

Human Emotion

Psychology 3131
Professor June Gruber

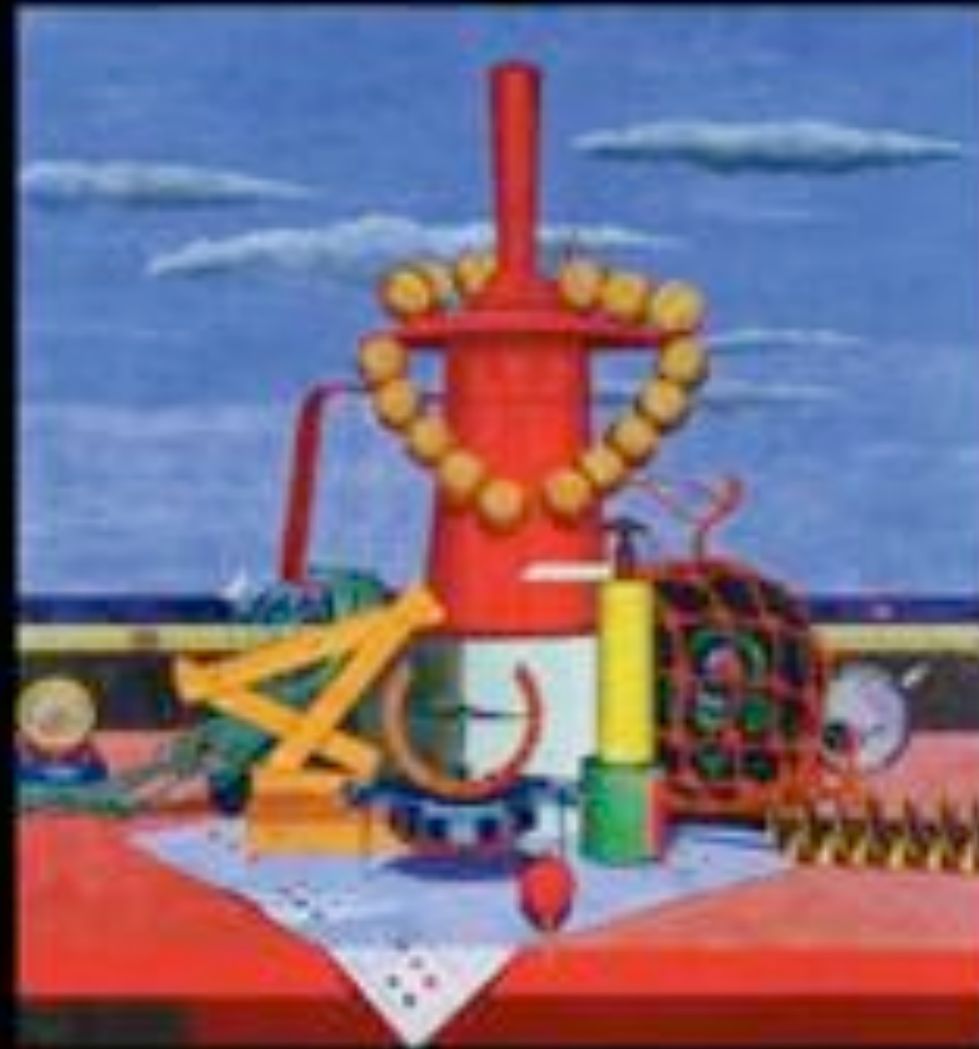




Thought Exercise

SERIES IN AFFECTIVE SCIENCE

HANDBOOK OF
EMOTION ELICITATION
AND ASSESSMENT



EDITED BY

JAMES A. COAN ♦ JOHN J. B. ALLEN



Human Emotion

Emotion Elicitation & Measurement

What Makes us Emotional?



Roadmap

Course Logistics

Triggering Emotions

Measuring Emotions

Expert Interview

Logistics

Course Email Reminder

june.gruber@colorado.edu “PSYC 3131” subject line

Office Hours

Notify 24 hrs in advance if planning to attend so can reserve spot

Reading Responses (Example on Website)

Respond to all required readings (1 page max across readings)

Roadmap

Course Logistics

Triggering Emotions

Measuring Emotions

Expert Interview

Reactivity

The type, magnitude and duration of responses in response to internal and external environment and have significance for personal goals
(Levenson, 2007).

 **Reactivity**

The type, magnitude and duration of responses in response to internal and external environment and have significance for personal goals (Levenson, 2007).

 **Regulation**

The processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions (Gross, 1998).

Reactivity

The type, magnitude and duration of responses in response to internal and external environment and have significance for personal goals (Levenson, 2007).

Regulation

The processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions (Gross, 1998).

Understanding

Knowledge about whether we or other people are experiencing emotions (Levenson, 2007).



Film
Clips



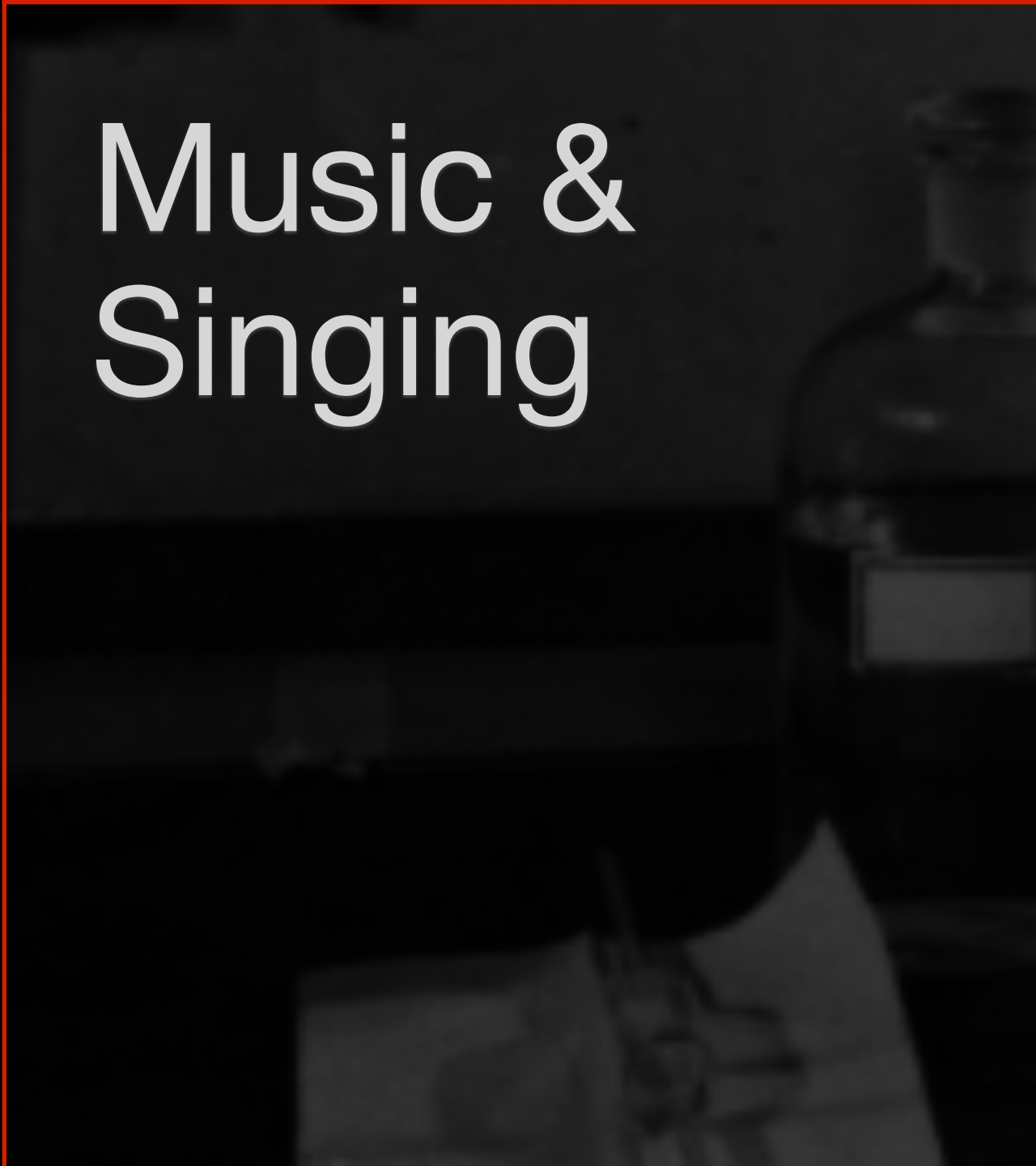
Static
Photos



Relived
Emotions



Dyadic
Interactions



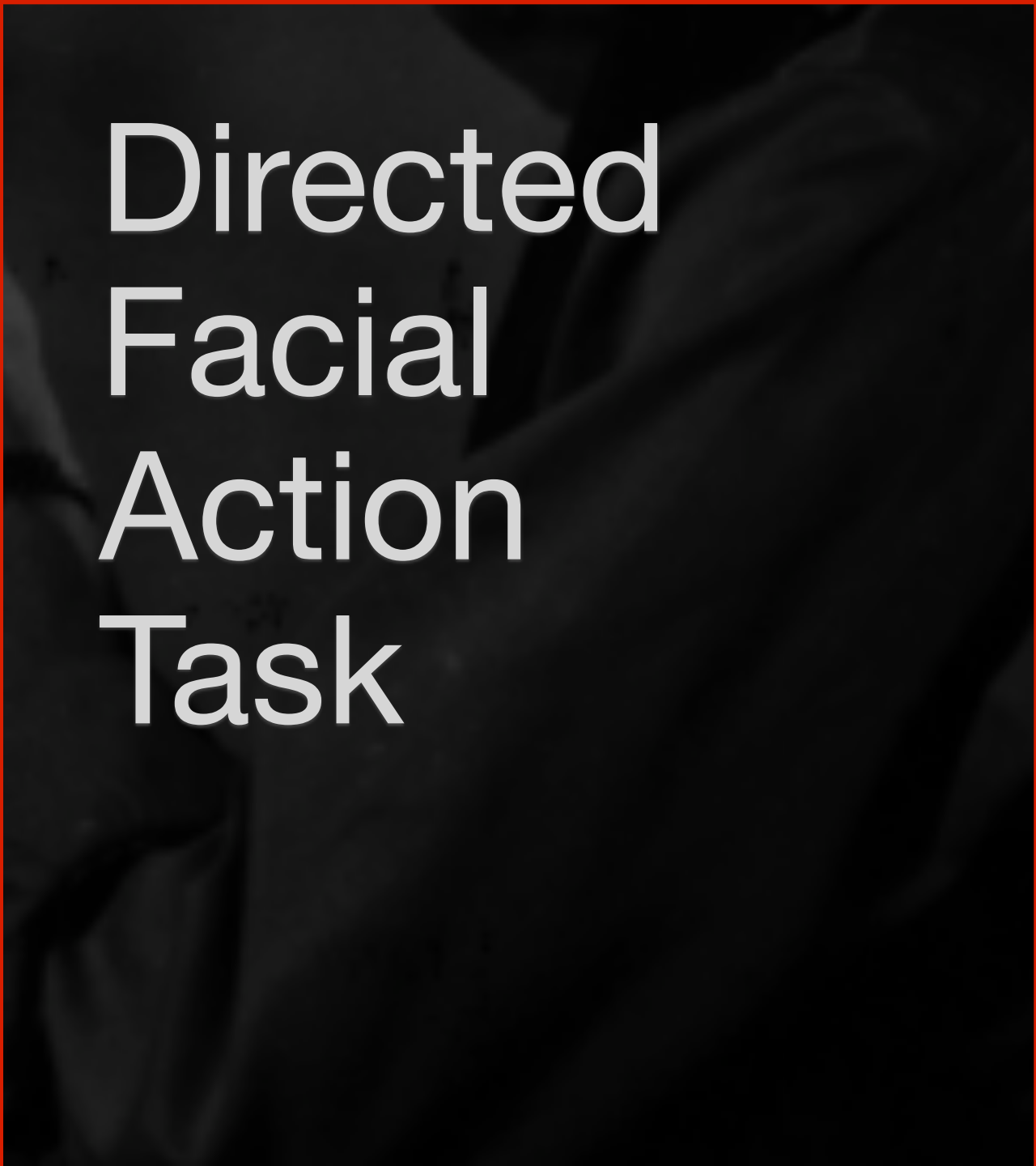
Music &
Singing



Acoustic
Startle
Reflex



Startle
Eyeblink
Modulation



Directed
Facial
Action
Task

Film
Clips

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Photos

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Film Clips

Positive Film



Negative Film



Neutral Film



Film Clips

HAP



Courtesy: Sarah Hughes (USA) - 2002 Salt Lake City, Figure Skating, Ladies' Free Skate. Originally aired by NBC Sports 2002. Clip appearing on YouTube.

Film Clips

HAP



Courtesy: Andy Roddick, US Open

Film Clips

LAP



Courtesy: Out of Africa

Film Clips

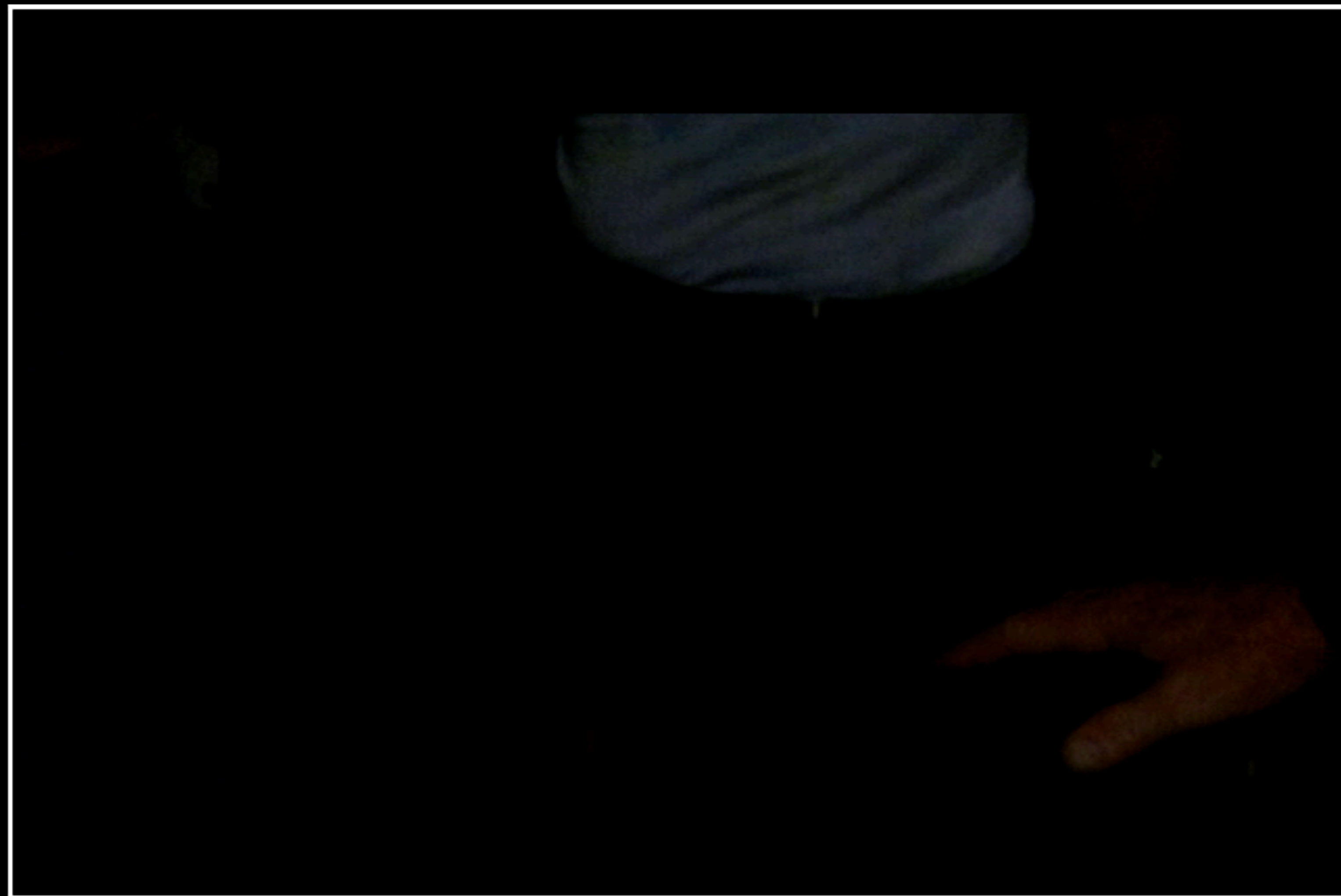
P



Courtesy: I Love Lucy

Film Clips

LAN



Courtesy: *The Champ*, Produced by Metro-Goldwyn-Mayer (MGM) 1979.

Film Clips

LAN



Courtesy: 21 Grams

Film Clips

NEU



Courtesy: Sticks Screensaver

Film Clips Summary

Emotion Processes

Reactivity
Regulation
Understanding

Advantages

Good ecological validity (dynamic, socially embedded)

Disadvantages

High cognitive demands (thematically complex)

Cannot elicit all emotions (e.g., anger)

Film
Clips

Static
Photos

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Static Photos

International Affective Picture System



Static Photos

Emotional Faces



Static Photos Summary

Emotion Processes

Reactivity

Regulation

Understanding

Advantages

Low Cognitive Demand

Low Language Demand

Disadvantages

Limited range of emotions (e.g., IAPS biased towards disgust, amusement, sexual arousal)

Human facial expressions can be exaggerated

Film
Clips

Static
Photos

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Relived Emotions



Relived Emotions

Autobiographical
Memories



Shared
Memories



Relived Emotions

“Please go back to the time and place of the same happy event you recalled earlier and see the scene in your mind’s eye. Take a few steps back, move away from the situation to a point where you can now watch the event from a distance. As you do this, focus on what has now become the distant you...”

Relived Emotions

“...As you continue to watch the distant you, try to understand the emotions that the distant you experienced as the event unfolded. Why did he or she have those feelings? What were the underlying causes and reasons?”

Relived Emotions Summary



Emotion Processes

Reactivity
Regulation

Advantages

Personally relevant
& engaging

Good ecological
validity

Disadvantages

Idiographic stimuli (not
standardized across
participants)

High memory demand

Film
Clips

Static
Photos

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Dyadic Interaction

EMOTION PERCEPTION

*How do you think
your partner is
feeling right now?*



Dyadic Interactions Summary

Emotion Processes

Reactivity

Regulation

Understanding

Advantages

Good ecological validity

Naturalistic social contexts

Disadvantages

Somewhat Idiographic (not easy to standardize across dyads)

Emotion responses influenced by both members of dyad

QUESTIONS?

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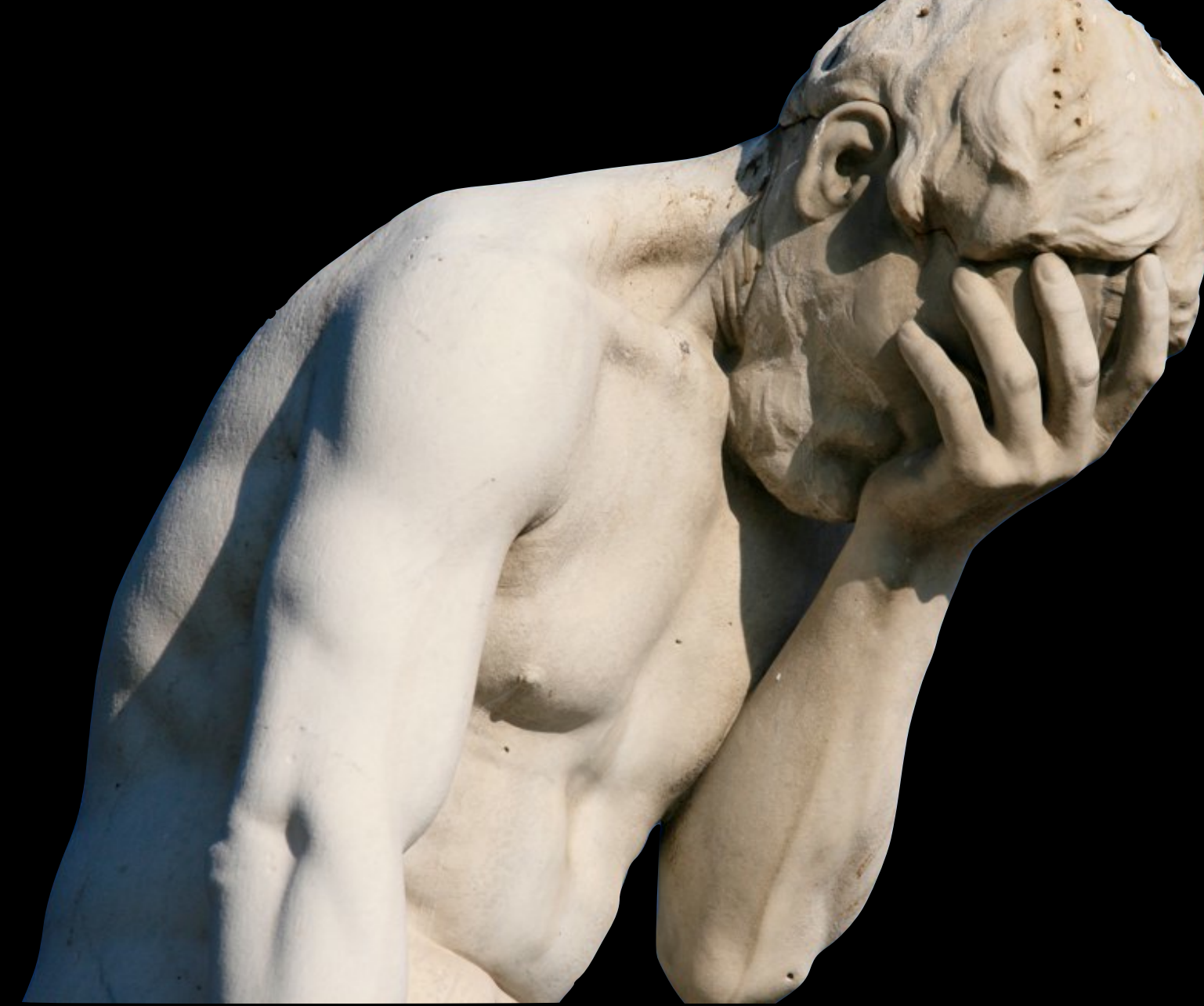
Startle
Eyeblink
Modulation

Directed
Facial
Action
Task

Music



Singing



Remain
seated
quietly



Emotion
Experience

BASELINE

SING

WATCH

REPORT

PART I:
CONTROL KARAOKE

Music & Singing Summary

Emotion Processes

Reactivity

Advantages

Simple

Effective &
Engaging

Disadvantages

Matching musical tastes to
participant

Participant discomfort (singing)

Film
Clips

Static
Photos

Relived
Emotions

Dyadic
Interactions

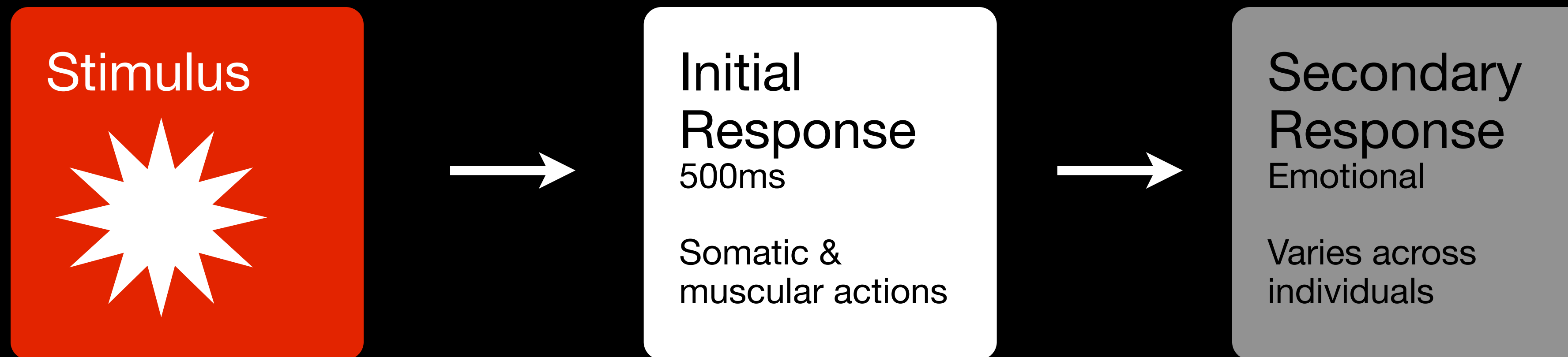
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Singing

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Startle
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Modulation

Directed
Facial
Action
Task

Acoustic Startle Reflex



Acoustic Startle Reflex Summary

Emotion Processes

Reactivity

Advantages

Simple

Unobtrusive

Primary and secondary emotion responses

Disadvantages

Often limited to measuring general defensive response (vs. more specific emotions)

Film
Clips

Static
Photos

Relived
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Interactions

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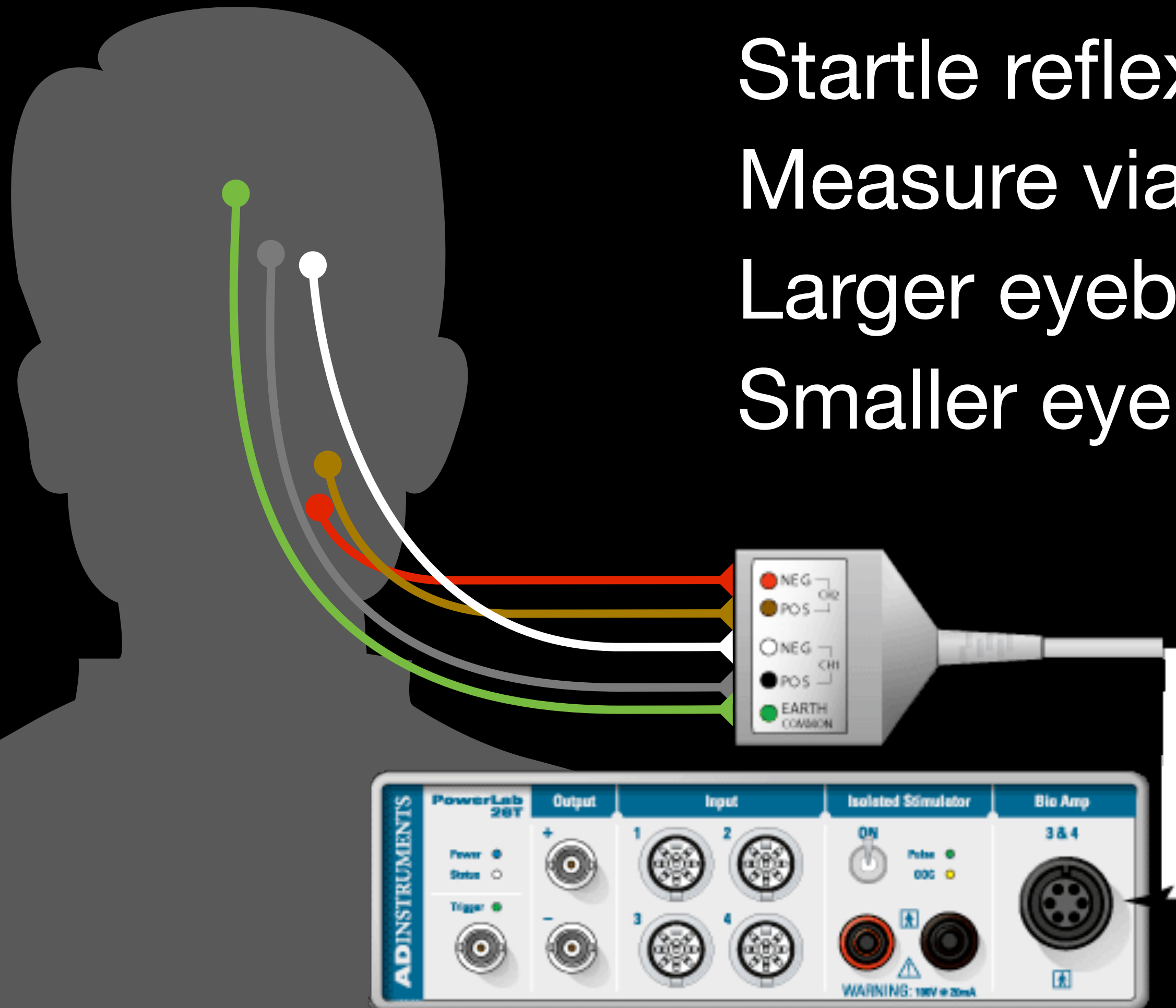
Startle Eyeblink Modulation

Startle reflex automatic

Measure via amplitude of eyeblink

Larger eyeblink = Negative emotion

Smaller eyeblink = Positive emotion



Startle Eyeblink Modulation Summary

Emotion Processes

Reactivity

Advantages

Simple

Unobtrusive

Less subject to demand characteristics

Disadvantages

Less rich repertoire of emotional behavior



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Directed
Facial
Action
Task

Directed Facial Action Task

Get out a sheet of paper and a pen

Follow my instructions

Directed Facial Action Task

Take 1

Directed Facial Action Task

Pull corners of your mouth downward

Raise eyebrows up and together

Squint your eyes slightly

Hold for 10 seconds

Directed Facial Action Task

Write down: How do you feel?

-4 -3 -2 -1 0 1 2 3 4

Negative

Neutral

Positive

Directed Facial Action Task

Take 2

Directed Facial Action Task

Pull your eyebrows together

Widen your eyes by pulling your upper eyelid up

Press your lips together

Tighten your lips and raise them

Hold for 10 seconds

Directed Facial Action Task

Write down: How do you feel?

-4 -3 -2 -1 0 1 2 3 4

Negative

Neutral

Positive

Directed Facial Action Task

Take 3

Directed Facial Action Task

Pull corners of your mouth upward

Now, pull corners of mouth outward to maximum

Squint your eyes slightly

Hold for 10 seconds

Directed Facial Action Task

Write down: How do you feel?

-4 -3 -2 -1 0 1 2 3 4

Negative

Neutral

Positive

Directed Facial Action Task

Take 1: **Sadness**

Take 2: **Anger**

Take 3: **Joy**

Directed Facial Action Task

Explicit

Instruct to move specific facial muscles



Implicit

Move facial muscles for a different task



Directed Facial Action Task Summary

Emotion Processes

Reactivity

Advantages

Simple

Unobtrusive

Less subject to demand characteristics

Disadvantages

Cannot assess reactivity to external stimuli

QUESTIONS?

Roadmap

Course Logistics

Triggering Emotions

Measuring Emotions

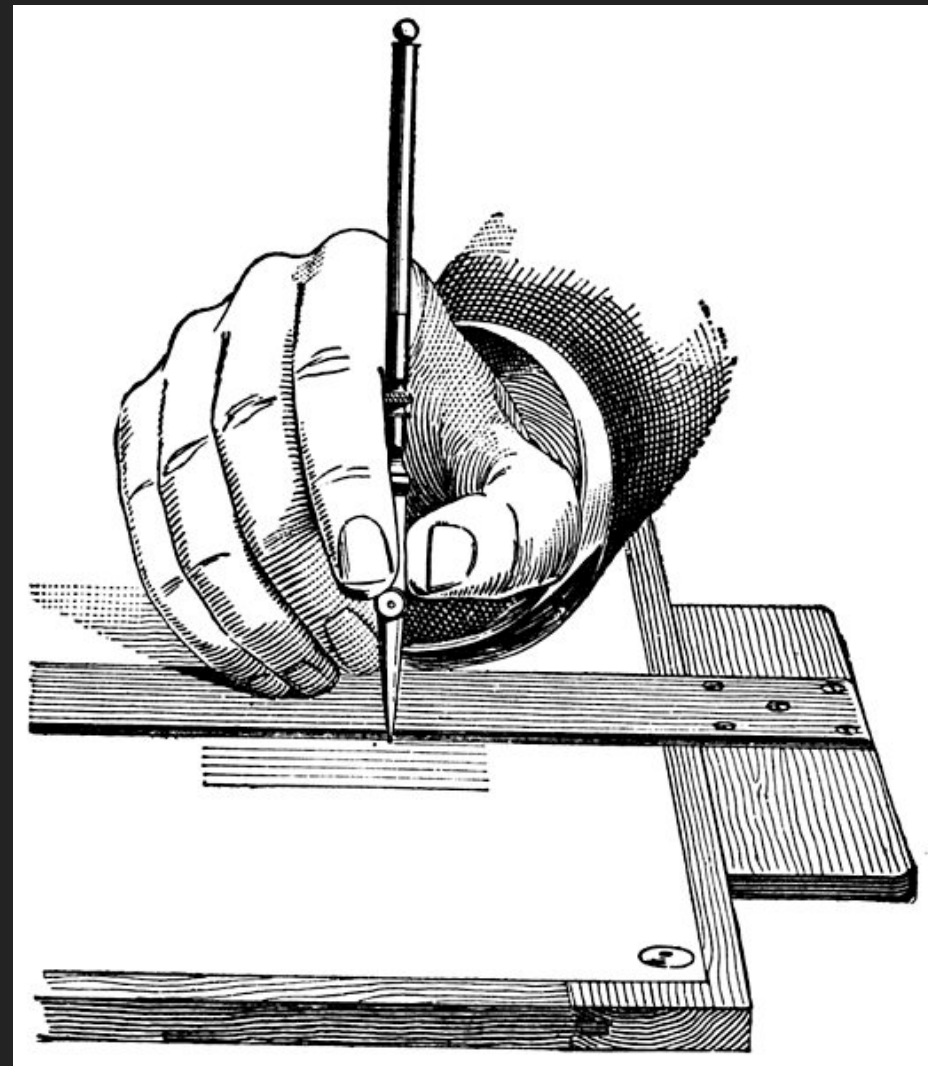
Expert Interview

Electric Meter Tests Skin to Gauge Emotion



Emotions shown on faces in background are recorded by instrument sensitive to electric resistance of skin. Scientist is testing young woman

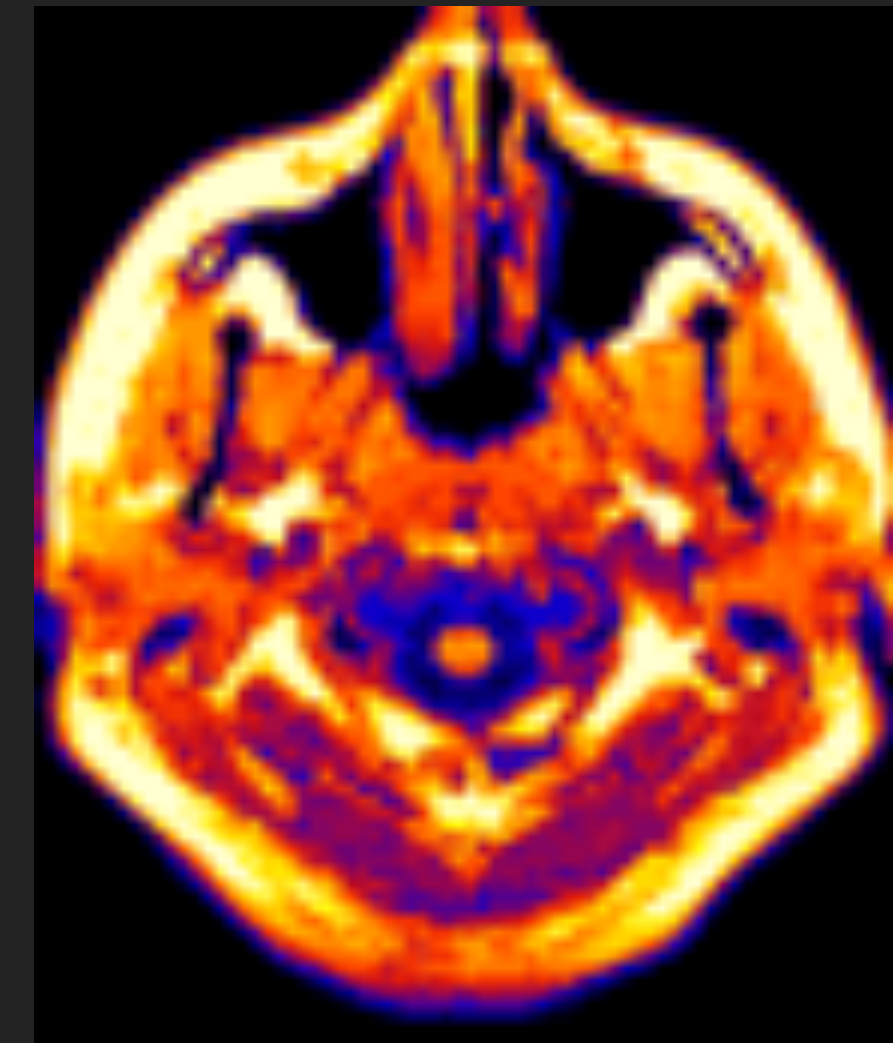
Call it an emotion meter, lie detector or what you will, an electric device contrived by Dr. D. Ulrich Greenwald at the University of Iowa draws a curve of your emotions as they run the gamut of joy, horror, fear, surprise, love. As you react to some stimulus that "gets under your skin," the electric needle reacts to emotional changes in resistance in your skin. Used by Dr. Christian A. Ruckmick in studies of emotion, this instrument is called a dermohmograph; derm for skin, ohm for electrical resistance, graph for its record on photographic paper. The scientists theorize that human emotion causes a piling up of positive and negative ions on the walls of skin cells, affecting resistance of the skin to passage of electricity. Essentially the emotion meter consists of dry cells, electrodes, fixed and variable resistances and a galvanometer. By reading the galvanometer while the subject watches a motion picture or reads a letter, his emotional reaction can be seen. For recording purposes, the deflection of the galvanometer guides a beam of light striking a moving roll of sensitized paper.



SUBJECTIVE

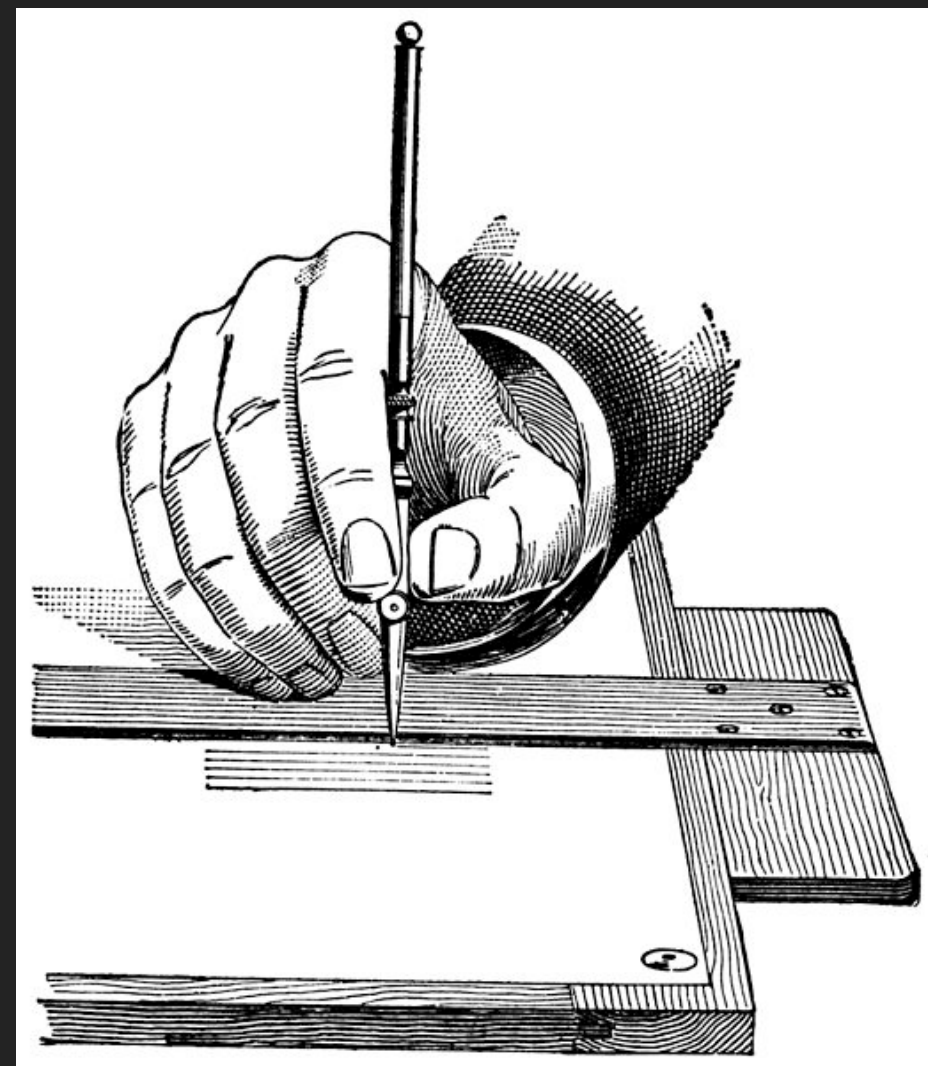


BEHAVIORAL



PHYSIOLOGICAL

Subjective Measures



SUBJECTIVE

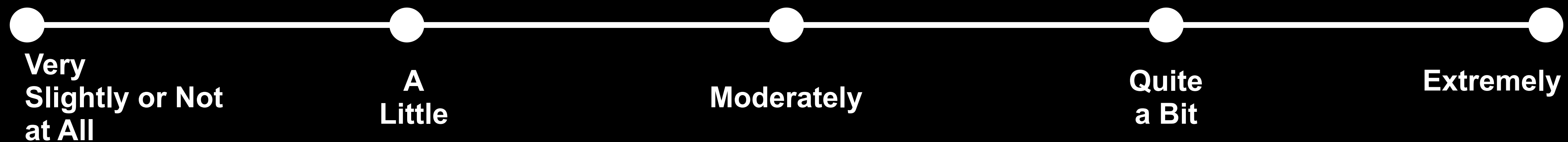
Questionnaires

Rating Dials

Experience Sampling

Positive & Negative Affect Schedule (PANAS)

Nervous	Guilty	Irritable	Determined
Distressed	Scared	Alert	Attentive
Excited	Hostile	Ashamed	Jittery
Upset	Enthusiastic	Inspired	Active
Strong	Proud	Nervous	Afraid



Modified Differential Emotion Scale (mDES)

Amused
Fun-loving
Silly

Interested
Alert
Curious

Awe
Wonder
Amazement

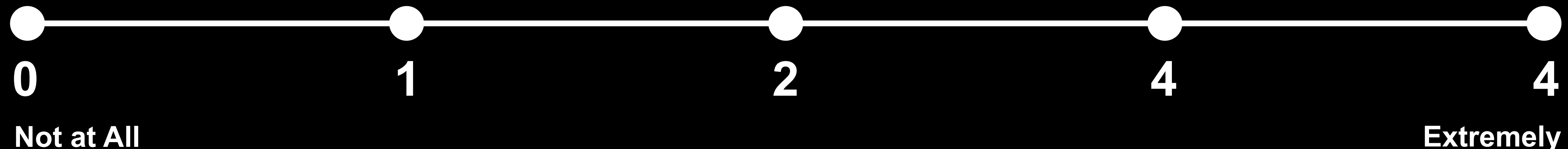
Hopeful
Optimistic
Encouraged

Content
Serene
Peaceful

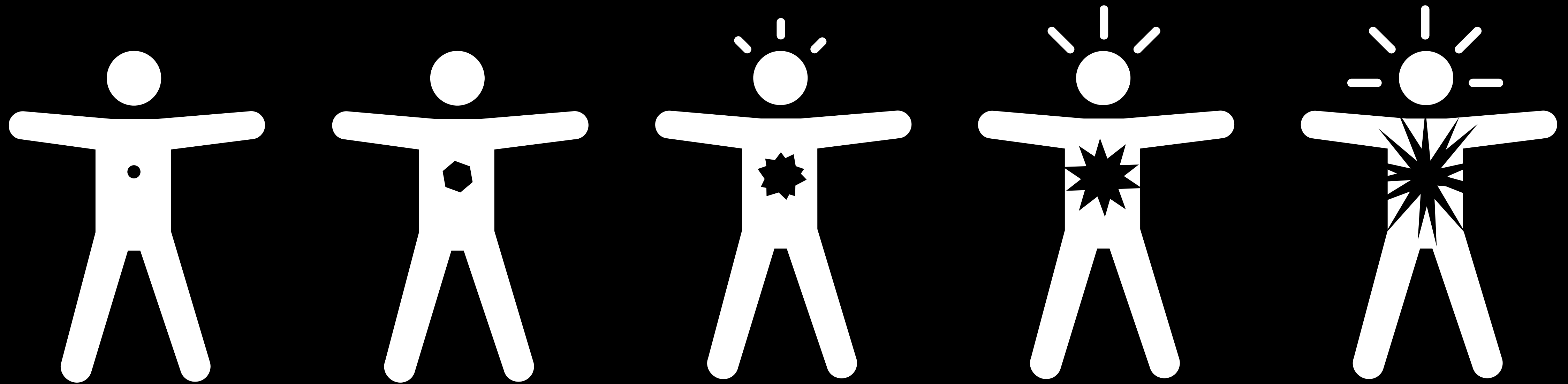
Grateful
Appreciative
Thankful

Glad
Happy
Joyful

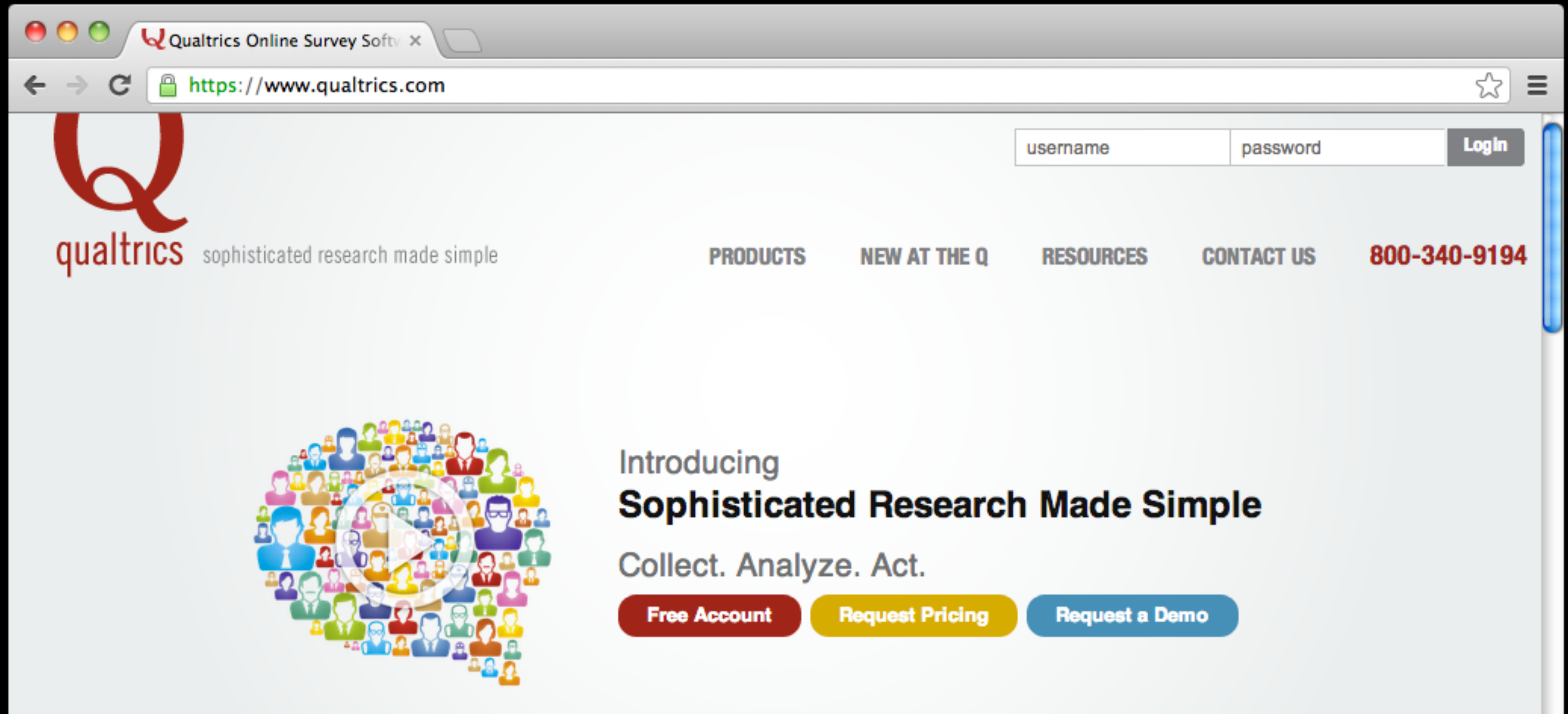
Love
Closeness
Trust



Stress Appraisal Measure (SAM)

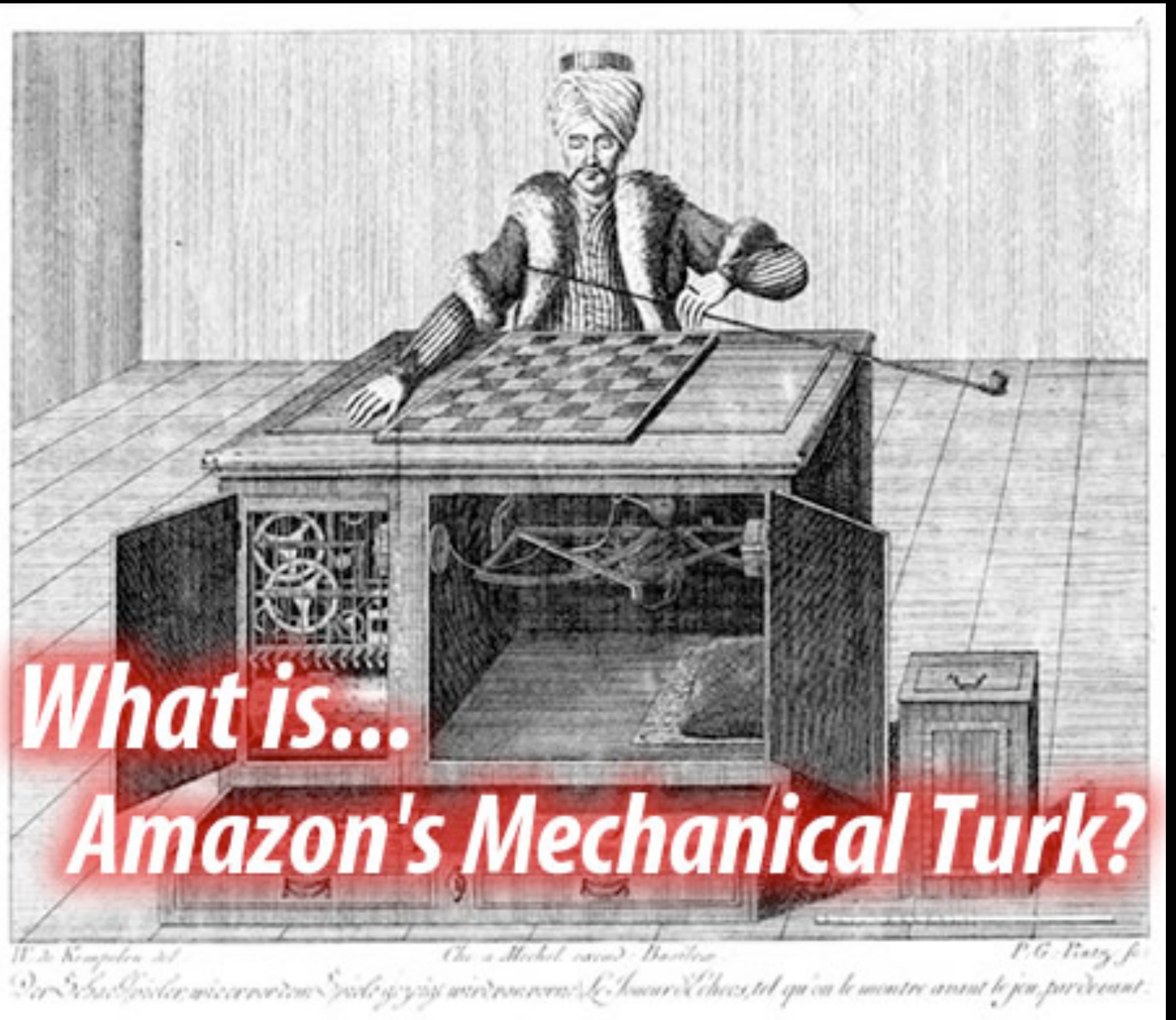


Online Survey Methods



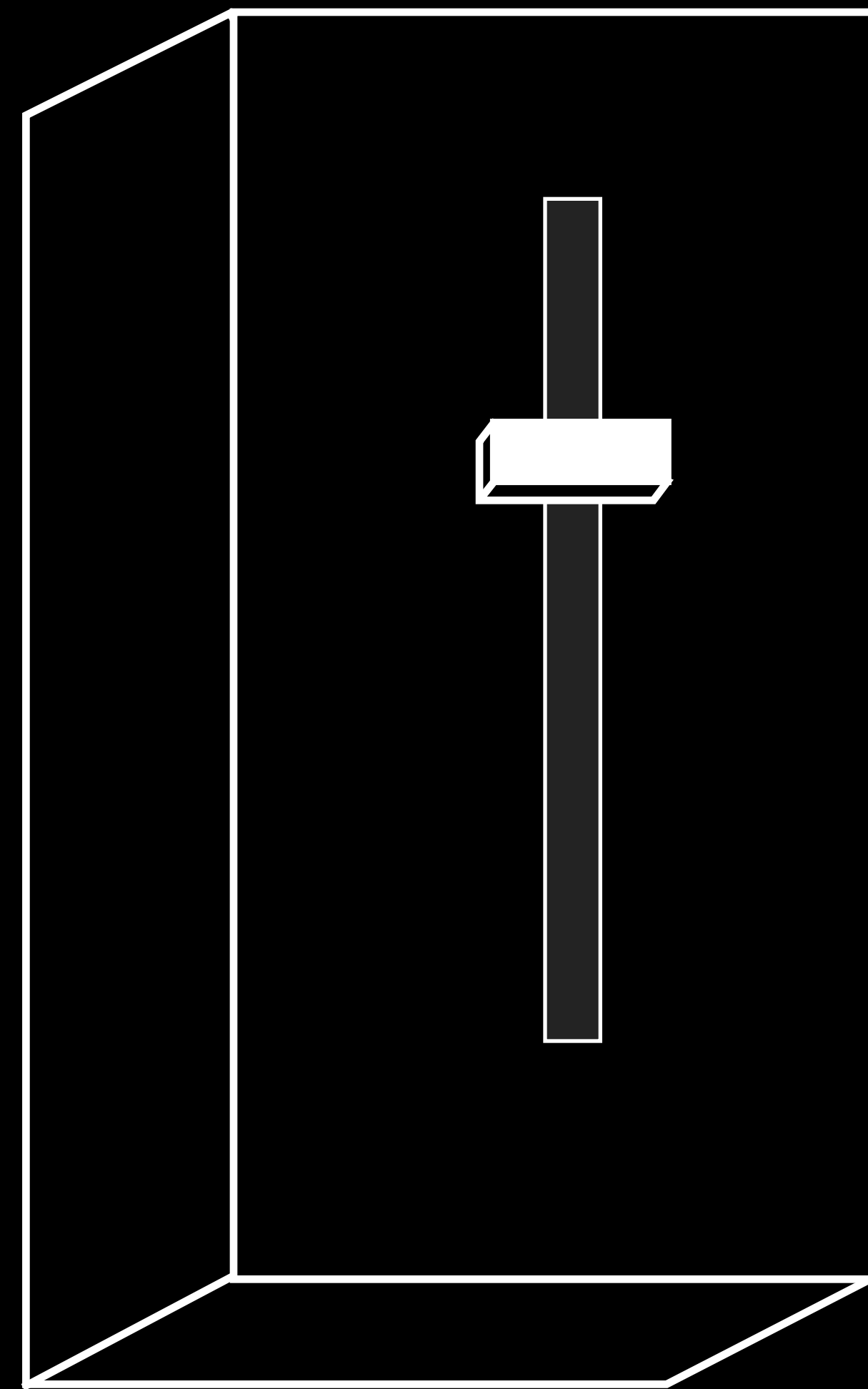
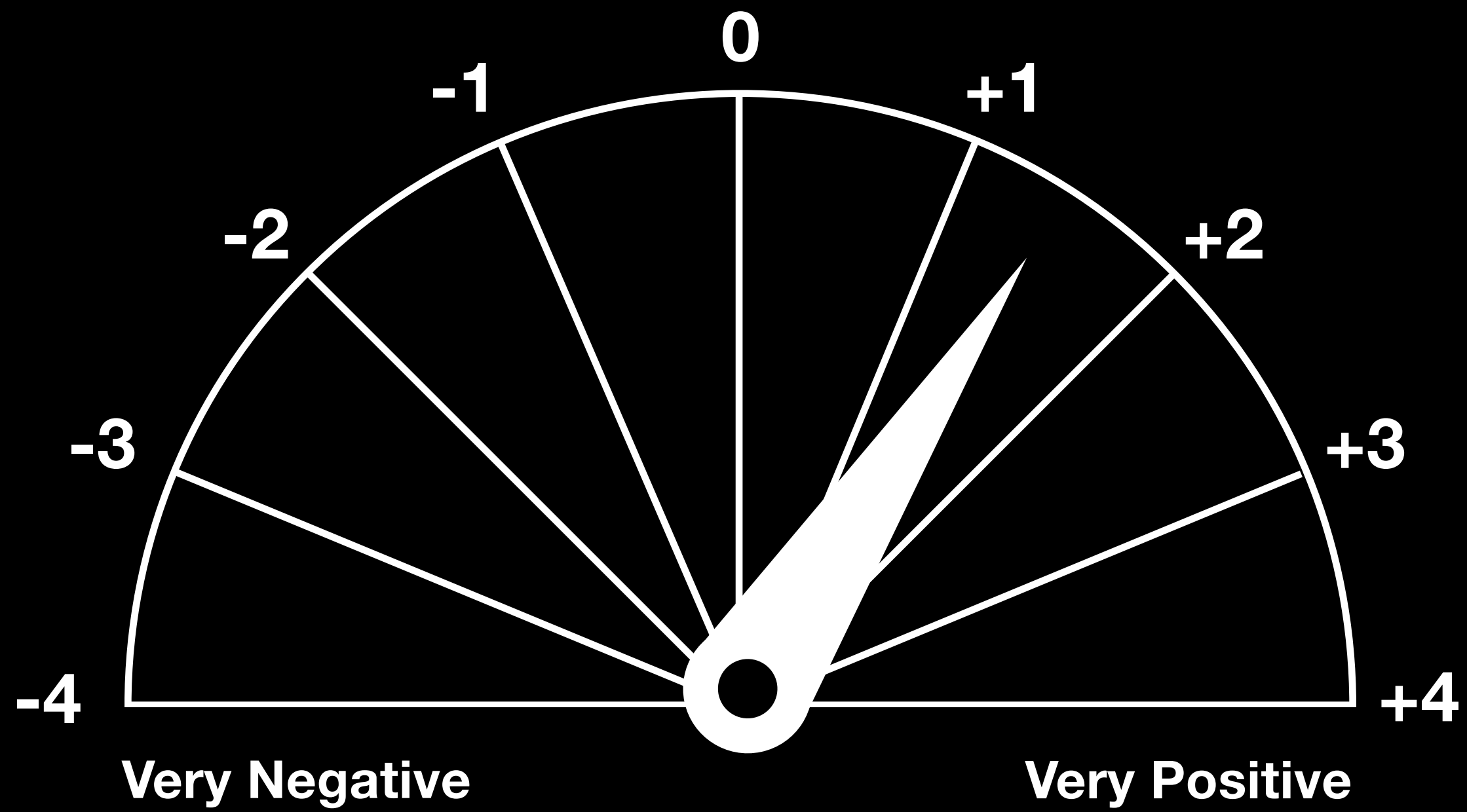
The image shows a screenshot of the Qualtrics website homepage. The browser's address bar displays "https://www.qualtrics.com". The page features the Qualtrics logo on the left, which includes a stylized red 'Q' and the text "qualtrics sophisticated research made simple". In the top right corner, there is a login form with fields for "username" and "password", and a "Login" button. Below the logo, a navigation menu contains the following items: "PRODUCTS", "NEW AT THE Q", "RESOURCES", "CONTACT US", and the phone number "800-340-9194". The main content area features a large graphic of a brain composed of many small, colorful human icons. To the right of this graphic, the text reads "Introducing Sophisticated Research Made Simple" in a large, bold font, followed by "Collect. Analyze. Act." in a smaller font. At the bottom of this section, there are three buttons: "Free Account" (red), "Request Pricing" (yellow), and "Request a Demo" (blue).

Online Survey Methods



What is...

Amazon's Mechanical Turk?



Experience Sampling Methods

Data collection in which participants respond to repeated assessments at moments over the course of time, while functioning and living within their natural life settings.



Experience Sampling Methods

1

Understand behavior contingencies (relationship between experience and situations)

2

Ecological validity (get outside of lab, more naturalistic)

3

Investigate intra-individual processes (within-person processes, such as differences within a person that change over time or across situations)

Related Methods

Thought sampling

Focuses on inner thoughts, less concerned about external events

(e.g., Hurlburt, 1997; Klinger 1978).

Ecological momentary assessment (EMA)

Concerned also with elements of environment that give rise to subjective experience

(e.g., Stone et al., 1999)

Daily Reconstruction Method (DRM)

Participant reconstructs activities and experiences of the preceding day. List episodes of day in sequence, describe and answer questions about each episode. Get assessment of contiguous daily episodes.

(Kahneman et al., 2004)

Narrative Methods



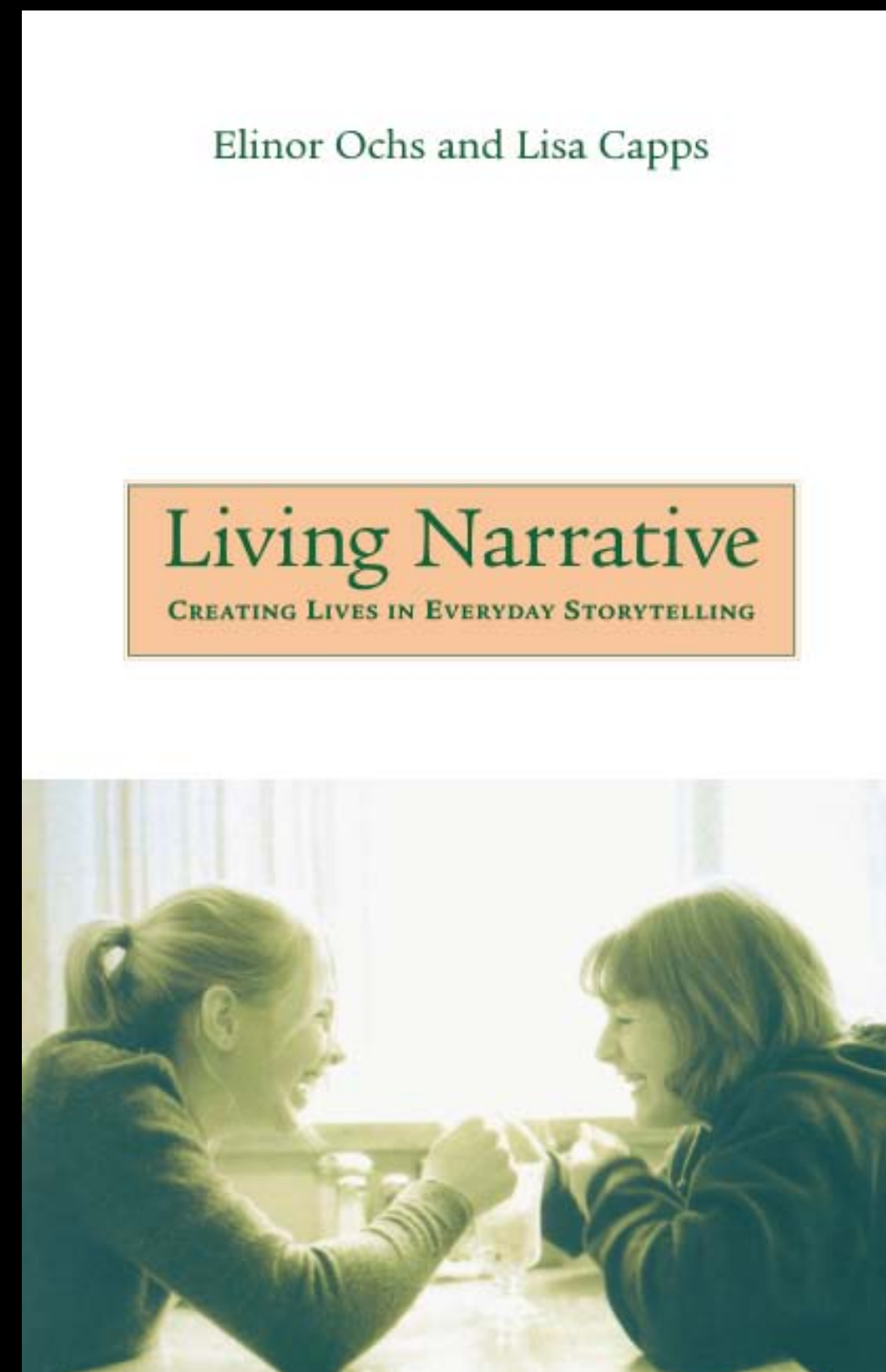
Elinor Ochs and Lisa Capps

Living Narrative

CREATING LIVES IN EVERYDAY STORYTELLING



Narrative Methods



“Putting events in a temporal sequence not only orders them with respect to each other; it creates an overarching interpretive frame. Just as a succession of notes does not necessarily constitute a melodic phrase, so events that are randomly recounted do not make a story. Like notes, the narrated events need to be cast as members of an ordered set. Like a melodic phrase, such a set constitutes a coherent narrative unit called an episode (p. 169).”

Narrative Methods



Dr. Pennebaker's Basic Writing Assignment

Over the next four days, write about your deepest emotions and thoughts about the emotional upheaval that has been influencing your life the most. In your writing, really let go and explore the event and how it has affected you. You might tie this experience to your childhood, your relationship with your parents, people you have loved or love now, or even your career. Write continuously for 20 minutes.

Behavioral Measures



BEHAVIORAL

FACS

SPAFF

Facial Action Coding System (FACS)

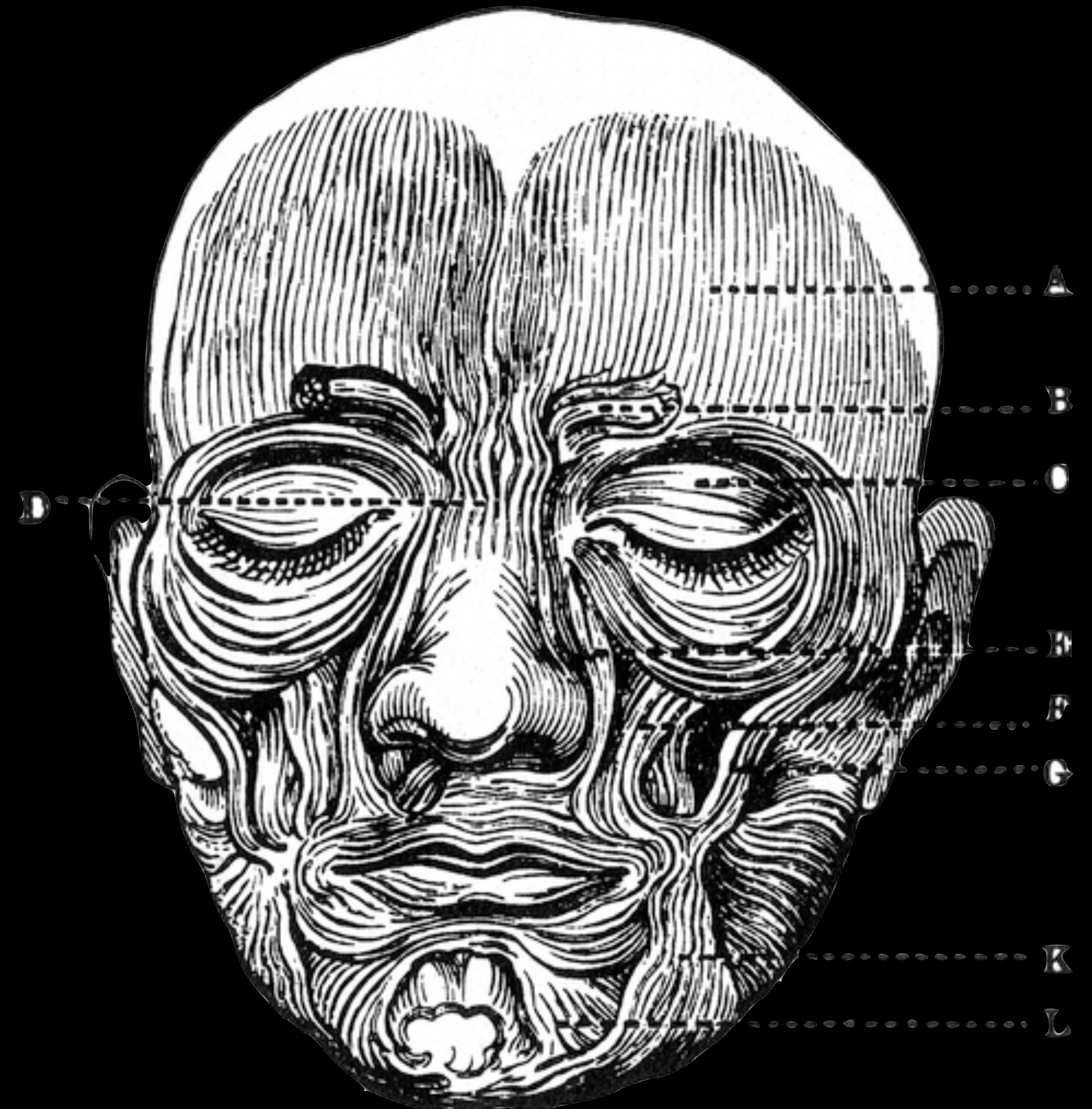
Developed Ekman & Friesen 1970's

Categorize facial behaviors based on muscles that produce them

Unit of measurement = Action Unit (AU's)

Specific AU combinations reflect emotions

Takes 80-100 hours to train on



Facial Action Coding System (FACS)



1C Inner Brow Rise

2C Outer Brow Rise

5D Upper Lid Raise

4B Brow Lower

20B Lip Stretch

7B Lower Lid Tighten

26B Jaw Drop

Facial Action Coding System (FACS)



**Genuine
“Duchenne” Smile**

AU6 Cheek Raiser

AU12 Lip Corner Puller

Facial Action Coding System (FACS)



**Fake
“Non-Duchenne”
Smile**

AU12 Lip Corner Puller



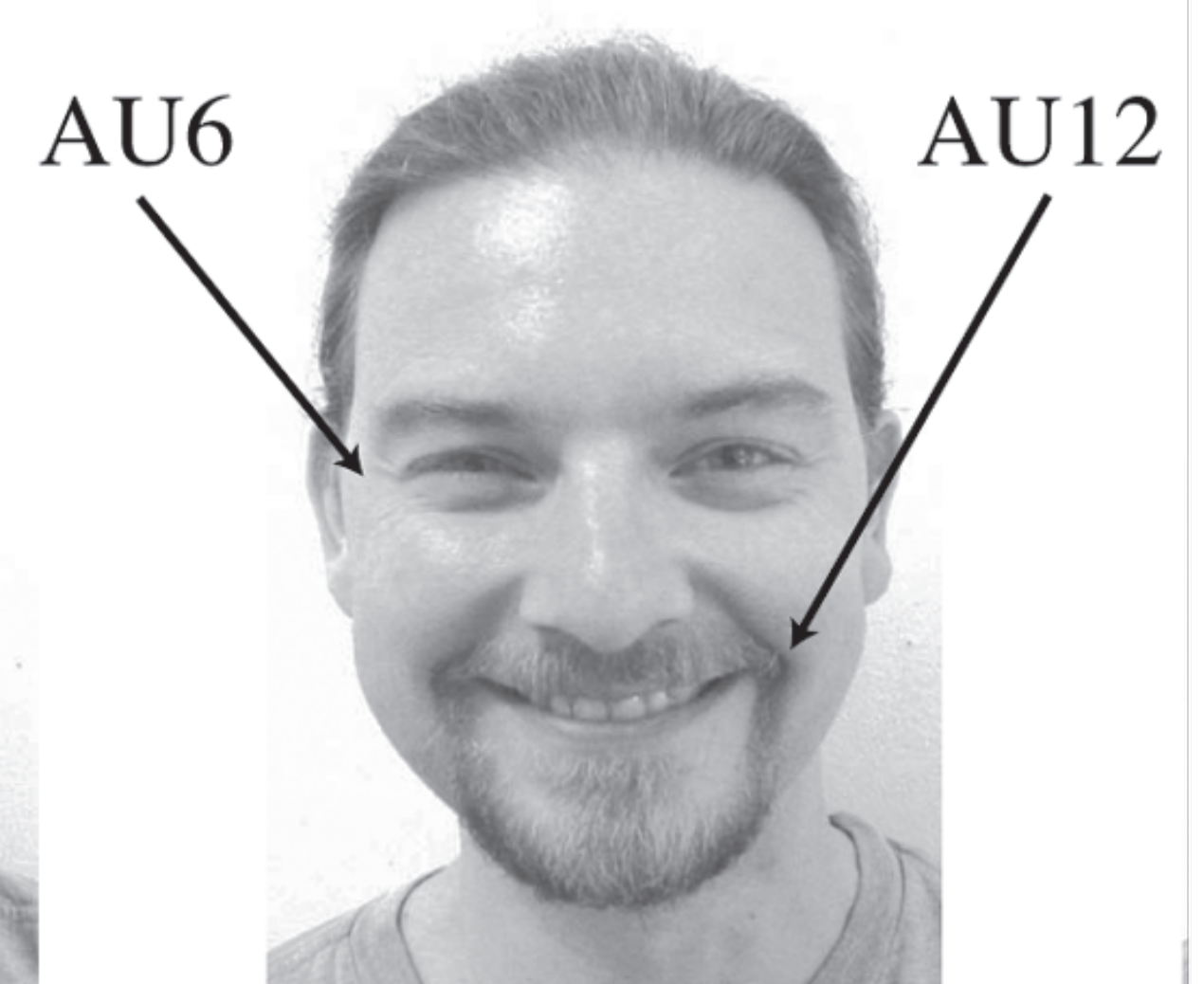
Specific Affect Coding System (SPAFF)

ADDITIONAL CODES:

- Sit up/forward
- Increase in vocal pitch & volume
- Laughter



Slight AUs 6+12,
associated with
Neutral, Interest,
Affection, and
Validation.

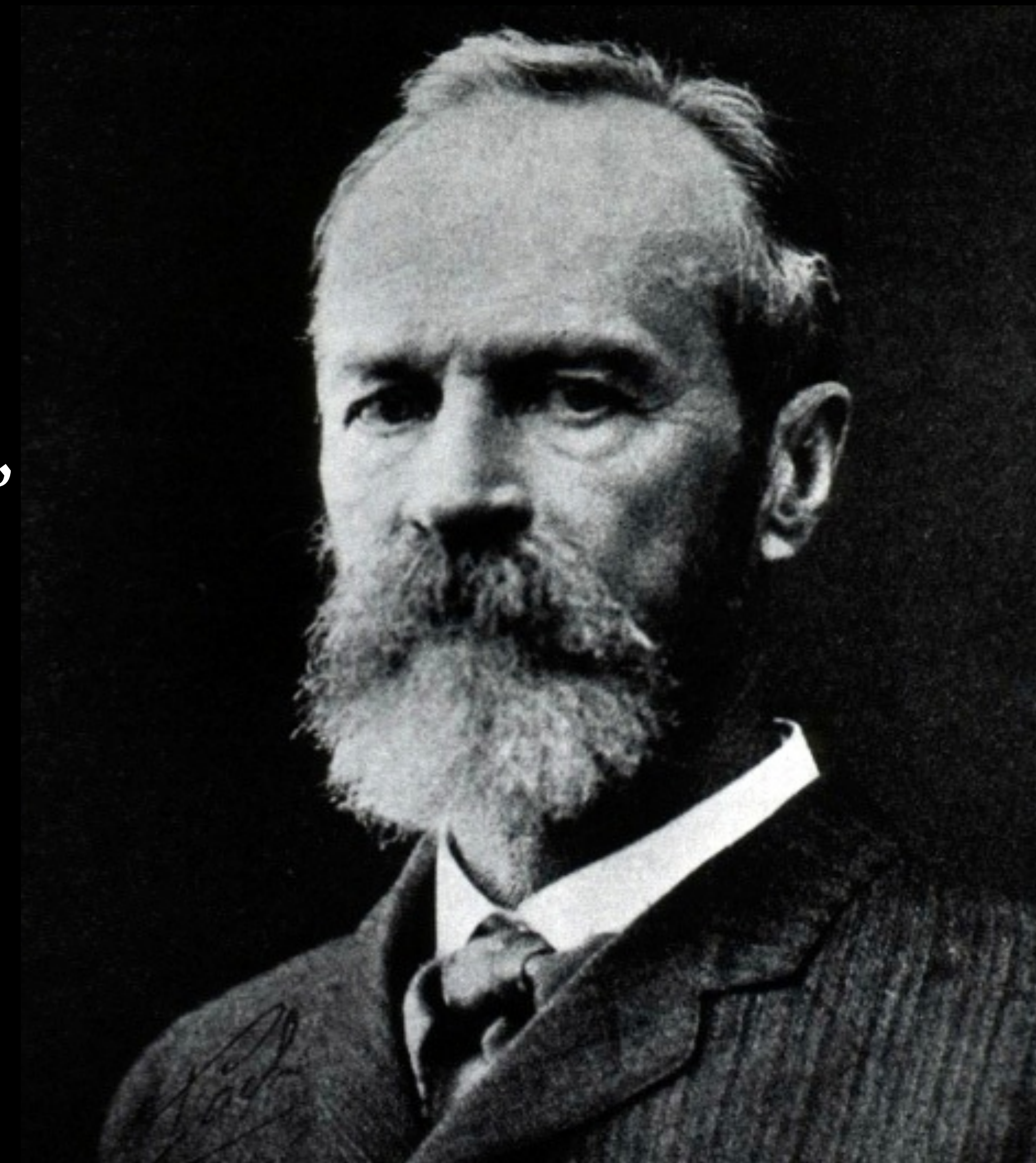


AUs 6+12,
associated with
Interest,
Affection,
Validation, Humor
and Enthusiasm

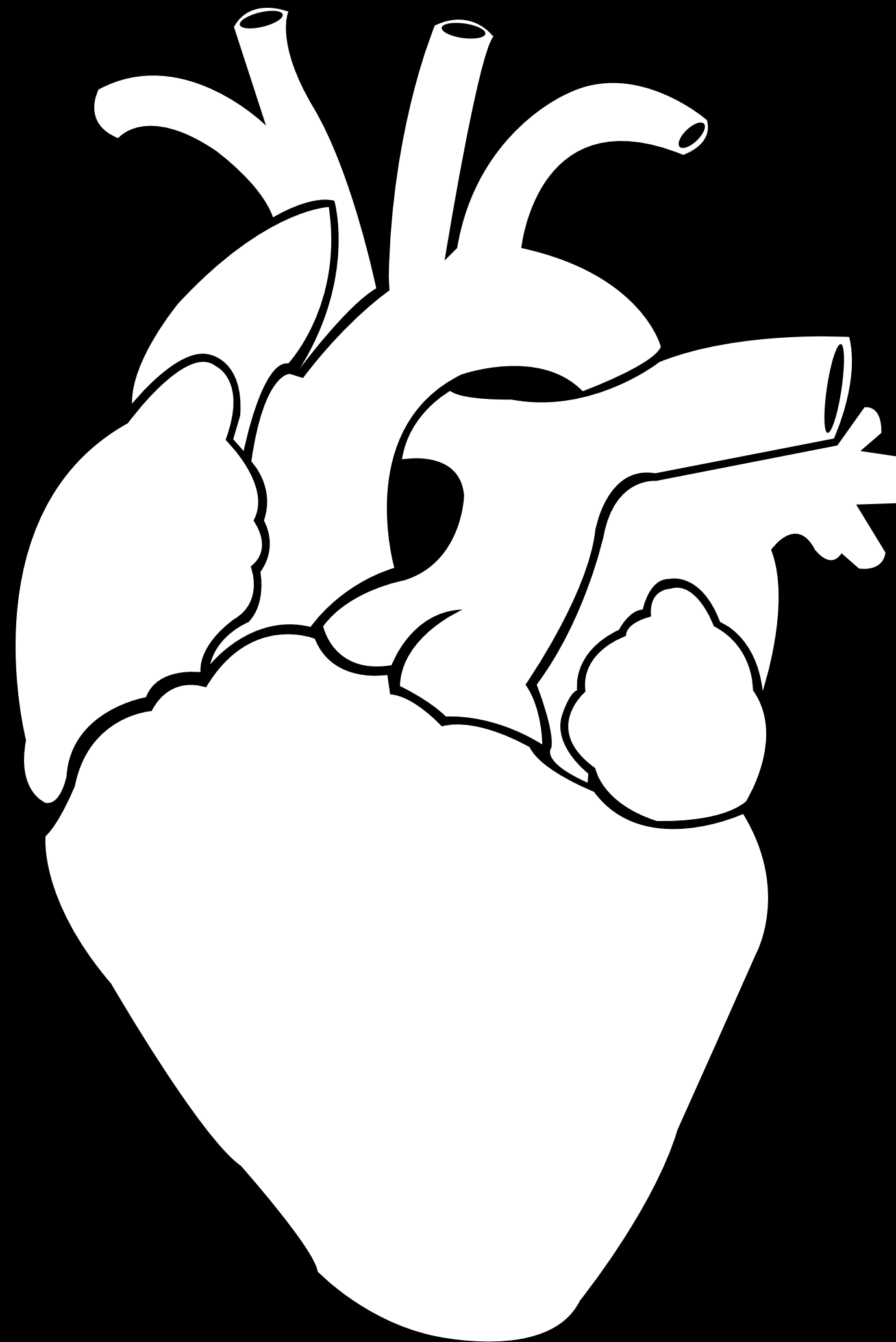
Autonomic Nervous System (ANS)

“No shade of emotion should be without a bodily reverberation...”

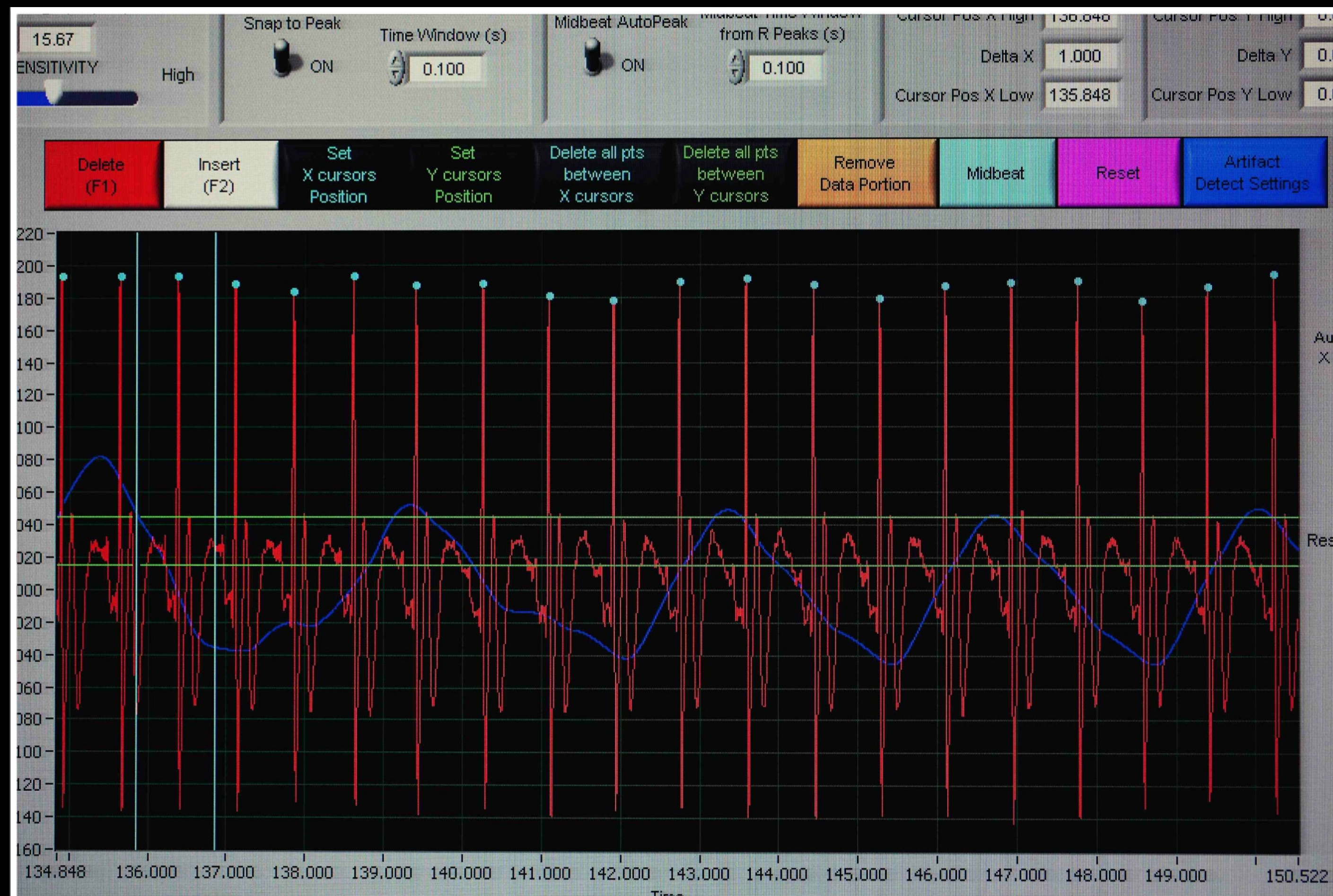
William James (1898)



Autonomic Nervous System (ANS)



Autonomic Nervous System (ANS)



Emotion	ANS Basis	Change
Anger	Vasodilation Pupils	Reddening in skin, Blood vessels bulge, Constriction
Fear	Vasoconstriction Sweat Glands	Pale/blanching Sweaty, Clammy palms Higher skin conductance
Sad	Lacrimal Glands	Tearing, Crying
Disgust	Salivary Glands	Salivate, Drool
Happiness	Vagus Nerve	Tightness in chest, Goosebumps

Central Nervous System (CNS)



Central Nervous System (CNS)

Naturally occurring lesions

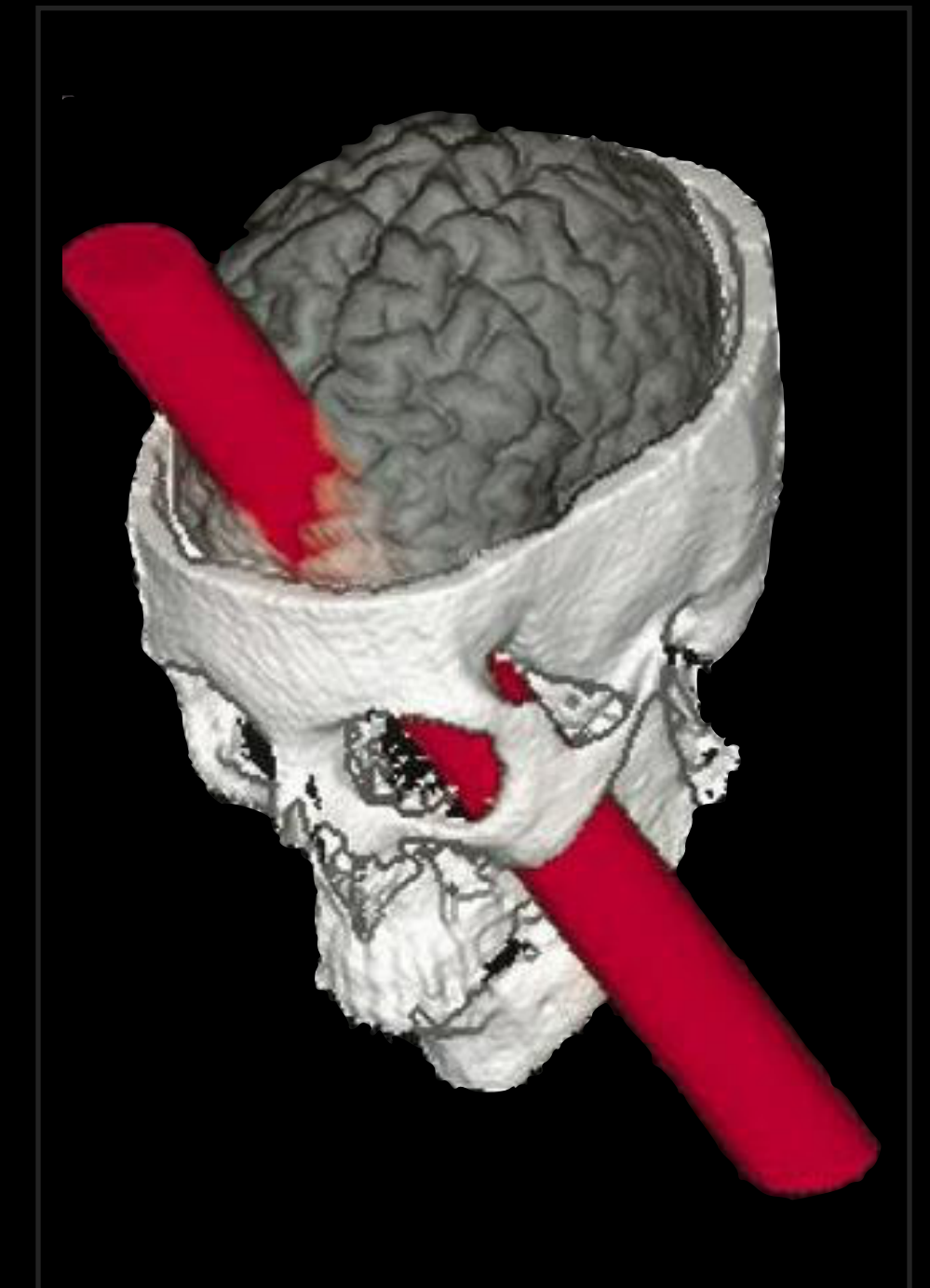
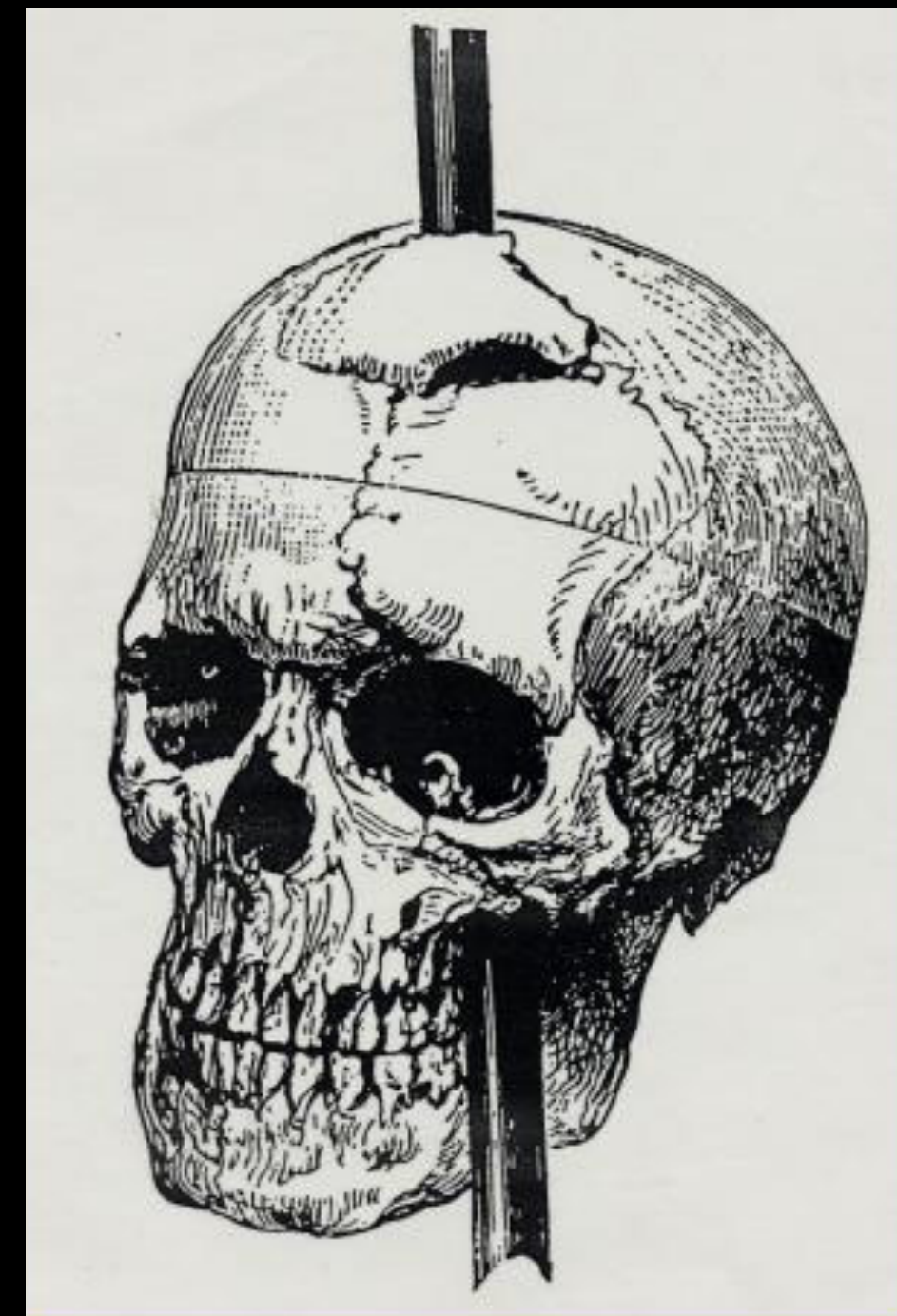
(e.g., orbitofrontal cortex - Phineas Gage)

Areas of damage

(e.g., left temporal lobe aneurysm)

Areas of disease

(e.g., Frontotemporal Dementia)



Caveats

The effectiveness of measurement and manipulation is what our scientific results and discoveries rest on.

Use of empirical techniques often varies with:

- *Goals of study*
- *Realistic constraints (funding, time, equipment)*
- *Theoretical background of experimenters*

QUESTIONS?

Roadmap

Course Logistics

Triggering Emotions

Measuring Emotions

Expert Interview



Experts In Emotion

***EXTRA CREDIT
OPPORTUNITY***

Experts In Emotion Interviews

Dr. Jim Coan

Associate Professor of Psychology
University of Virginia

**Social Regulation of
Emotion**



Experts In Emotion Interviews

Dr. Iris Mauss

Associate Professor of Psychology
University of California, Berkeley

Measuring Emotion



Experts In Emotion Interview

Dr. John J.B. Allen

Distinguished Professor of Psychology, Cognitive
Science, and Neuroscience
University of Arizona

Emotion Elicitation



Experts In Emotion Interview

Dr. Greg Siegle

Associate Professor of Psychiatry
University of Pittsburgh School of Medicine

Emotion Elicitation



Thank You!

Psychology 3131
Professor June Gruber

