

ADDING (NEURO) SCIENCE TO MAGIC

UIUX SHANGHAI
(06/06/2018)

ADDING (NEURO) SCIENCE TO MAGIC

UIUX SHANGHAI
(06/06/2018)

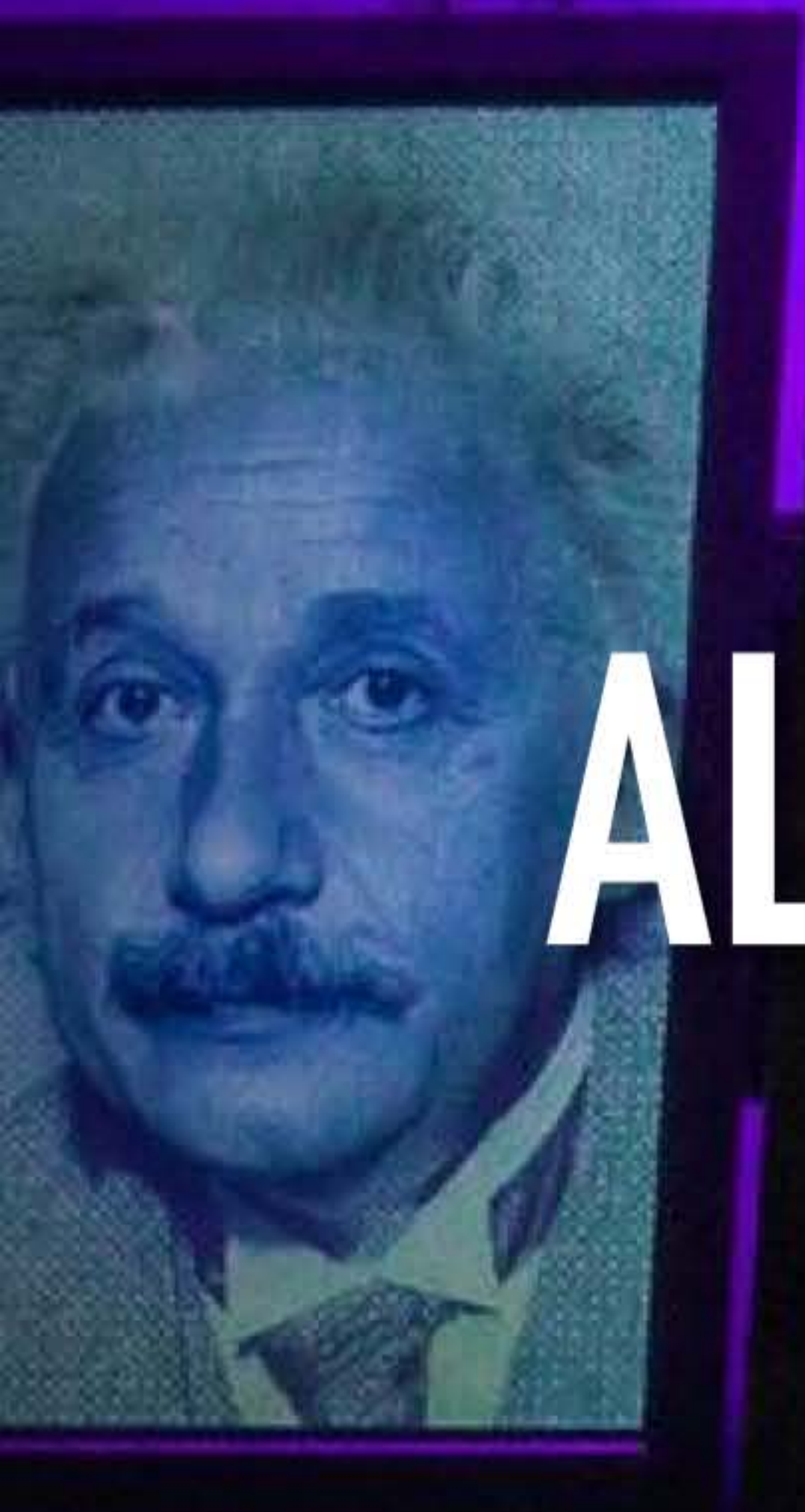
ANTHONY THAM © 2108
ANTHONY.THAM@HYPERISLAND.SG
CONFIDENTIAL

THREE THINGS: WHY
HOW
WHAT

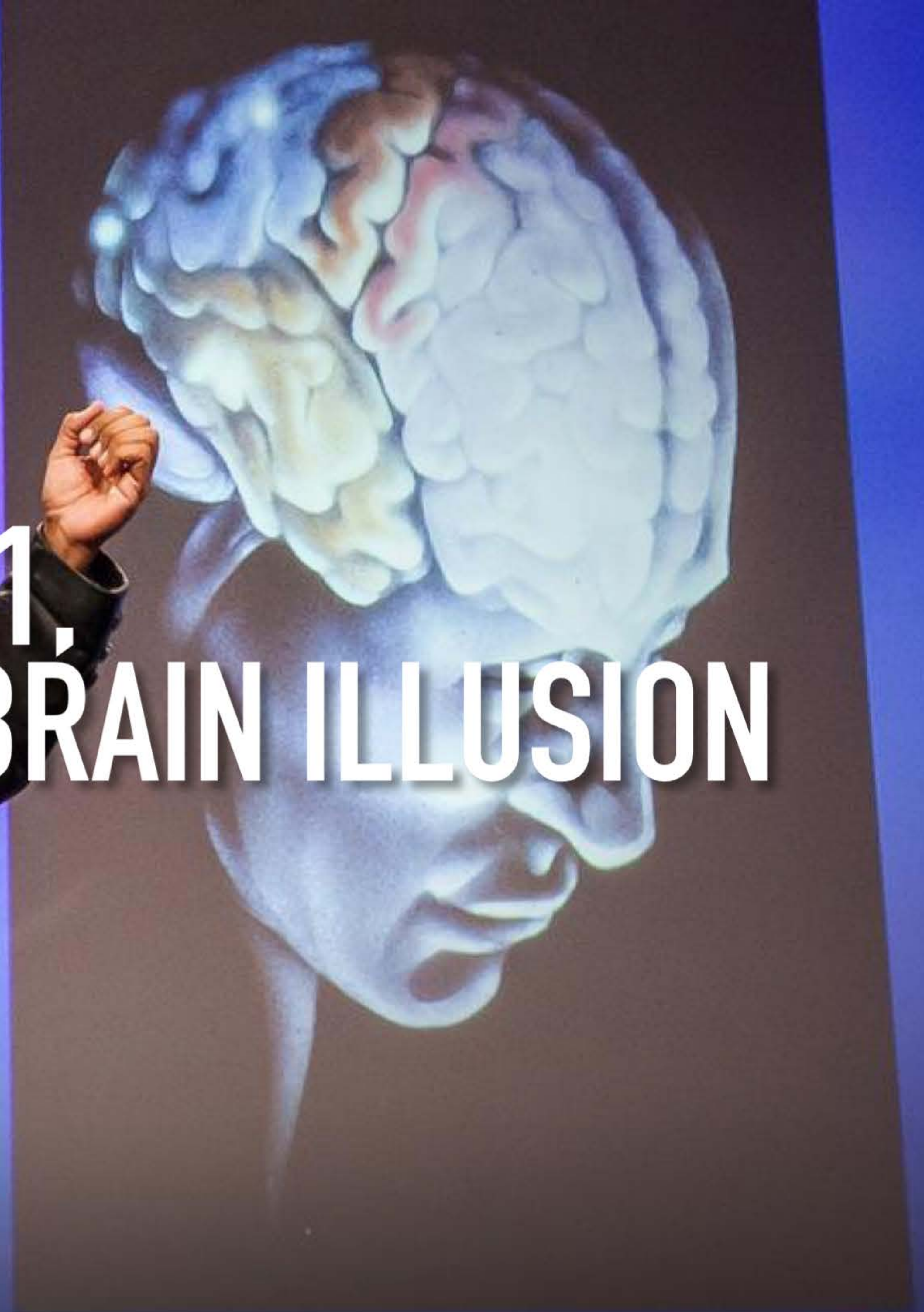
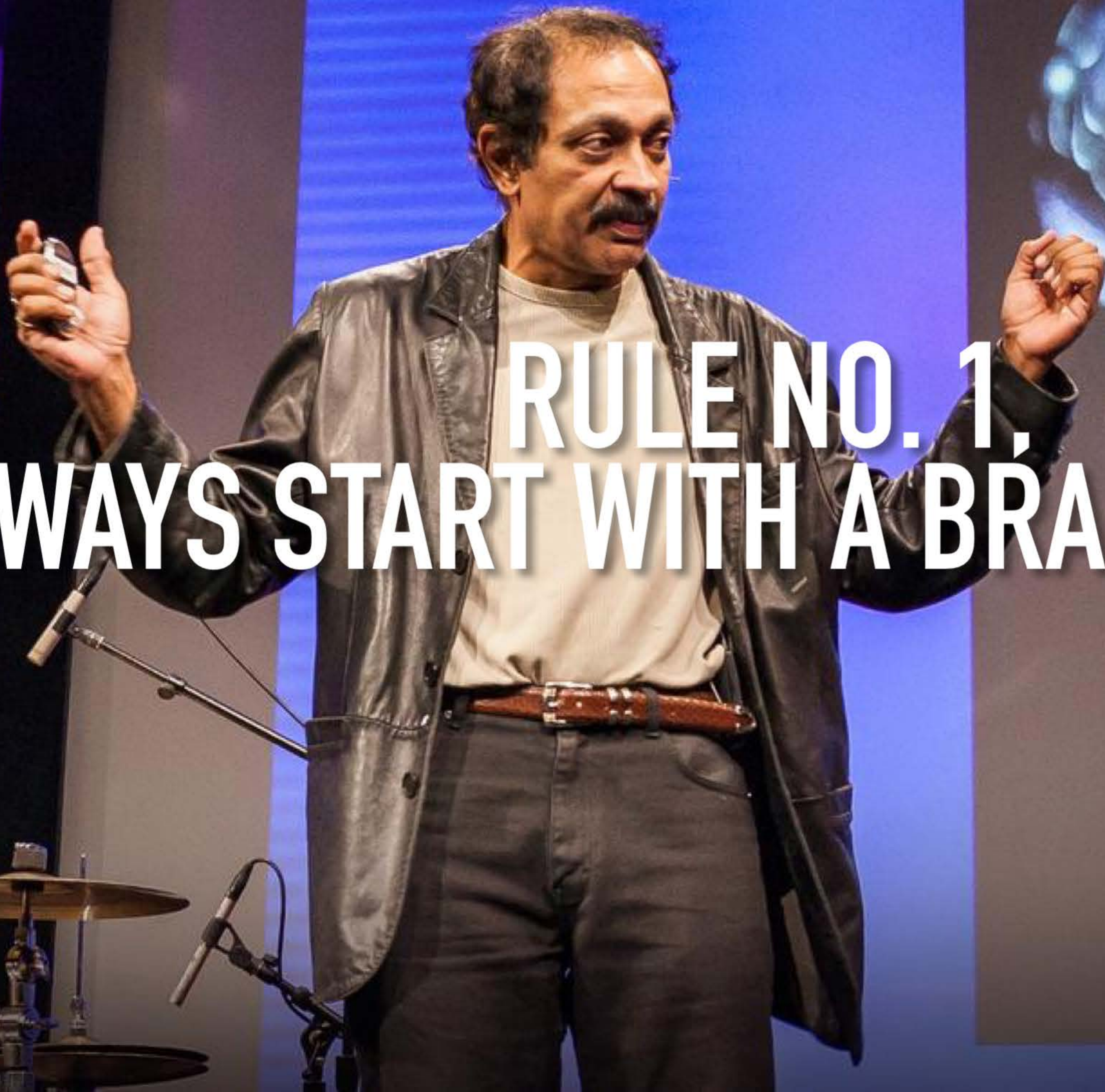
WHY

I'M GOING TO DO A TALK TO END ALL NEUROSCIENCE TALKS

(KIDDING)



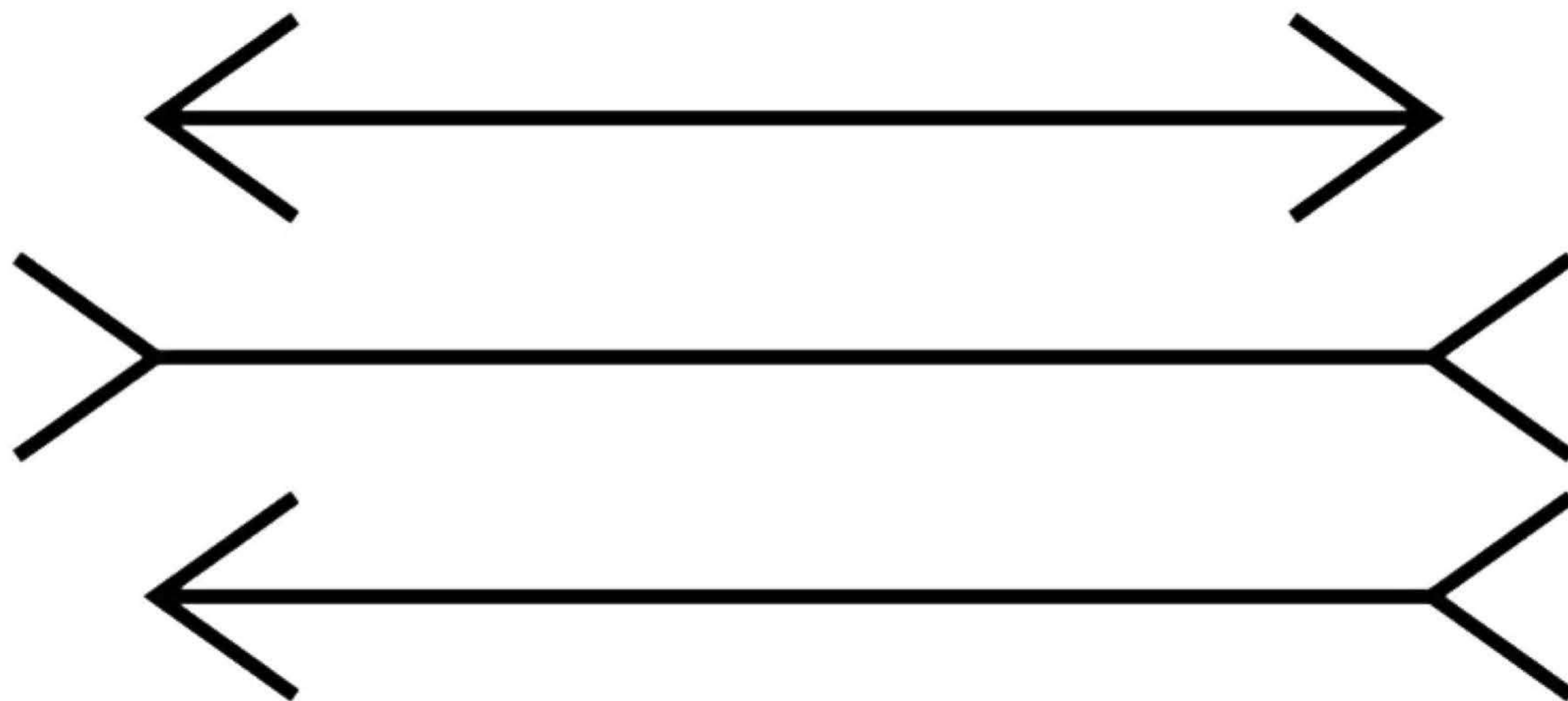
**RULE NO. 1,
ALWAYS START WITH A BRAIN ILLUSION**



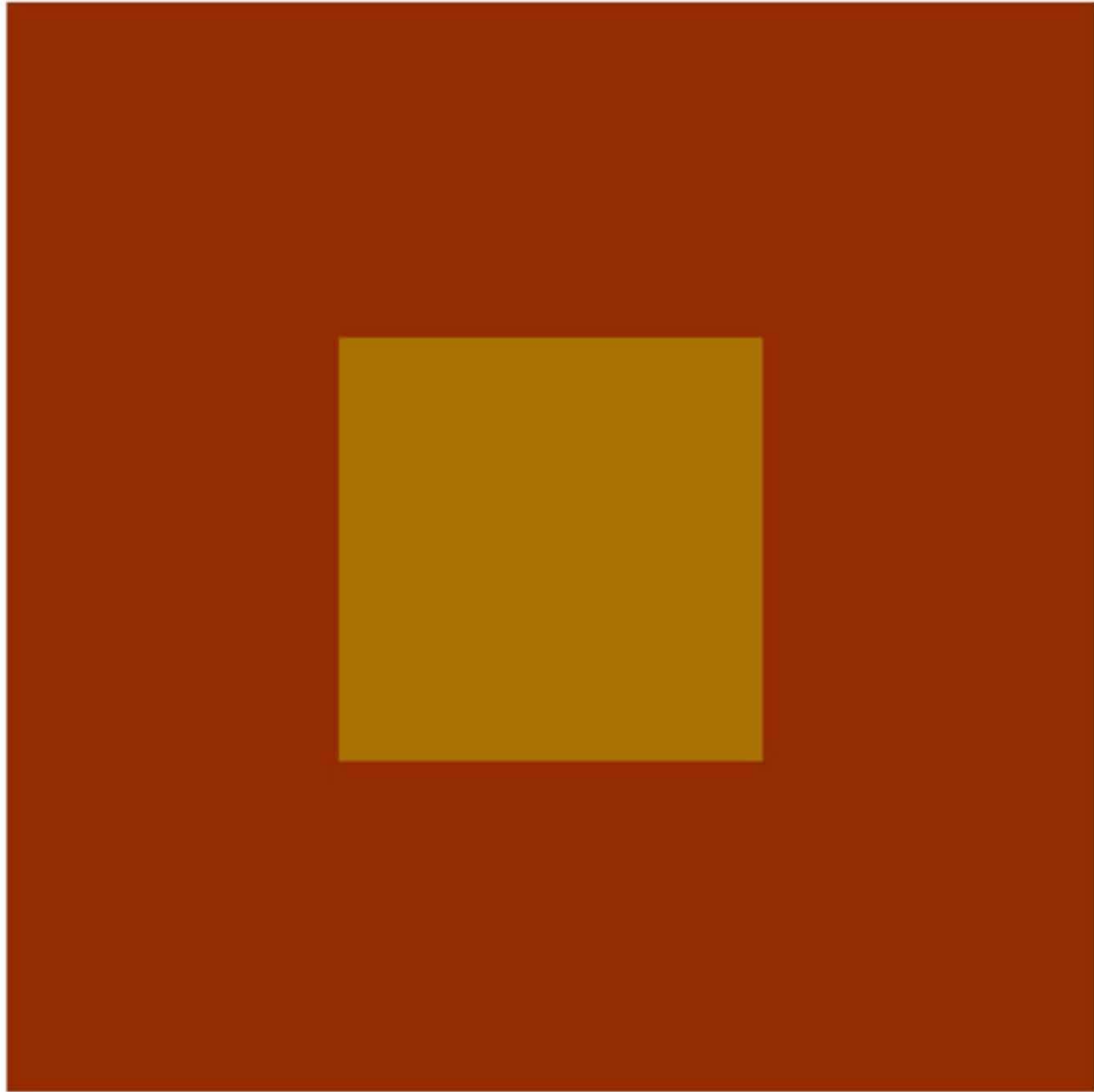
I'M NOT GOING TO BE BUCKING THE TRADITION

NEUROSCIENCE CLICHÉ #1

VISUAL PERCEPTION







NEUROSCIENCE CLICHÉ #2

AUDITORY



NEUROSCIENCE CLICHÉ #3

COGNITIVE



**Answer out loud,
as quickly as you can.**

What's one plus four?

What's five plus two?

What's seven minus three?

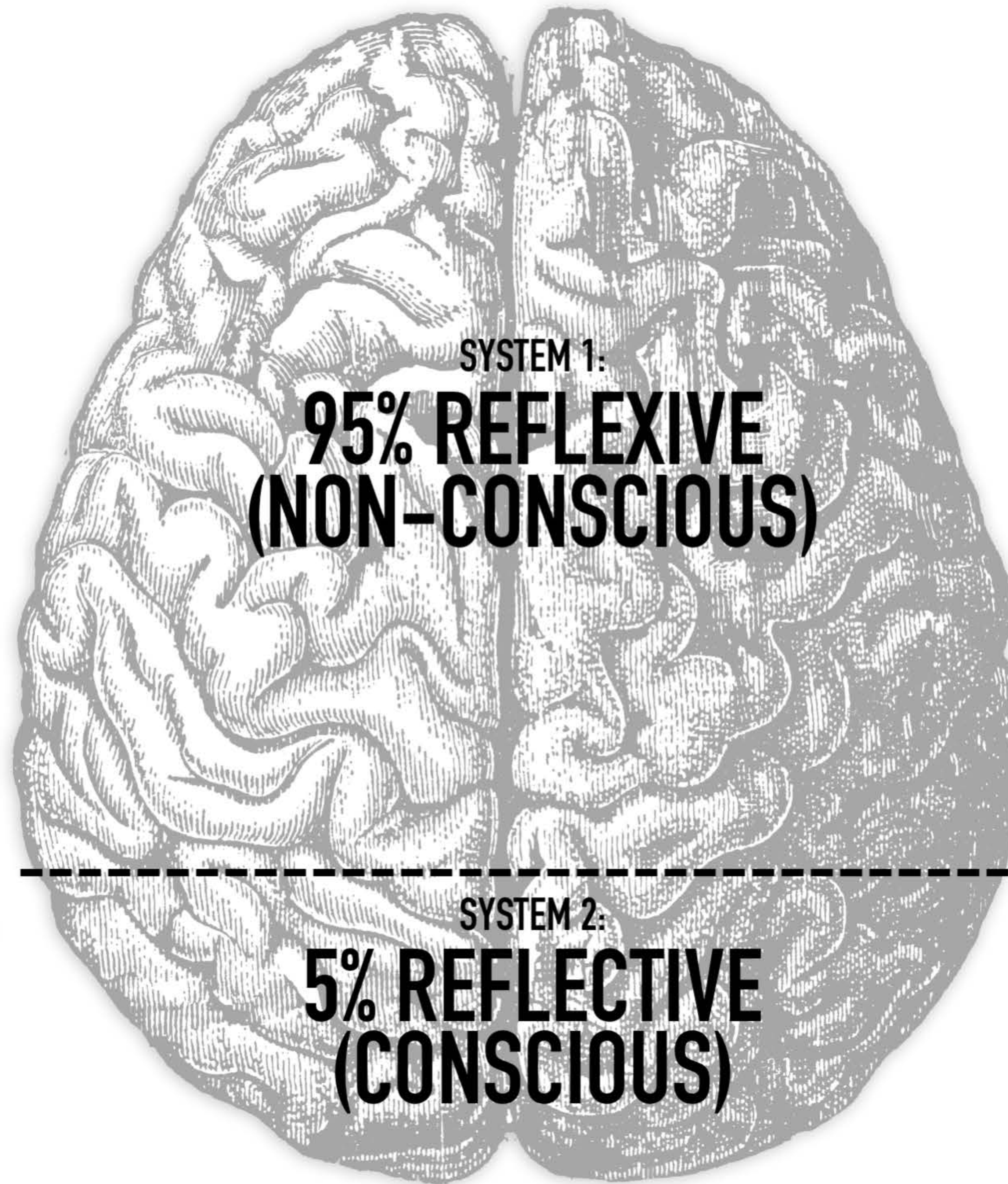
Name a vegetable?

**(Nine out of ten people
answer “Carrot”)**

BLUE PINK RED GREEN YELLOW ORANGE GREEN RED YELLOW PURPLE
PINK GREEN RED BLUE PURPLE ORANGE YELLOW PINK ORANGE PINK
ORANGE PURPLE GREEN BLUE GREEN YELLOW RED BLUE ORANGE RED
BLUE PINK RED YELLOW ORANGE RED GREEN PINK PURPLE YELLOW

NEUROSCIENCE CLICHÉ #4

DUAL PROCESS THEORY



SYSTEM 1:

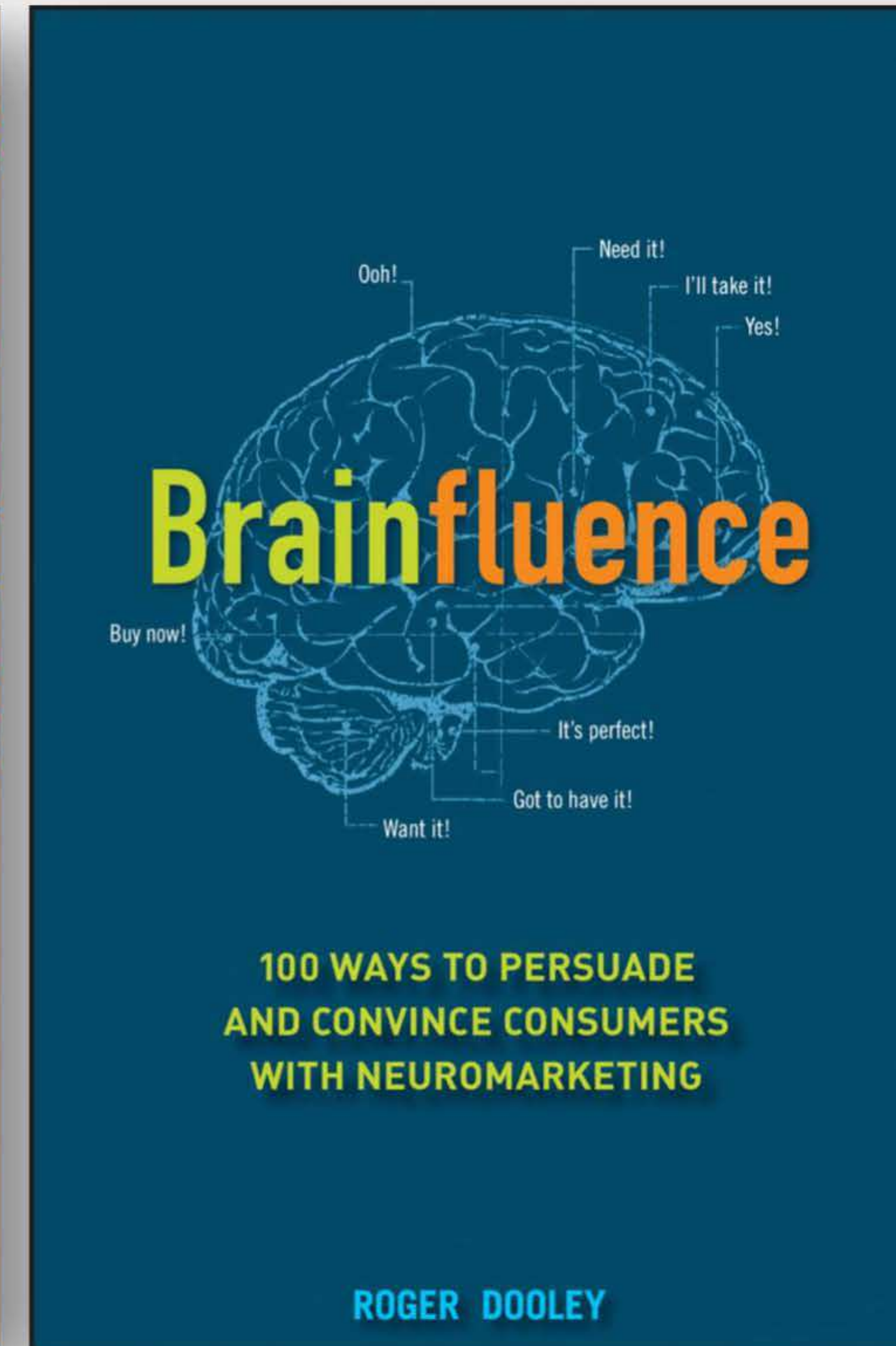
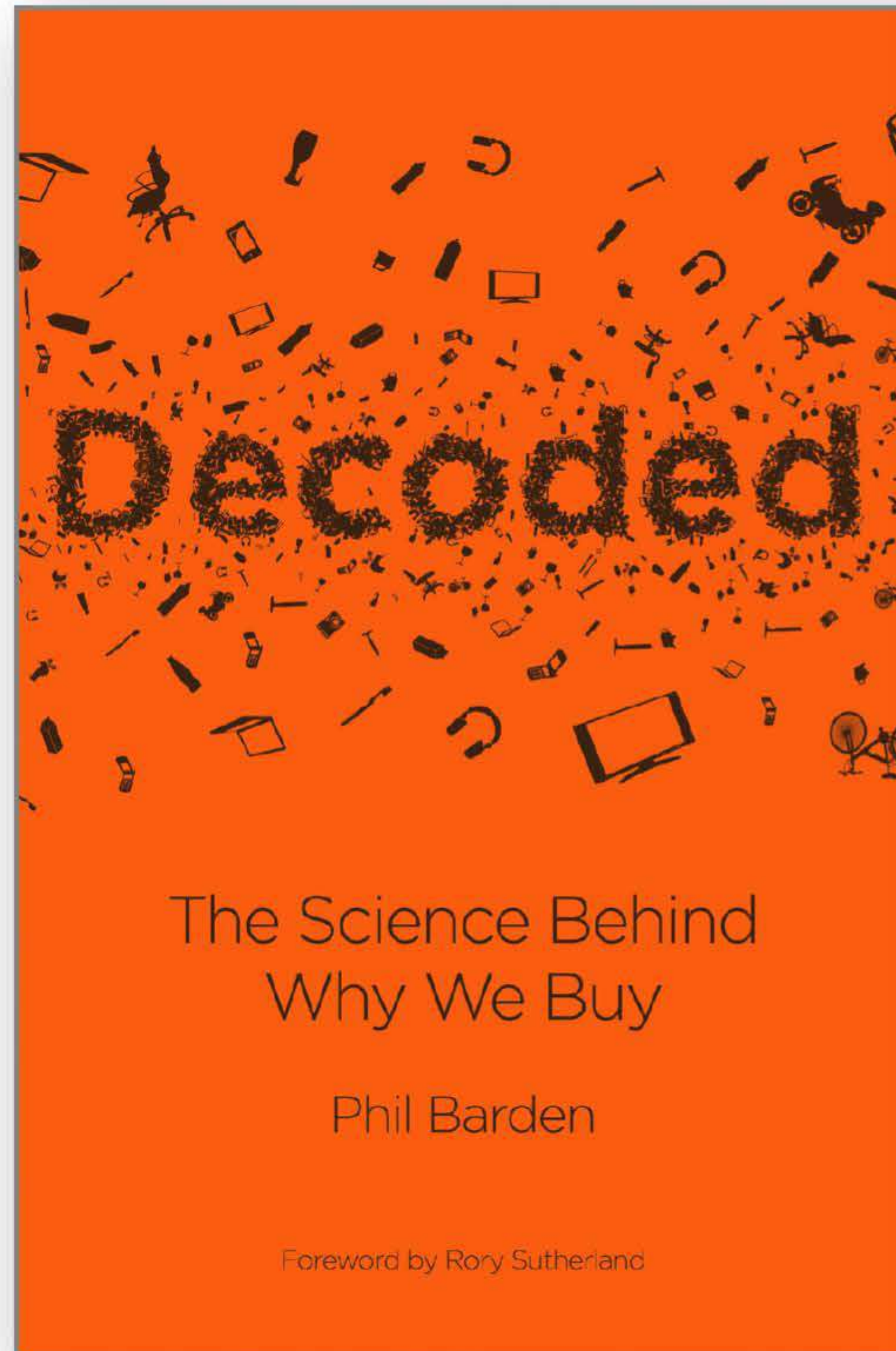
**95% REFLEXIVE
(NON-CONSCIOUS)**

SYSTEM 2:

**5% REFLECTIVE
(CONSCIOUS)**

NEUROSCIENCE CLICHÉ #5

NEUROBLABBER



BEFORE I FORGET

Research article

Laughing and liking: Exploring the interpersonal effects of humor use in initial social interactions

STANISLAV TREGER^{1*}, SUSAN SPRECHER² AND RALPH ERBER¹

¹DePaul University, Chicago, USA; ²Illinois State University, Normal, USA

Abstract

Humor is a common interpersonal interaction. In a series of interaction experiments, we examined the effects of humor from a prior experiment (original disclosure task and rated each other's likability). Participants participated in a series of either humorous or nonhumorous interactions with liking and closeness; perceived similarity and liking. Likewise, we found a positive relationship between humor use. The findings suggest that humor use enhances liking and for both sexes. Copyright ©

Journal of Experimental Psychology: Applied
2009, Vol. 15, No. 1, 35–45

© 2009 American Psychological Association
1076-898X/09/\$12.00 DOI: 10.1037/a0014812

Humor in Advertisements Enhances Product Liking by Mere Association

Madelijn Strick, Rick B. van Baaren, Rob W. Holland, and Ad van Knippenberg
Radboud University Nijmegen

Humor in advertising is known to enhance product liking, but this attitude change is often considered nonpredictive of product choice. Previous research relied exclusively on explicit self-report measures to assess attitudes and purchase intentions. The present research shows that unobtrusive association of a product with humor can affect persuasion through implicit attitude change. Participants viewed humorous and nonhumorous cartoons in a mock-up magazine. One of two products was consistently presented in the vicinity of the humorous cartoons, whereas the other product was consistently presented in the vicinity of the nonhumorous cartoons. The results of an evaluative priming task showed enhanced evaluations of products paired with humor (Experiment 1, 2, and 3). Furthermore, these enhanced evaluations mediated the relation between association with humor and product choice (Experiment 2 and 3). Paradoxically, products paired with humor were also less recognized than the control products (Experiments 2 and 3). In summary, the present research demonstrates that mere association with humor enhances product evaluations and product choice in a way that is dissociated from the accessibility of the product in memory.

Keywords: brand choice, distraction, evaluative conditioning, humor, implicit attitudes

NEUROSCIENCE

Neuroscientific evidence illustrates these two phases by showing that humor first activates brain areas that are associated with ambiguity resolution, followed by activation of a reward network in the brain (VTA–VS).

(Goel & Dolan, 2001; Mobbs, Greicius, Azim, Menon, & Reiss, 2003)

NEUROBIOLOGY

Dopamine from the reward system

Endorphin from the laughter

Oxytocin from the increased trust

http://behavioralscientist.org/brains-behind-behavioral-science/

Firefox File Edit View History Bookmarks Tools Window Help 10.141.13.10 hgssapmbpp01422 Tue 14:34

The Brains Behind Behavioral Sci

behavioralscientist.org/brains-behind-behavioral-science/ Search

BEHAVIORAL scientist Topics Fields Columnists

SCIENCE

The Brains Behind Behavioral Science

By Chiara Varazzani May 22nd, 2017

f t in e p

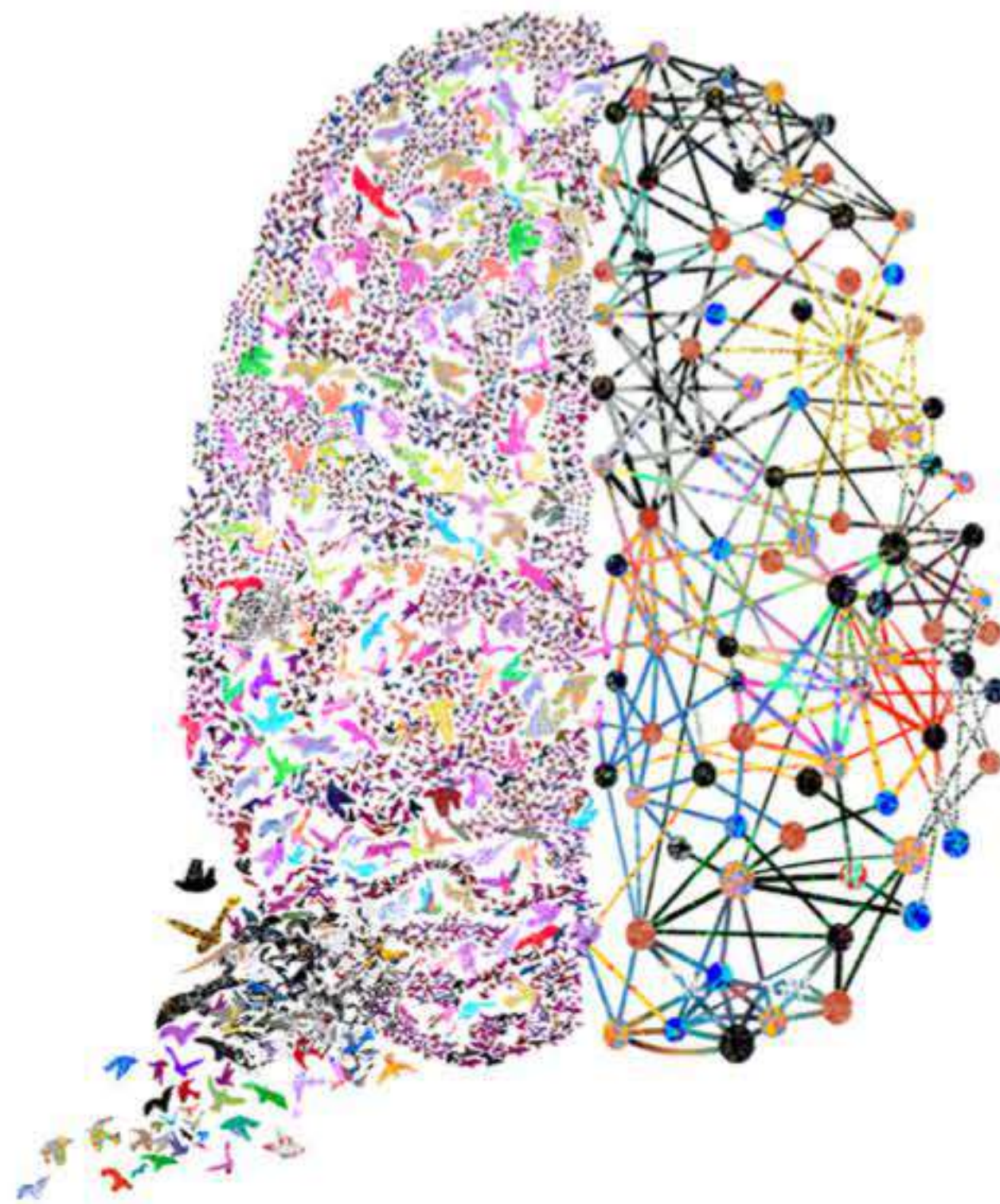


Image: J.K. Rofling

Recently, a friend of mine shared this simple thought: “My ultimate goal is to change people’s behavior. Behavior change techniques are powerful enough tools. I do not need to know what the brain does.”

<https://www.theverge.com/2017/3/19/14949798/dolby-labs-biosensors-eeg-brain-heart-rate-movie-tv-reactions>

FirefoxFileEditViewHistoryBookmarksToolsWindowHelp

Dolby Labs is using biosensors

+

←→×🏠

🔒 [https://www.theverge.com/2017/3/19/14949798/dolby-labs-biosensors-eeg-brain-heart-rate-movie-tv](https://www.theverge.com/2017/3/19/14949798/dolby-labs-biosensors-eeg-brain-heart-rate-movie-tv-reactions)

🔍 Search

⬇️📄🌐📖☰

TECH

Dolby Labs is using biosensors to learn how we're reacting to movies and shows

1

Netflix and not chill

By [Lauren Goode](#) | [@LaurenGoode](#) | Mar 19, 2017, 11:00am EDT

f

🐦

🔗 SHARE



The myriad ways in which video and audio impact our brains and bodies have long been studied by academia. But that research isn't only taking place in university labs: at Dolby Laboratories, the company has been conducting its own internal research into how media

Waiting for dt.adsafeprotected.com...

<http://www.adweek.com/digital/facebook-is-building-its-own-neuroscience-center-to-study-marketing/>

Firefox File Edit View History Bookmarks Tools Window Help 10.141.13.10 hgssapmbpp01422 Tue 14:34

Facebook Is Building Its Own

www.adweek.com/digital/facebook-is-building-its-own-neuroscience-center-to-study-marketing/ Search

ADWEEK PUBLISHERS & PLATFORMS Facebook Is Building Its Own Neuroscience Center to Study Marketing

PUBLISHERS & PLATFORMS

Facebook Is Building Its Own Neuroscience Center to Study Marketing

The lab will work with agencies, brands and media companies

By Marty Swant | May 23, 2017



Subscribe to Adweek Today!

Get a full year of print and digital editions for just \$149



We get people.

GET PEOPLE TOO ▶

dob

<https://www.bloomberg.com/news/articles/2017-01-19/expedia-reads-your-mind-and-face-to-beat-rivals>

Firefox File Edit View History Bookmarks Tools Window Help 10.141.13.10 hgssapmbpp01422 Thu 15:05

B Expedia Reads Your Mind

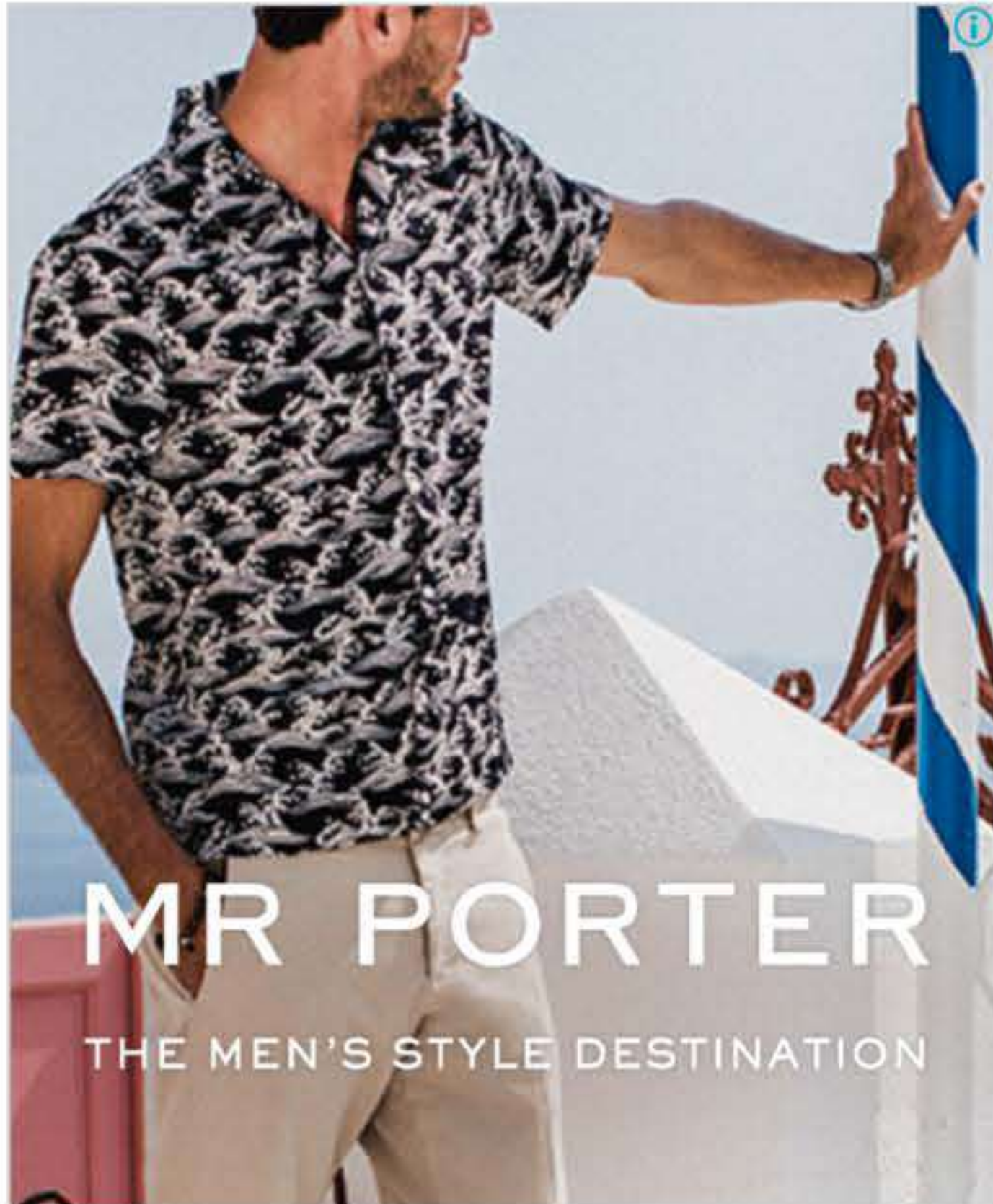
Bloomberg L.P. (US) <https://www.bloomberg.com/news/articles/2017-01-19/expedia-reads-your-mind-and-face-to-beat-rivals> Search

Bloomberg Technology Markets Tech Pursuits Politics Opinion Businessweek Sign In Subscribe to Businessweek

Expedia Reads Your Mind (and Face) to Beat Rivals

The company is betting science can help you book the perfect vacation.

by **Jeremy Kahn**
20 January 2017, 07:19 GMT+8



HOW

A large blackboard filled with handwritten physics equations and diagrams, covering topics such as quantum mechanics, electromagnetism, and classical mechanics. The board is densely packed with mathematical derivations, including wave functions, energy levels, and vector calculus. A central diagram shows a particle's path with various labels like K_{cm} , $M_0 + M_1$, and K_{lab} . Other diagrams include a circular path with a magnetic field, a graph of ψ^2 vs x , and a diagram of a particle in a box. The text "BACK TO BASICS" is overlaid in large yellow letters across the center of the board.

Key equations and diagrams visible include:

- Wave function normalization: $\int_{-\infty}^{\infty} \psi^2 dx = 1$
- Energy levels: $E_n = \frac{n^2 \pi^2 \hbar^2}{2mL^2}$
- Angular momentum: $L = r \times p$
- Electromagnetic fields: $\mathbf{E} = -\nabla \phi$, $\mathbf{B} = \nabla \times \mathbf{A}$
- Particle paths and diagrams showing various physical quantities and their relationships.

BACK TO BASICS



DIGI BROS LOVE THEIR METRICES AND FORMULAS

$(\text{WEBSITE TRAFFIC} \times \text{EMAIL CONVERSION RATE} \times \text{ACTIVE USER RATE} \times \text{CONVERSION TO PAID SUBSCRIBER}) + \text{RETAINED SUBSCRIBERS} + \text{RESURRECTED SUBSCRIBERS} = \text{SUBSCRIBER REVENUE GROWTH}$

$\text{NUMBER OF INSTALLS} \times \text{NUMBER OF MONTHLY ACTIVE USERS} \times \text{NUMBER OF PURCHASERS} \times \text{AVERAGE ORDER SIZE} \times \text{REPEAT PURCHASE RATE} = \text{AMOUNT OF GROWTH}$

$\text{NUMBER OF SELLERS LISTING ITEMS} \times \text{NUMBER OF LISTED ITEMS} \times \text{NUMBER OF BUYERS} \times \text{NUMBER OF SUCCESSFUL TRANSACTIONS} = \text{GROSS MERCHANDISE VOLUME GROWTH}$

$\text{VIRAL COEFFICIENT (K)} = \text{INVITES SENT OUT BY CUSTOMERS} \times \text{THE PERCENTAGE OF THOSE INVITED WHO ACCEPT THE INVITE}$

$\text{VERTICAL EXPANSION} \times \text{PRODUCT INVENTORY PER VERTICAL} \times \text{TRAFFIC PER PRODUCT PAGE} \times \text{CONVERSION TO PURCHASE} \times \text{AVERAGE PURCHASE VALUE} \times \text{REPEAT PURCHASE BEHAVIOR} = \text{REVENUE GROWTH}$

$\text{VIRALITY} = \text{PAYLOAD} \times \text{CONVERSION RATE} \times \text{FREQUENCY}$

$\text{DESIRE} - \text{FRICTION} = \text{CONVERSION RATE}$

**BEHAVIOUR AND
DECISION SCIENCES
ARE STOCHASTIC
(NOT DETERMINISTIC)**

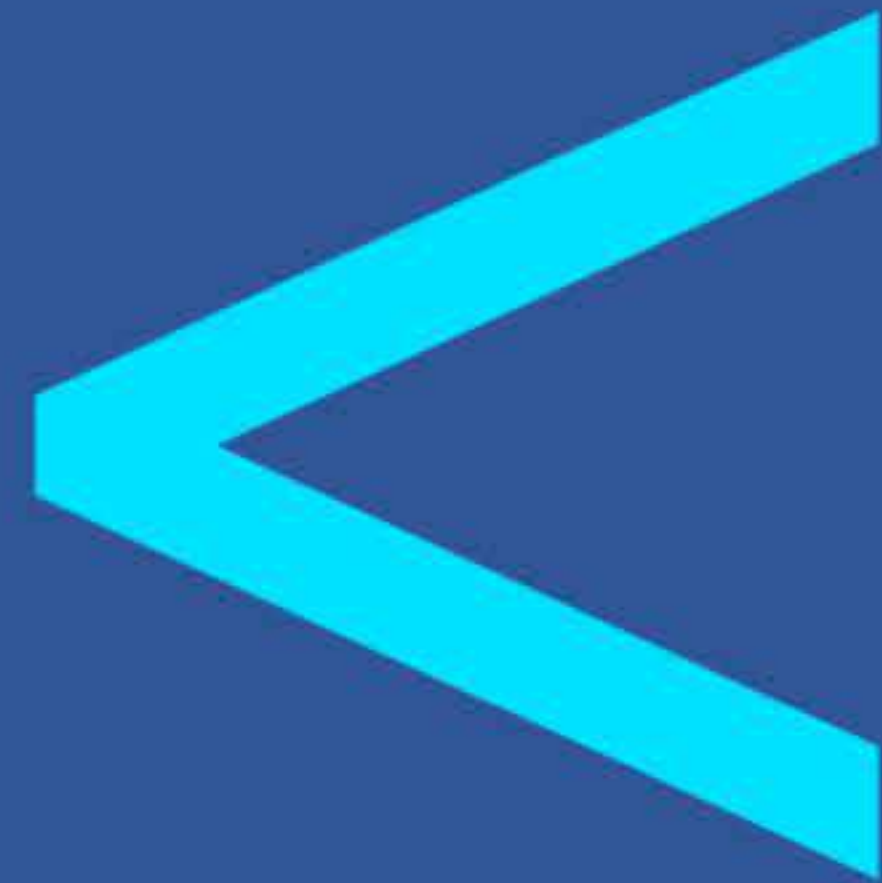


**CHANGE IS THE ONLY
CONSTANT
(EXPONENTIAL, DIGITAL,
CONNECTED WORLD)**

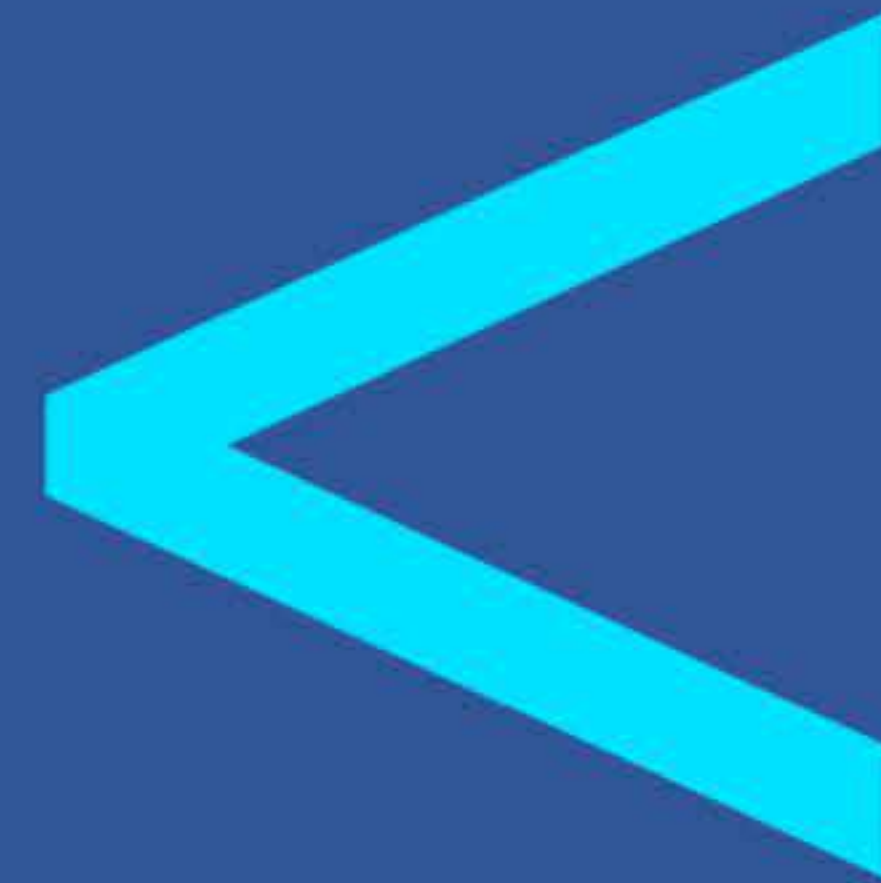


**ABSOLUTES
ARE
ABSOLUTELY
NOT NEEDED**

REASONABLE
HYPOTHESIS

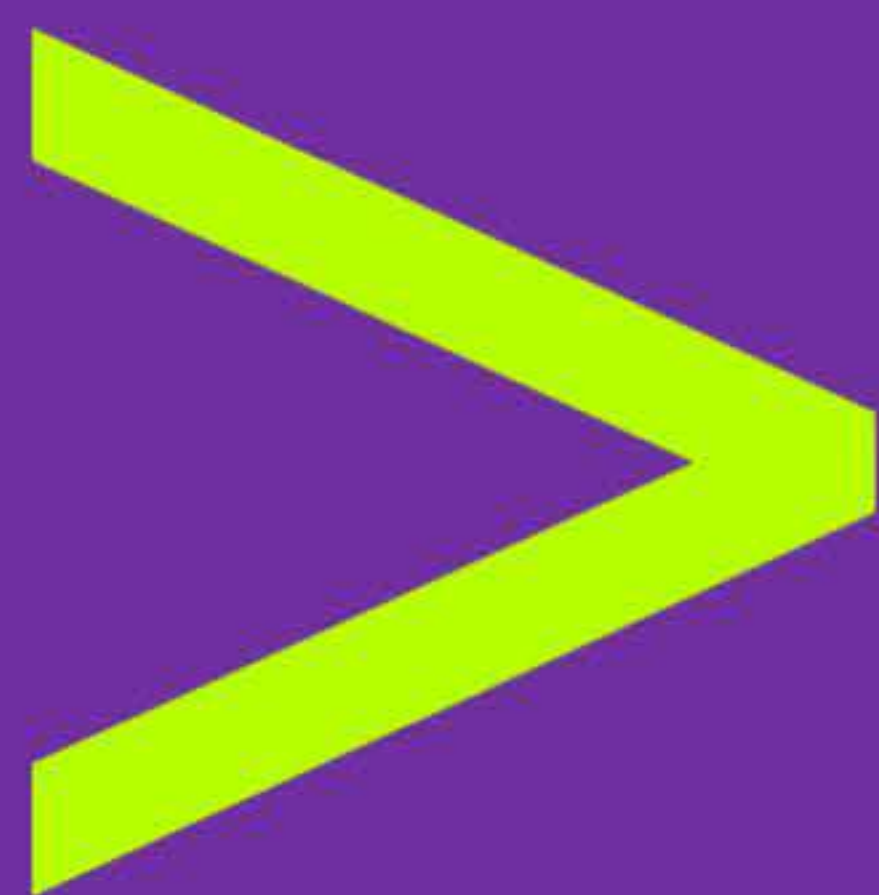


SIGNAL



PRESCRIPTION

FAIL FAST,
FAIL OFTEN,
FAIL SMALL,
FAIL FORWARD.

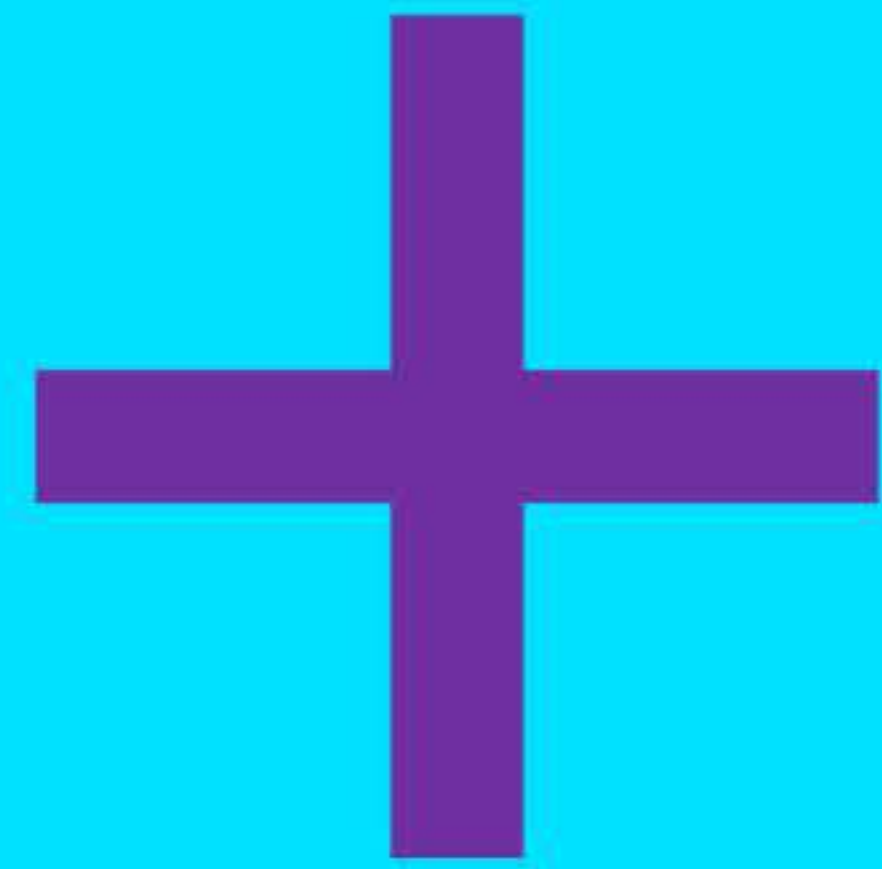


FAIL SLOW,
FAIL BIG.

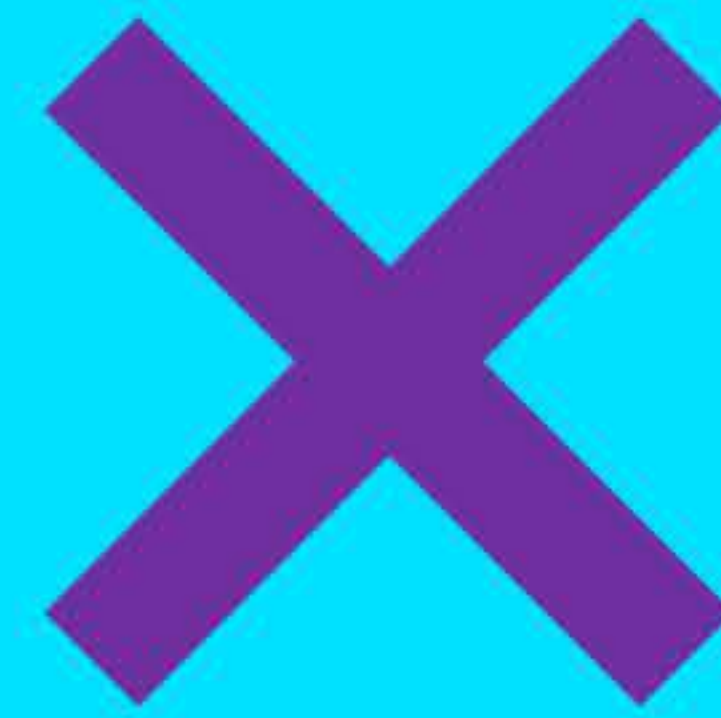
NEUROECONOMICS



MACRO
ECONOMICS



MICRO
ECONOMICS

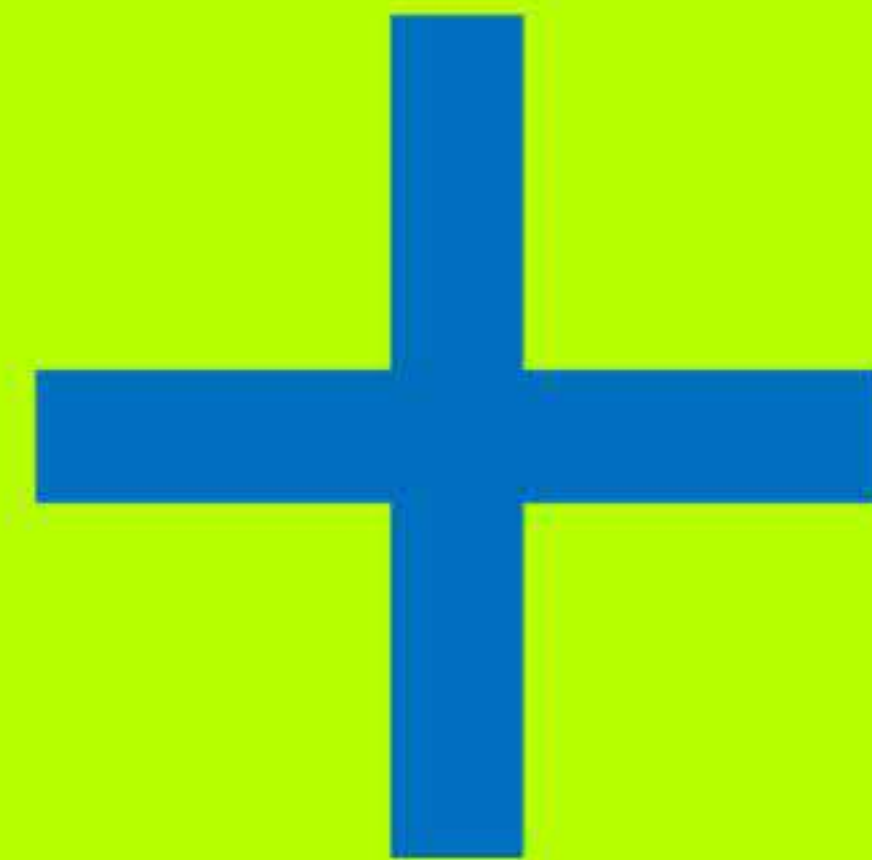


NEURO
SCIENCE

NEUROMARKETING



MARKETING
STRATEGIES

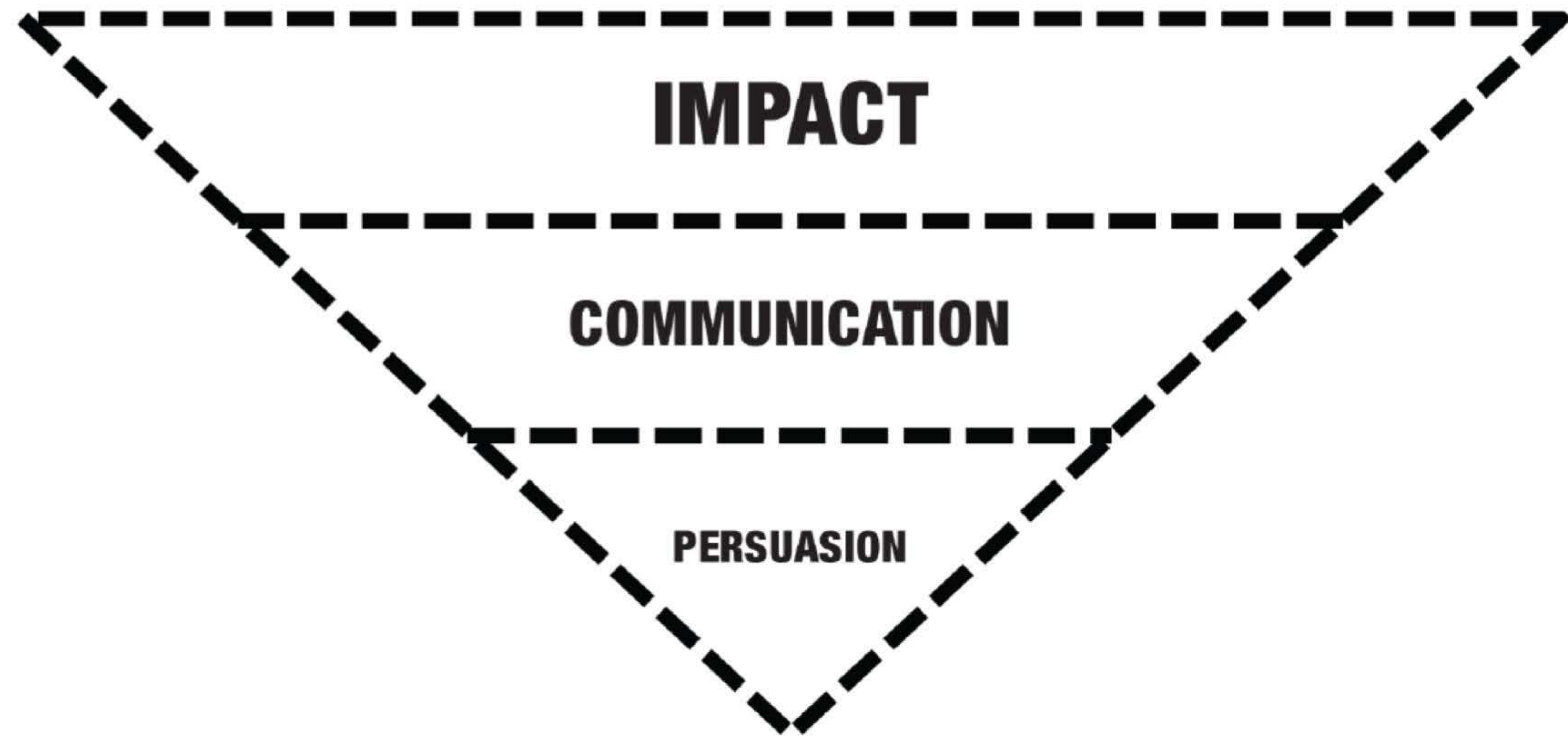


ADVERTISING
STRATEGIES

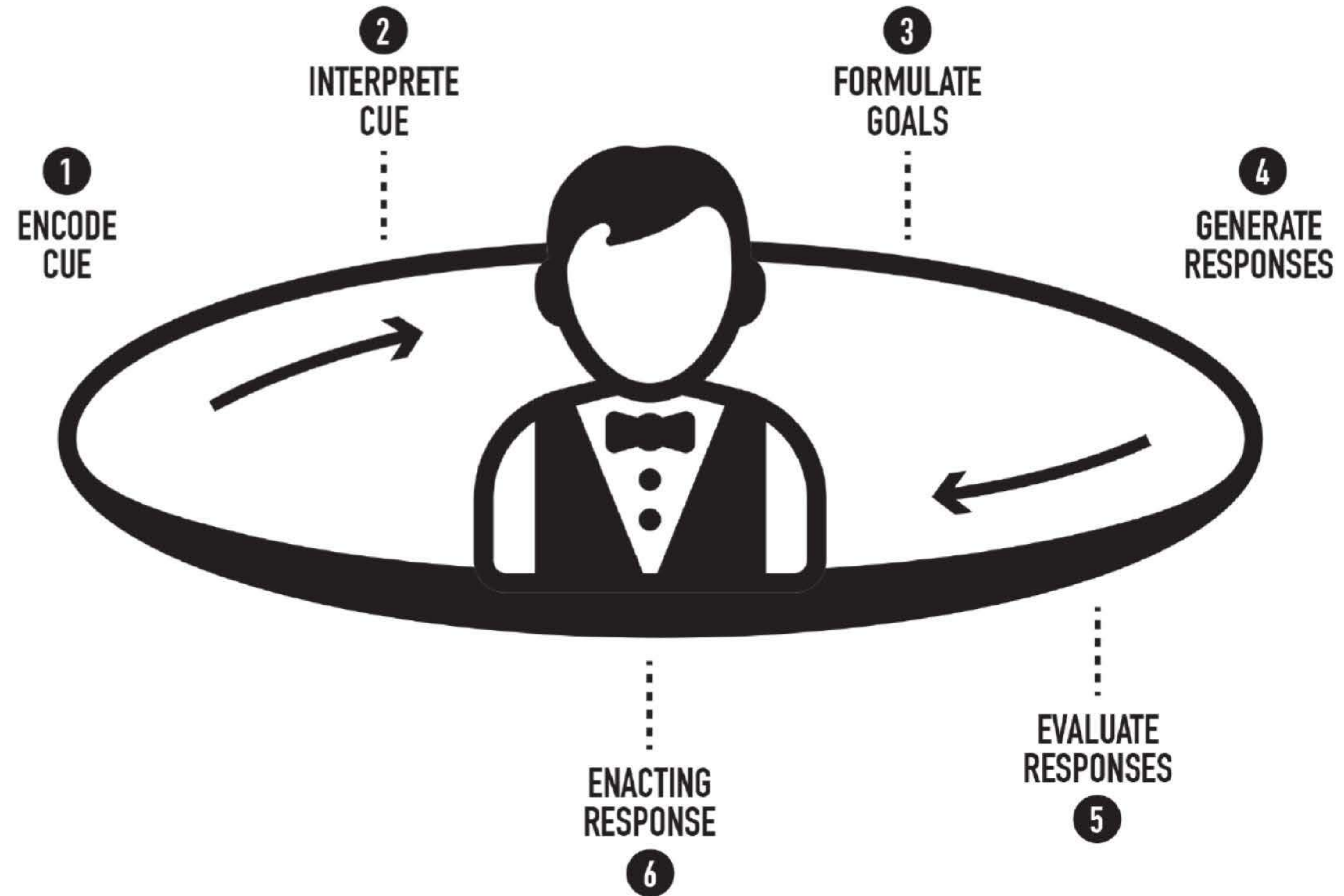


NEURO
SCIENCE

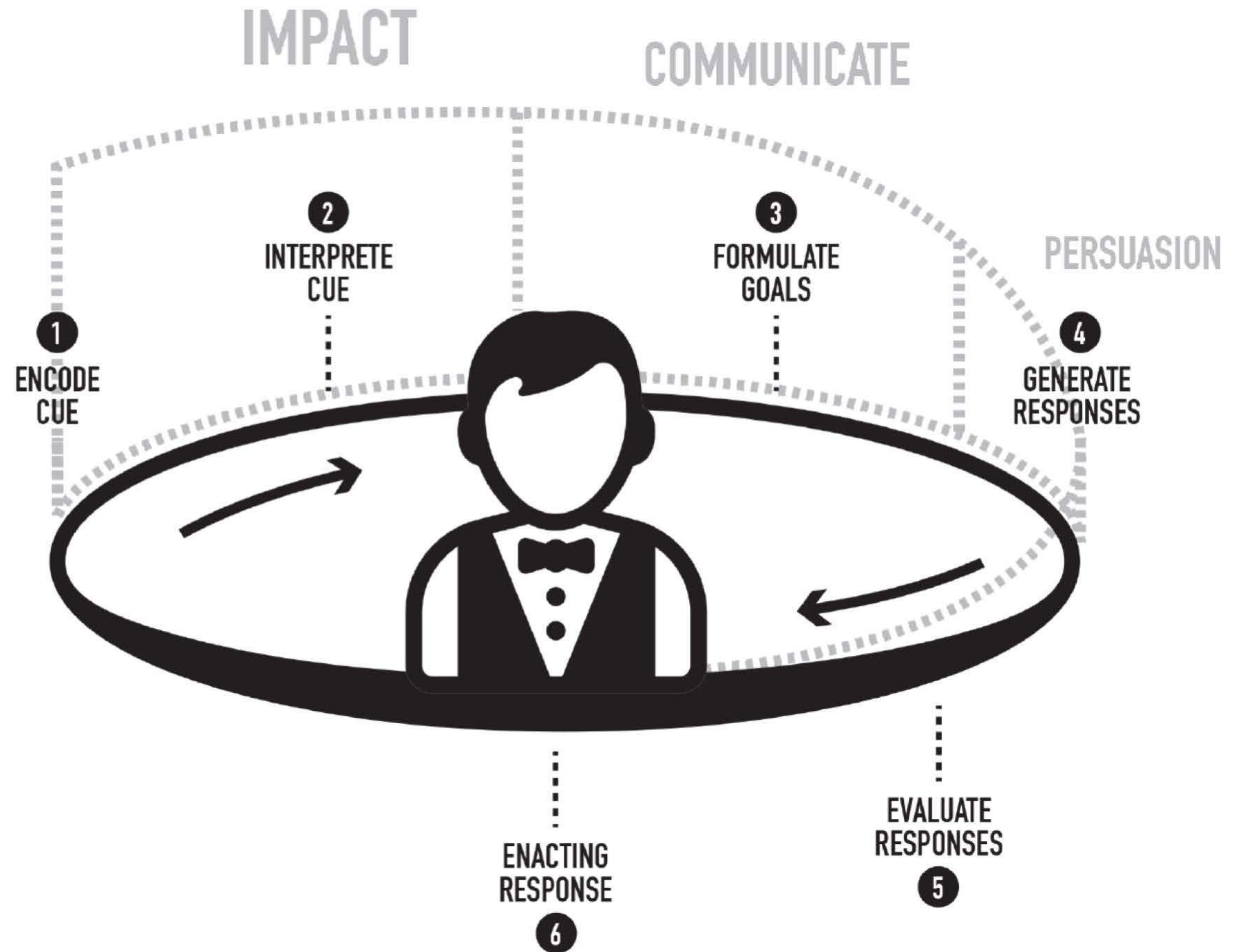
OMNI-APPROACH
ADVERTISING



OMNI-APPROACH PSYCHOLOGY

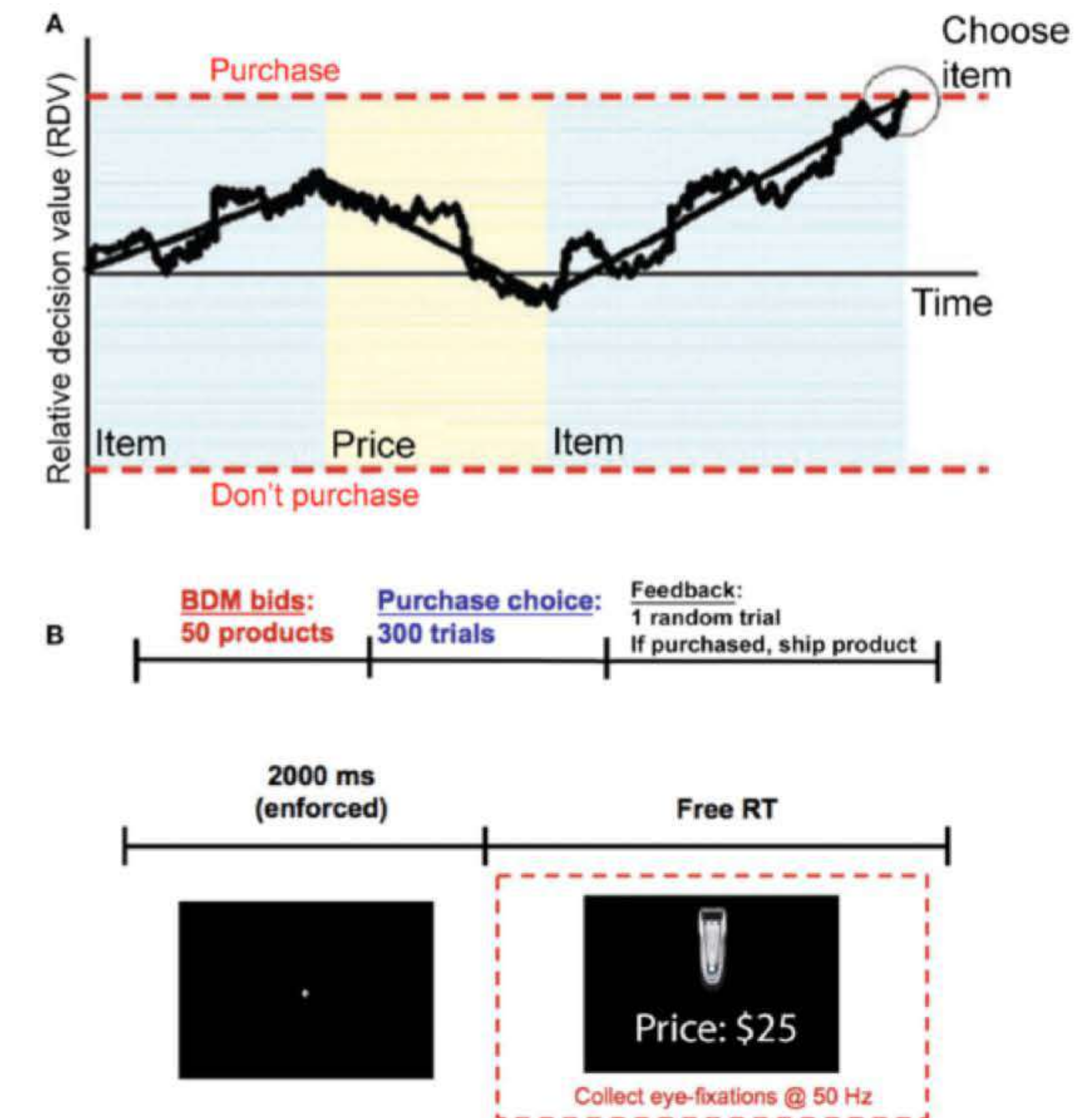
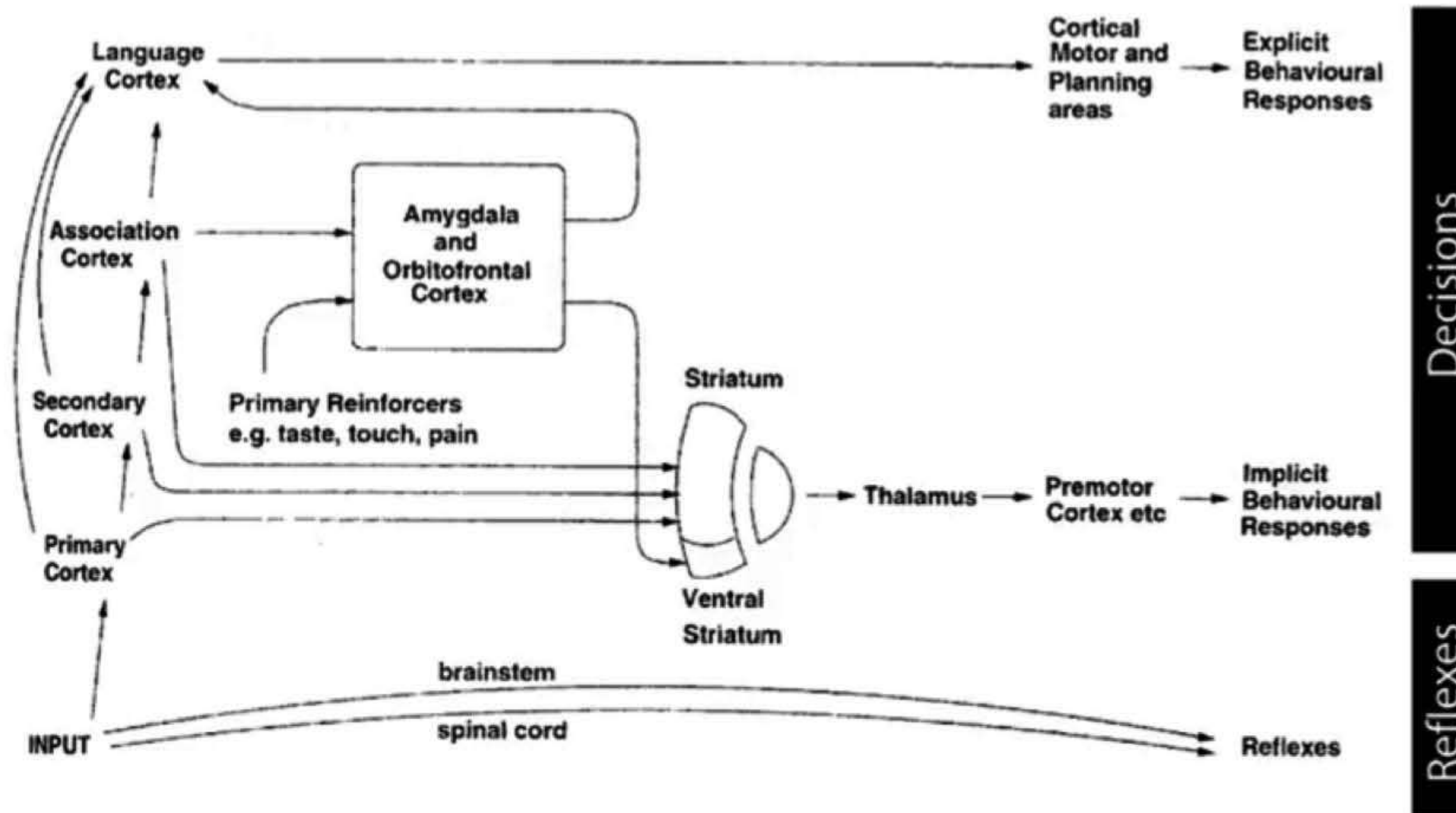


OMNI-APPROACH
ADVERTISING
PSYCHOLOGY



OMNI-APPROACH NEUROSCIENCE

Dual routes to action (decisions)

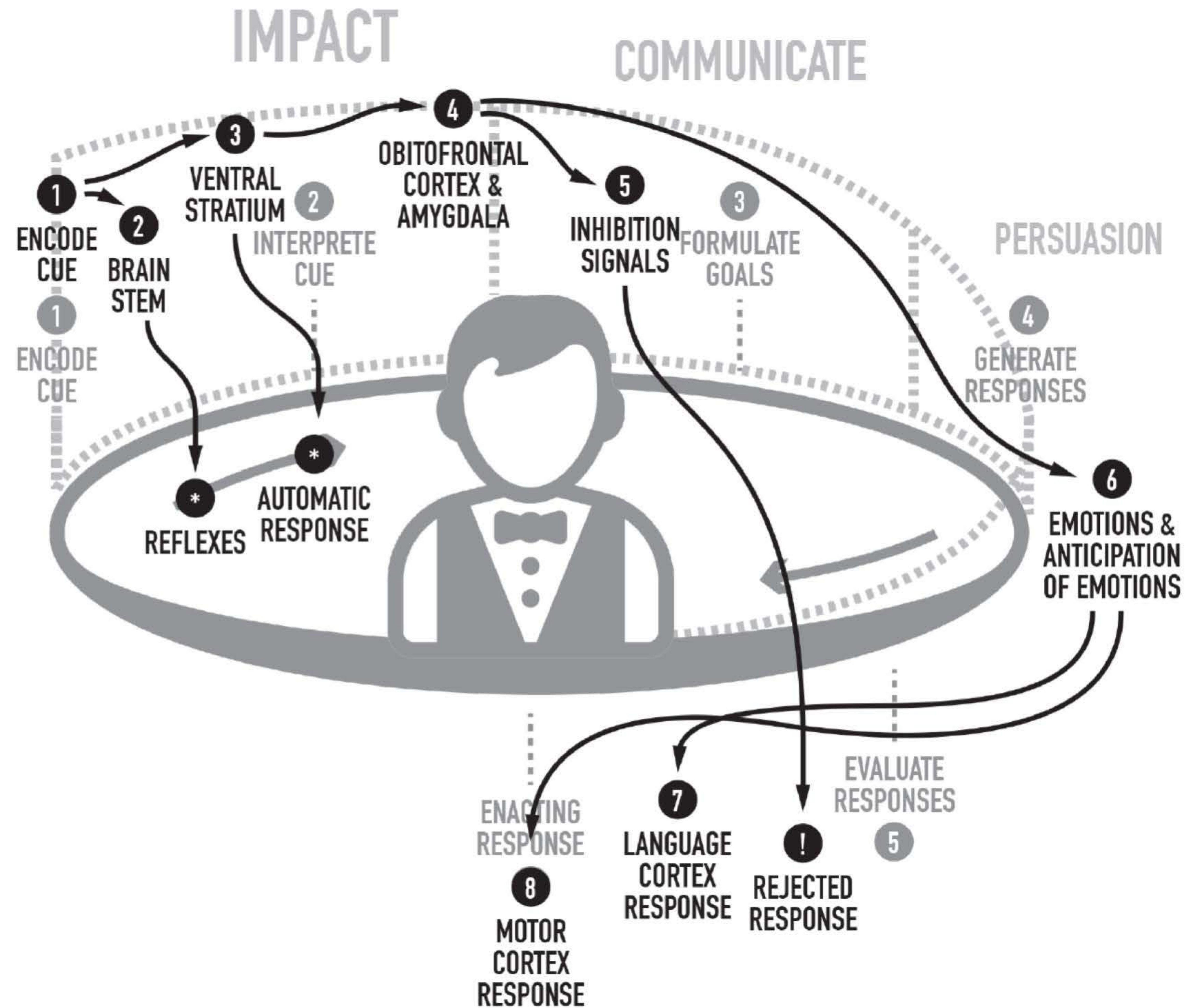


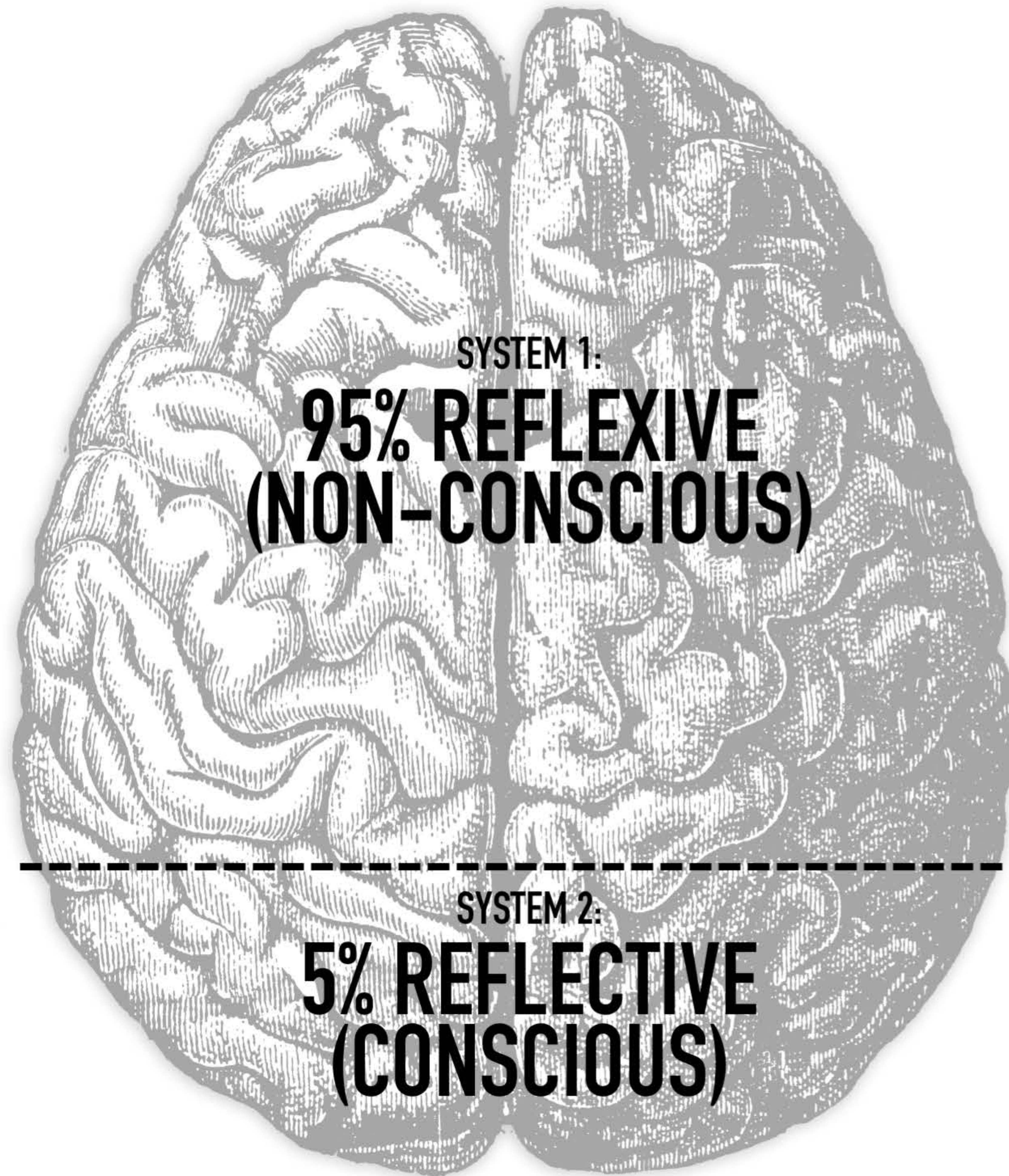
OMNI-APPROACH

ADVERTISING

PSYCHOLOGY

NEUROSCIENCE





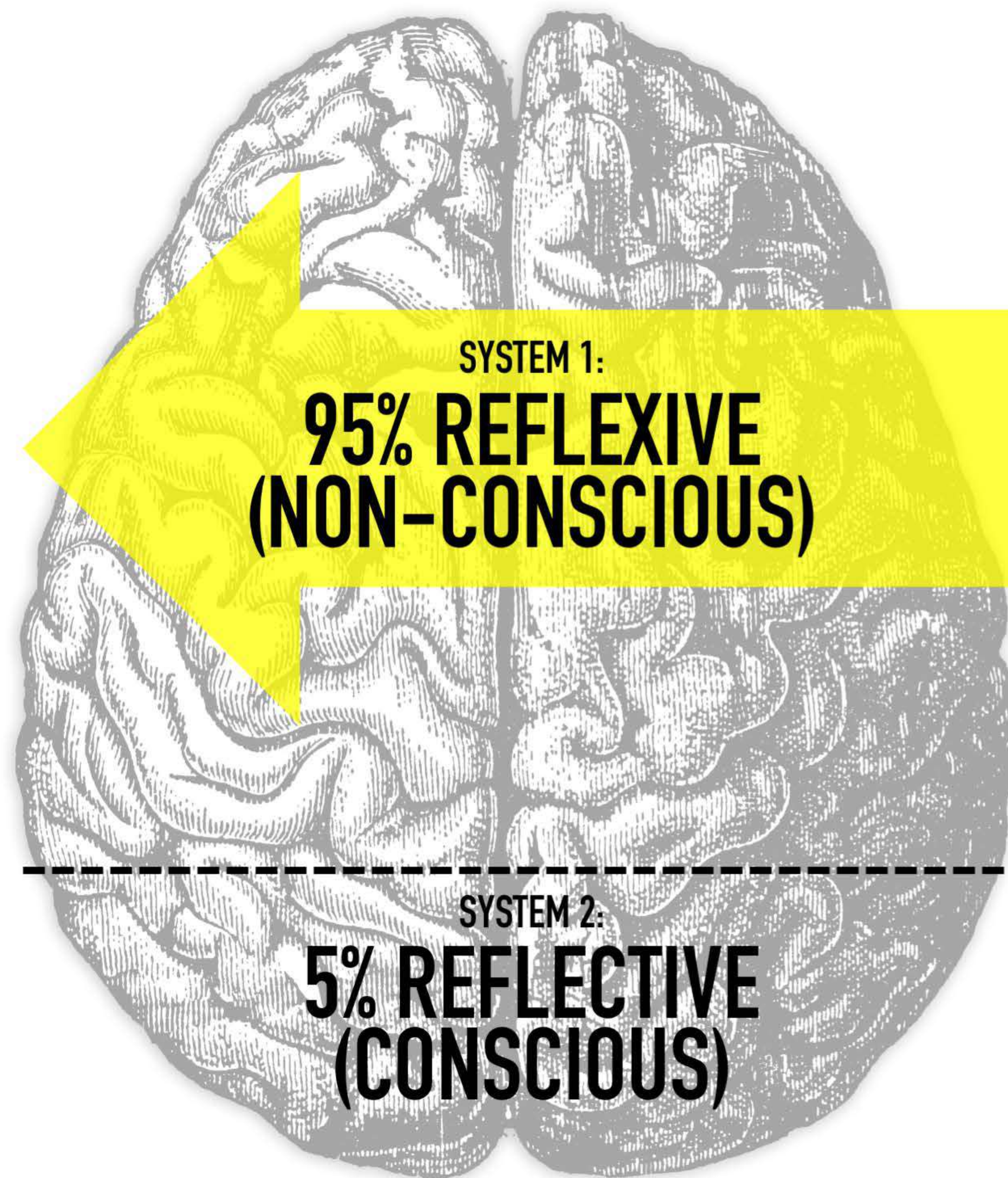
SYSTEM 1:

**95% REFLEXIVE
(NON-CONSCIOUS)**

SYSTEM 2:

**5% REFLECTIVE
(CONSCIOUS)**

CONCLUSION
(DRIVEN BY REASON)



SYSTEM 1:
**95% REFLEXIVE
(NON-CONSCIOUS)**

ACTION
(DRIVEN BY EMOTION)

SYSTEM 2:
**5% REFLECTIVE
(CONSCIOUS)**

CONCLUSION
(DRIVEN BY REASON)

ATTENTION



GOLD

ATTENTION



DISTRACTION



INHIBITION



GOLD

WHAT

TOOLS OF NEUROMARKETING

NEUROMETRICS

BIOMETRICS

PYSCHOMETRICS

TOOLS OF NEUROMARKETING

NEUROMETRICS

Functional Magnetic Resonance Imaging (fMRI)
Electroencephalography (EEG)
Positron Emission Tomography (PET)

BIOMETRICS

PYSCHOMETRICS

TOOLS OF NEUROMARKETING

NEUROMETRICS

BIOMETRICS

PYSCHOMETRICS

— Eye Tracking (Gaze, Fixation, Pupillometry, Saccadometry)
Facial Expression Tracking
Galvanic Skin Response (GSR)
Electrocardiography (ECG)
Electromyography (EMG)
Photoplethysmography (PPG)

TOOLS OF NEUROMARKETING

NEUROMETRICS

BIOMETRICS

PYSCHOMETRICS

—— Implicit Association Test (IAT)

Implicit Experiment

Implicit Self-Reporting Questionnaire

REAL WORLD APPLICATIONS

PRIMARY TEST THE BIGGEST ASSUMPTIONS

SIGNAL RESULT IS GOOD ENOUGH

TEST EARLY, TEST SMALL, TEST OFTEN

FORMATIVE OVER SUMMATIVE

IMPLICIT OVER EXPLICIT



Live outside the box.

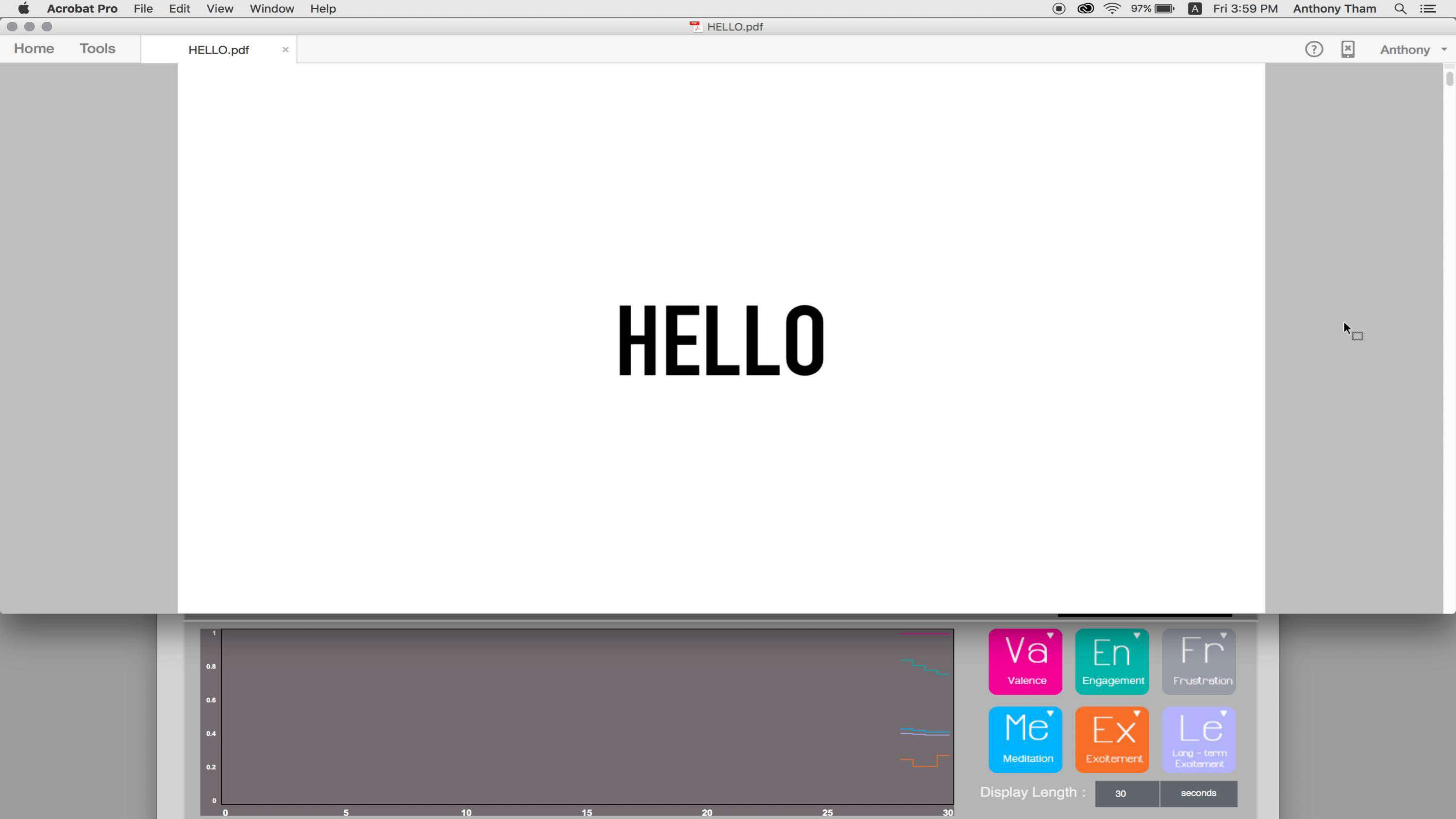
The new Audi Q3. The urban SUV.

IN-Q 3110

Va En Fr
Me Ex Le

Display Length: 30 seconds



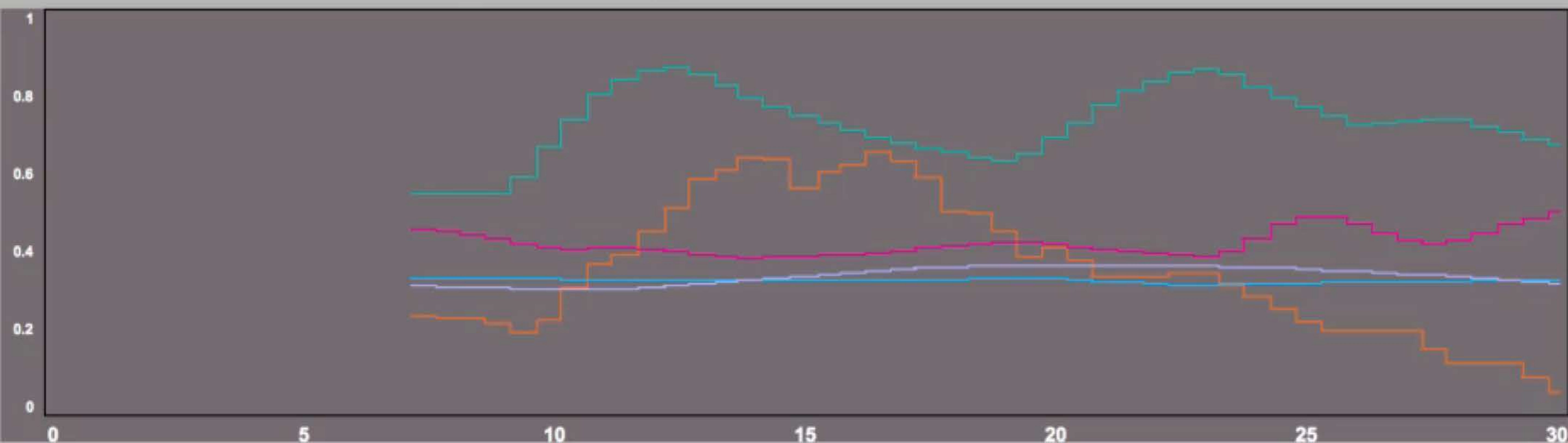
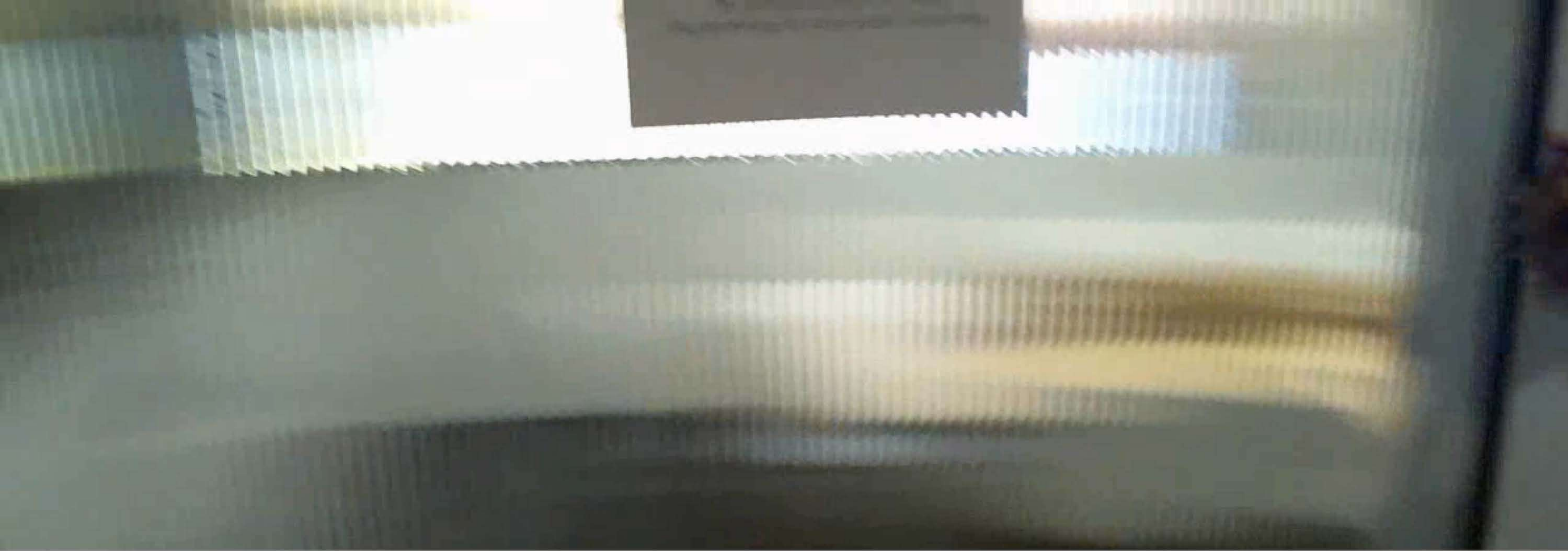


HELLO



Va Valence	En Engagement	Fr Frustration
Me Meditation	Ex Excitement	Le Long-term Excitement

Display Length : 30 seconds



Va
Valence

En
Engagement

Fr
Frustration

Me
Meditation

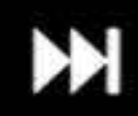
Ex
Excitement

Le
Long-term
Excitement

Display Length : 30 seconds



Time: 00:04



Experiment Set #3

Biometric Tracking

Results (Fixations)

Area	Avg first view	Total time, all views	Avg time, per view	Viewed by (%)	Distribution of viewing times
★ A3	6.56s	1.4s (2%)	0.46s	3 of 4 (75%)	
A4	2.78s	0.68s (1%)	0.22s	3 of 4 (75%)	
A5	5.3s	1s (1%)	0.5s	2 of 4 (50%)	
A6	4.61s	0.63s (0%)	0.31s	2 of 4 (50%)	

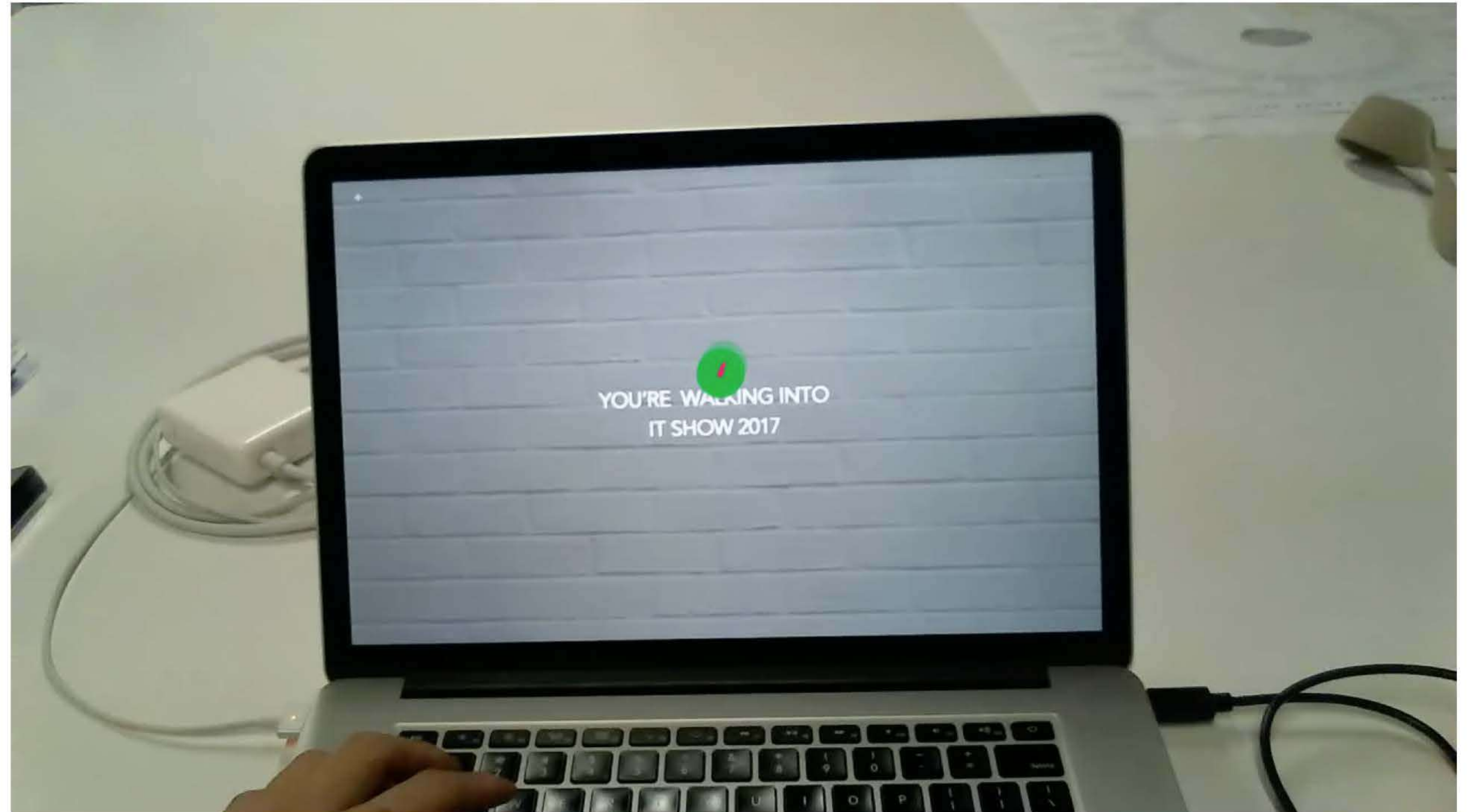
Click and draw some Areas Of Interest (AOIs) on the image below. Then click 'Calculate' show the statistics.



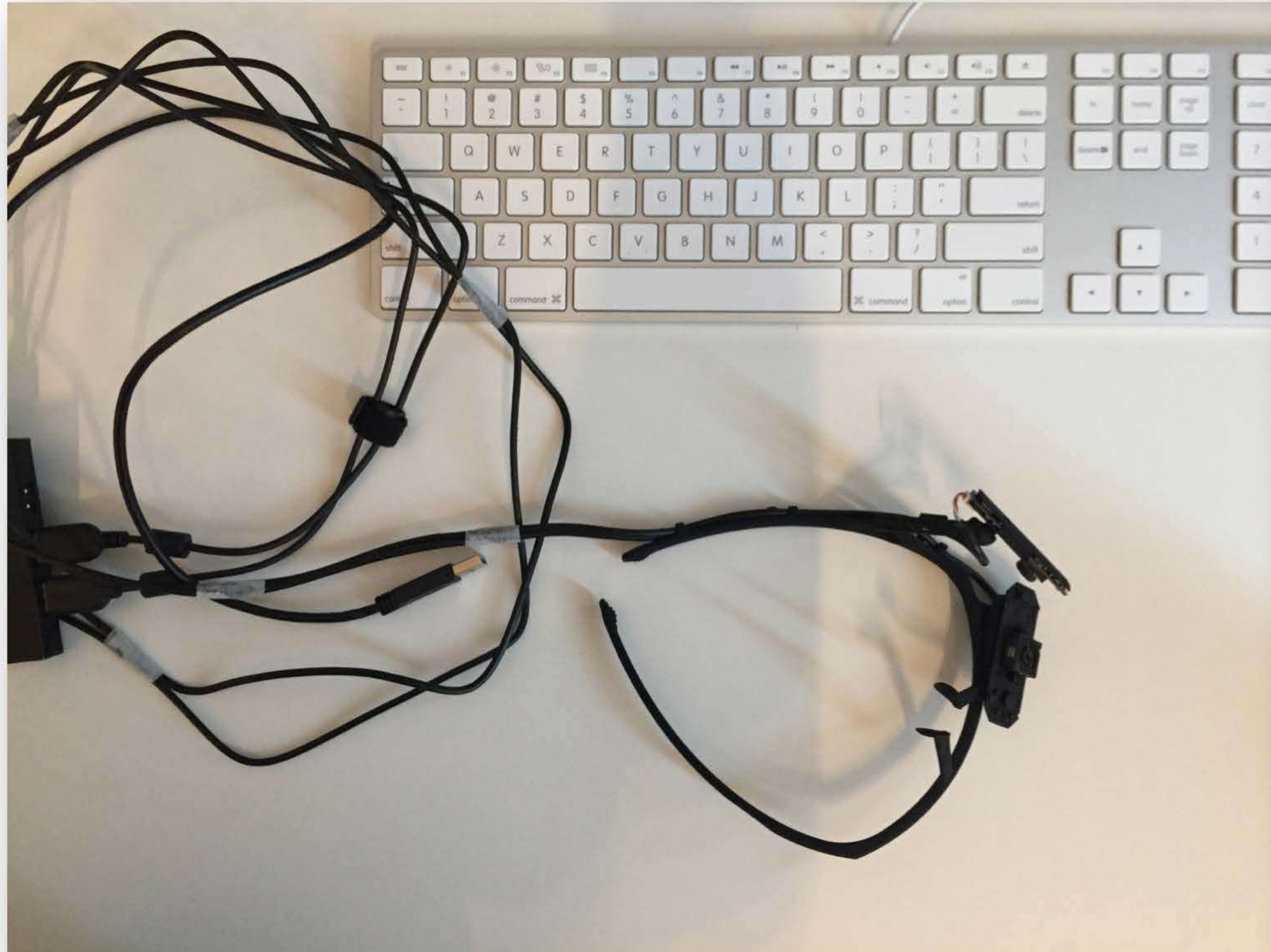
INDICATIVE TESTING — EYE-TRACKING

Through our analysis, we know that clutter causes discomfort in our target audiences.

So we put our ad to the test to assess its impact on how it captures people's attention amongst a sea of clutter.



EXPERIMENT DESIGN



EXPERIMENT DESIGN (DIGITAL STIMULUS)

INSTRUCTION:

A VISUAL WILL BE FLASHED IN FRONT OF YOU FOR TEN SECONDS.



INSTRUCTION:

A VISUAL WILL BE FLASHED IN FRONT OF YOU FOR 20 SECONDS. LOOK THROUGH IT.



INSTRUCTION:

READ THROUGH ALL THE TEXTS WITH THE INTENTION TO COMPREHEND THE INTENDED MESSAGING.

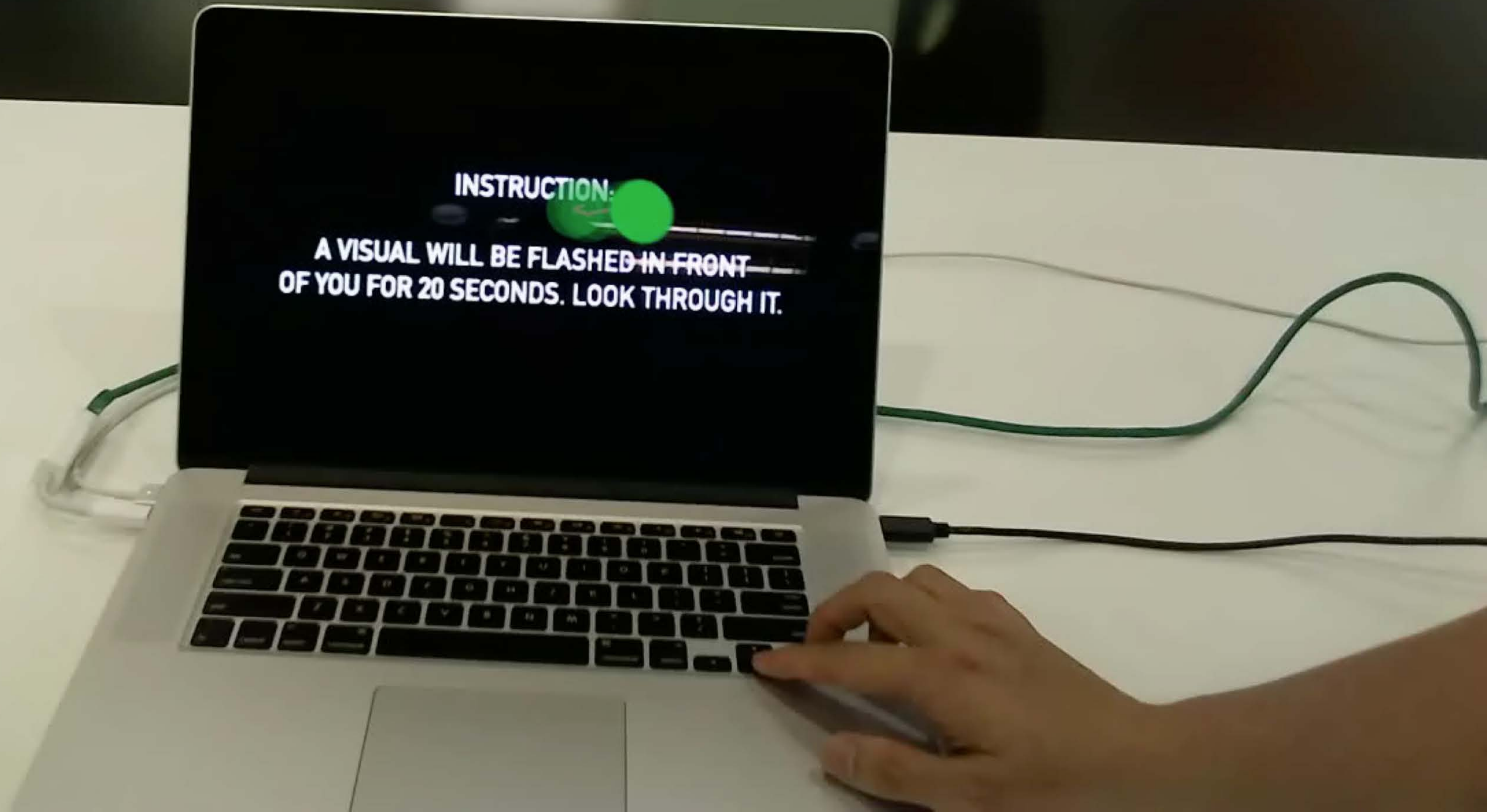


INSTRUCTION:

YOU'RE INTERESTED IN THIS, AND YOUR TASK IS TO FIND THE INSTRUCTIONS FOR SIGNING UP.



EYE TRACKING SNIPPETS



INSTRUCTION:

A VISUAL WILL BE FLASHED IN FRONT
OF YOU FOR 20 SECONDS. LOOK THROUGH IT.

EYE TRACKING SNIPPETS



10 YEARS

SingtelTV

CELEBRATE WITH
FREE 3 MONTHS'
TV ENTERTAINMENT.
NO CONTRACT
REQUIRED!

Our special anniversary offer.

Limited to first 1,000 sign-ups only.

Applicable to both new and existing Singtel TV subscribers. No contract required.

LIMITED TIME

FIRST 1,000 SIGN-UPS ONLY

Up to 95 channels

3 FREE MONTHS TV PACKS

MORE EXCITING THINGS TO LOOK OUT FOR ON OUR 10TH BIRTHDAY!

10 days of free preview on over 150 Singtel TV channels from 4 – 13 August 2017.

10 incredible experiences await. Get ready to be wowed from 14 August 2017.

GET YOUR FREE 3 MONTHS SINGTEL TV PACKS NOW!

Singtel Shops | 1609 (9am-9pm) | singtelshop.com/10yearanniversary

Voted Singapore's Best Telco and Fibre Broadband Service Provider

Terms and conditions

*Free 3 months Singtel TV Promotion is valid from 20 July 2017 to 11 August 2017 and limited to the first 1,000 customers. Free 3 months subscription applies to selection of Family Starter/Family Learning/Family Fun/Family Lifestyle/Jinguan Starter/Tropics Starter/Kondalim Starter/Duo Starter with 3-month contract and Movies/Chinese Movies/World Sports+ Top contract. Free 3 months subscription will apply for the first 3 months and prevailing rates will apply thereafter. Applicable to fibre-ready homes only. Installation service start date of Singtel TV service must be completed by 13 September 2017. Free 6 months on HD Set-Top Box. Free 6 months subscription will apply for the first 6 months and prevailing rate of \$4.90/mth will apply thereafter. Existing TV customers whose plans are no longer offered by Singtel and wish to subscribe to any new Singtel TV content pack/channel must terminate their existing contract and enter into a new contract for any of the plans currently offered by Singtel. All prices exclude Singtel TV Set-Top Box rental. Other terms and conditions apply. For full Singtel TV Terms and Conditions, please visit www.singtel.com.sg/tv. Singtel TV Free Preview: Valid from 4 August 2017 – 13 August 2017. Available to all Singtel TV subscribers via Singtel TV Set-Top Box. Free Preview channels exclude all SVOD channels, TV.com (HD), Lifestyle Network, The Filipino Channel, ABS-CBN Sports + Action, Video on Demand (VOD) content and Season Pass titles. Copyright © 2017 Singapore Telecommunications Ltd. (SPN: 196216242). All rights reserved.

Our special anniversary offer.

Limited to first 1,000 sign-ups only.

Applicable to both new and existing Singtel TV subscribers. No contract required.

LIMITED TIME

FIRST 1,000 SIGN-UPS ONLY

Up to 95 channels

3 FREE MONTHS TV PACKS

MORE EXCITING THINGS TO LOOK OUT FOR ON OUR 10TH BIRTHDAY!

10 days of free preview on over 150 Singtel TV channels from 4 – 13 August 2017.

10 incredible experiences await. Get ready to be wowed from 14 August 2017.

GET YOUR FREE 3 MONTHS SINGTEL TV PACKS NOW!

Singtel Shops | 1609 (9am-9pm) | singtelshop.com/10yearanniversary

Voted Singapore's Best Telco and Fibre Broadband Service Provider

Nothing gets our blood pumping like the PL. Because life's nothing without goals.

THE DIEHARD FAN'S CHOICE:

SAVE

\$480

(\$20 rebate/mth)

WHEN YOU

SIGN UP

1Gbps Fibre Broadband at only **\$39.90/mth** (U.P. \$59.90/mth) with Singtel TV Value Pack

NOW

enjoy up to **150** CHANNELS

Annual handset upgrade with waiver of \$350 early re-contract fee

Up to 30% off monthly subscription for up to 5 mobile lines

Free Fibre Termination Point Installation (worth \$235.40)

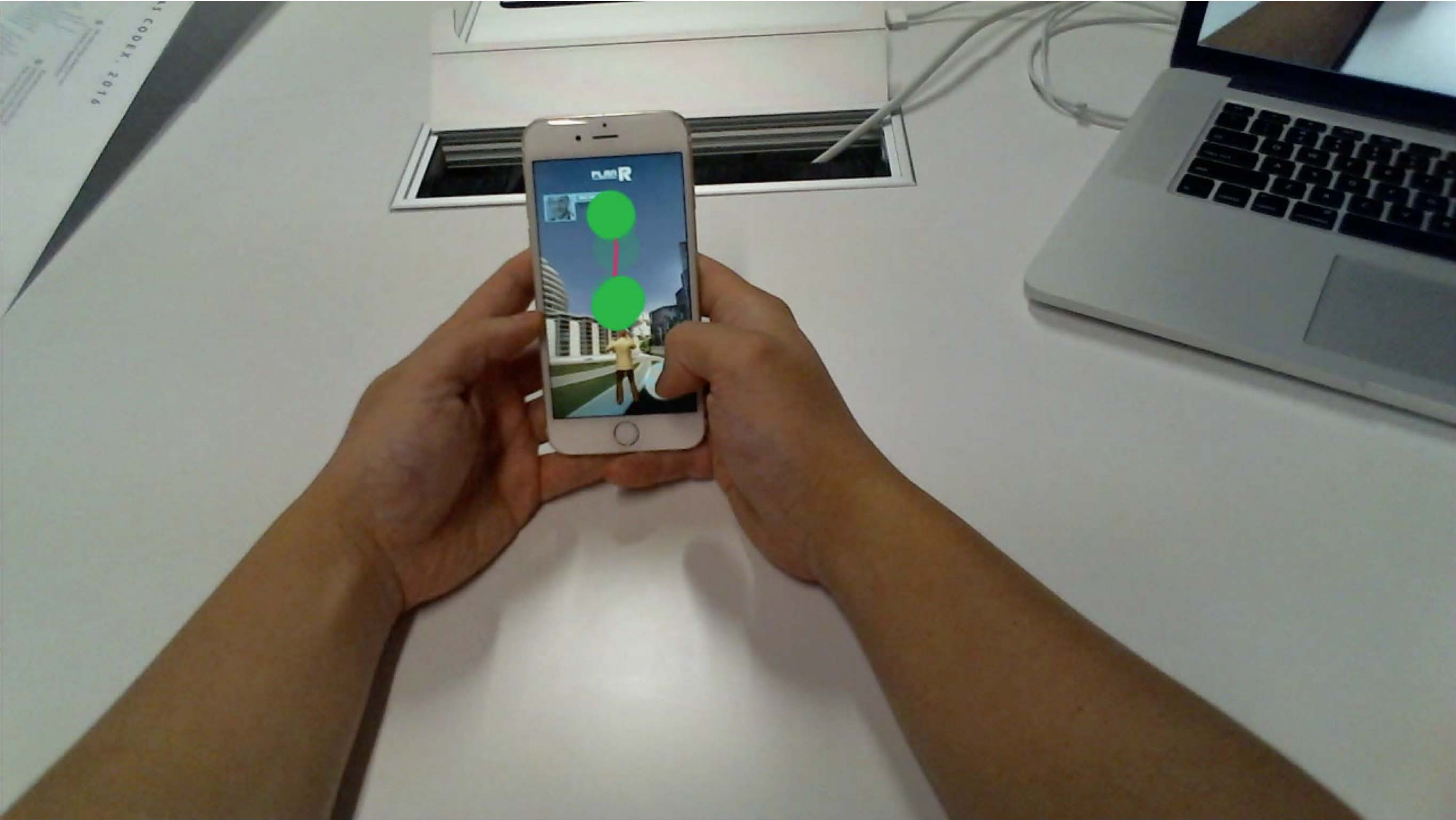
Free Home Line

GET YOUR FOOTBALL FIX NOW.

Singtel Shops | 1609 (9am-9pm) | singtelshop.com

Voted Singapore's
Best Telco and Fibre Broadband Service Provider

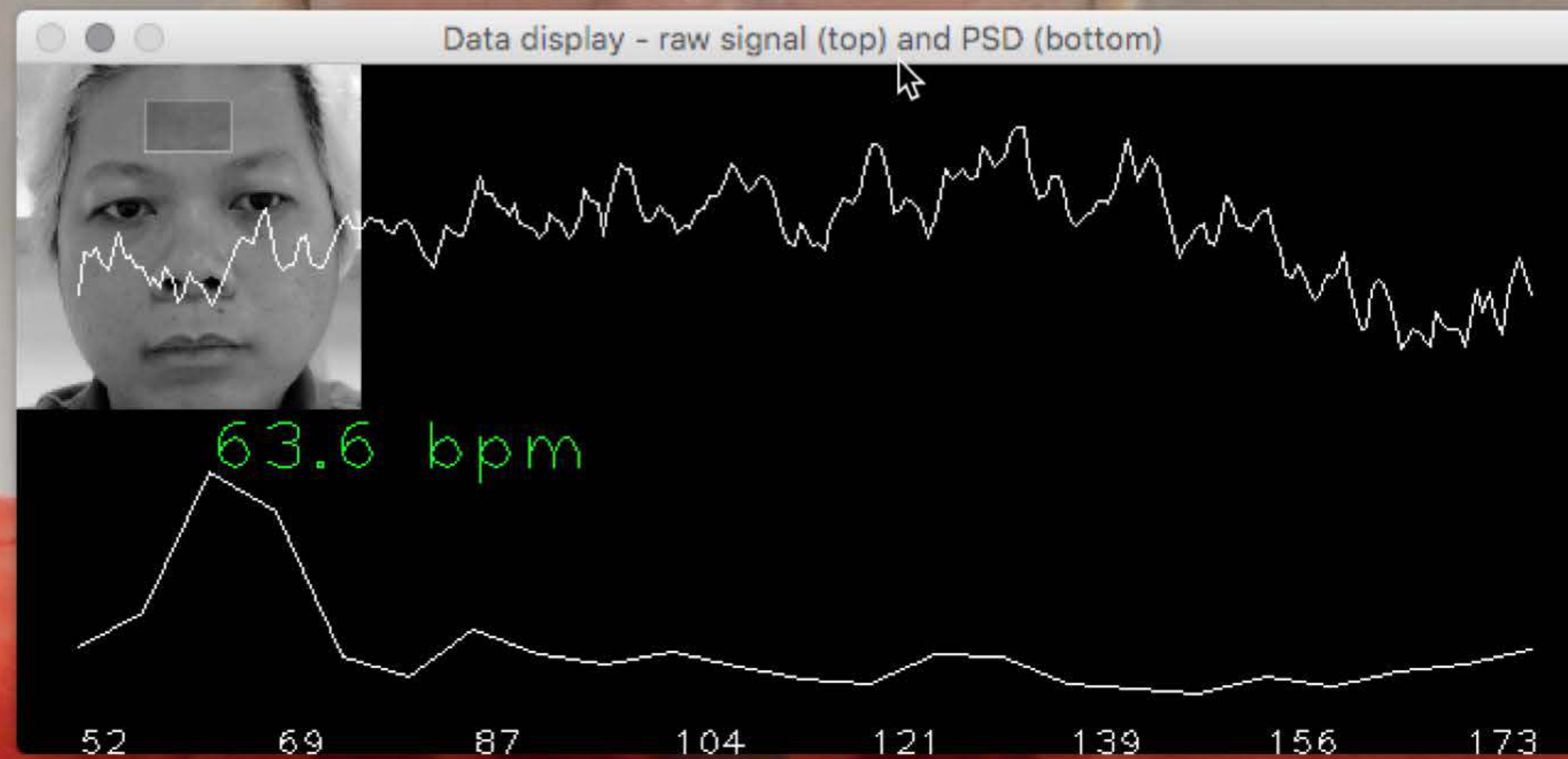
MOBILE EYE TRACKING ON APP PROTOTYPE



EULERIAN VIDEO MAGNIFICATION (PPG) – HEARTBEAT TRACKING

Press 'C' to change camera (current: 0)
Press 'S' to restart
Press 'D' to toggle data plot
Press 'Esc' to quit

(estimate: 63.6 bpm)



alk

TOAST BOX

JUNCTI8N

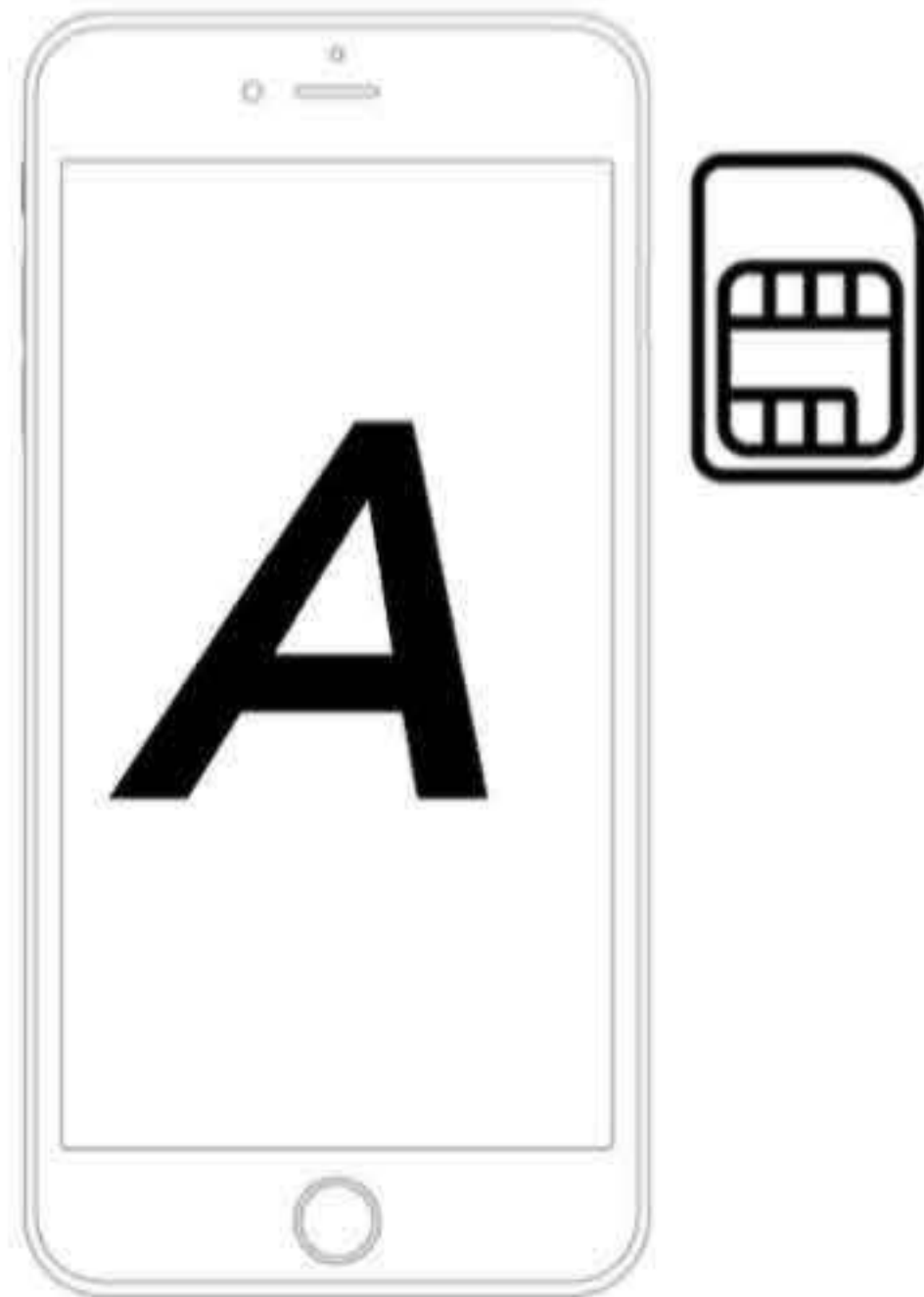
SALE
70% OFF
SALE

DP

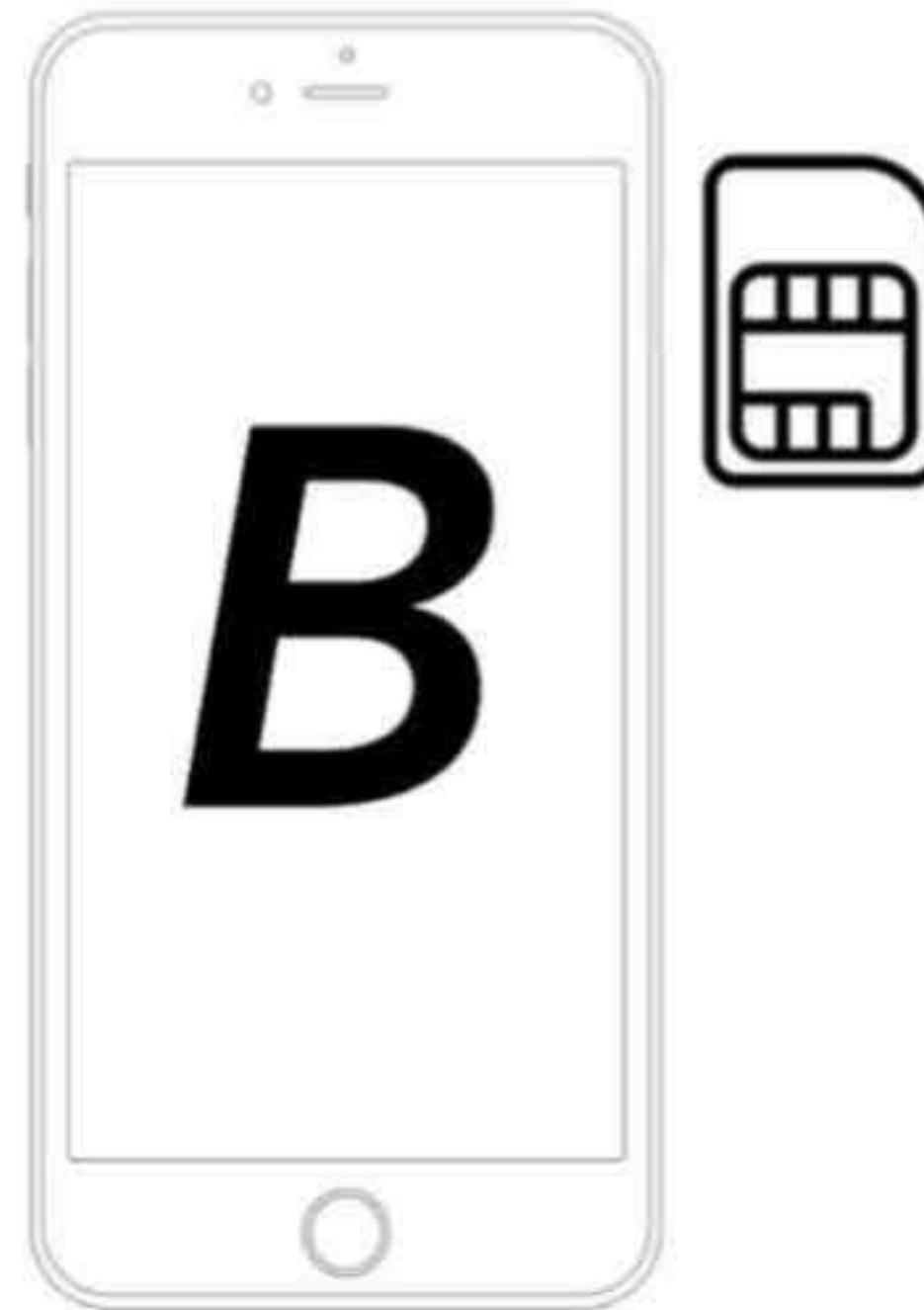
60

VALUE PROPOSITION TEST

QUESTION:
YOU STAND TO WIN A VOUCHER FOR THE FOLLOWING.
WHICH ONE WILL YOU CHOOSE?



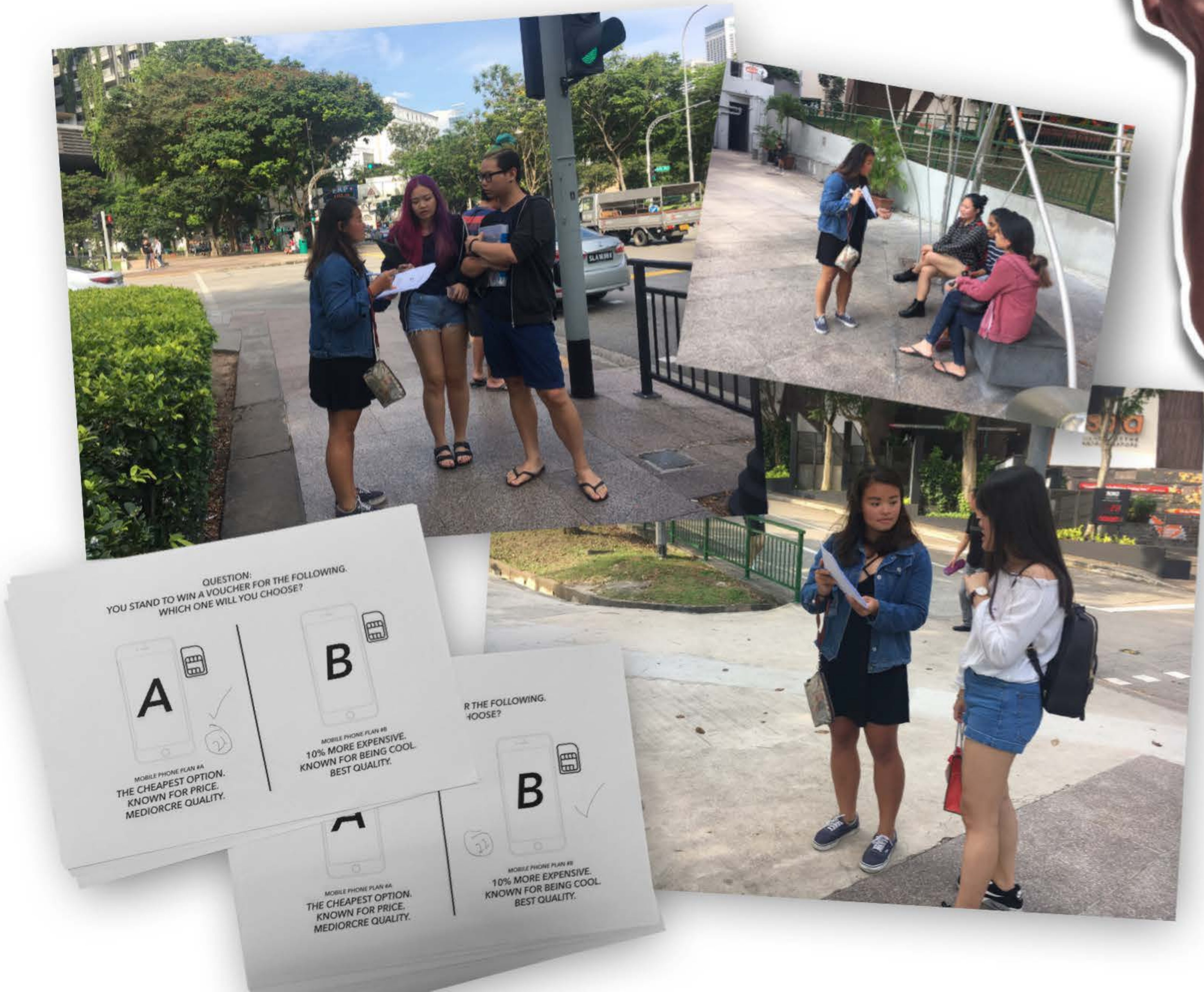
MOBILE PHONE PLAN #A
THE CHEAPEST OPTION.
KNOWN FOR PRICE.
MEDIocre QUALITY.



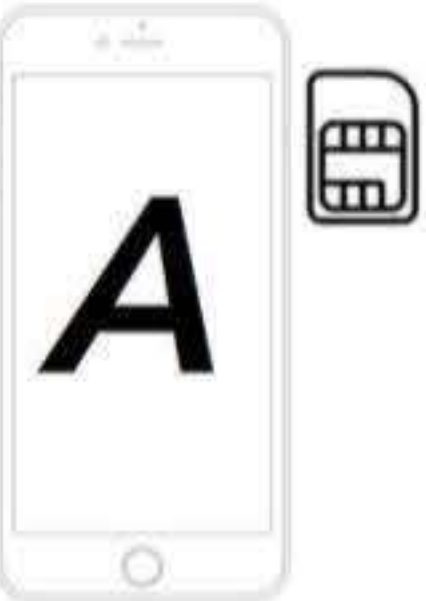
MOBILE PHONE PLAN #B
10% MORE EXPENSIVE.
KNOWN FOR BEING COOL.
BEST QUALITY.



VALUE PROPOSITION TEST

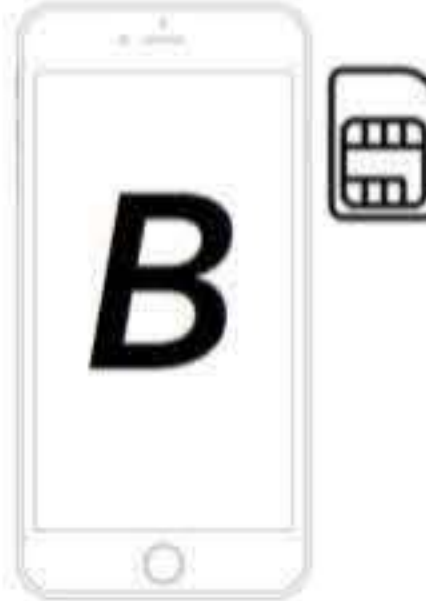


VALUE PROPOSITION TEST



A

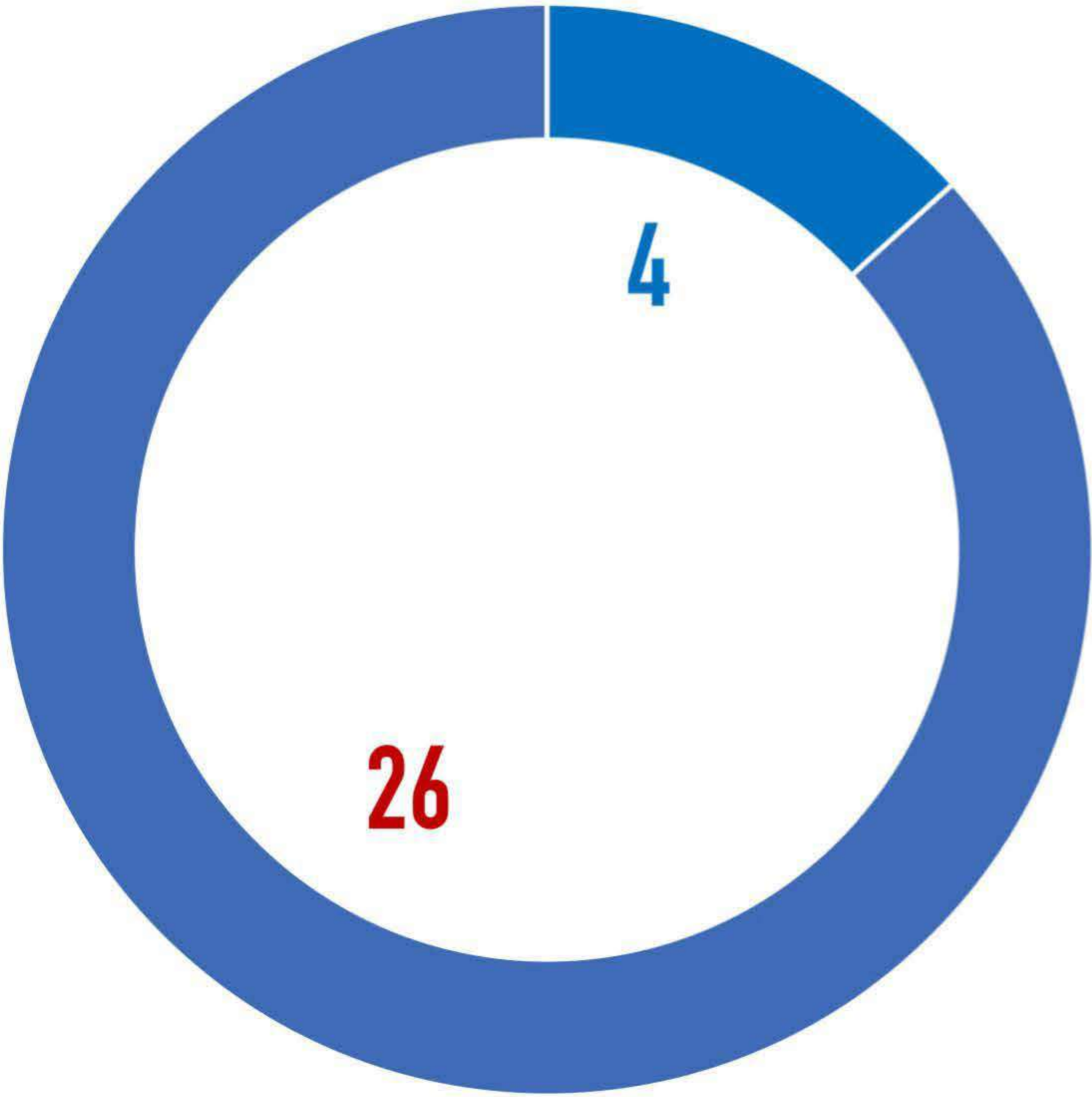
MOBILE PHONE PLAN #A
THE CHEAPEST OPTION.
KNOWN FOR PRICE.
MEDIORCRE QUALITY.



B

MOBILE PHONE PLAN #B
10% MORE EXPENSIVE.
KNOWN FOR BEING COOL.
BEST QUALITY.

N = 30



■ PLAN A ■ PLAN B



THANKS

HIT ME UP

(LINKEDIN)

