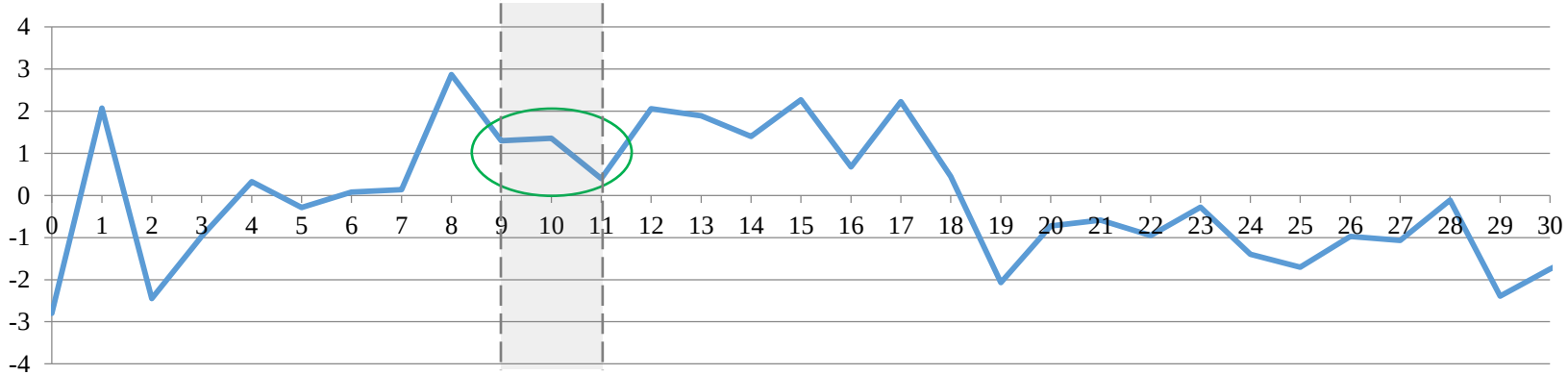

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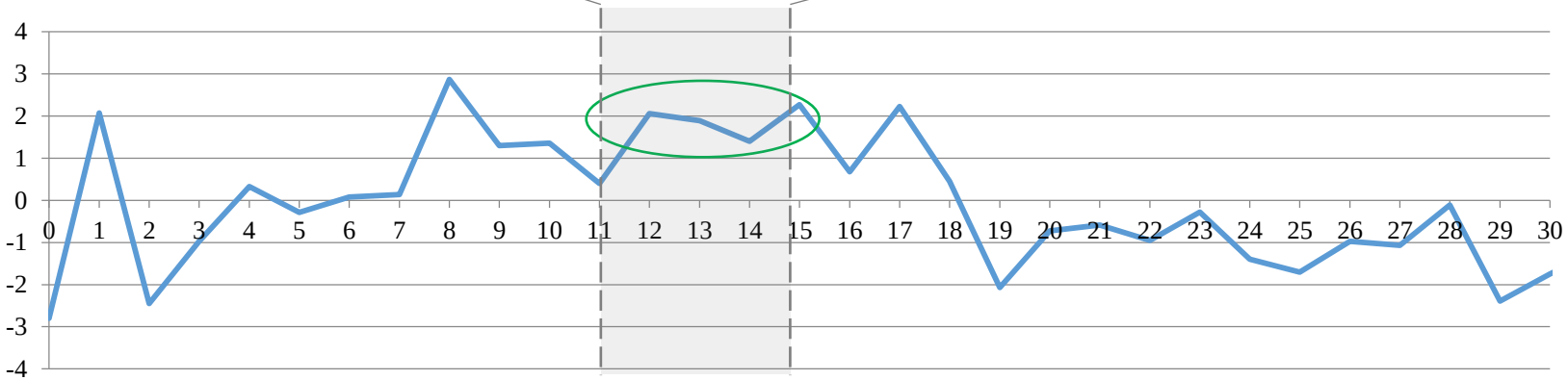
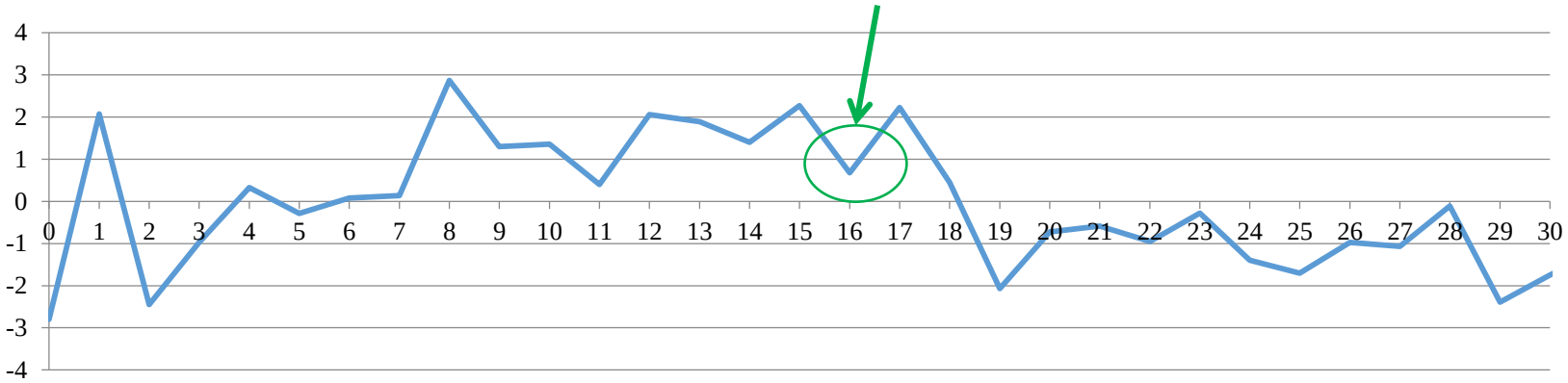


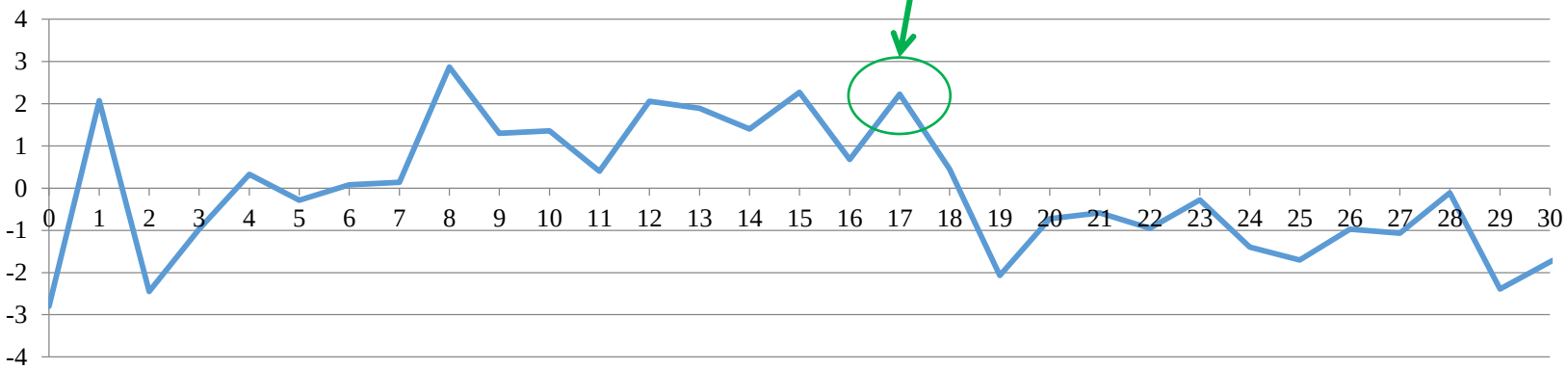
- La valenza è elevata nella sequenza che mostra l'artigiano e le vasche di fermentazione della birra, con la voce narrante che parla dell'**arte** della produzione (comunicazione **coerente ed efficace**)

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



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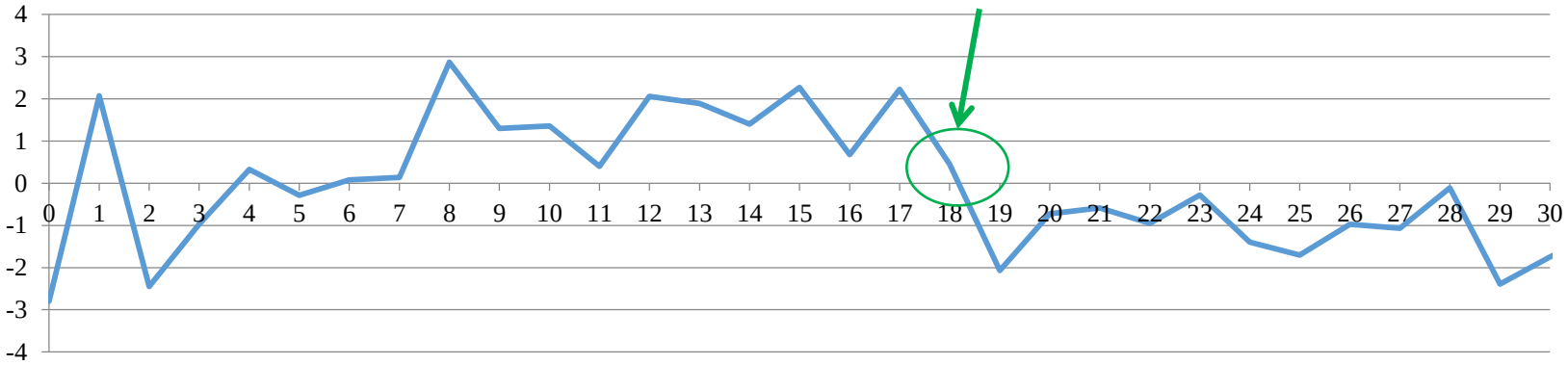
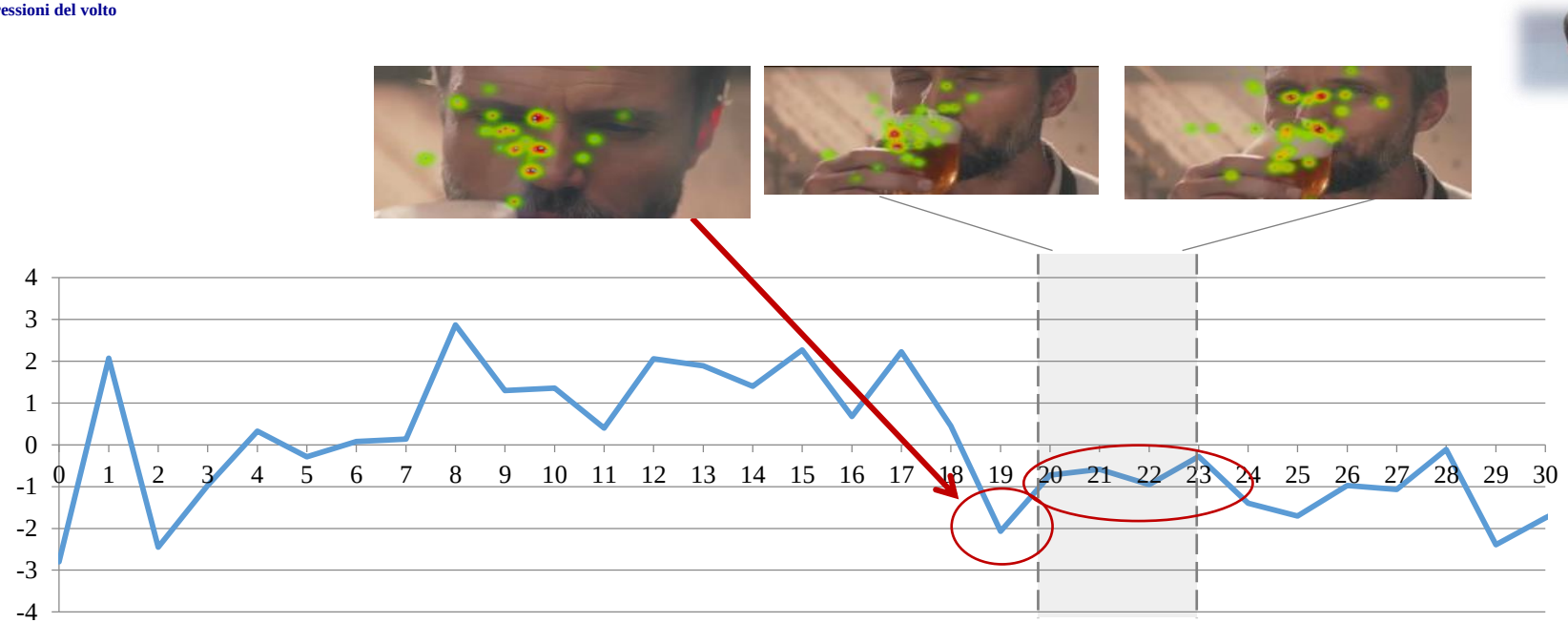


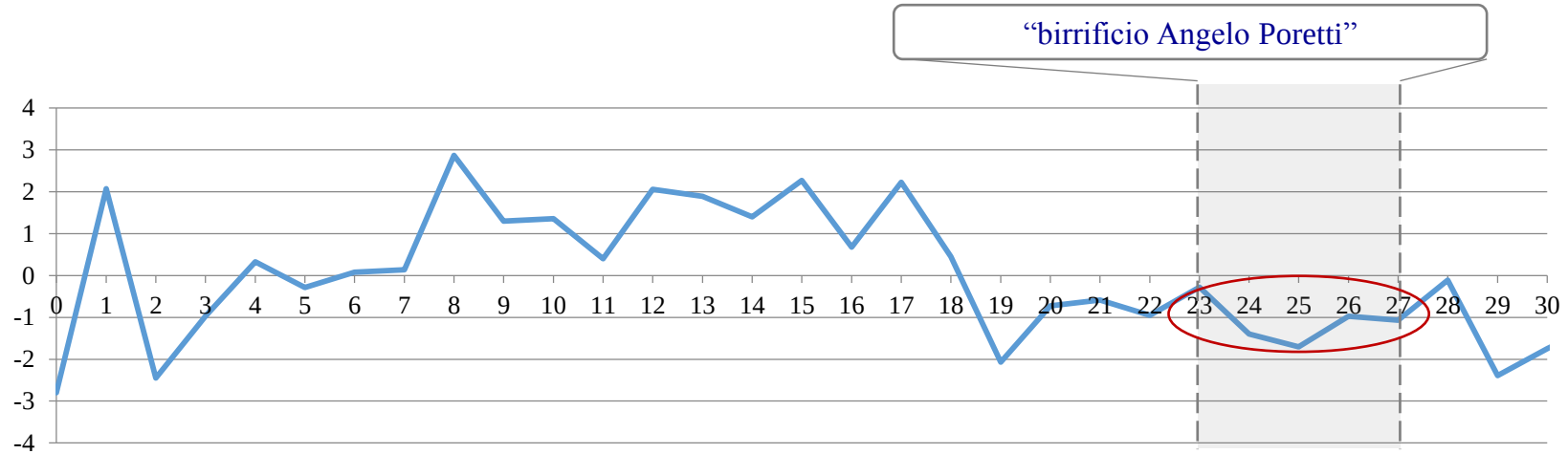
L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto



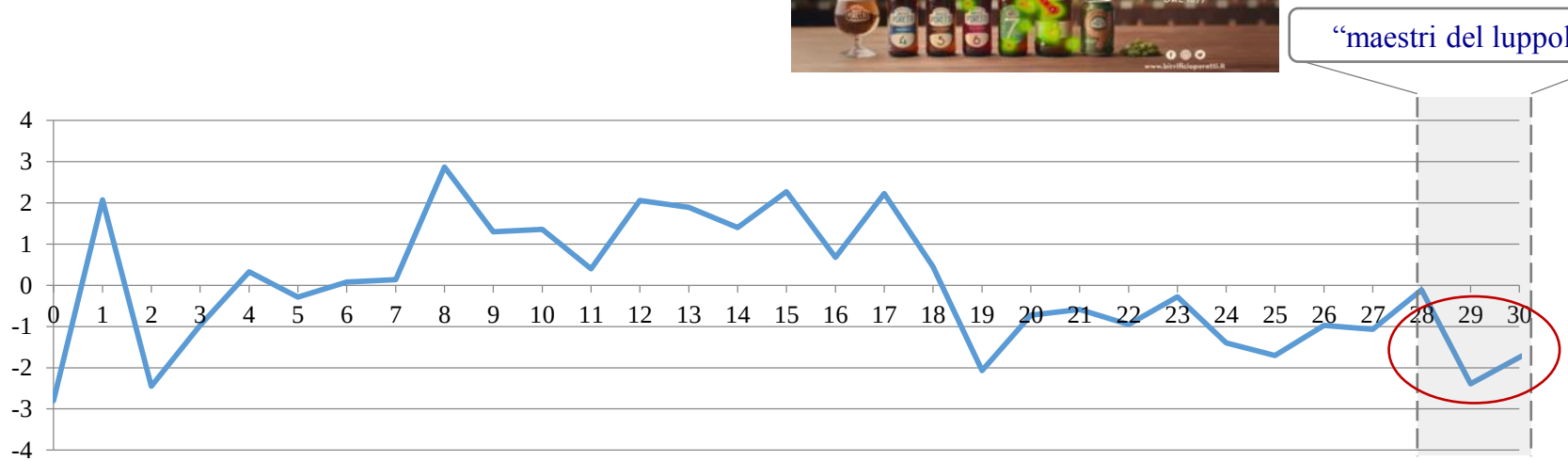
L'andamento emotivo – Spot BAP – Artista della birra

Espressioni del volto

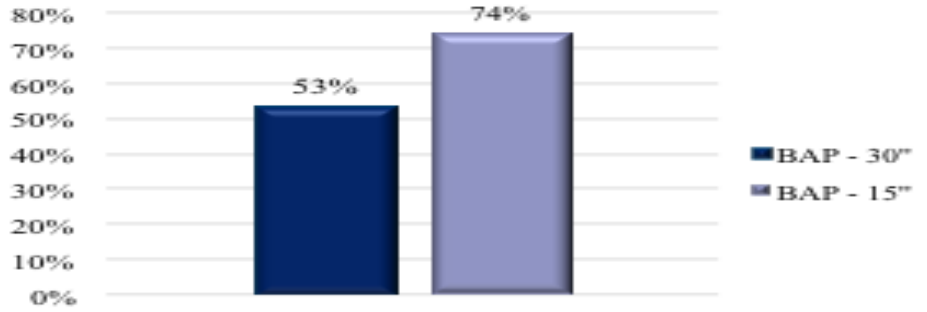


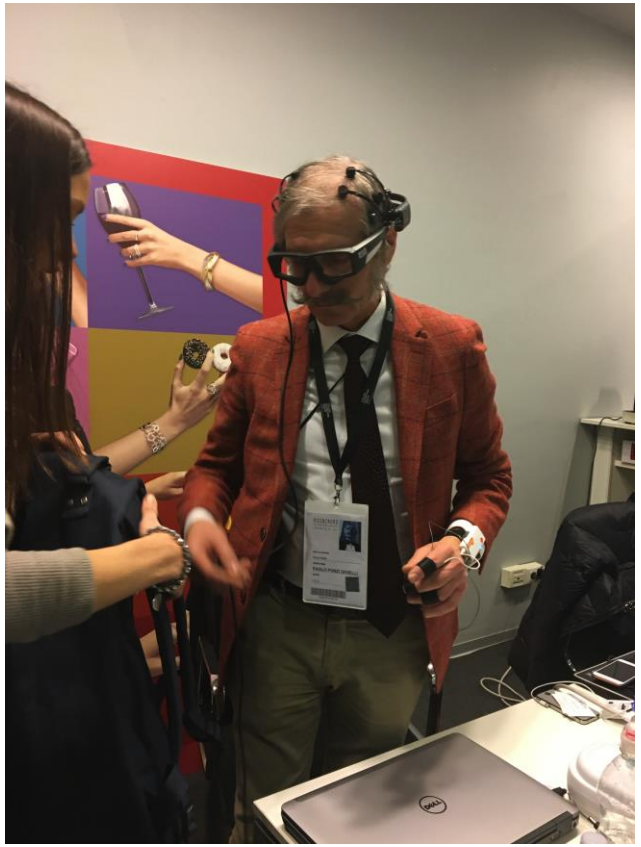
L'andamento emotivo – Spot BAP – Artista della birra

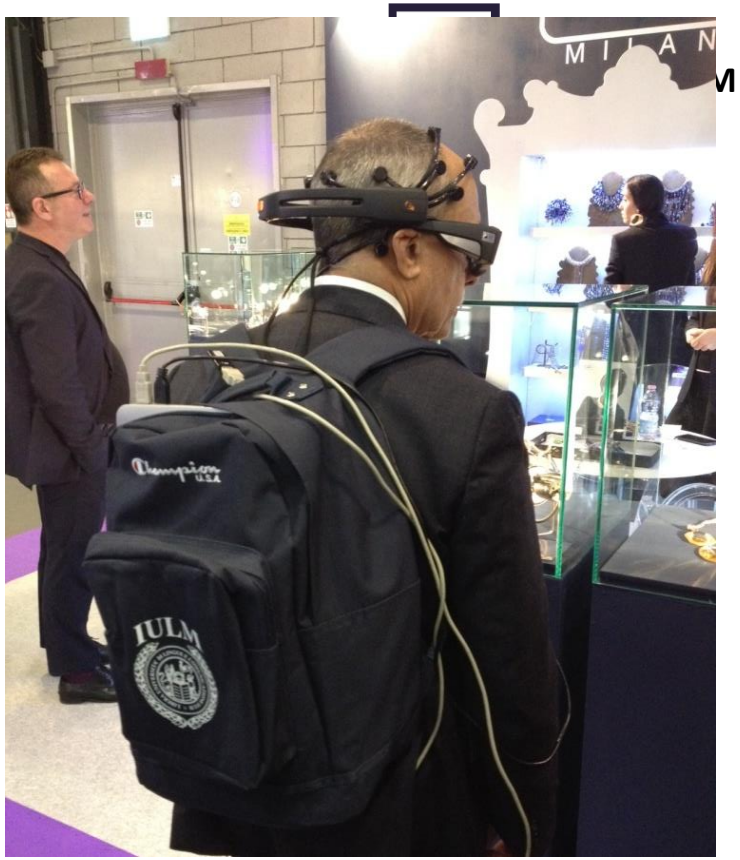
Espressioni del volto



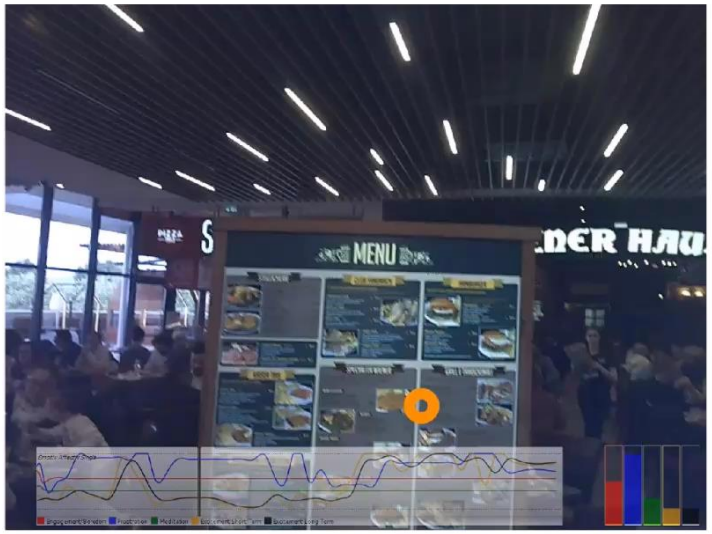
Finale birra poretti







Neuromarketing on field



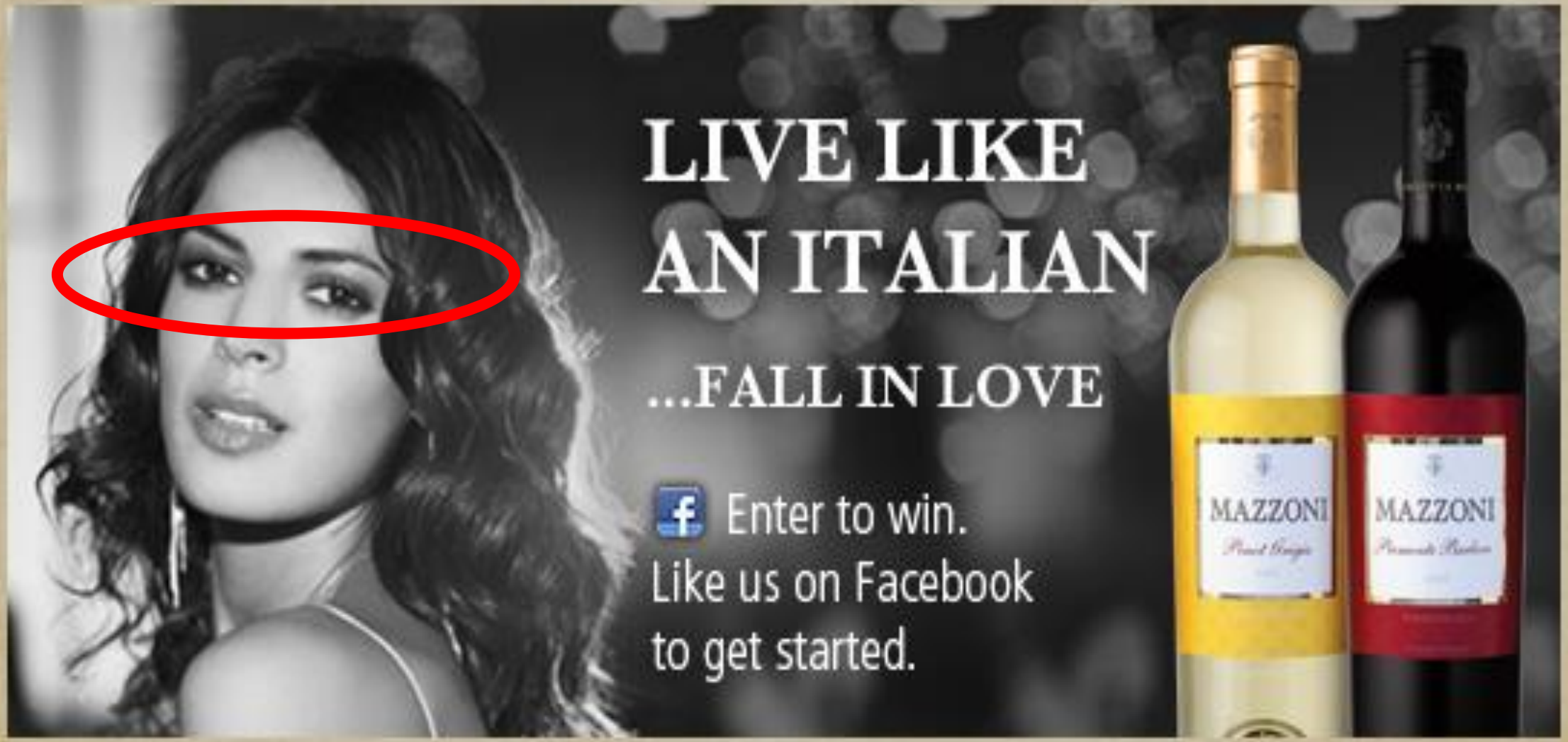
Heart Signal

Skin Conductance

In store and movements of the consumers

Initial exploratory path

MAZZONI



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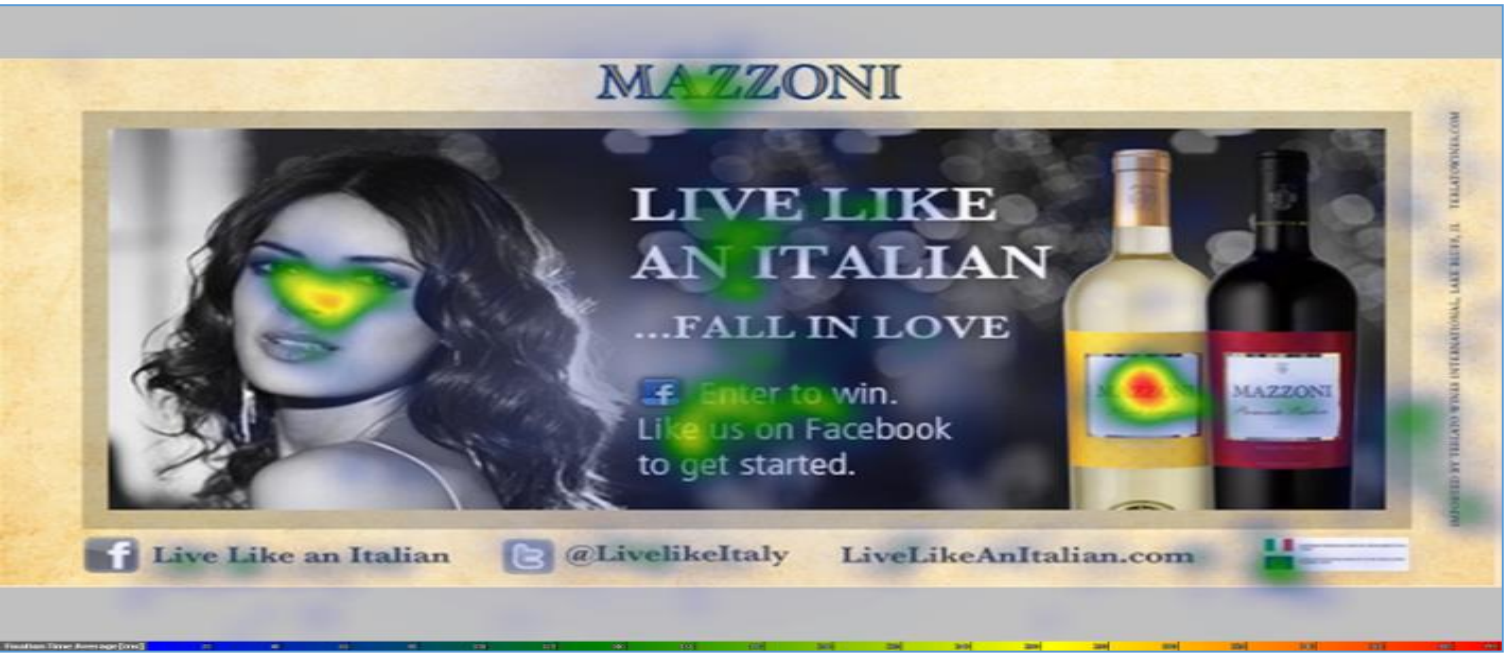
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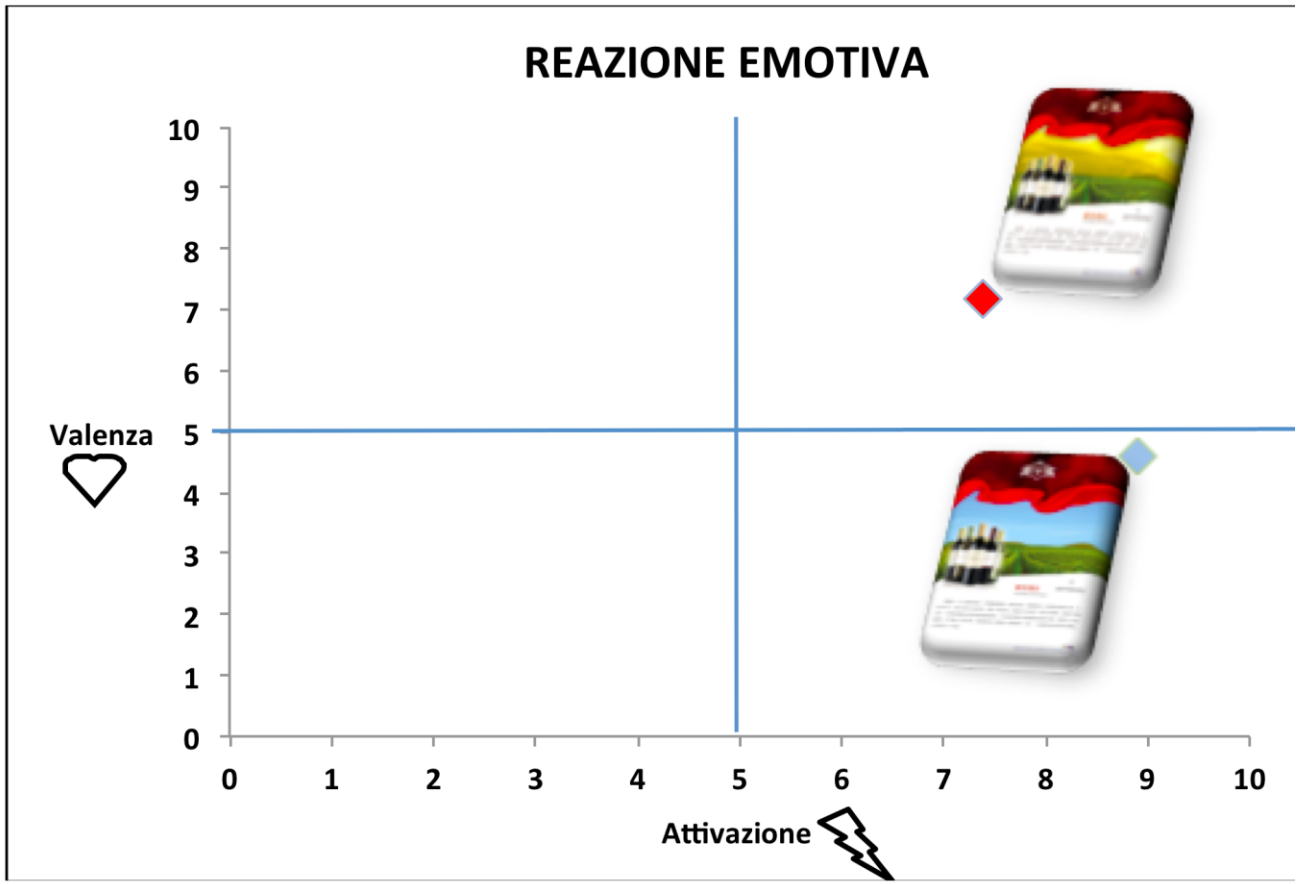
The Neuromarketing of wine

Behavior and
BrainLab IULM

SETTESOLI
CANTINE SETTESOLI
100
150
200
250
300
350
400


REAZIONE EMOTIVA
Valenza
Attivazione
0
1
2
3
4
5
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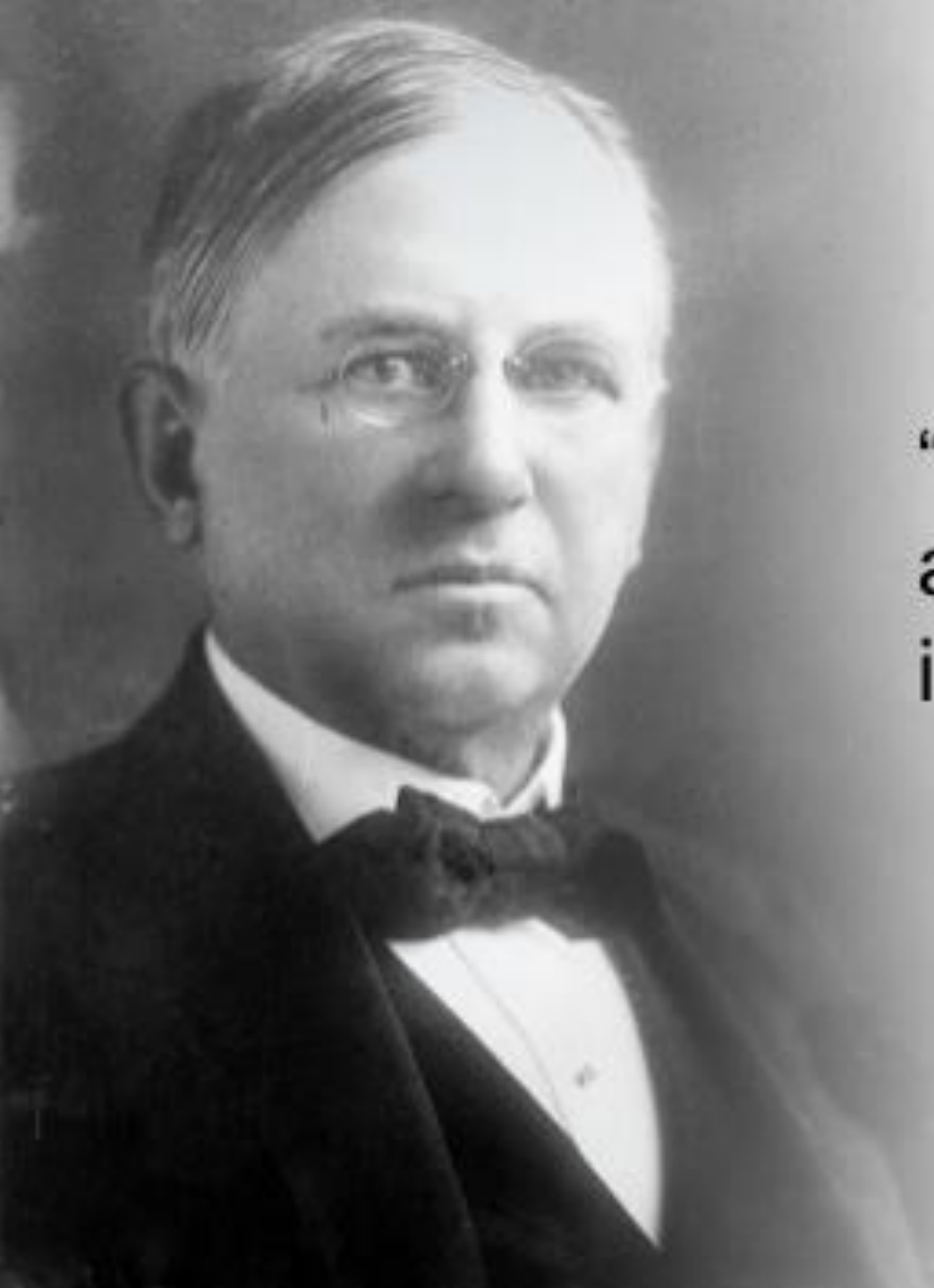
8
9
10



“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)

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