JASON WAGNER, MD
@THETECHDOC

COGNITIVE LOAD IN THE ED

EMERGENCY MEDICINE

JASON WAGNER, MD
@THETECHDOC

COGNITIVE LOAD IN THE ED
RESIDENT EDUCATOR EDITION

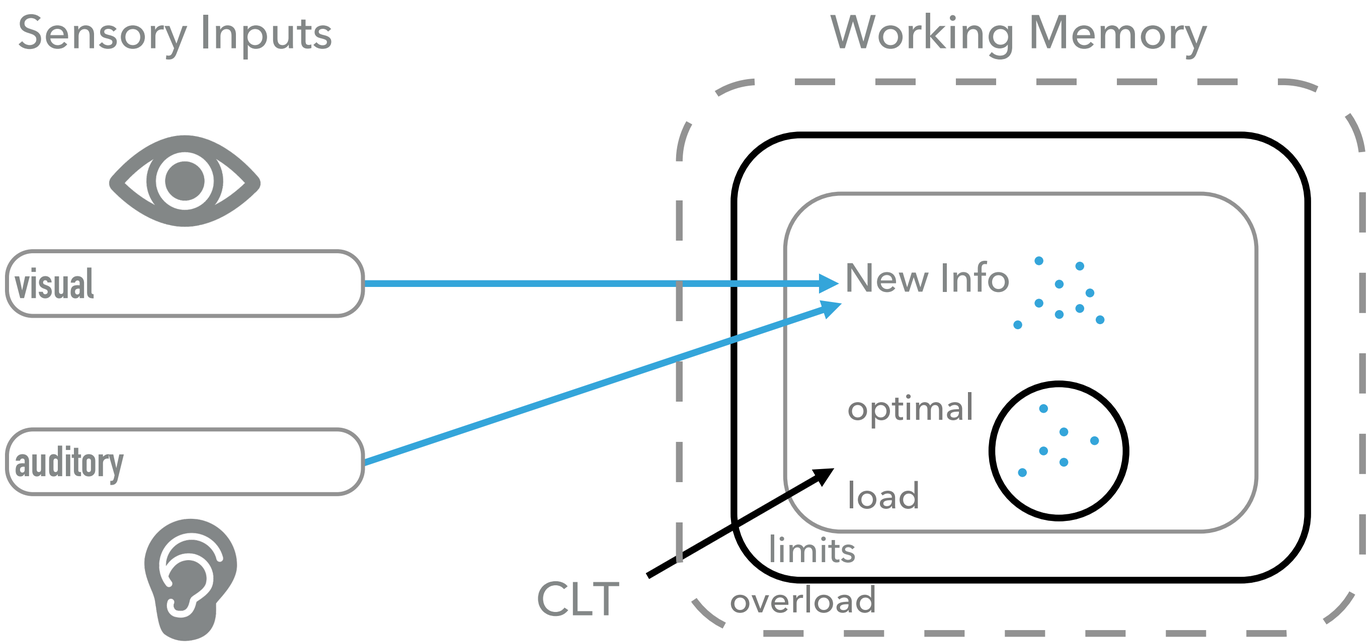
CUBE TEST

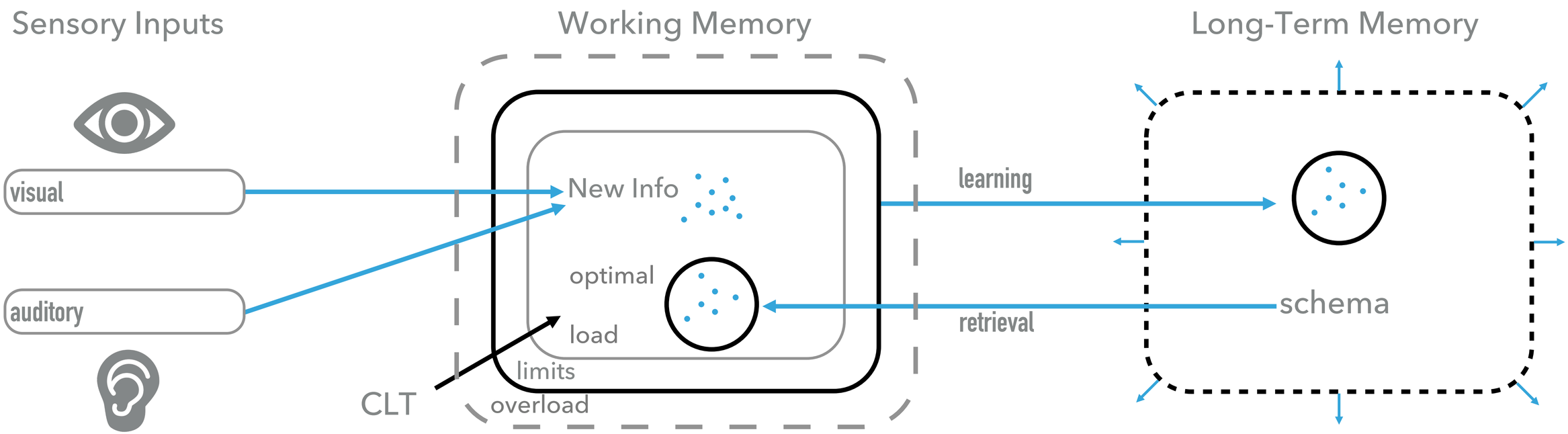
Working Memory
Sensory Memory
Long Term Memory

Sensory Inputs

visual

auditory


Sensory Inputs
Working Memory
visual
auditory
New Info
optimal
load
limits
overload
CLT


Sensory Inputs
Working Memory
Long-Term Memory
visual
auditory
New Info
optimal
load
limits
overload
CLT
learning
retrieval
schema

Working Memory
Sensory Memory
Long Term Memory

Novice

Mid-Career

POP! the PIG
CANDY LAND
Yeti in my Spaghetti
GUESS WHO
HEDBANZ
MARVEL HEROES
WOLVERINE
SPIDERMAN
IRON MAN
HULK
VIZIO

Vets

System 1
&
System 2

2 + 2

17 x 24

SYSTEM 2

ADD +1

3795

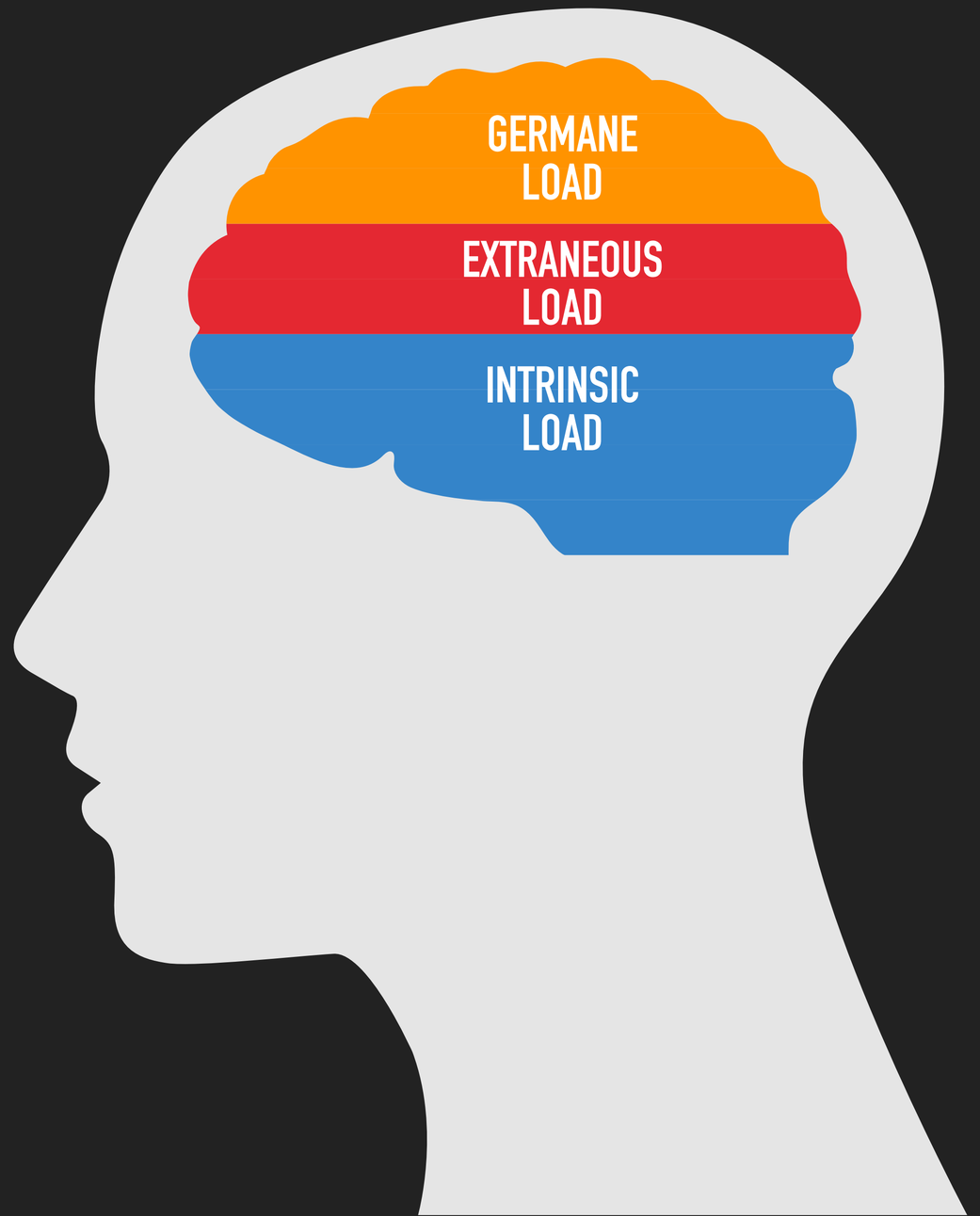
SYSTEM 2

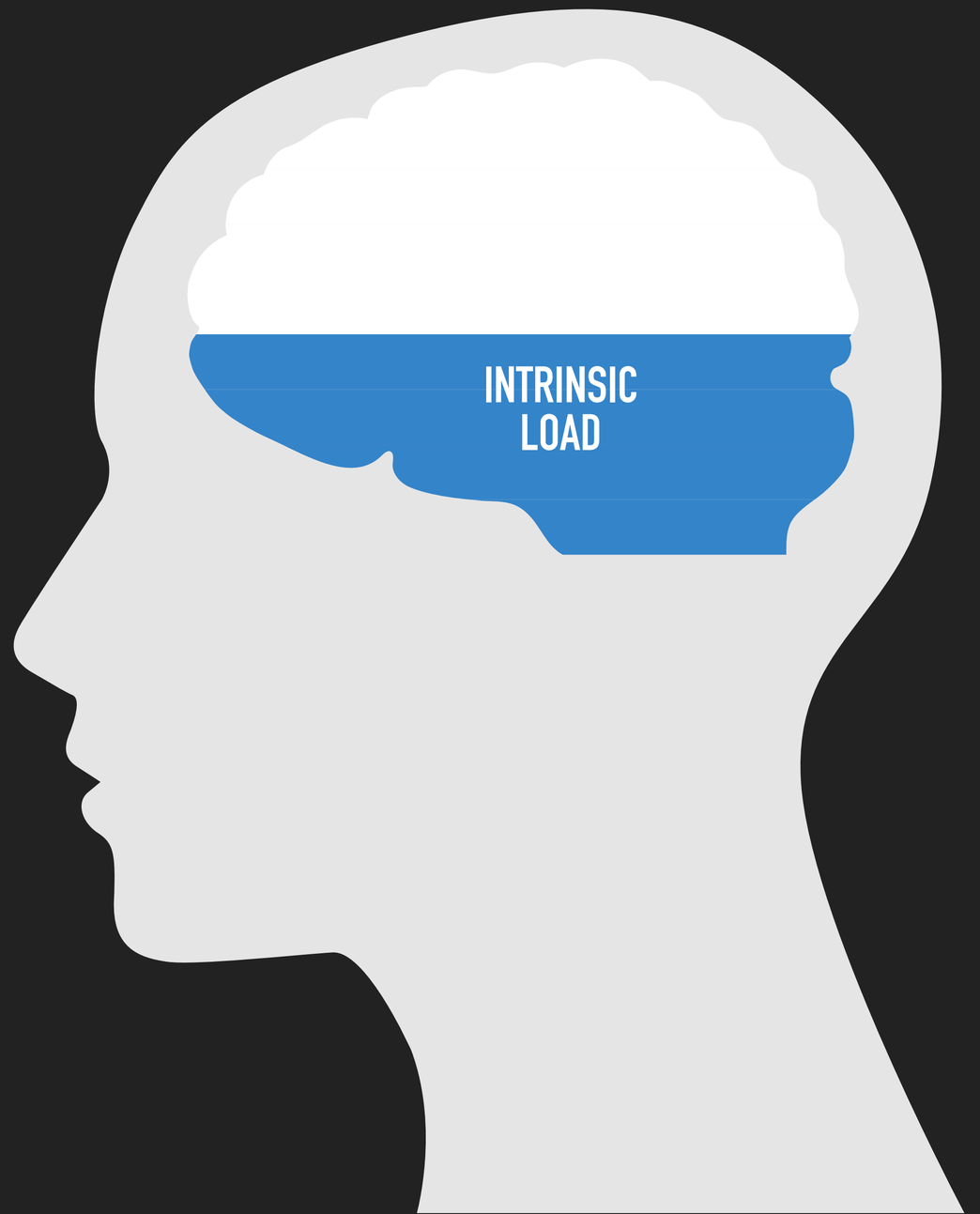
ADD +1

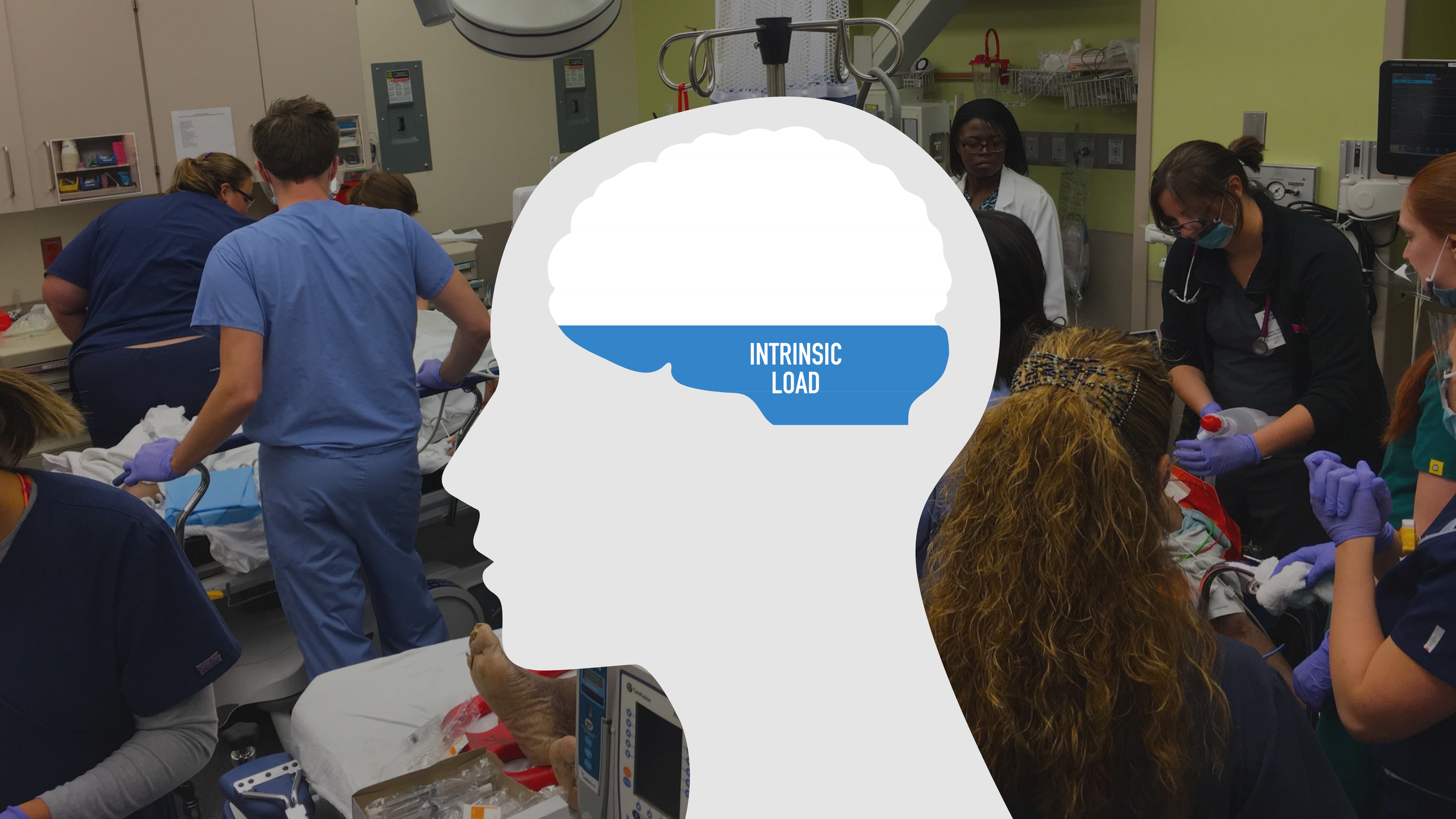
3795

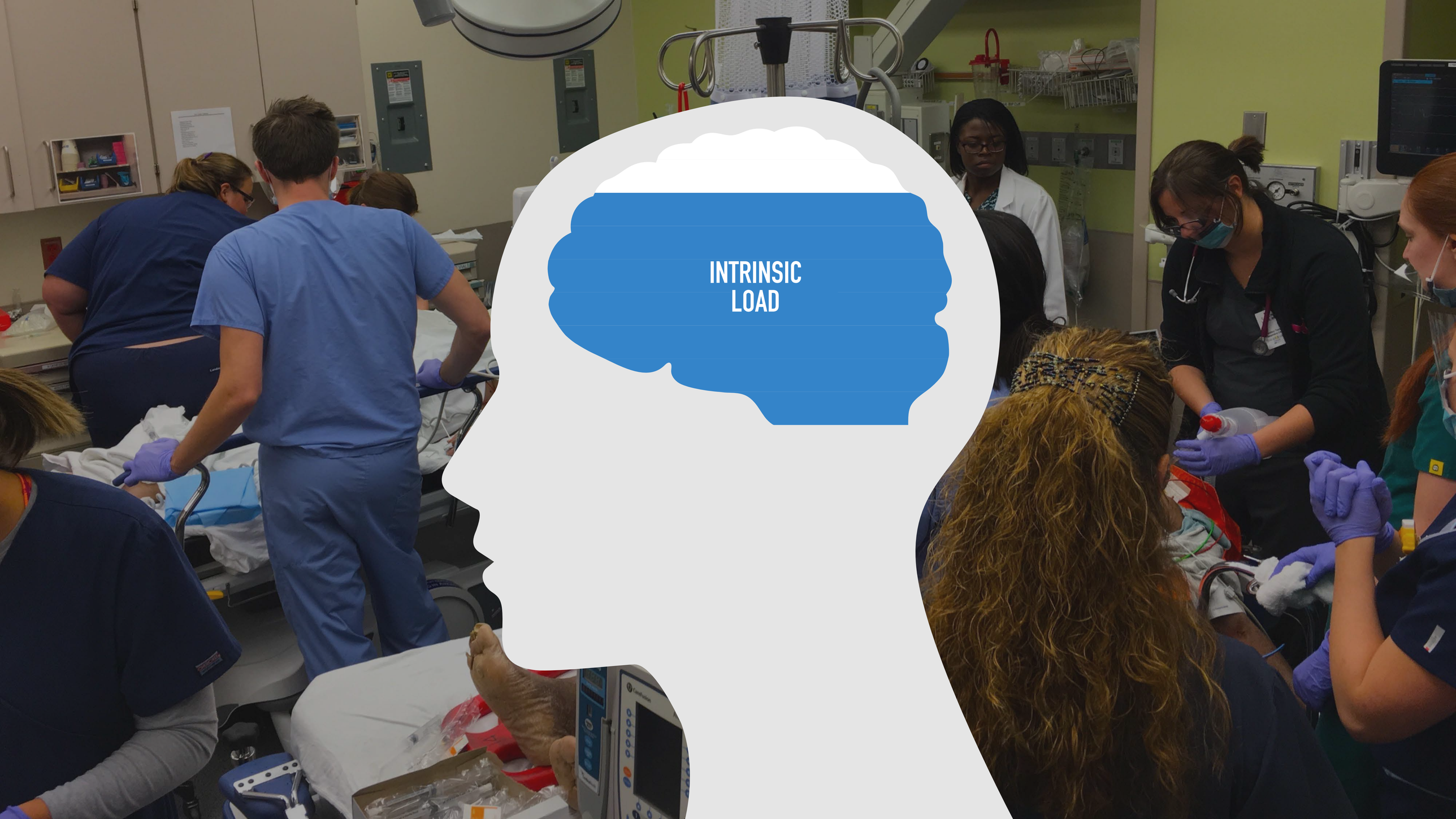
The Monkey Business Illusion

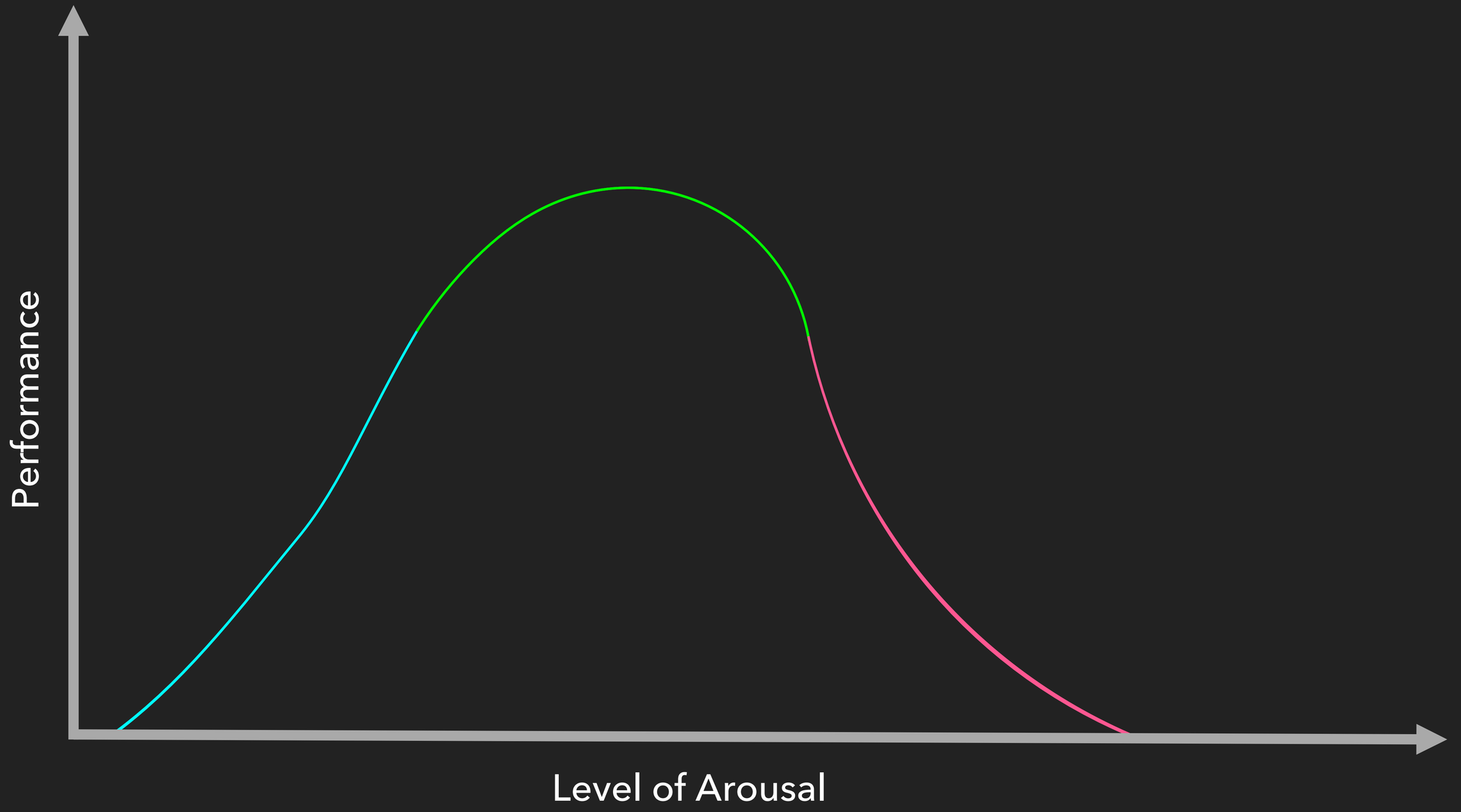
Daniel J. Simons

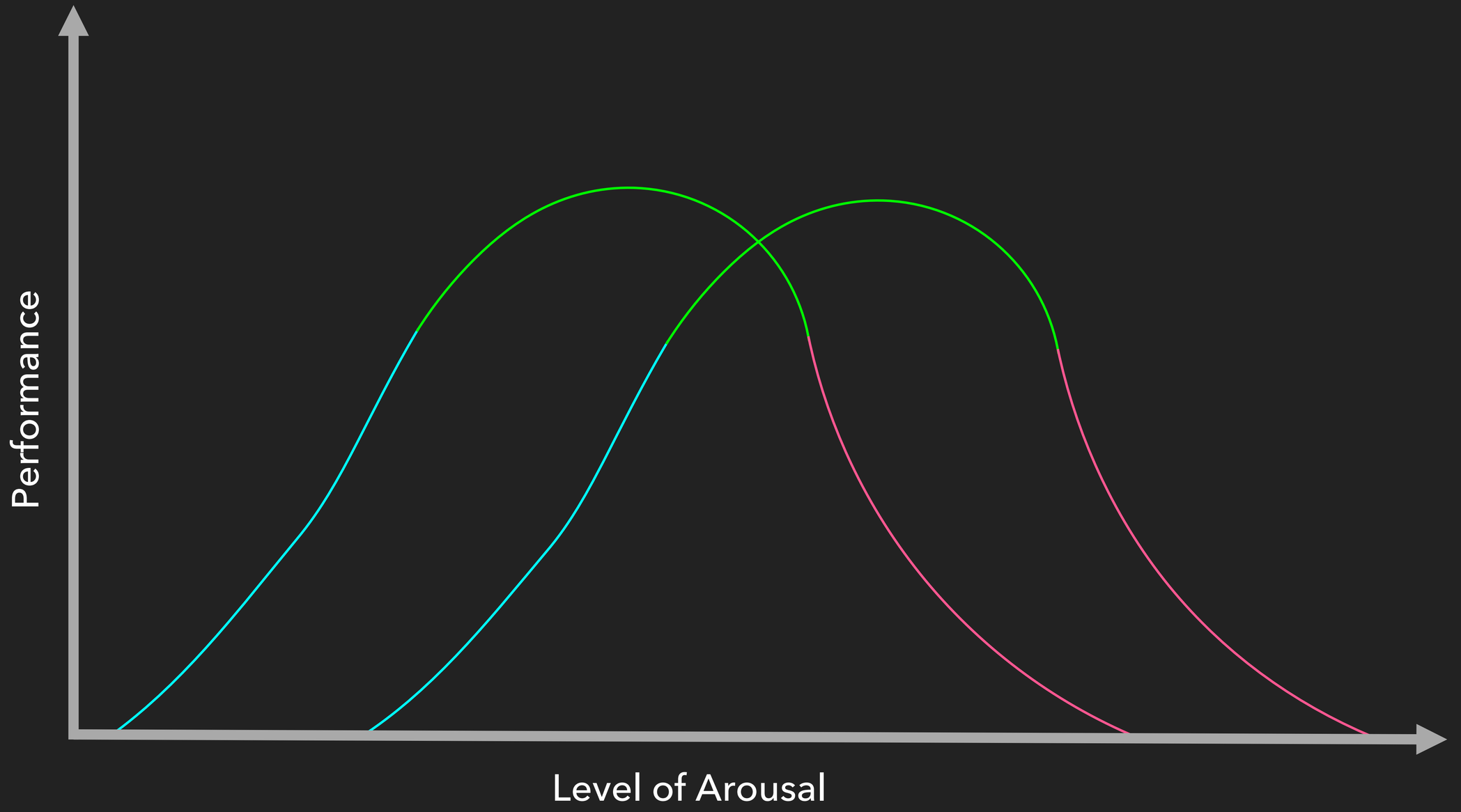

GERMANE
LOAD
EXTRANEOUS
LOAD
INTRINSIC
LOAD

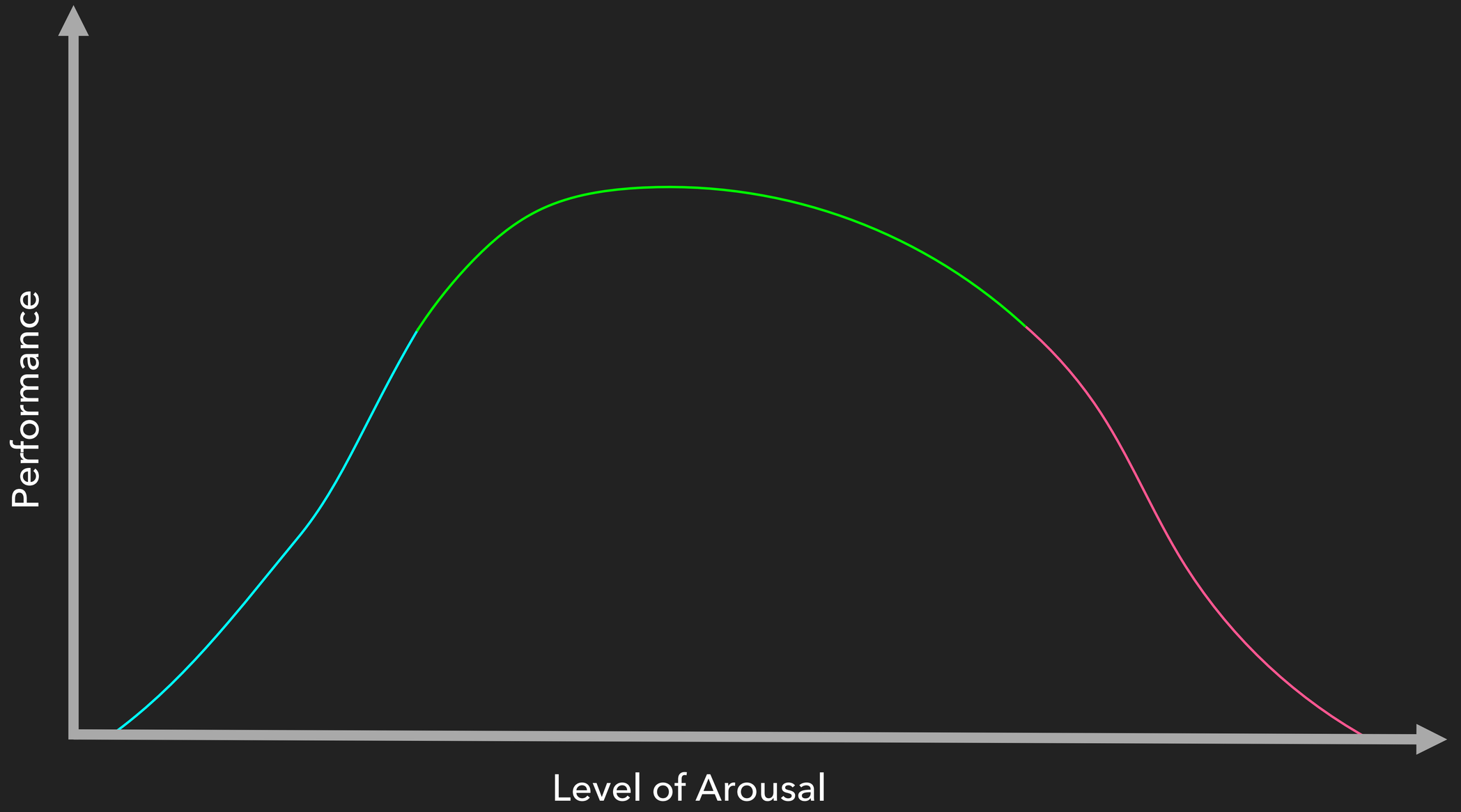

INTRINSIC
LOAD

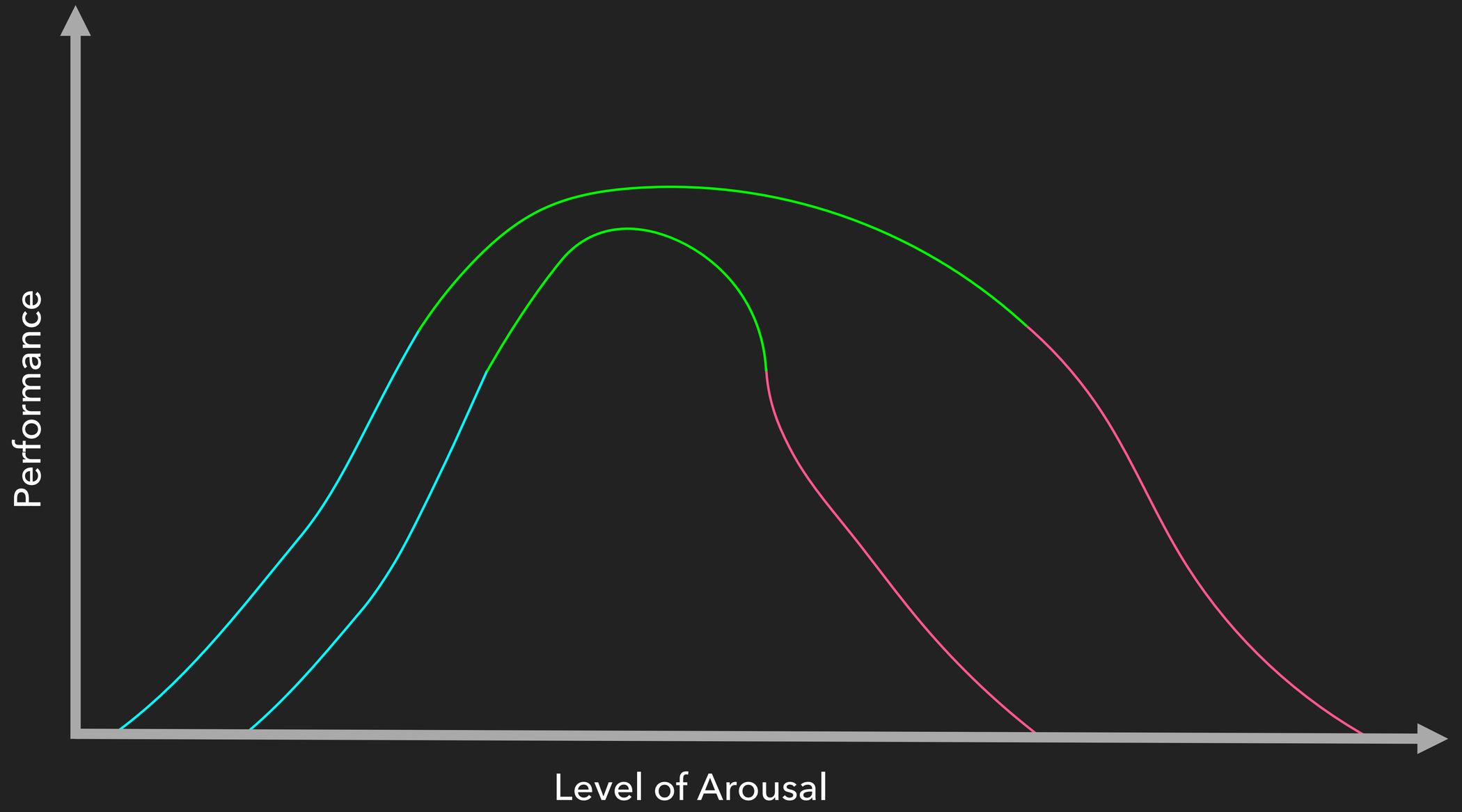

INTRINSIC
LOAD

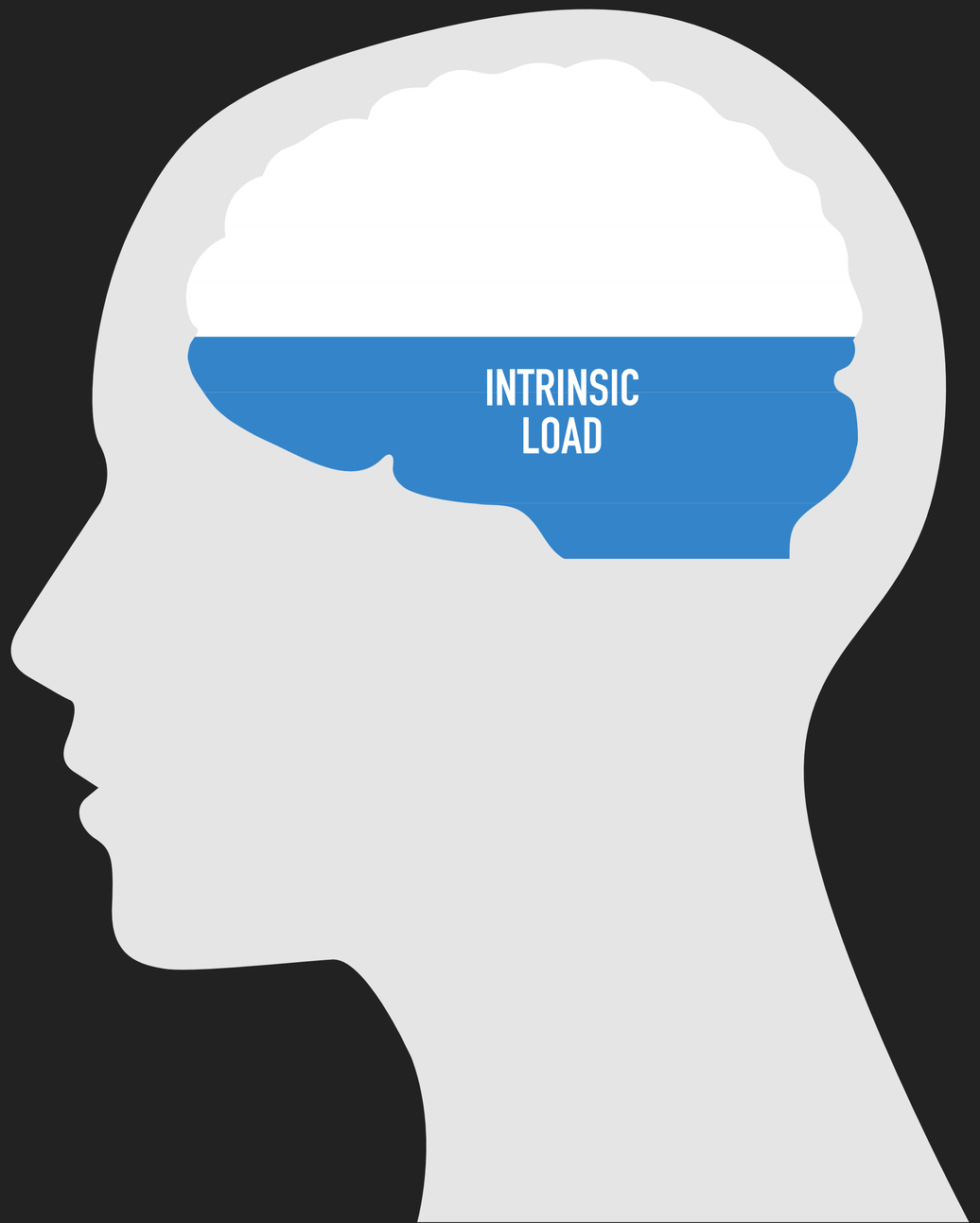

INTRINSIC
LOAD

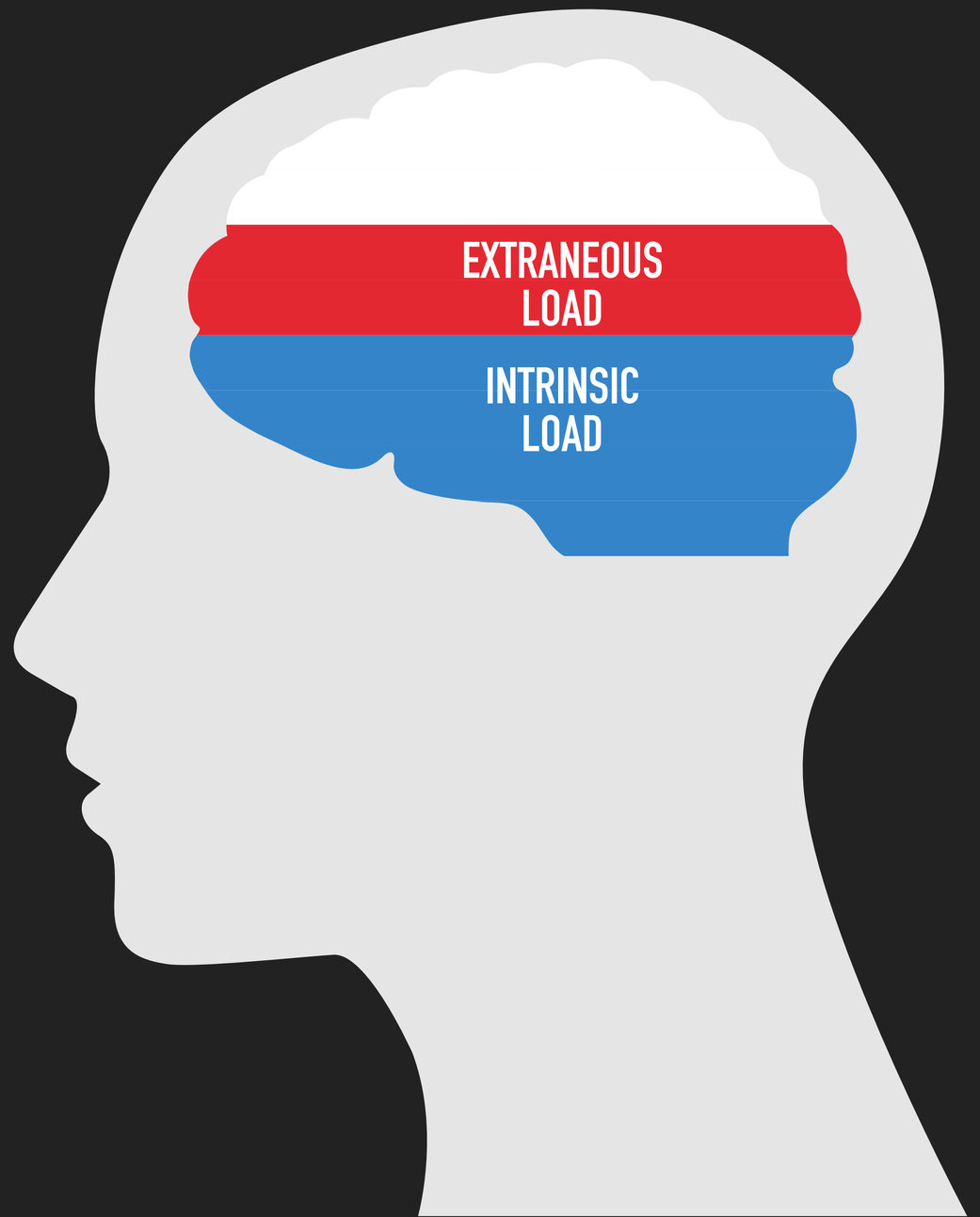

Performance
Level of Arousal

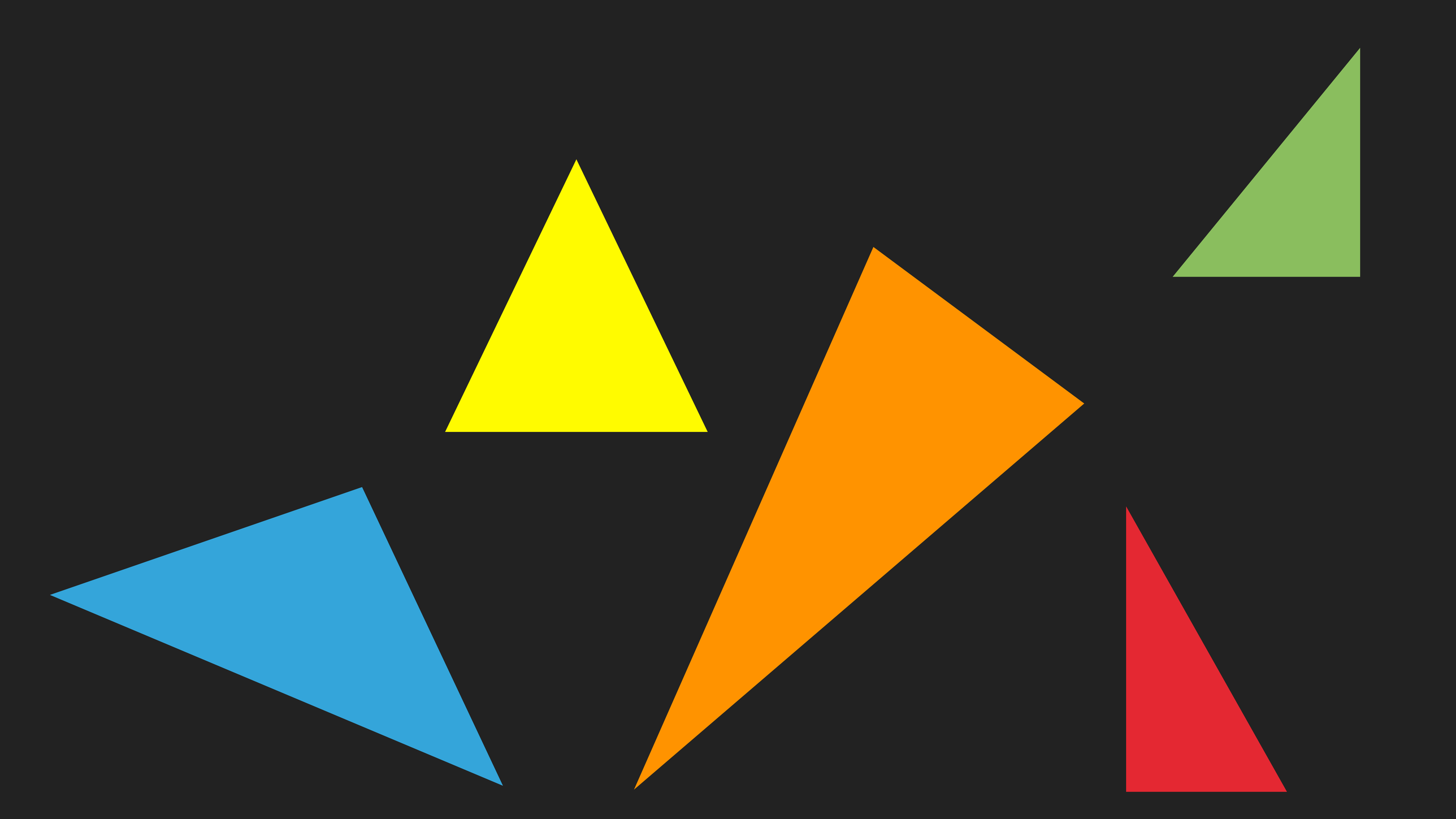

Performance
Level of Arousal

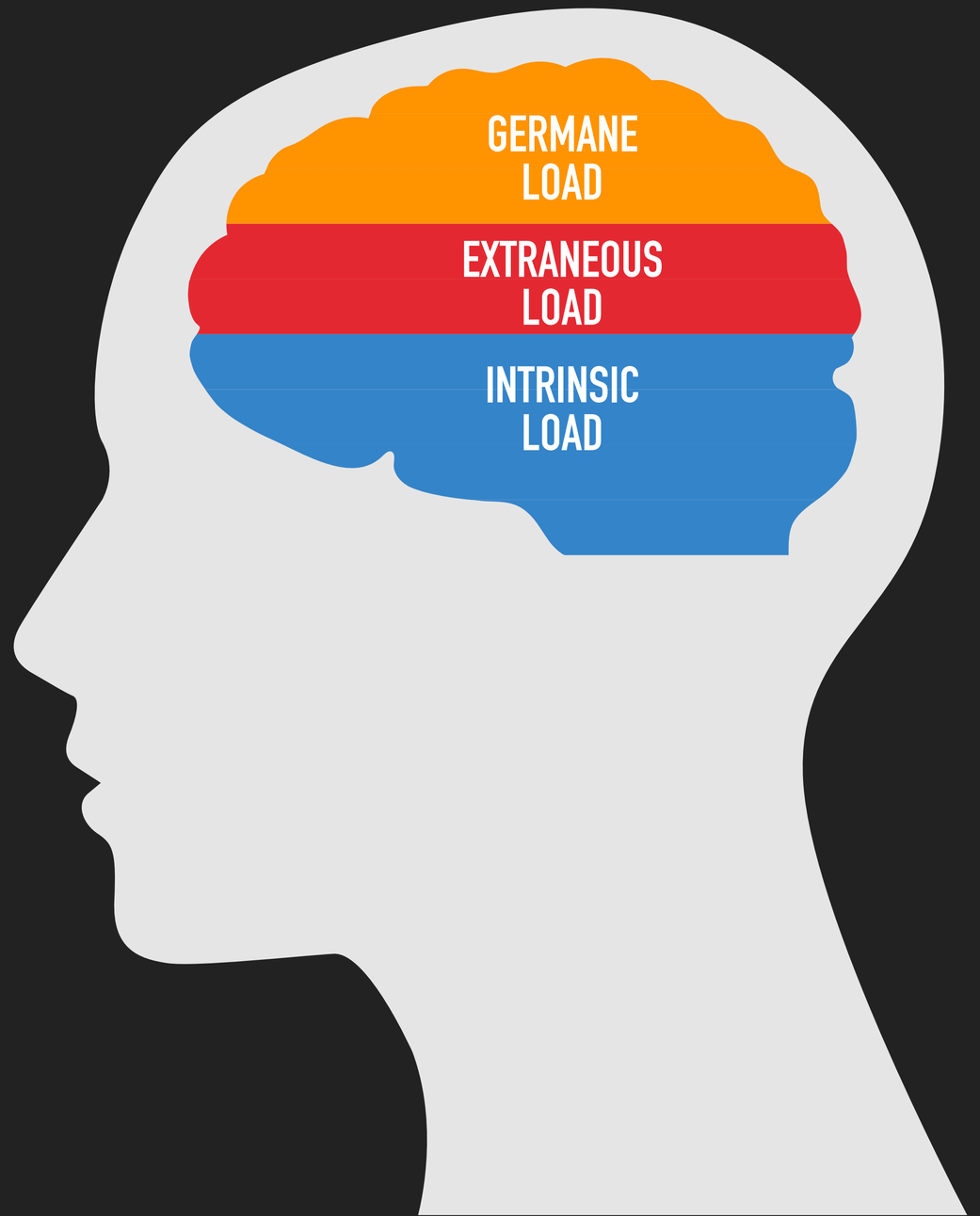

Performance
Level of Arousal

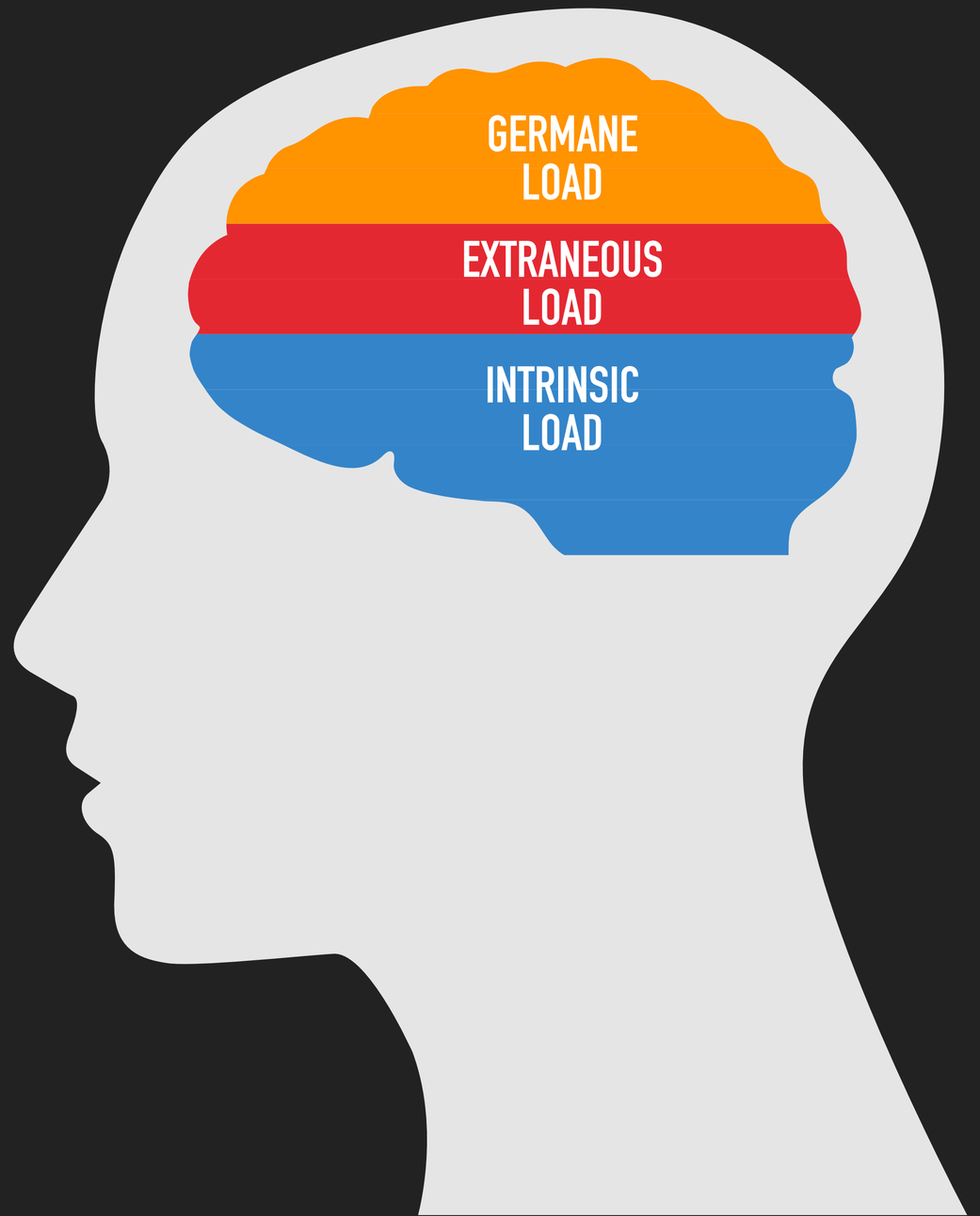

Performance
Level of Arousal

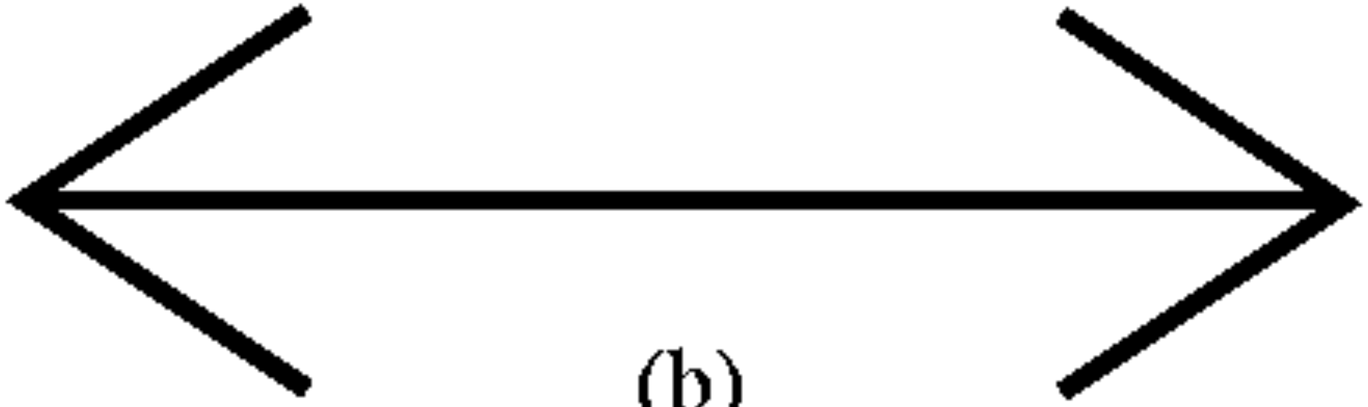

INTRINSIC
LOAD


EXTRANEOUS
LOAD
INTRINSIC
LOAD

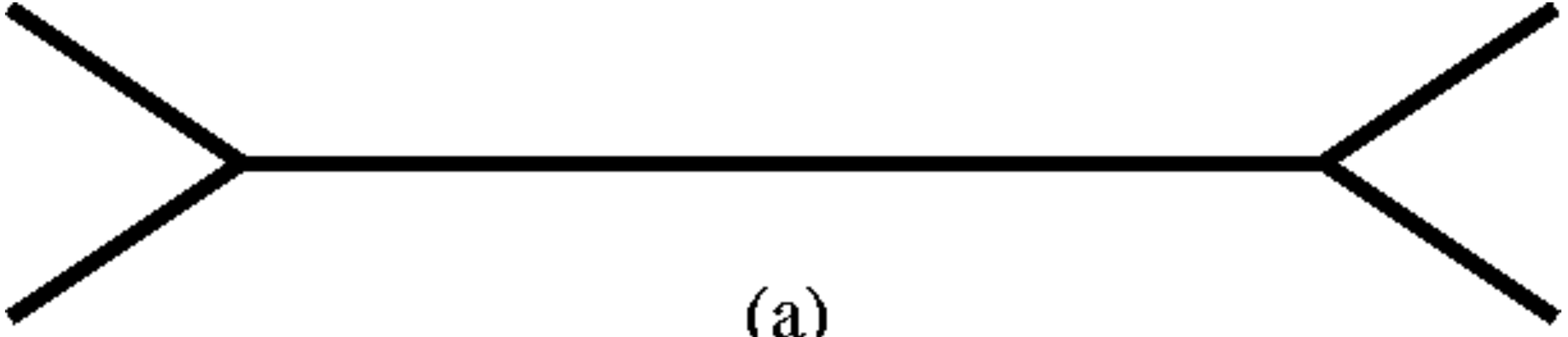



GERMANE
LOAD
EXTRANEOUS
LOAD
INTRINSIC
LOAD

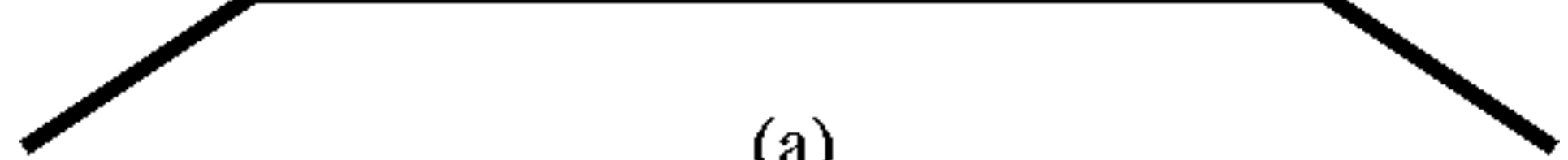

GERMANE
LOAD
EXTRANEOUS
LOAD
INTRINSIC
LOAD



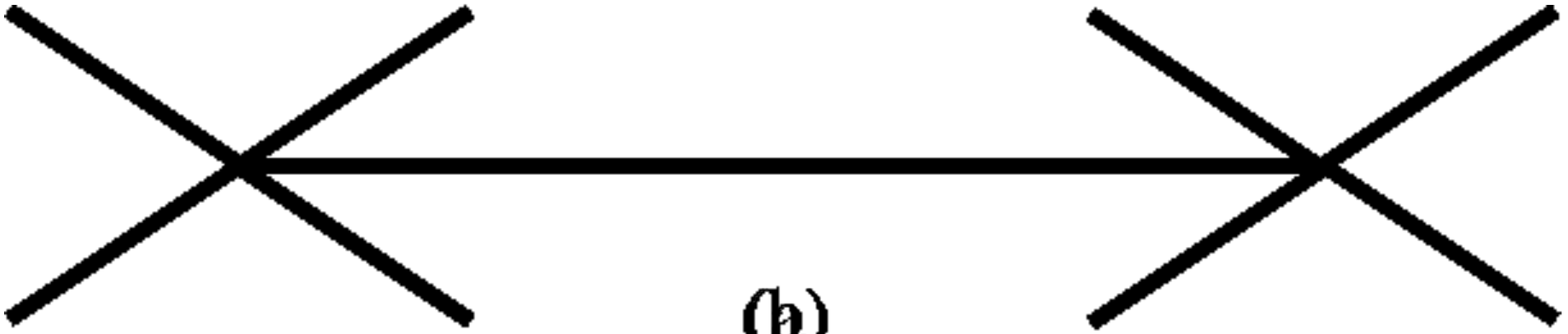
(b)



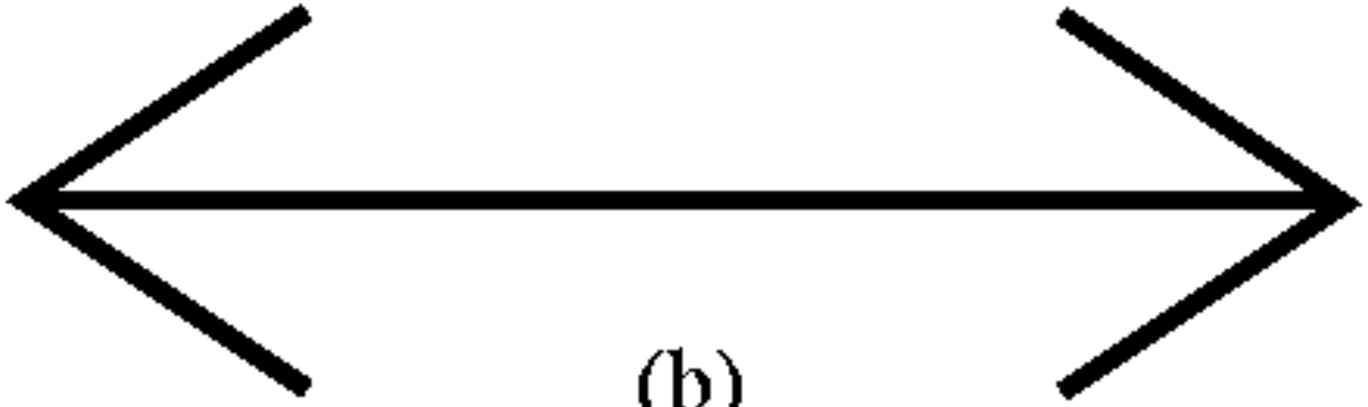
(a)



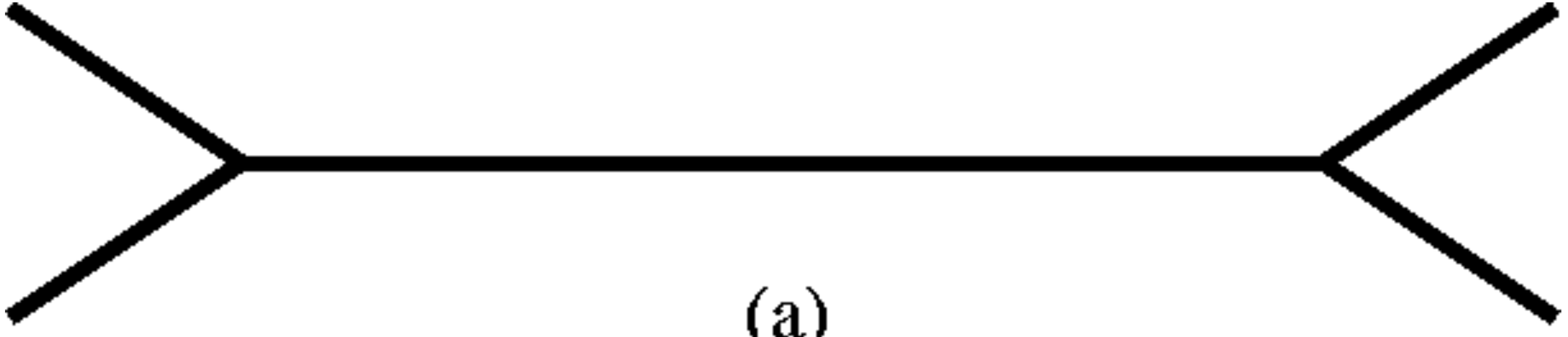
(a)



(b)



(b)



(a)

Q1. Did Mahatma Gandhi

live beyond age 140?

Q1. Did Mahatma Gandhi

live beyond age 9?

Q1. Did Mahatma Gandhi

live beyond age 140?

Q1. Did Mahatma Gandhi

live beyond age 9?

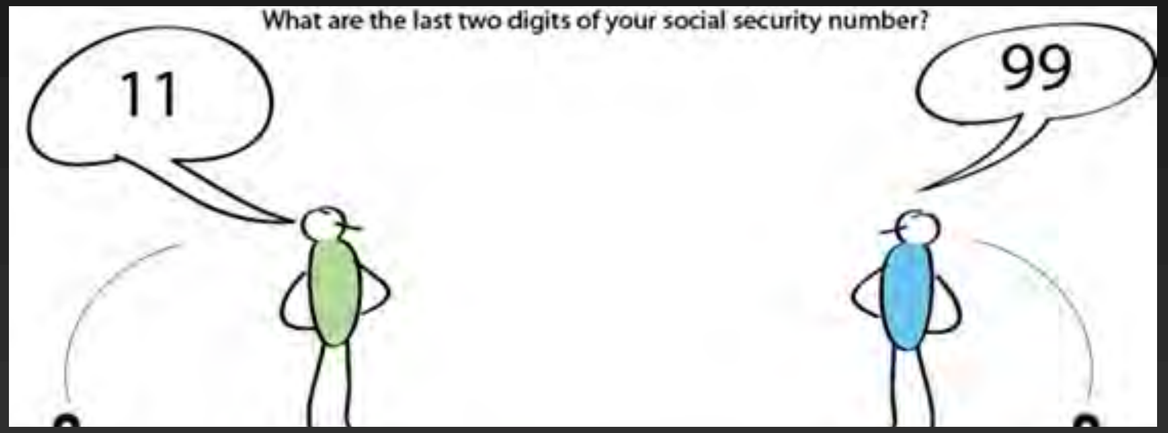
Q2. How old was Mahatma Gandhi

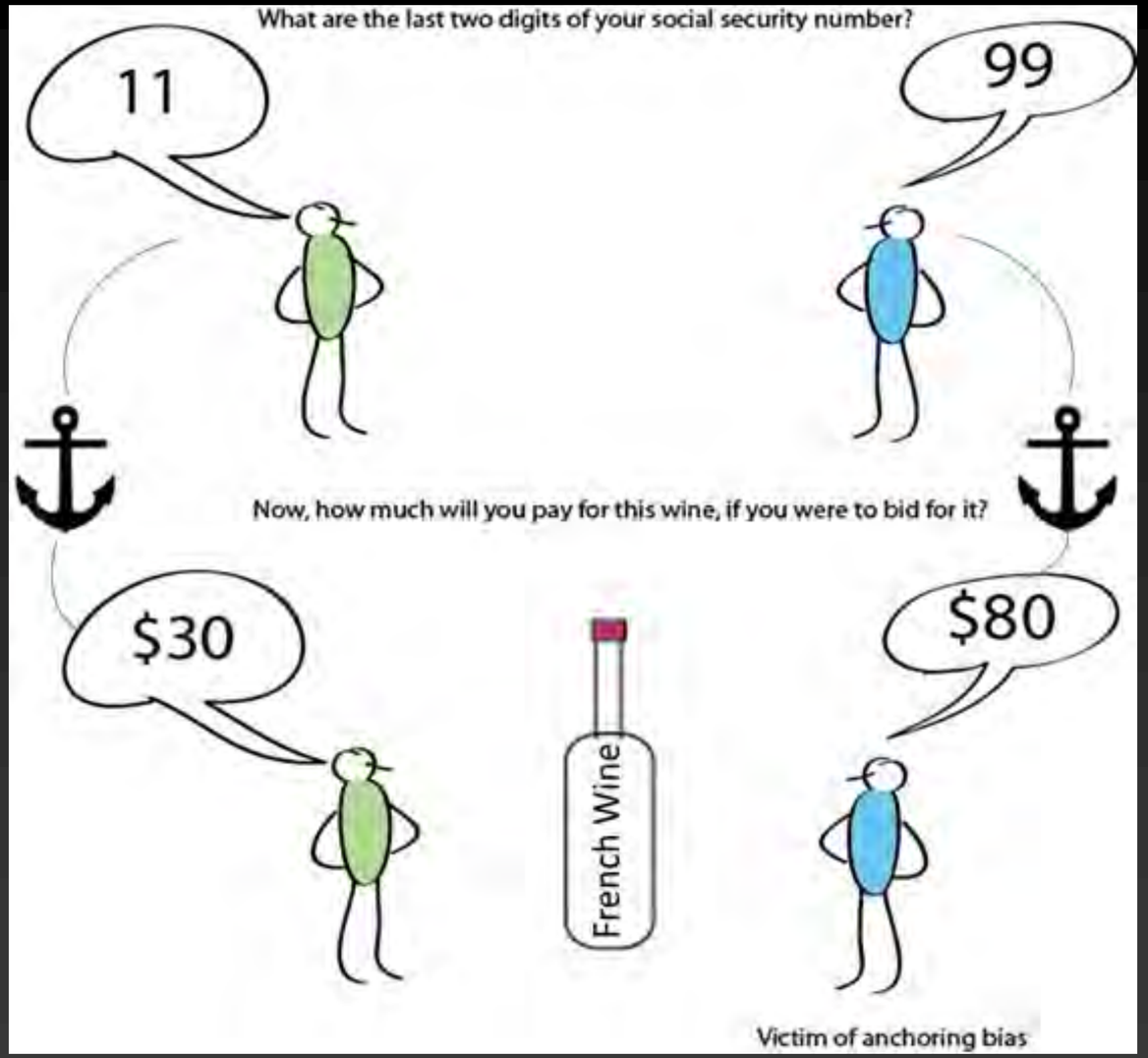
when he died?

67

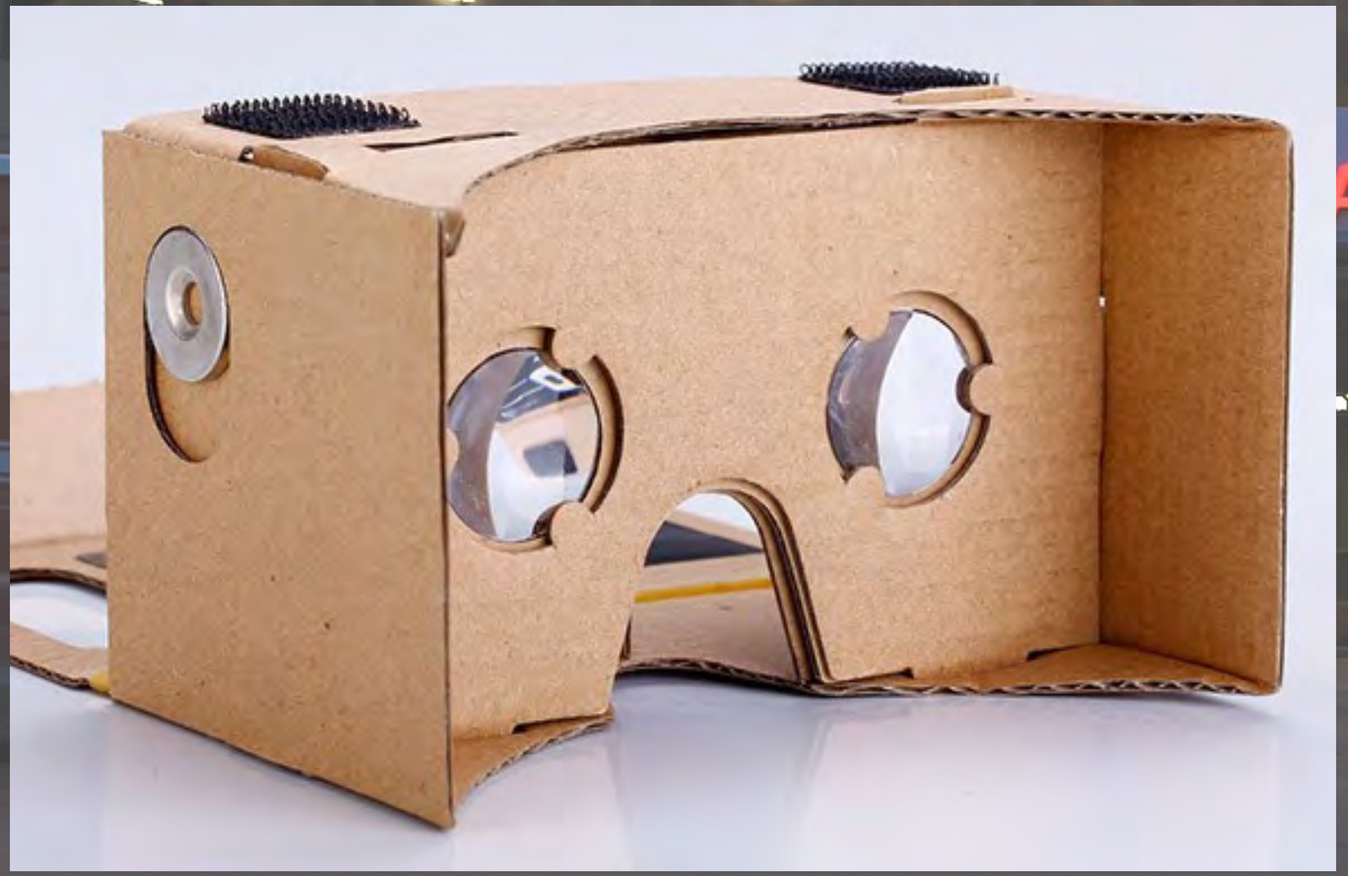
50

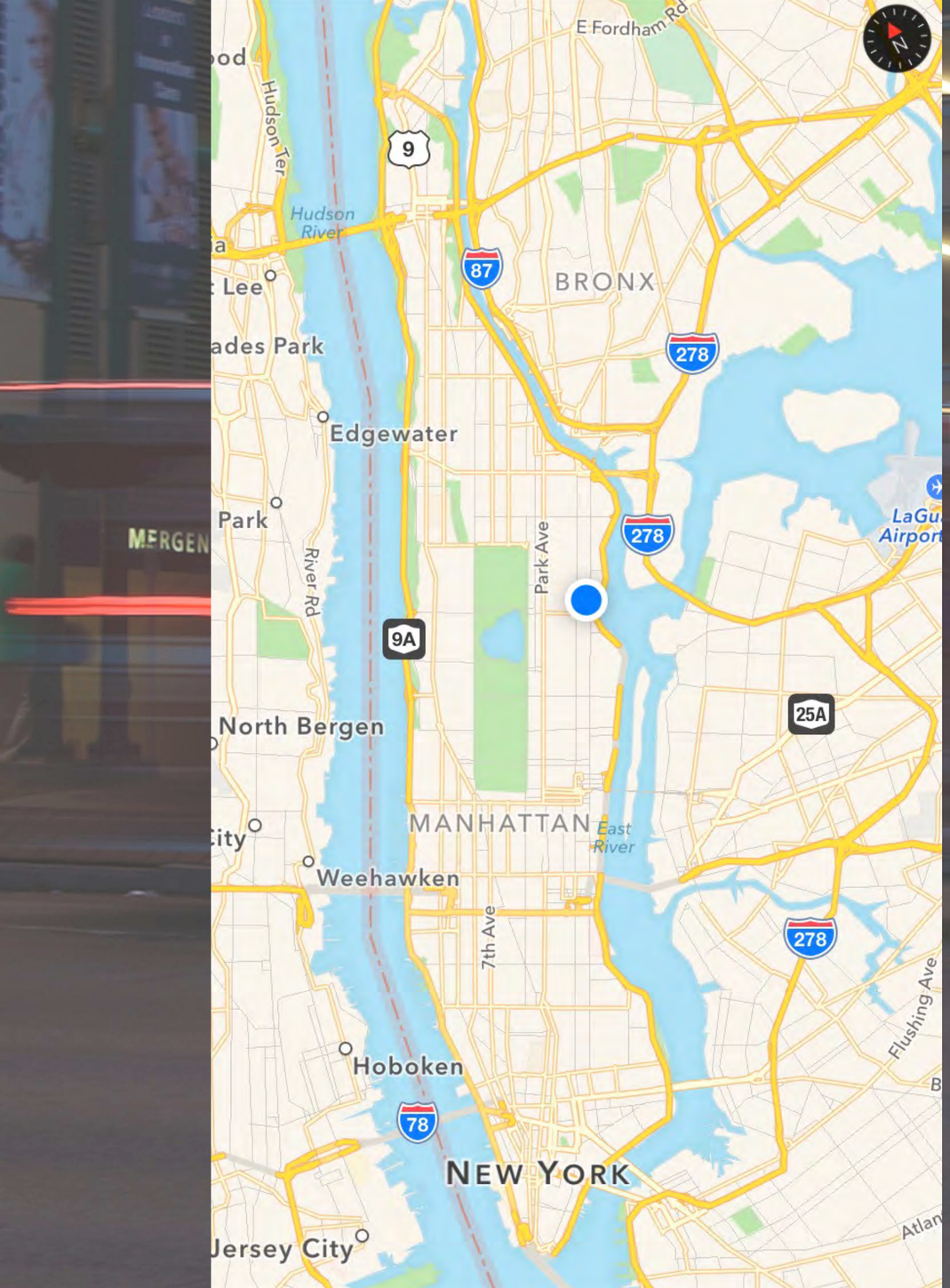
SUNSPORT™
SUNSPORT™

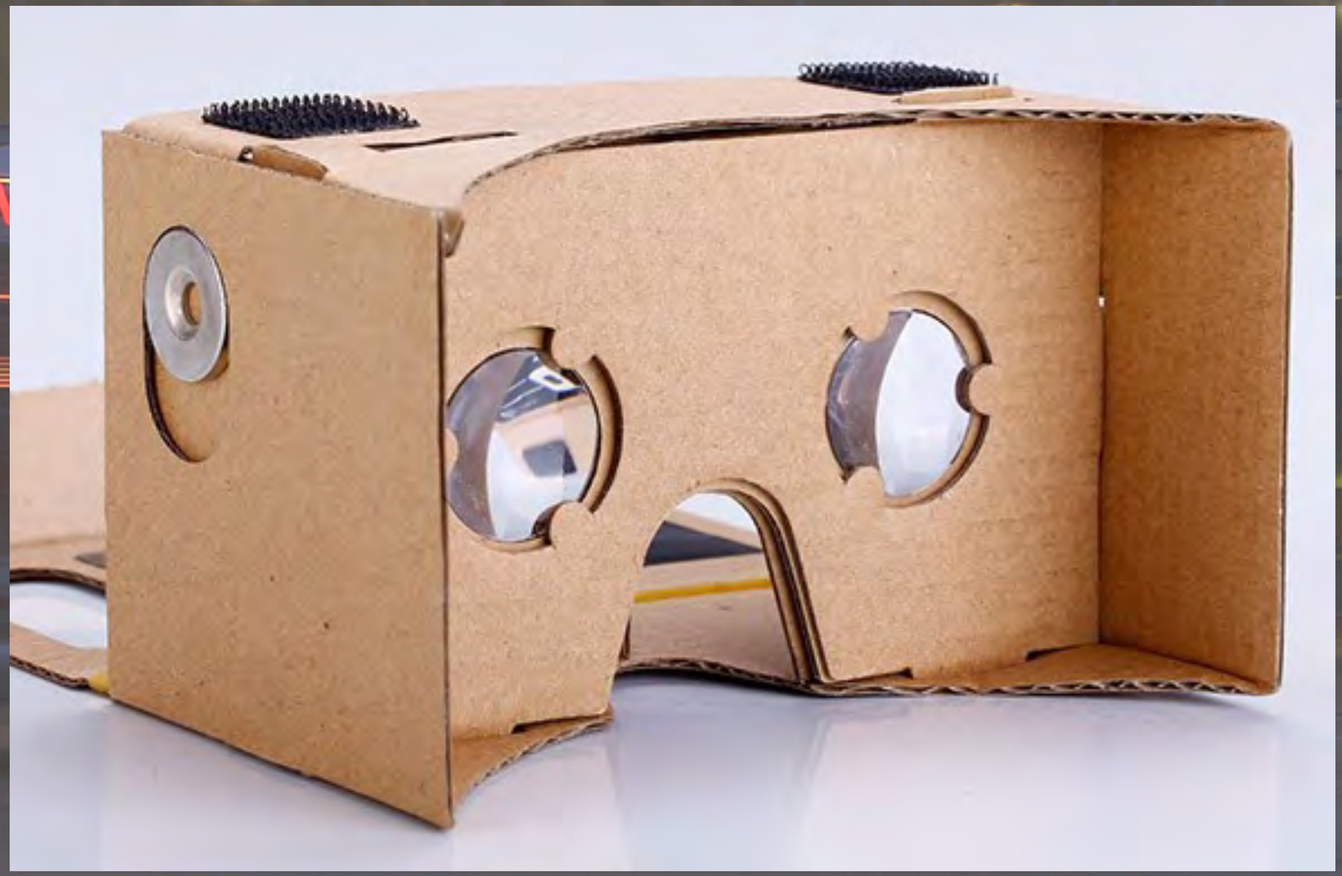

What are the last two digits of your social security number?
11
99


What are the last two digits of your social security number?
11
99
Now, how much will you pay for this wine, if you were to bid for it?
$30
$80
French Wine
Victim of anchoring bias

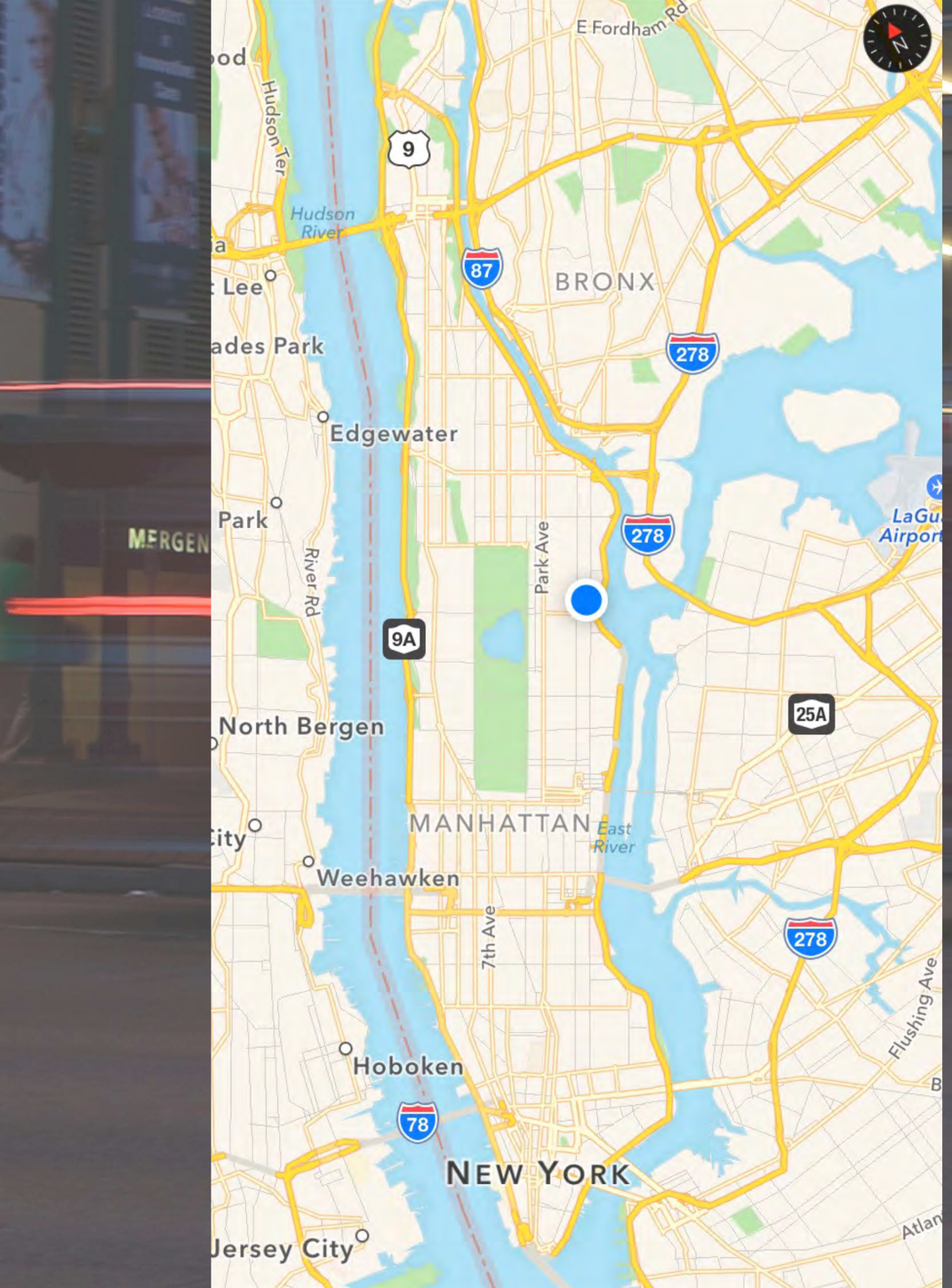
MERGENCY
NIGHT
AUMA CENTER




E Fordham Rd
Hudson Ter
9
Hudson River
87
BRONX
278
Lee
ades Park
Edgewater
Park
River Rd
Park Ave
278
LaGu
Airport
9A
25A
North Bergen
MANHATTAN
East River
City
Weehawken
7th Ave
278
Flushing Ave
Hoboken
78
NEW YORK
Jersey City
Atlan



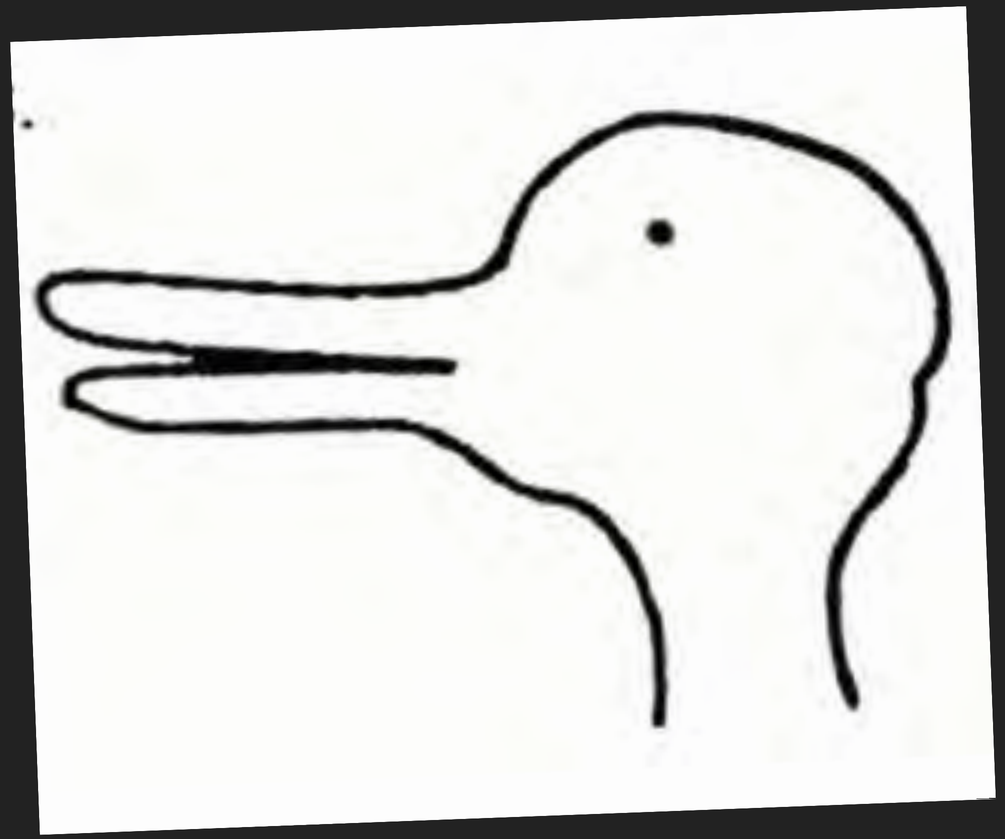
htc
VIVE PRE
VIVE

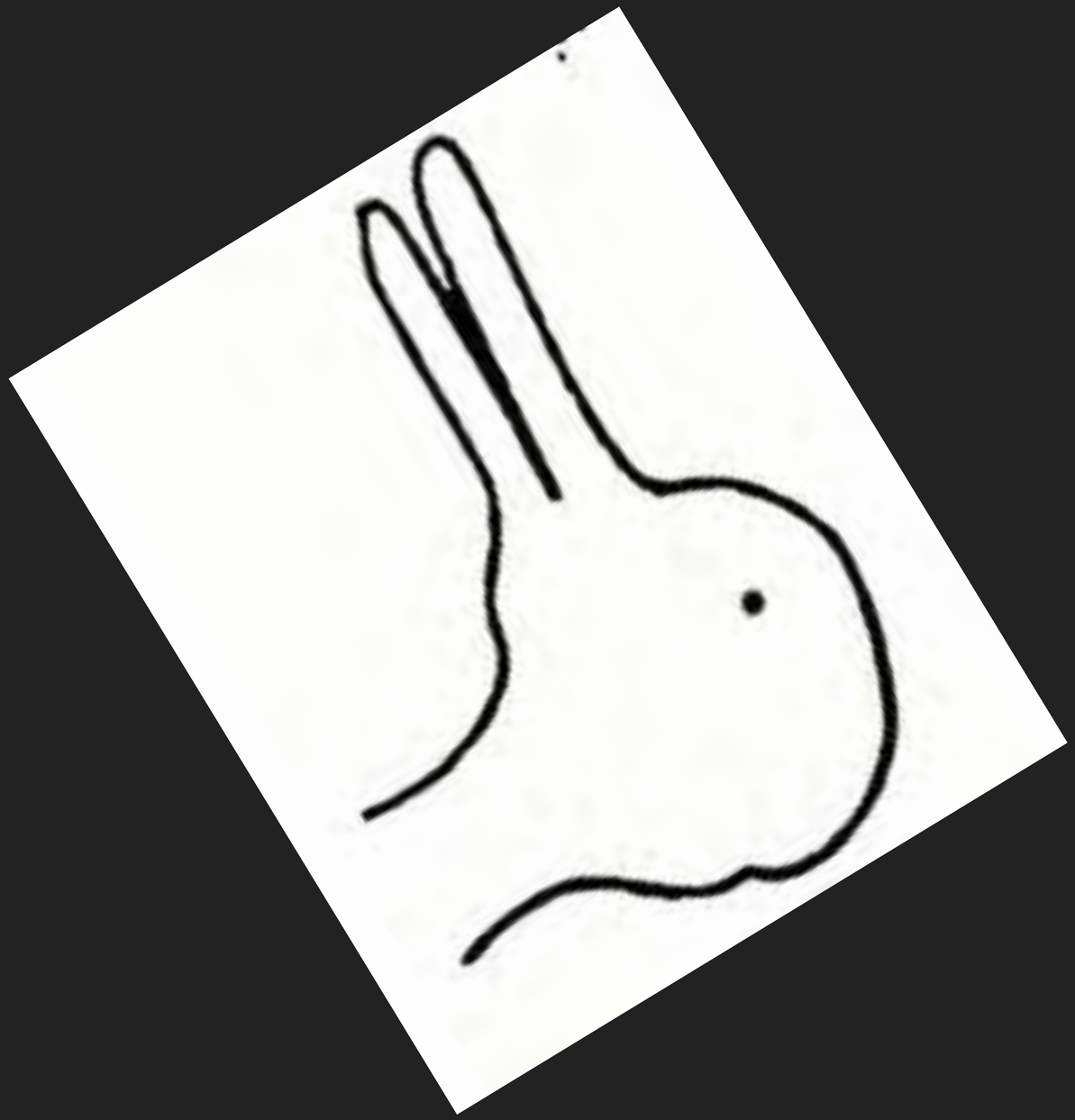

E Fordham Rd
Hudson Ter
9
Hudson River
87
BRONX
278
Lee
ades Park
Edgewater
Park
River Rd
Park Ave
278
9A
25A
North Bergen
MANHATTAN
East River
Weehawken
7th Ave
278
Flushing Ave
Hoboken
78
NEW YORK
Jersey City

CHARLES F. KNIGHT
EMERGENCY AND TRAUMA CENTER
htc
VIVE
VIVE

A.

B.

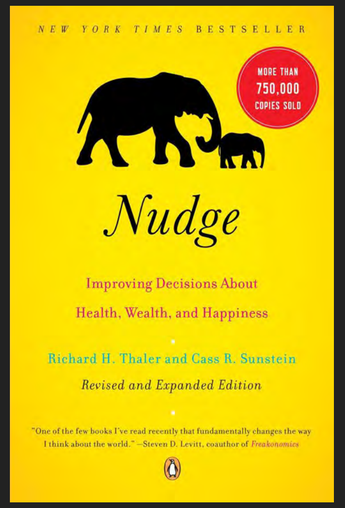


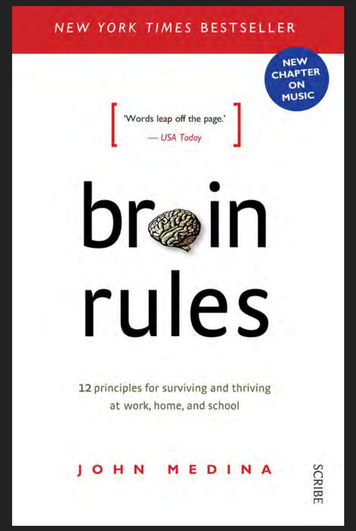


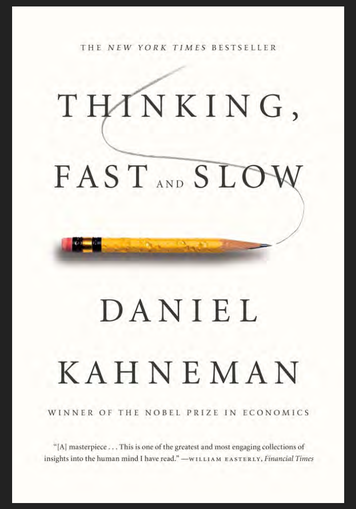
ENTRAT

READING/LISTENING LIST

- Brain Rules: John Medina
- Thinking Fast and Slow: Daniel Kahneman
- On Combat: David Grossman
- Nudge: Richard Thaler
- Make it Stick: Peter Brown
- You are Not so Smart: David McRaney
- NPR: Hidden Brain
- Great Courses: Behavioral Economics







JASON WAGNER, MD
@THETECHDOC

QUESTIONS?

Gamification

jason wagner, MD, FACEP, FAAEM

Parker Brothers
World Conquest Game

Jeu: À La Conquête Du Monde de Parker Brothers

RISK

GAME • JEU

Gamification

jason wagner, MD, FACEP, FAAEM

Disclosures

Disclosures

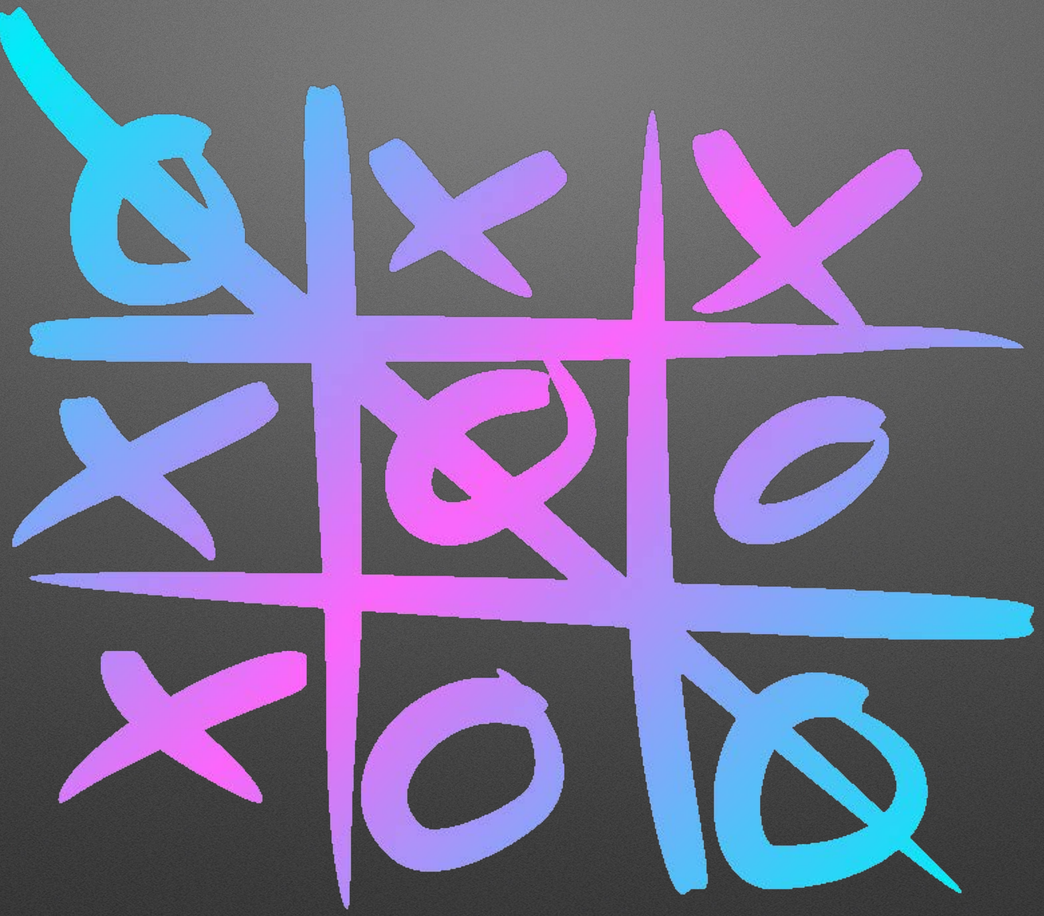
TKXX

TIX

TIKX

TARXT

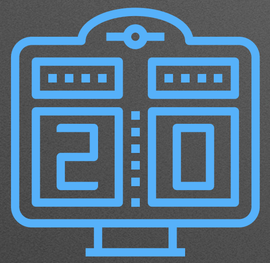
Kahoot!

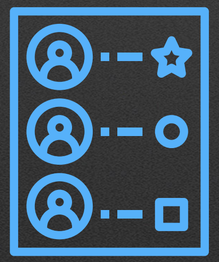


Gamification

Gamification

Structural

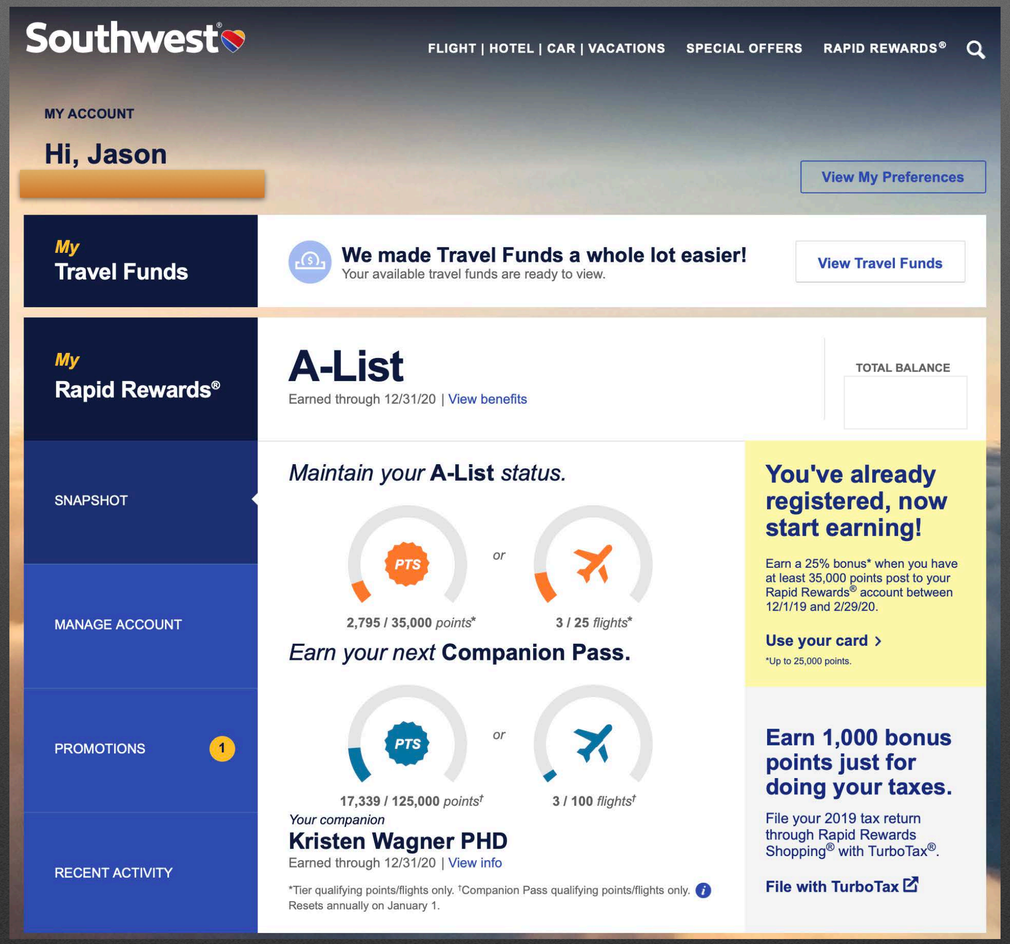




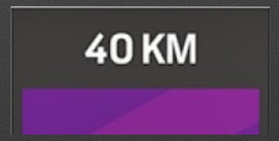
Content

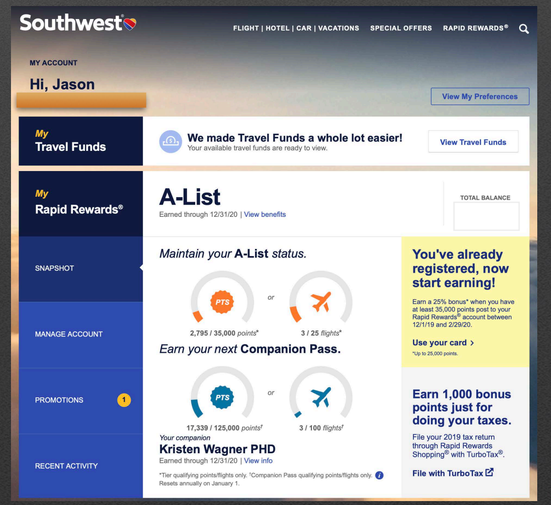
Structural Gamification

Structural Gamification

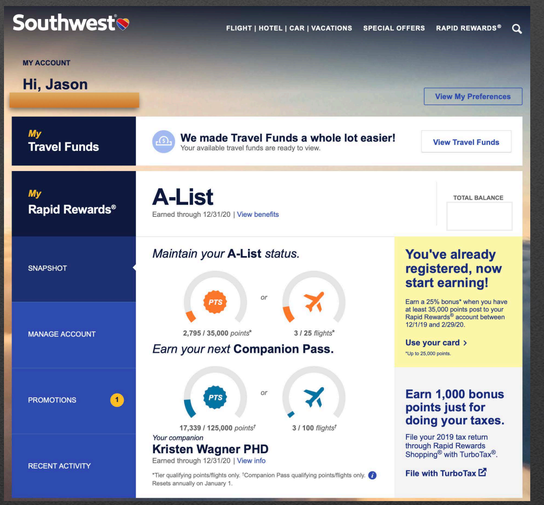


Structural Gamification

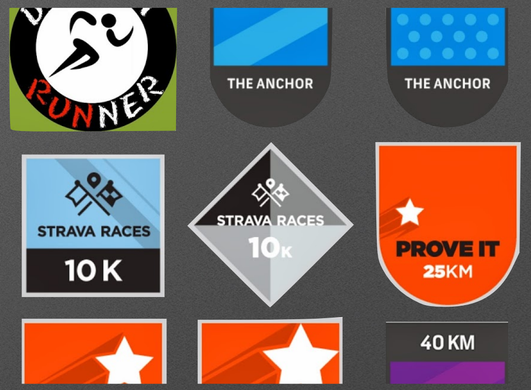


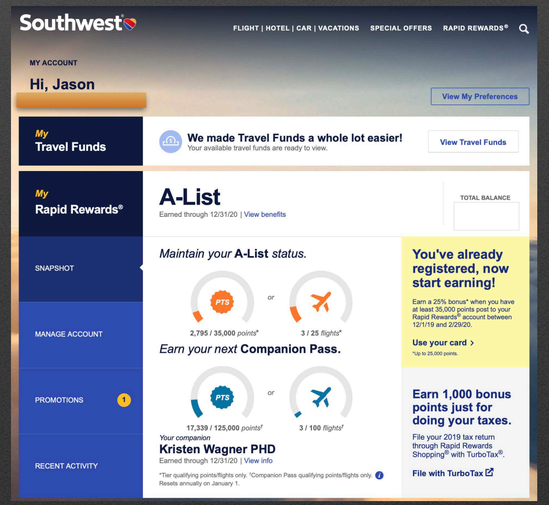


Structural Gamification



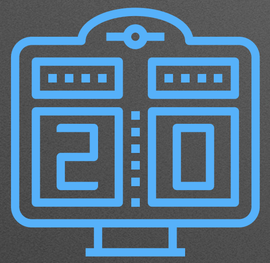
Structural Gamification

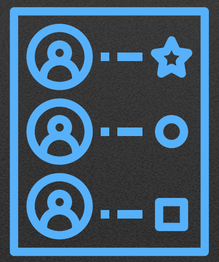




Gamification

Structural

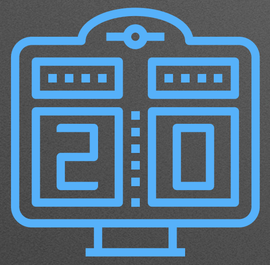


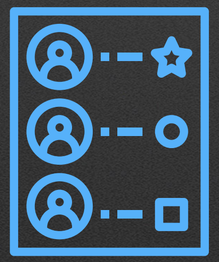


Content

Gamification

Structural





Content

Content Gamification

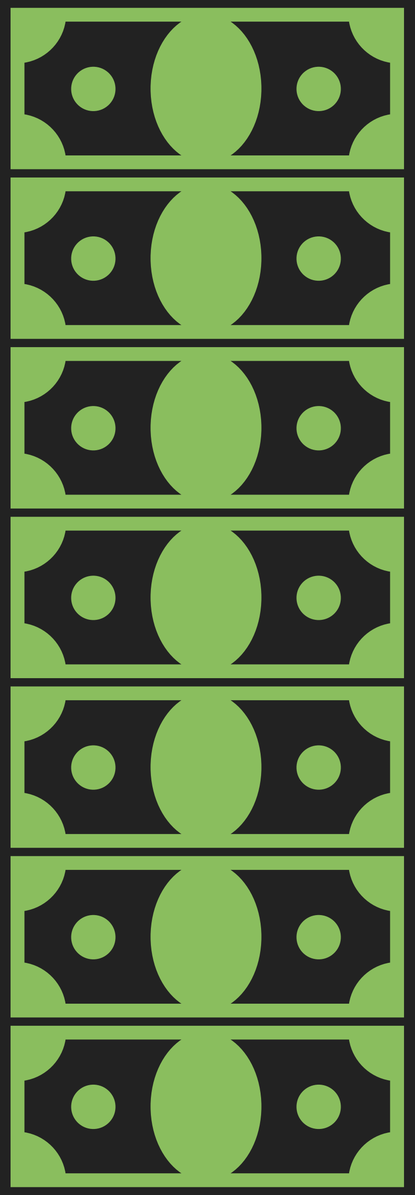
Seller

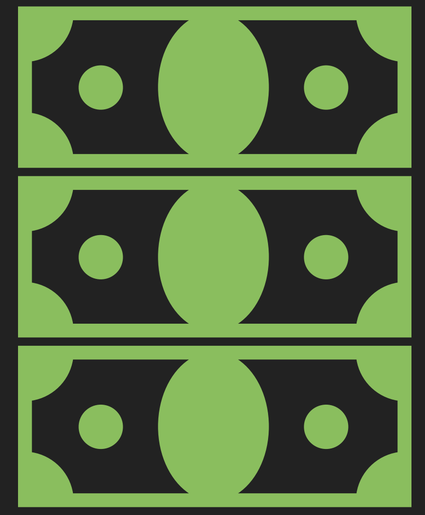
Buyer

Seller

Buyer

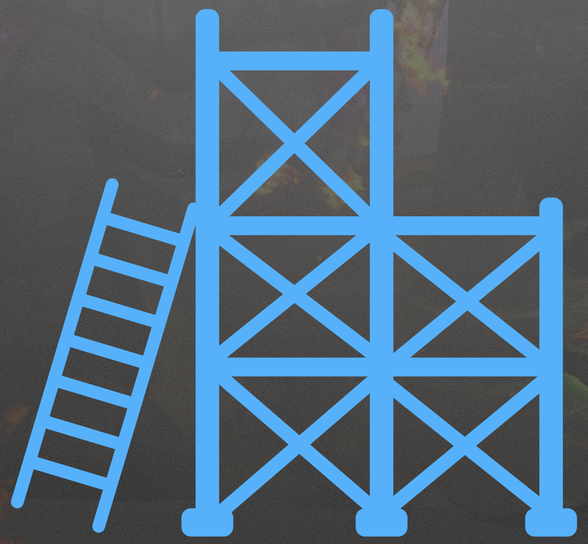
Loss Aversion



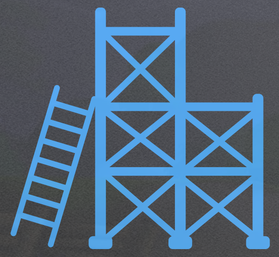


Learning Theory

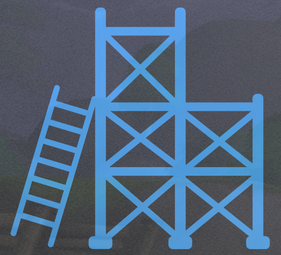
Learning Theory



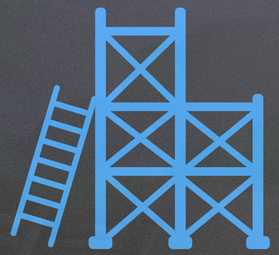
Learning Theory



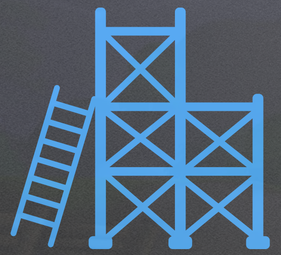
Learning Theory



Learning Theory



Learning Theory



© JAMES STEIDL / DOLLAR PHOTO CLUB

Dynamics

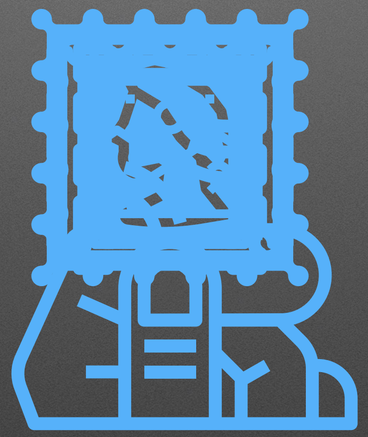
Dynamics

Dynamics

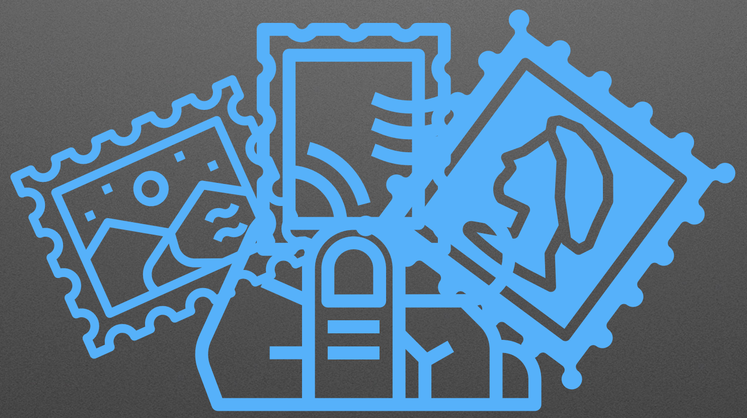
Dynamics

Dynamics

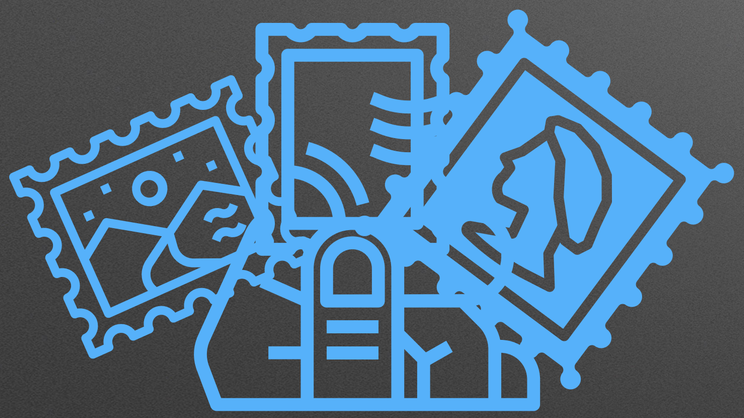
Dynamics

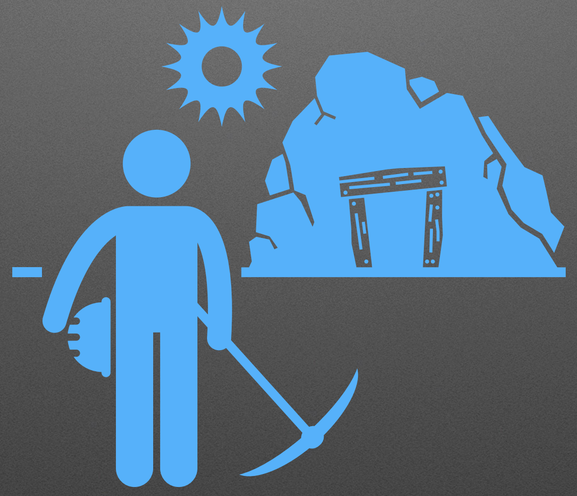


Dynamics

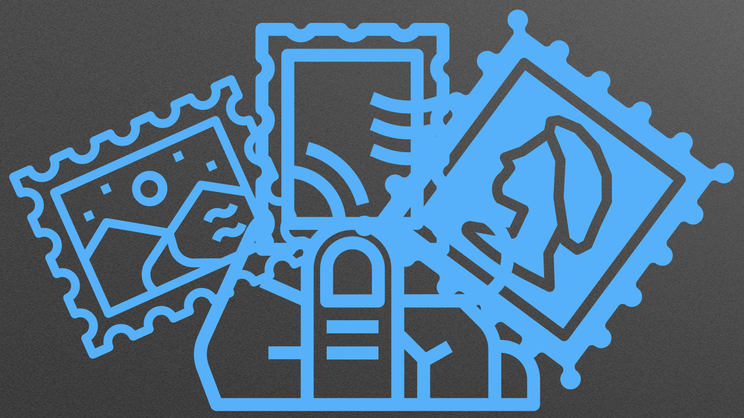


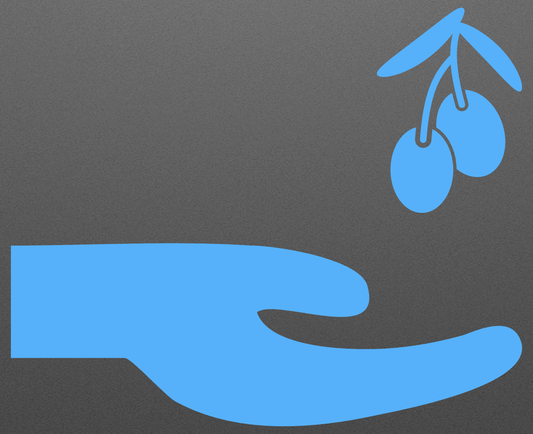
Dynamics

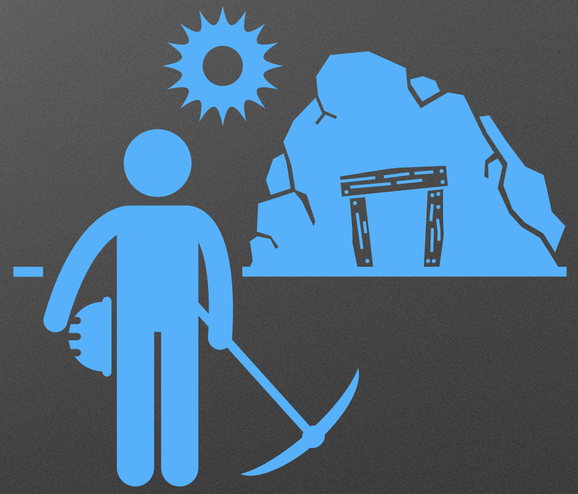




Dynamics







Dynamics

Dynamics

Waterloo
~ 200 years ~
Stratego
Relive and refight the battle of Waterloo
Waterloo
Stratego
Waterloo
~ 200 years ~
Stratego
Rules of the game
Relive and refight the battle of Waterloo

Dynamics

Dynamics

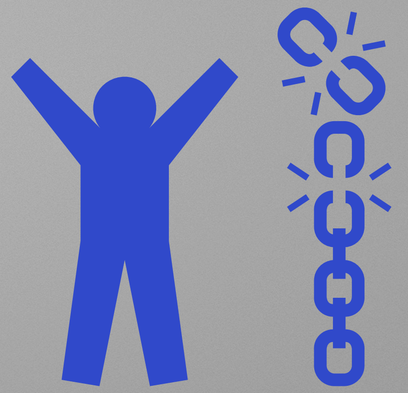
Dynamics

Game Elements

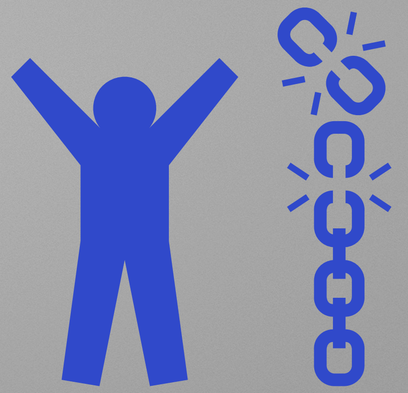
Game Elements

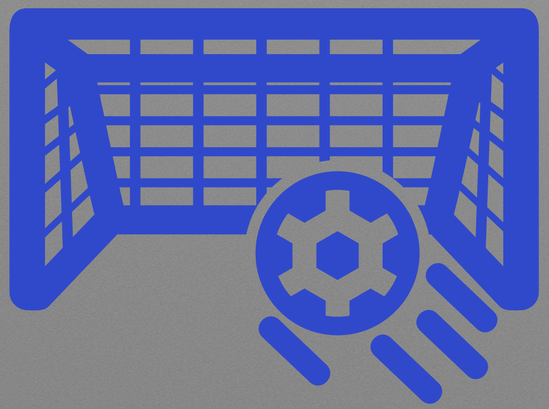
Game Elements

Game Elements

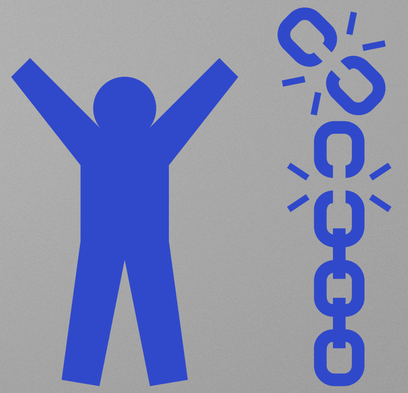


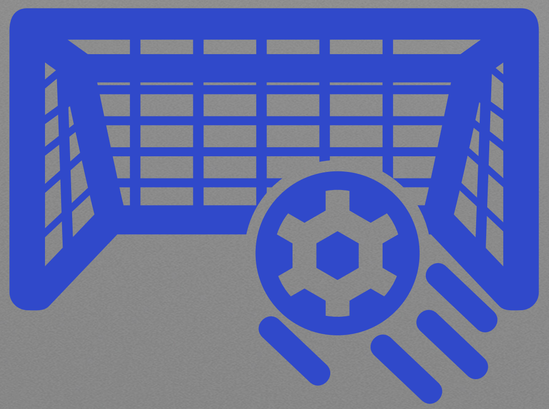
Game Elements

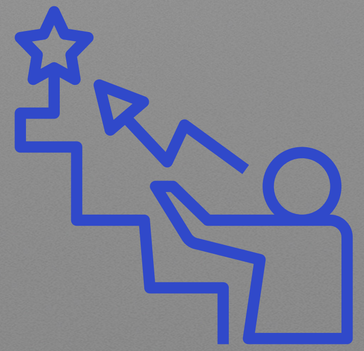




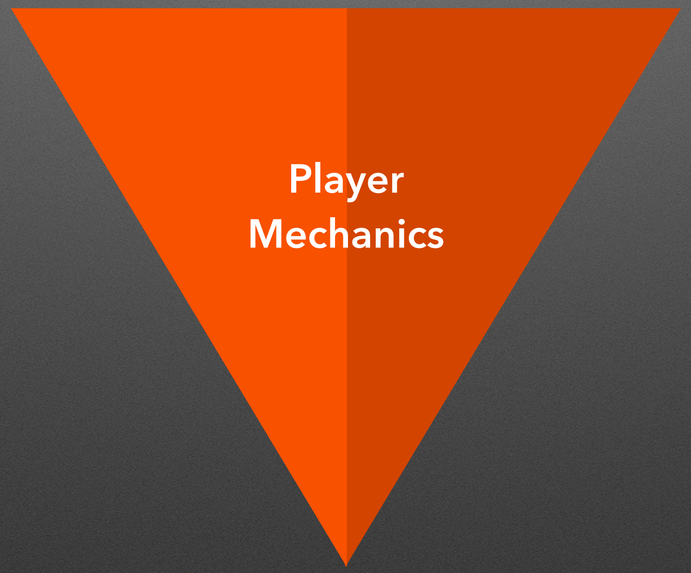
Game Elements



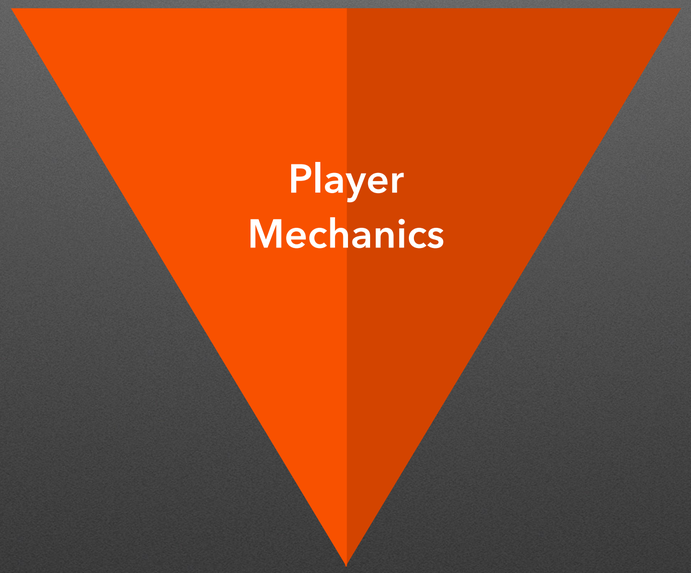




Game Elements



Game Elements



Game Elements

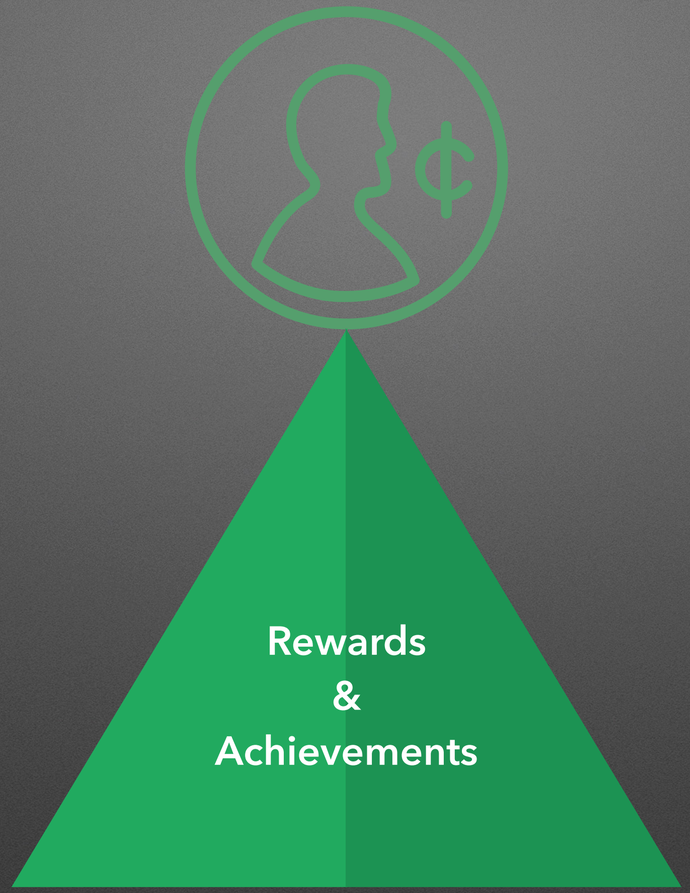
Player
Mechanics

Game Elements

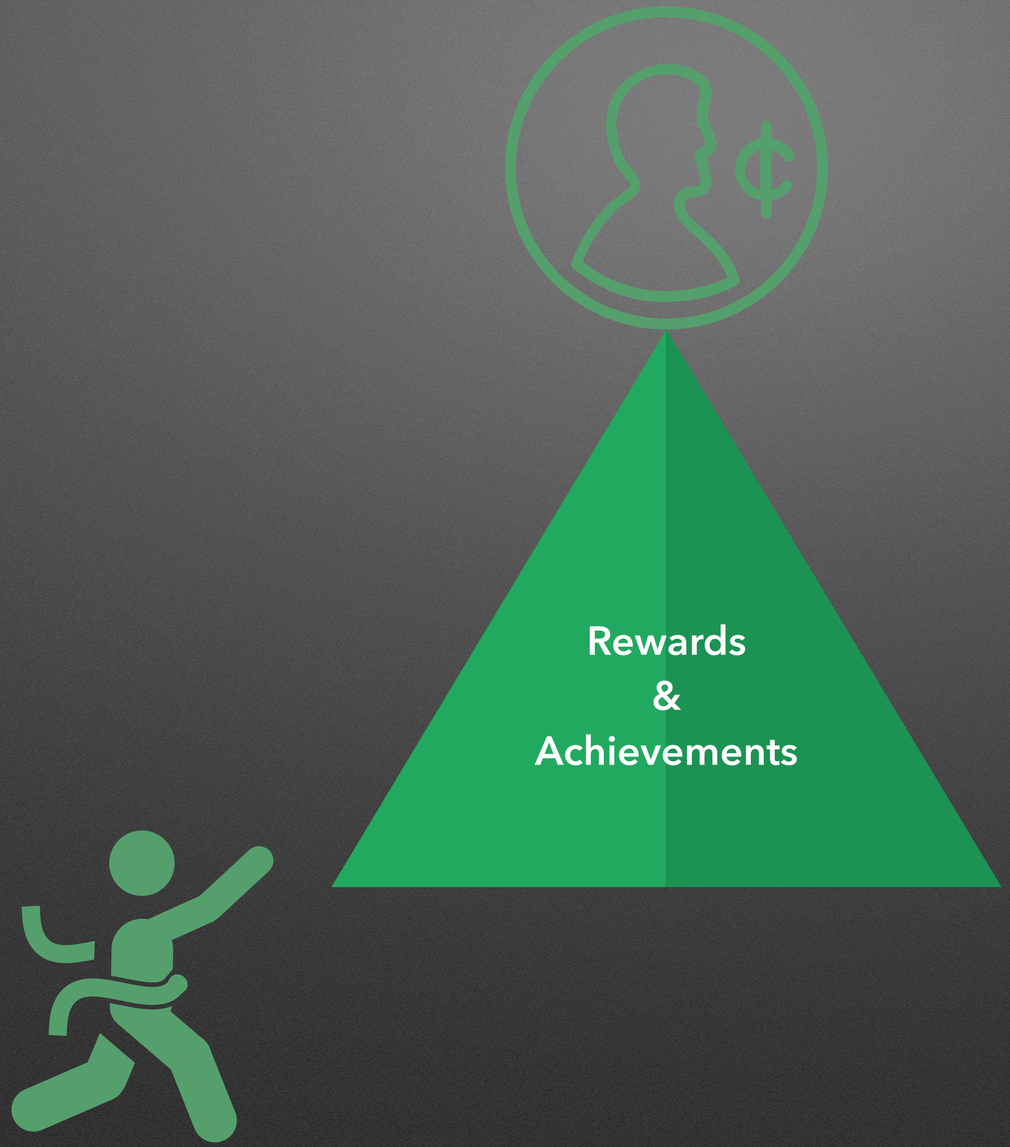
Player
Mechanics

Game Elements

Game Elements



Game Elements



Game Elements

Game Elements

Game Elements

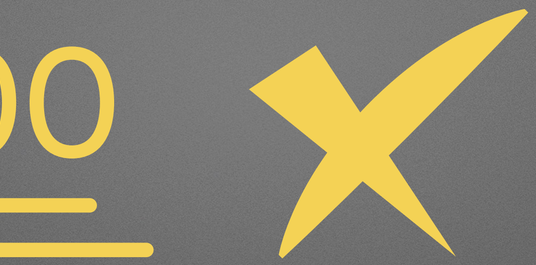
100

Game Elements

Game Elements

Game Elements

Game Elements



Game Elements

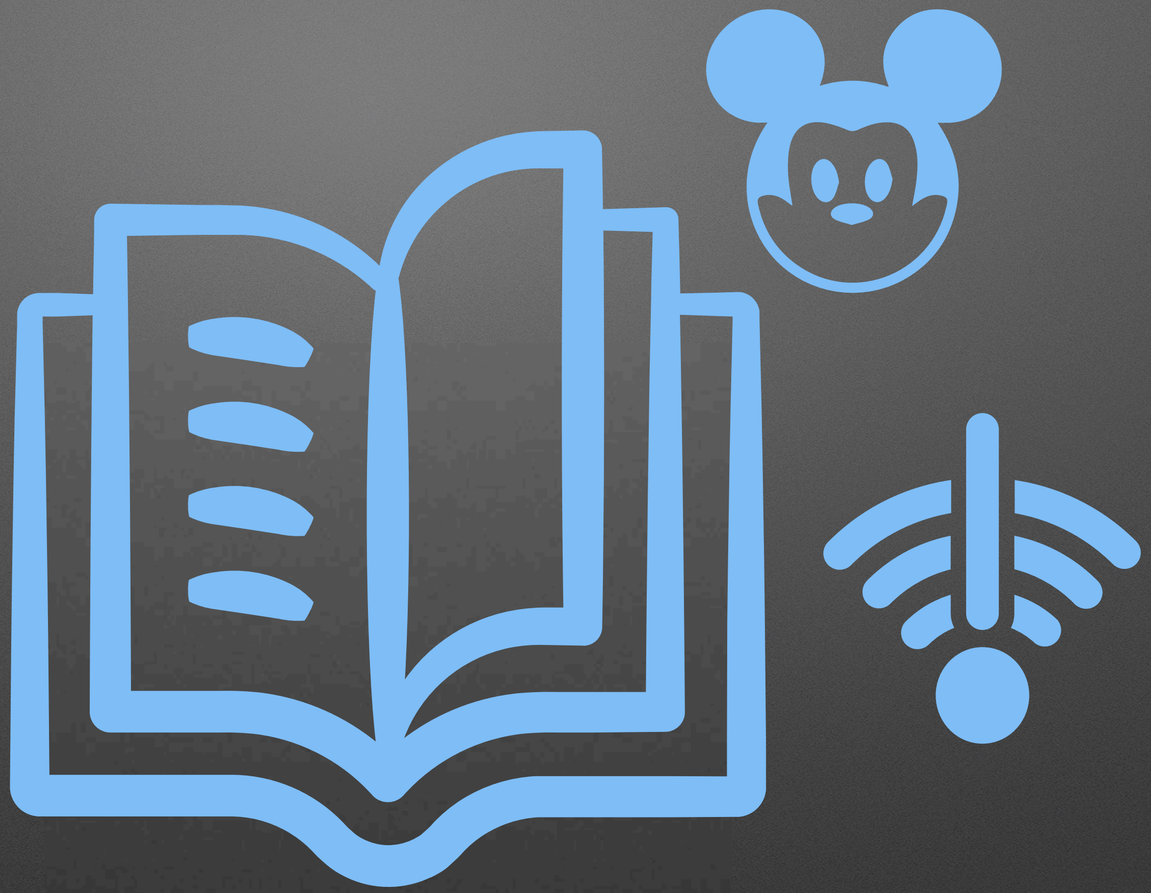
Story

Story

Story

Story

Story



Story

Story

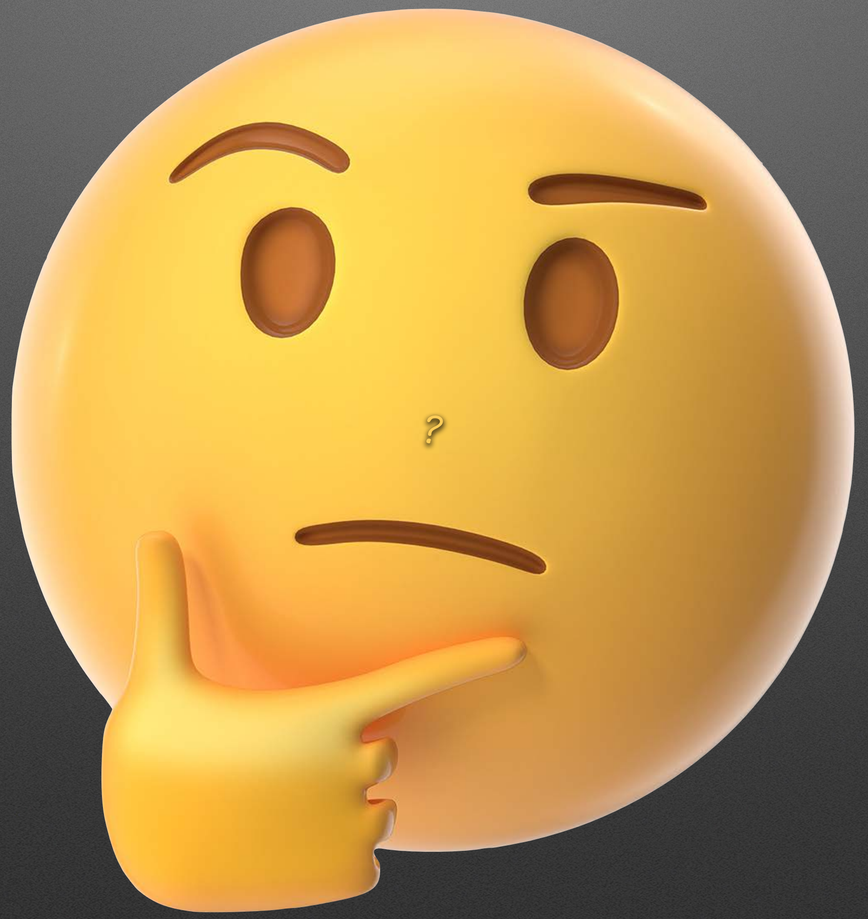
Story

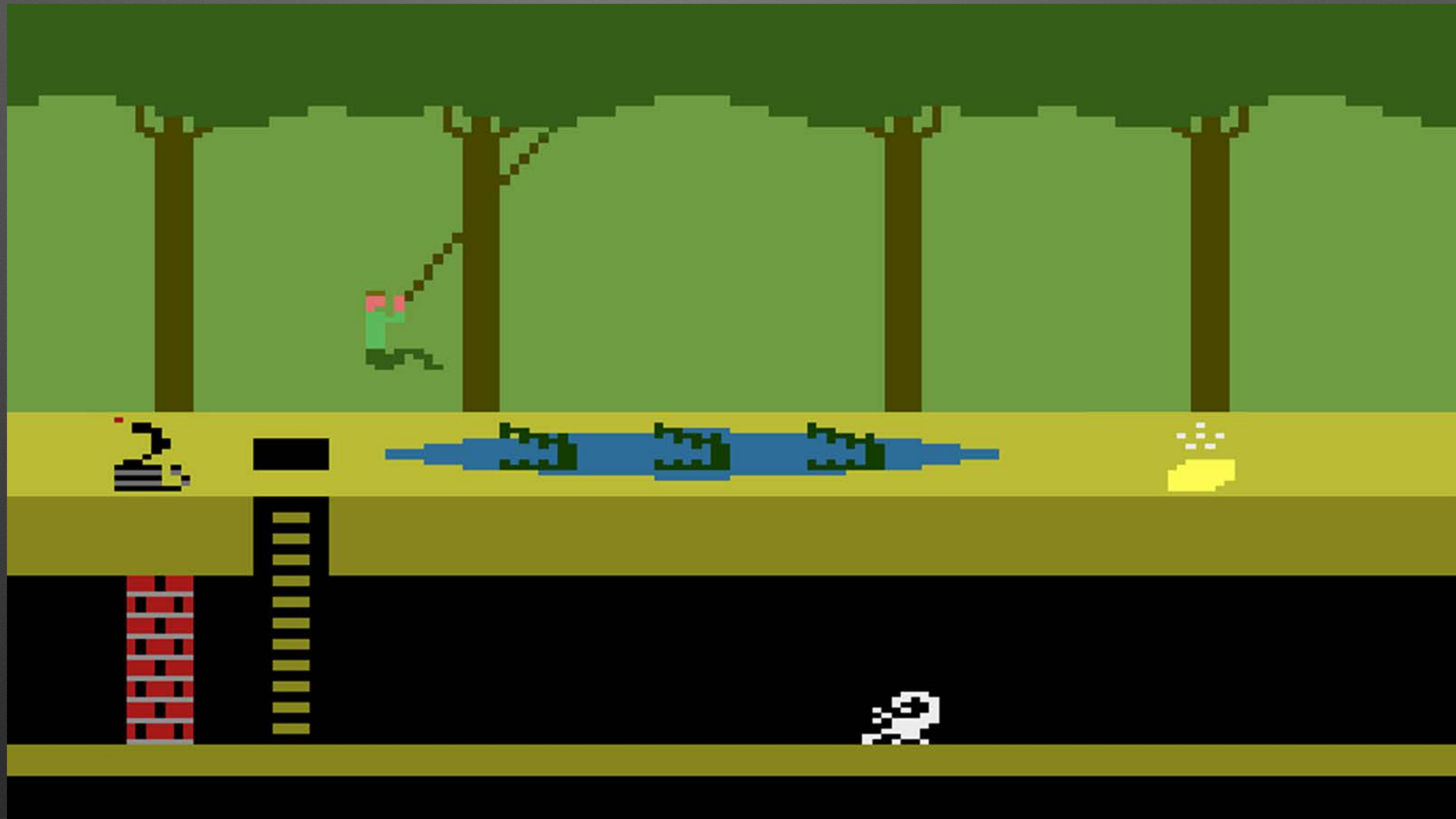
Story

Story

Do Overs and Failure

Scoring





The QR code is intricately made up of visuals from the four songs | Photo source Zulu Alpha Kilo

NEW YORK BREWERY GAMIFIES ITS IPA WITH QR CODES

ADVERTISING & MARKETING

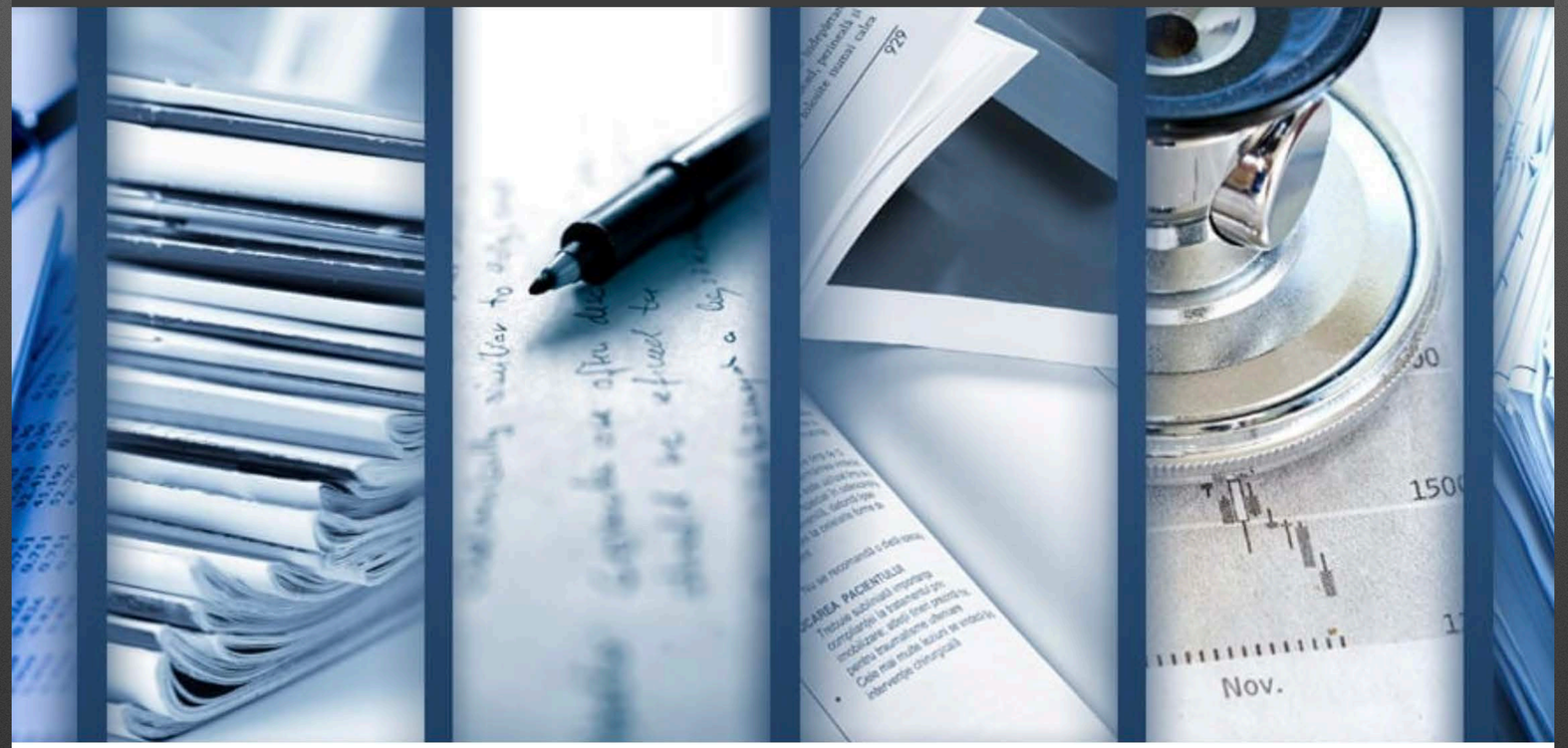
Download PDF

Washington University School of Medicine in St. Louis

DIVISION OF

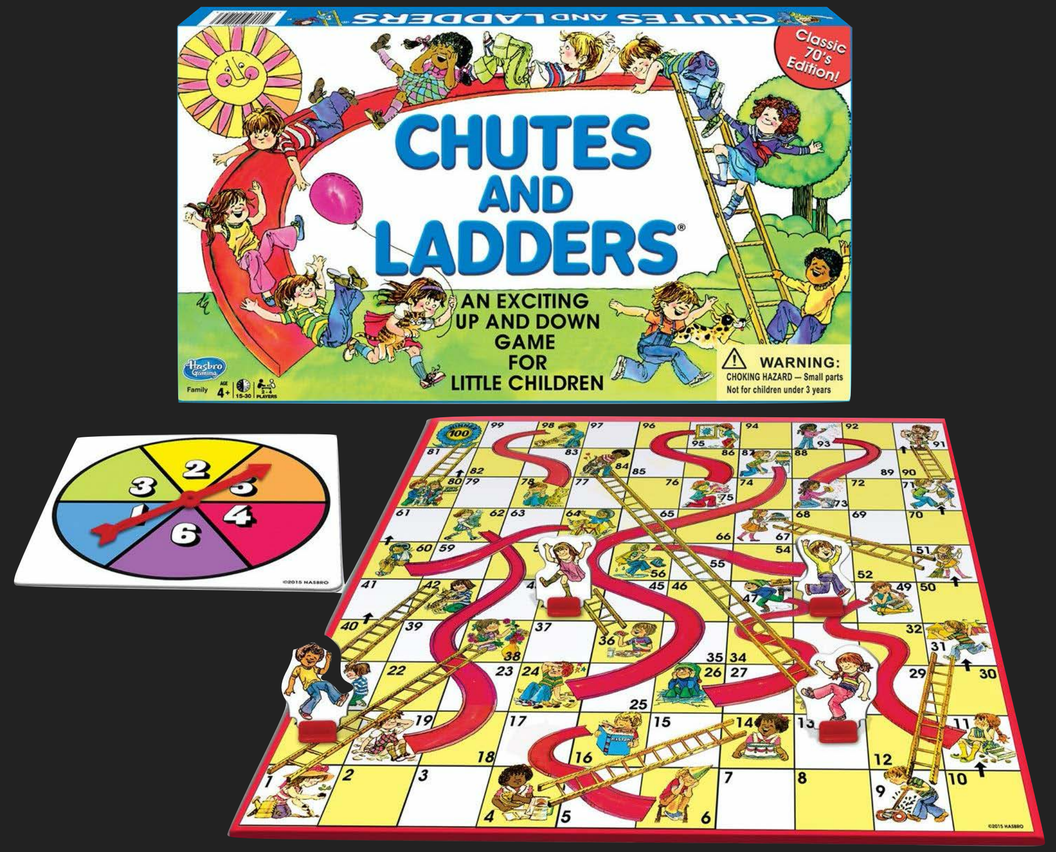
Emergency Medicine

WELCOME OUR TEAM SECTIONS EDUCATION RESEARCH JOURNAL CLUB NEWS EVENTS MORE



Journal Club

Journal Club



JASON WAGNER, MD
@THETECHDOC

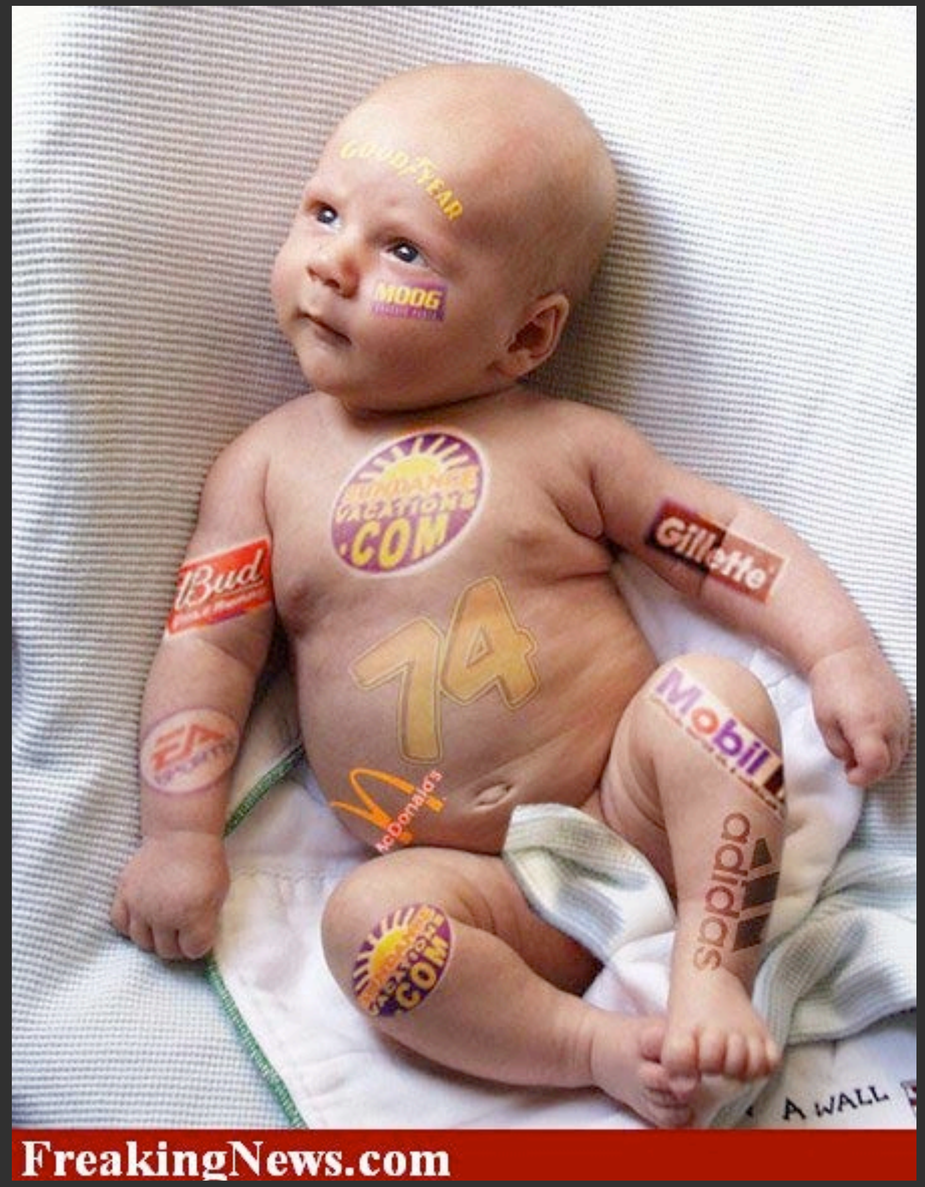
QUESTIONS?

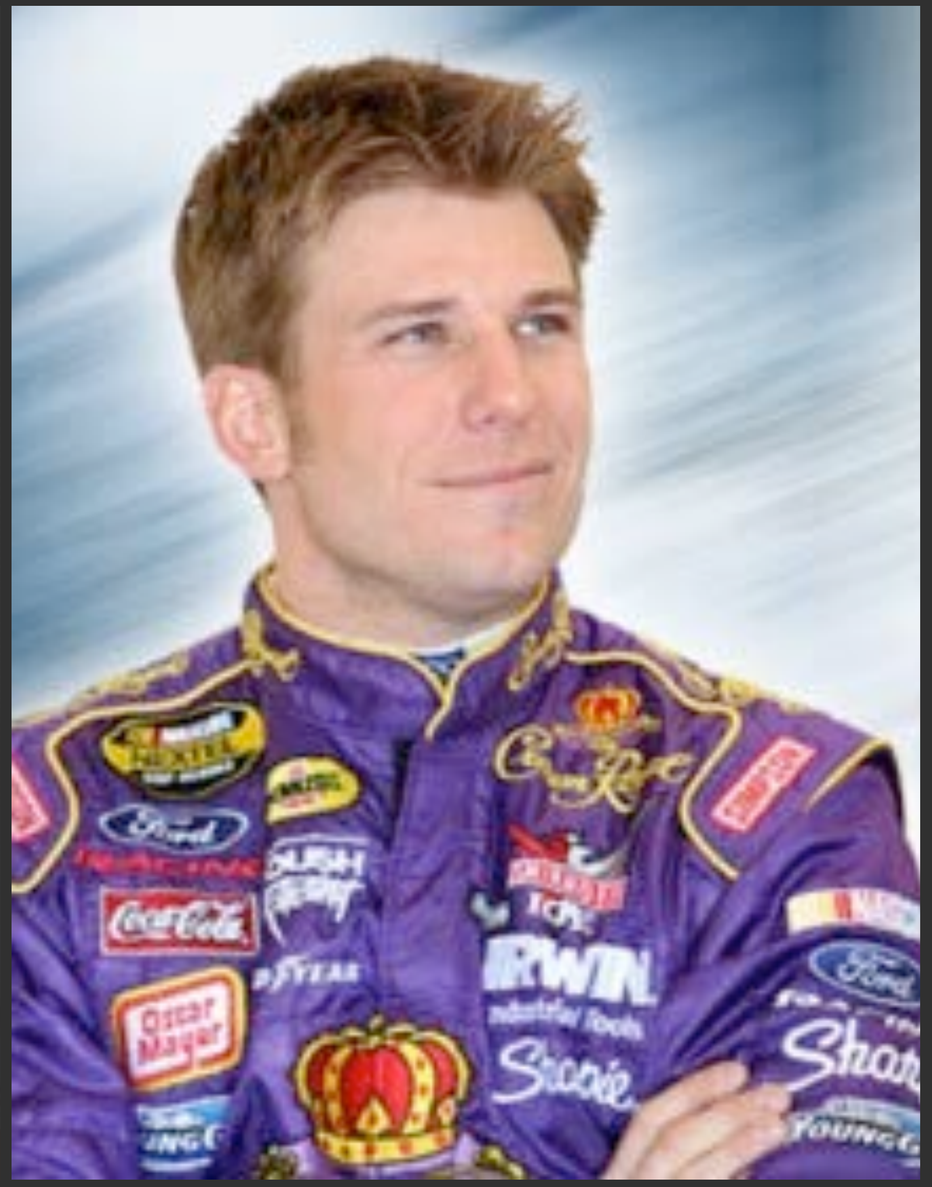
EMERGENCY MEDICINE

WHY DO MY PRESENTATIONS SUCK?

jason wagner, MD

WashU Emergency Medicine





I HAVE NO CONFLICTS OF INTEREST

EVERY PRESENTATION EVER

NARO
PAYR
ANGE
PBHC

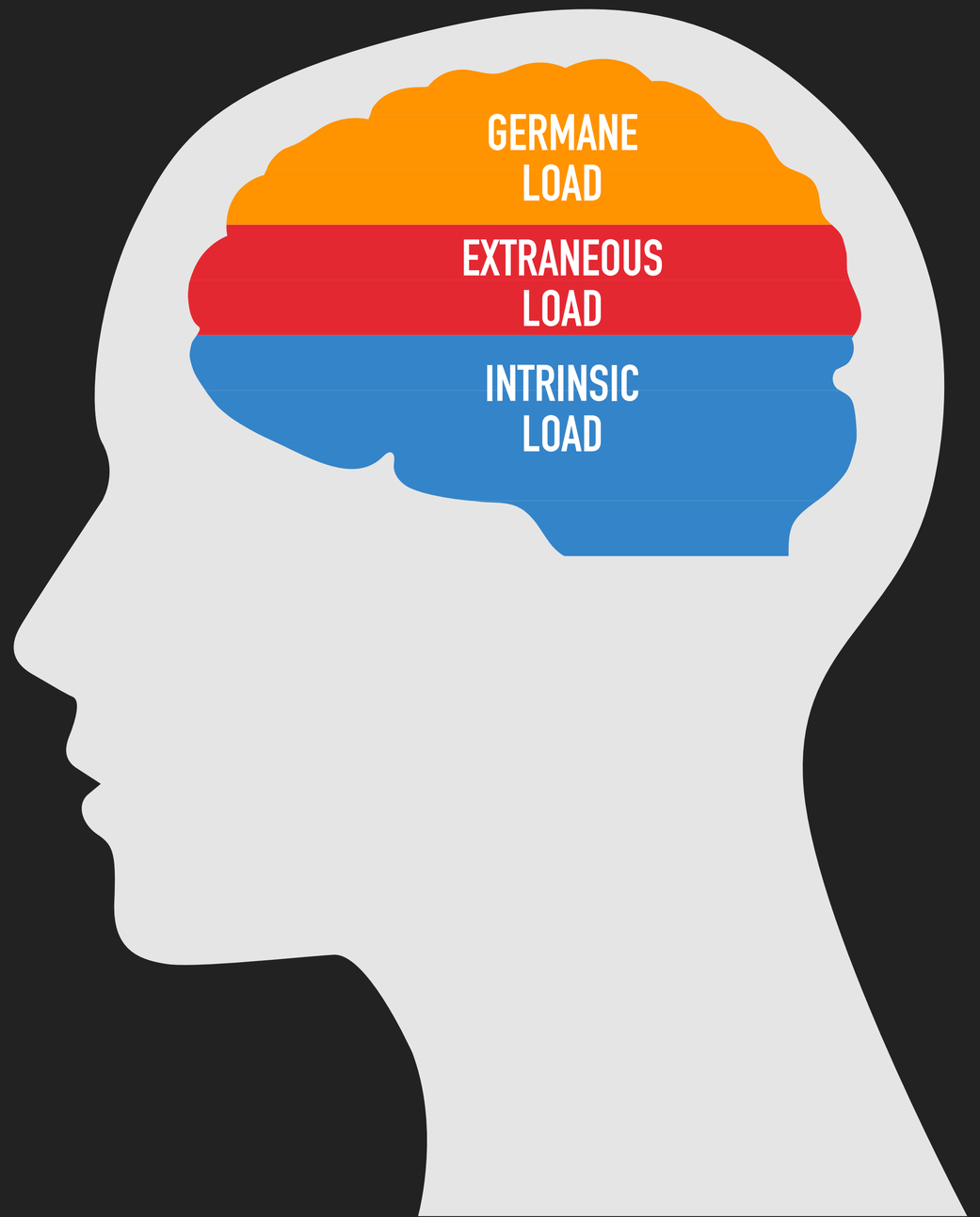
SURGERY
EMERGENCY
EMERGENCY
MEDICINE

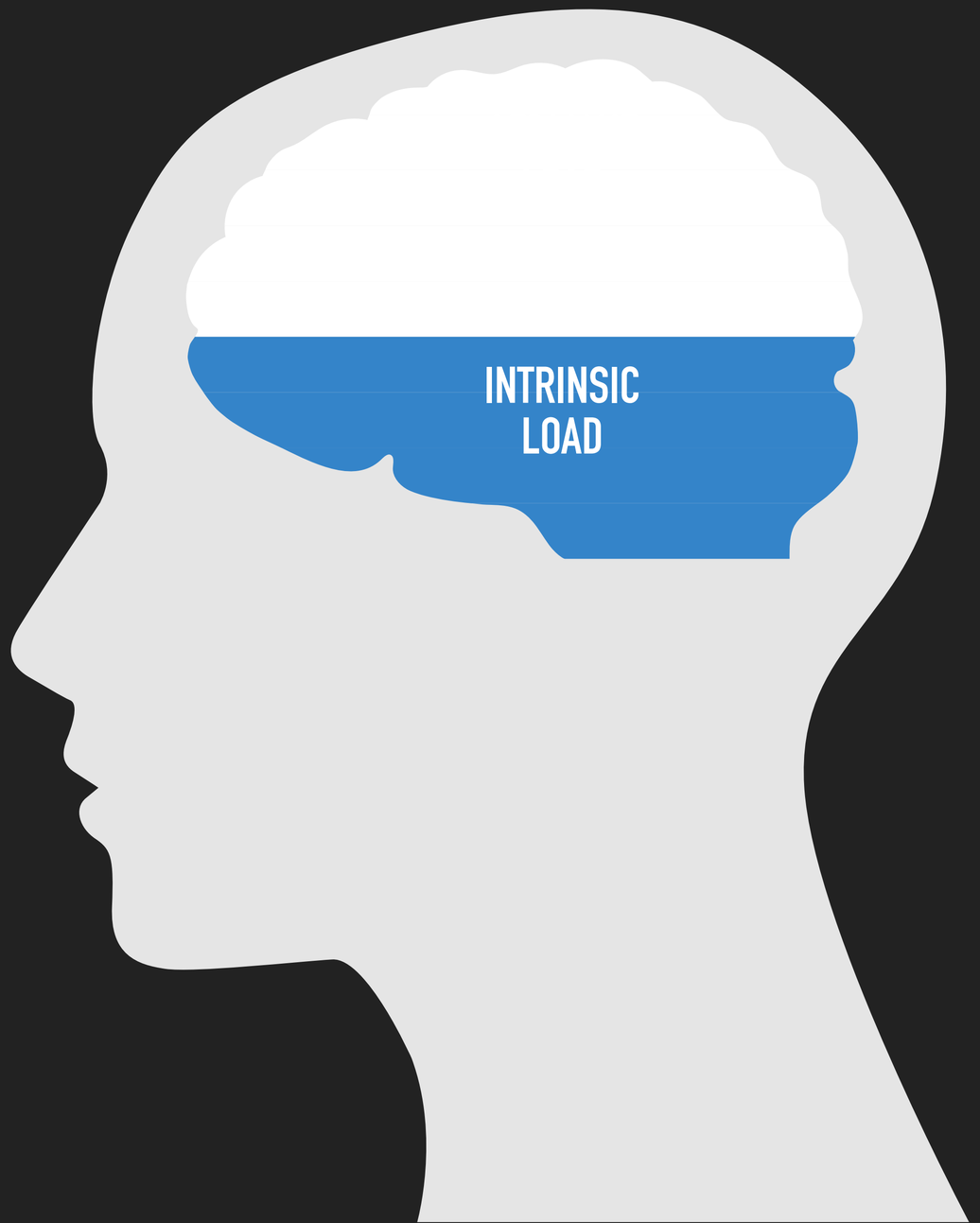
Novice

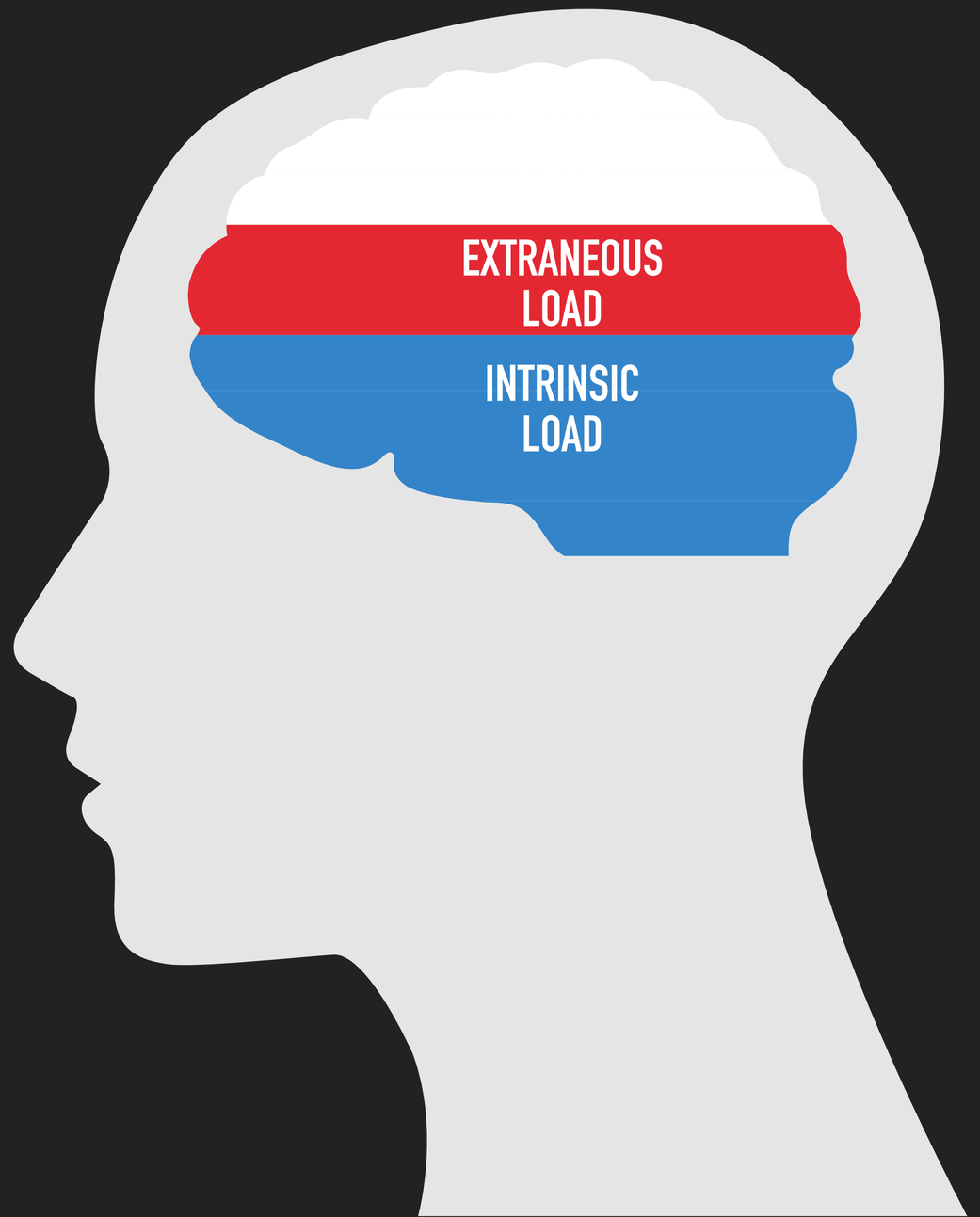
Mid-Career

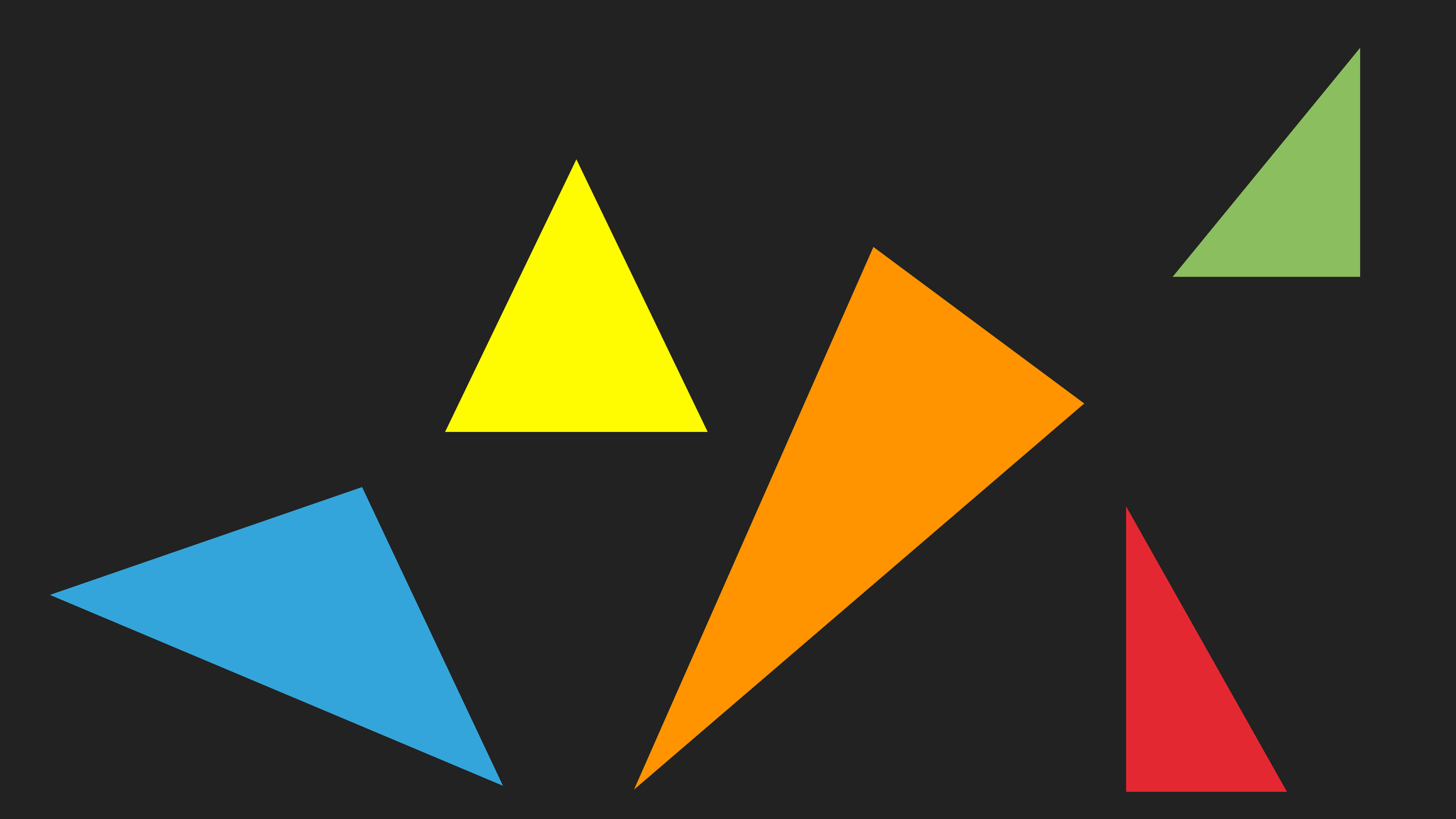
Vets

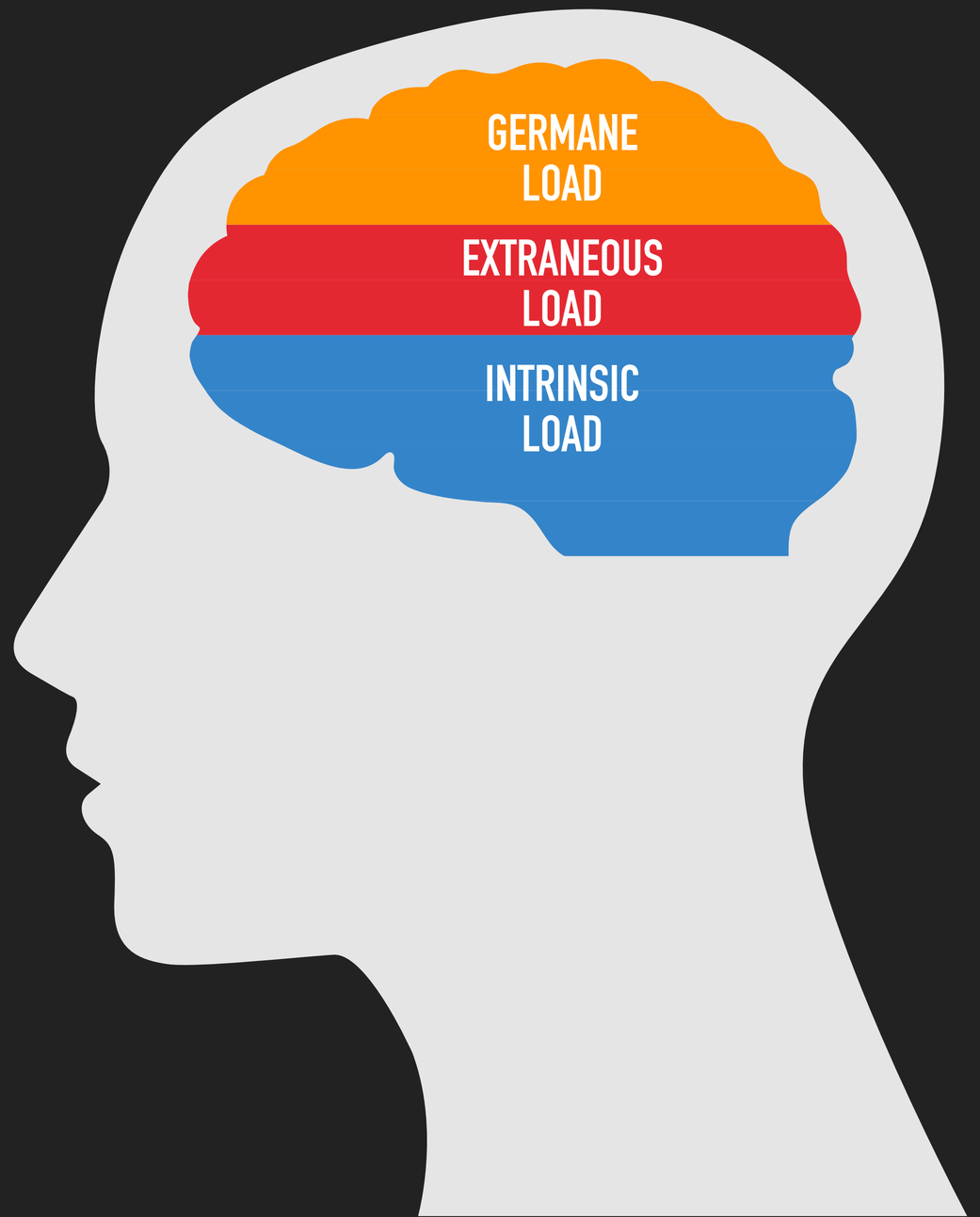
Working Memory
Sensory Memory
Long Term Memory


GERMANE
LOAD
EXTRANEOUS
LOAD
INTRINSIC
LOAD


INTRINSIC
LOAD


EXTRANEOUS
LOAD
INTRINSIC
LOAD




GERMANE
LOAD
EXTRANEOUS
LOAD
INTRINSIC
LOAD

Cut

System 1

&

System 2

2 + 2

17 x 24

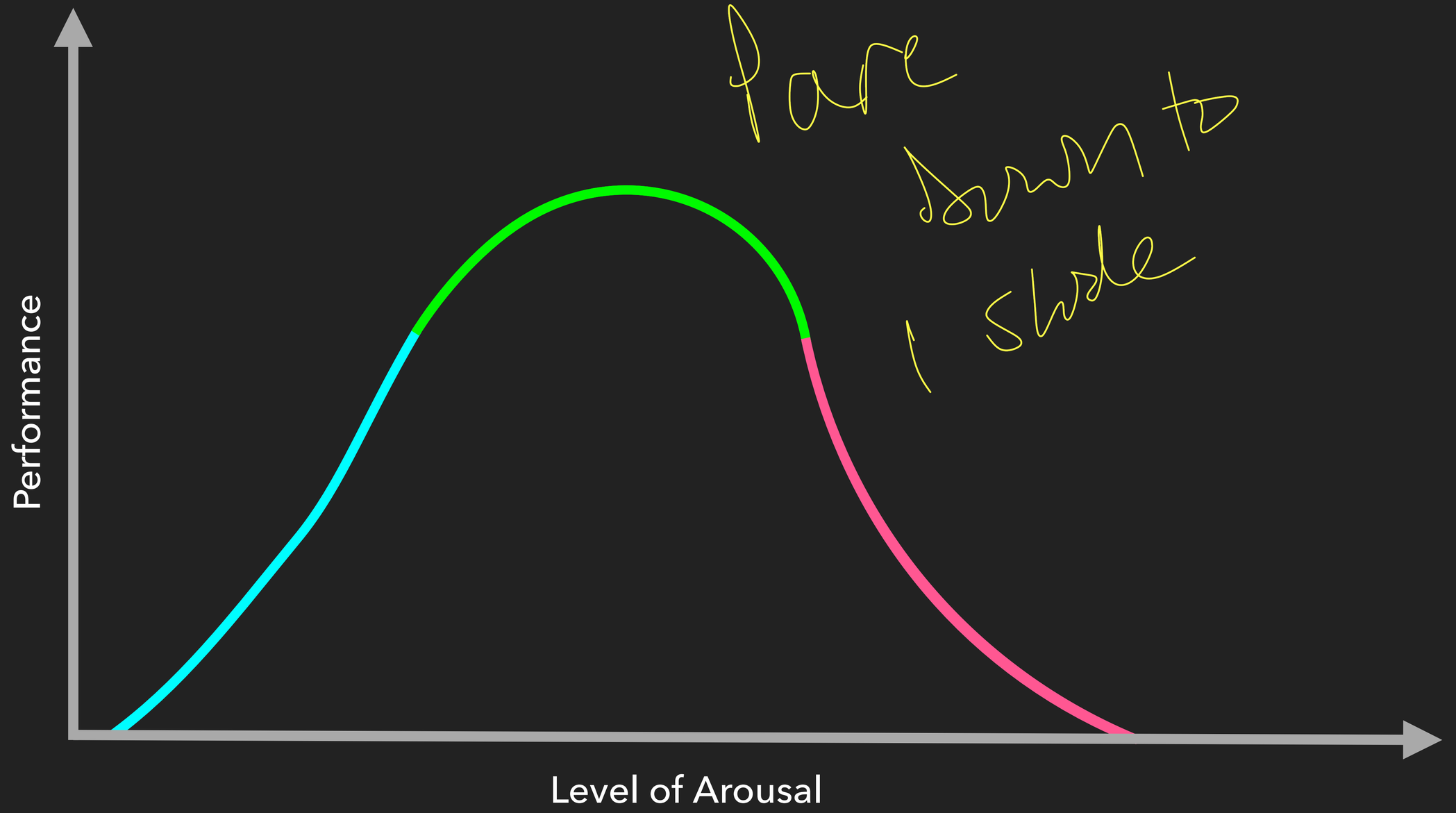
SYSTEM 2

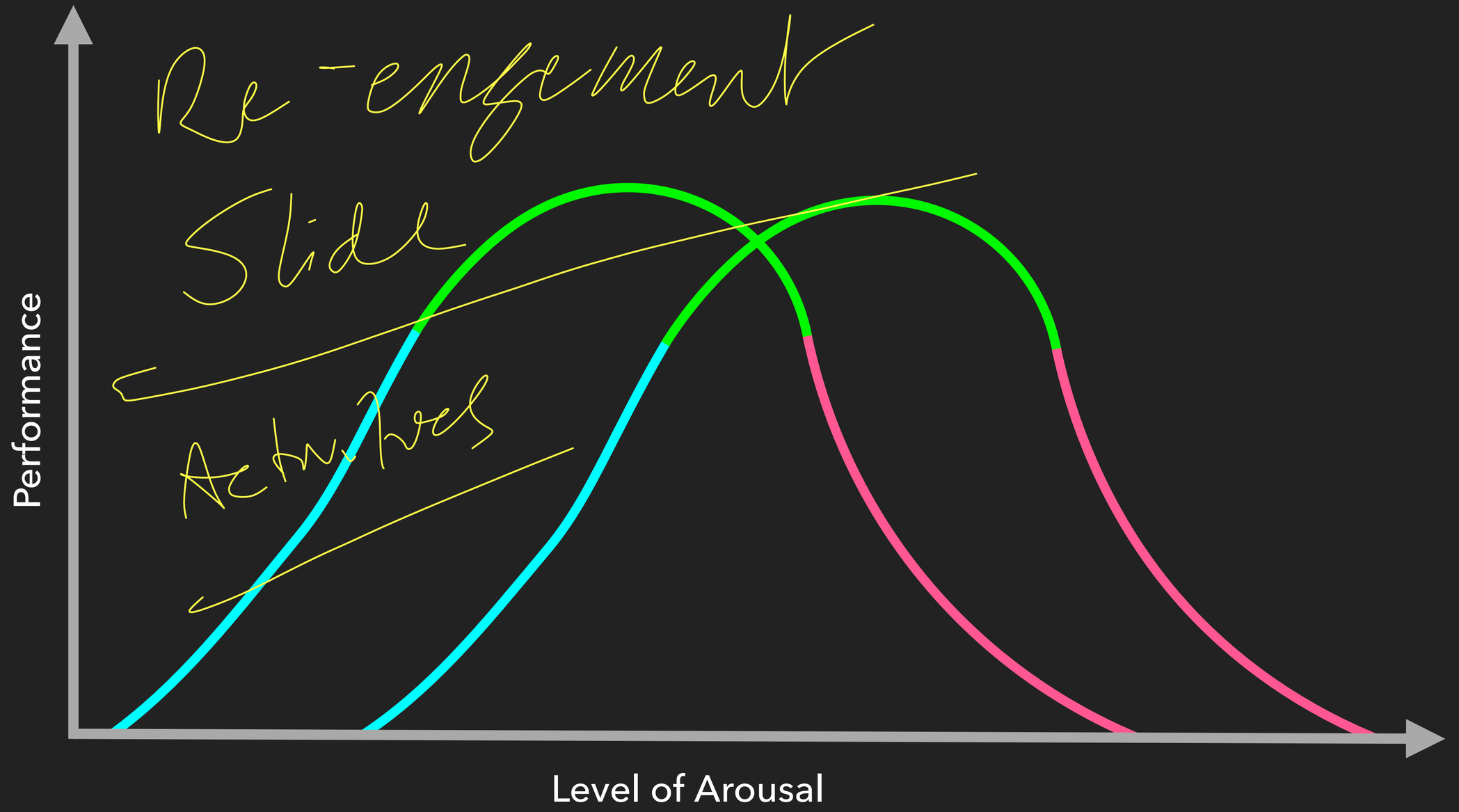
ADD +1

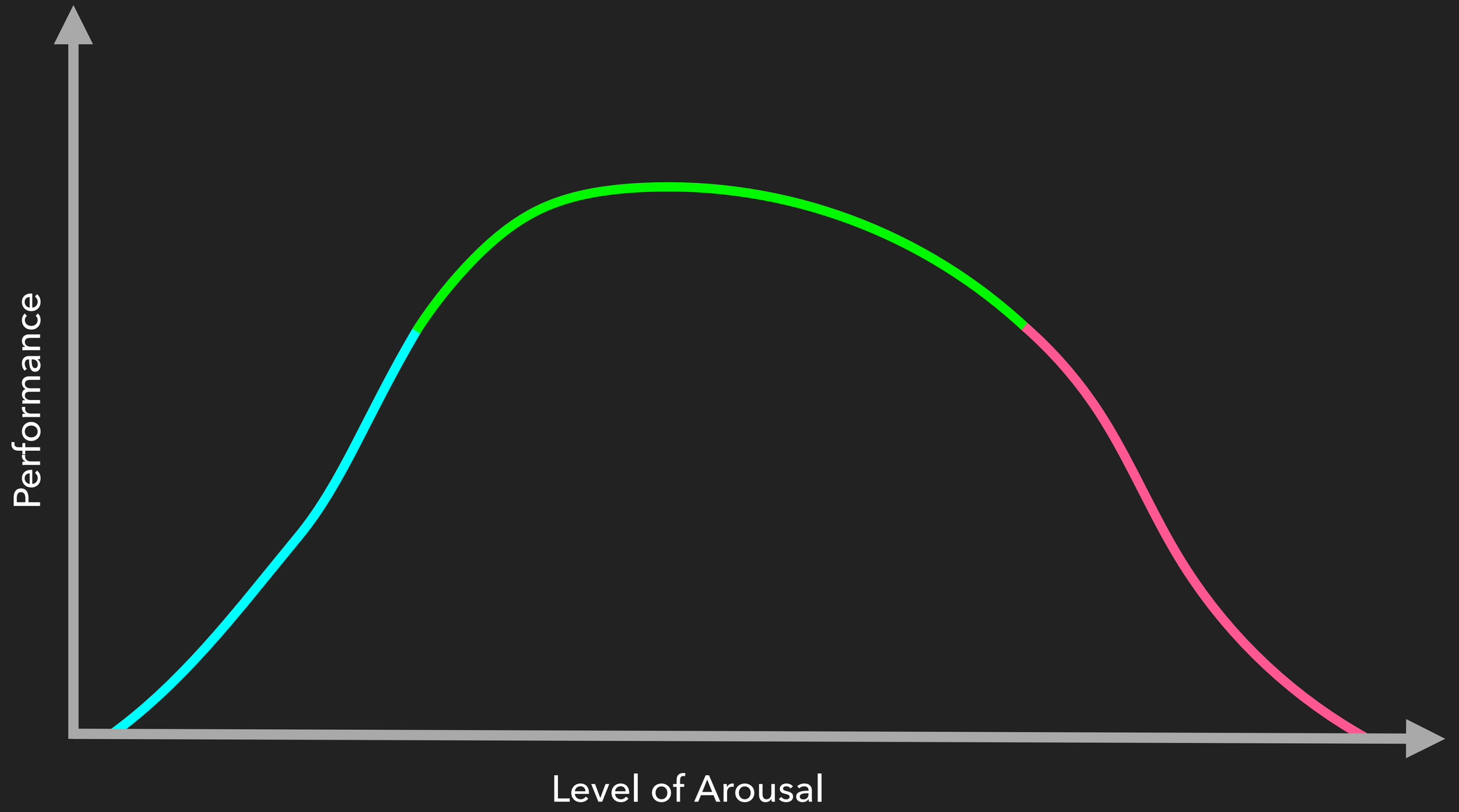
3795

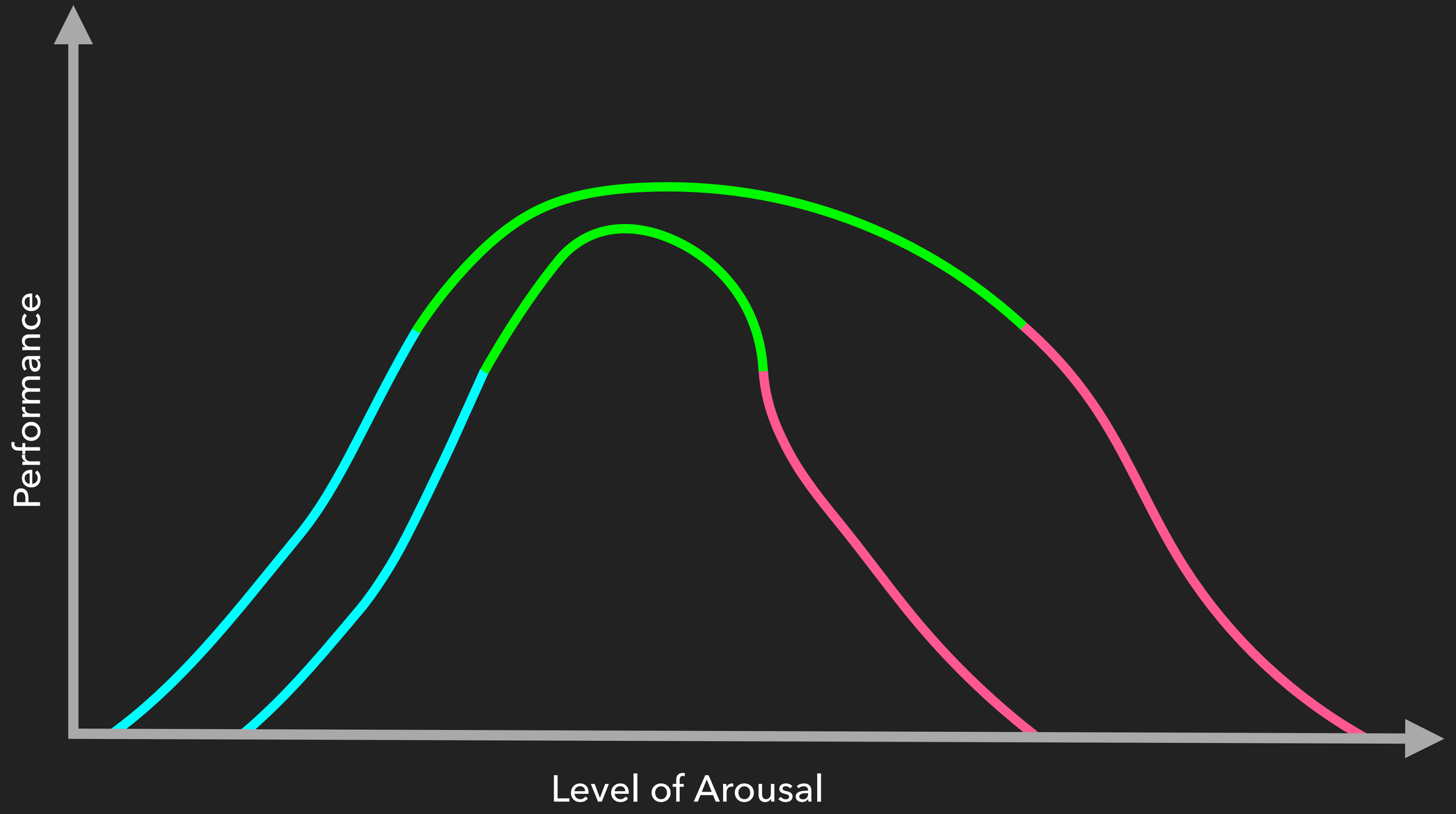
The Monkey Business Illusion

Daniel J. Simons


Performance
Level of Arousal
Pare down to 1 style


Re-engagement
Slide
Activities
Performance
Level of Arousal


Performance
Level of Arousal


Performance
Level of Arousal

PLAN

PLAN

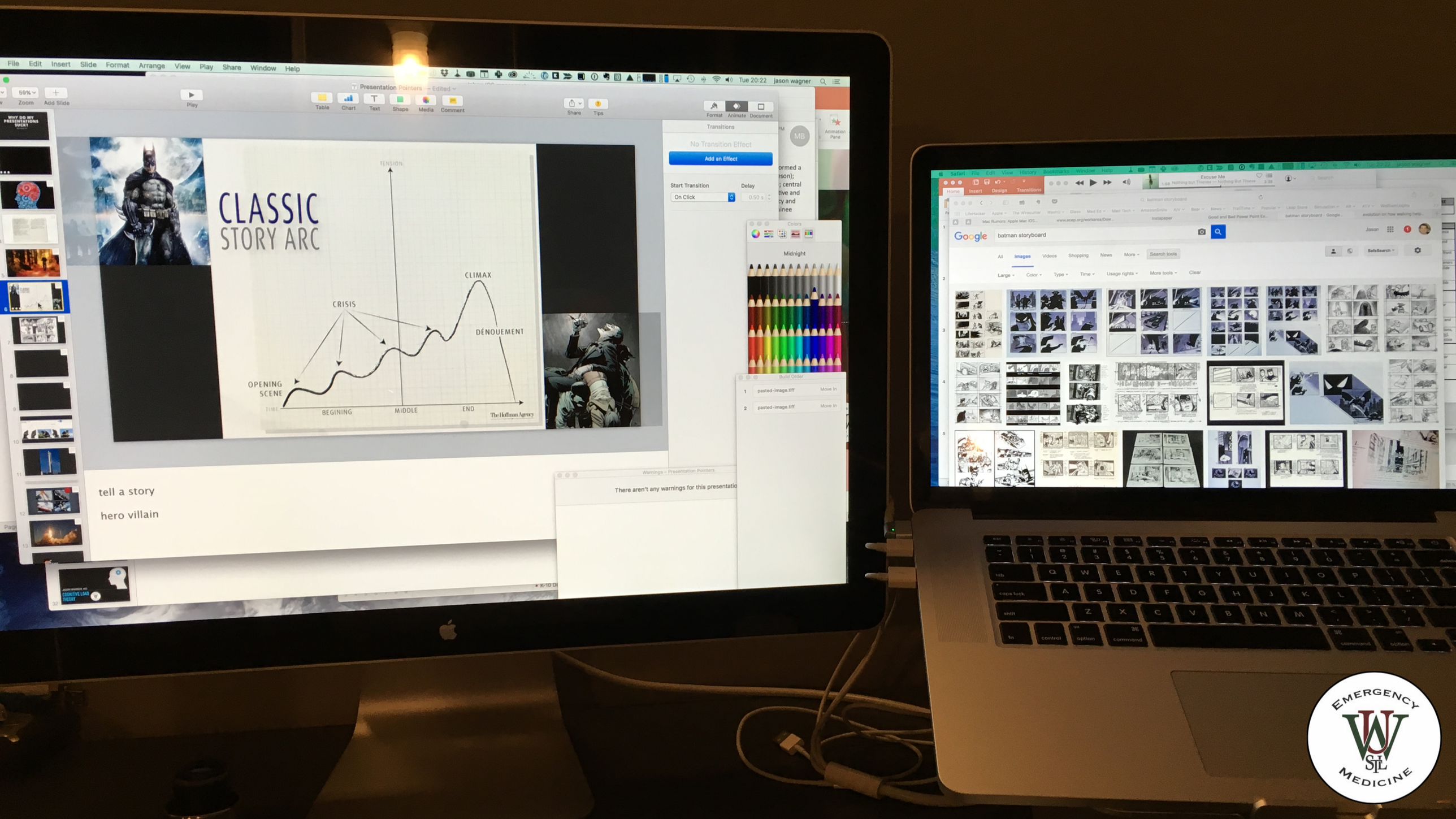
PREPARE

PLAN

PREPARE

PRESENT

PLAN


CLASSIC
STORY ARC
TENSION
CRISIS
CLIMAX
DÉNOUEMENT
OPENING SCENE
BEGINING
MIDDLE
END
The Hoffman Agency
tell a story
hero villain
Google
batman storyboard
EMERGENCY MEDICINE

- Candor isn't cruel. It doesn't destroy. Any successful feedback system is built on empathy, on the idea that we are all in this together, that we understand your pain because we've experienced it ourselves.

- The Braintrust is fueled by the idea that every note we give is in service to the common goal: supporting and helping each other as we try to make better movies.

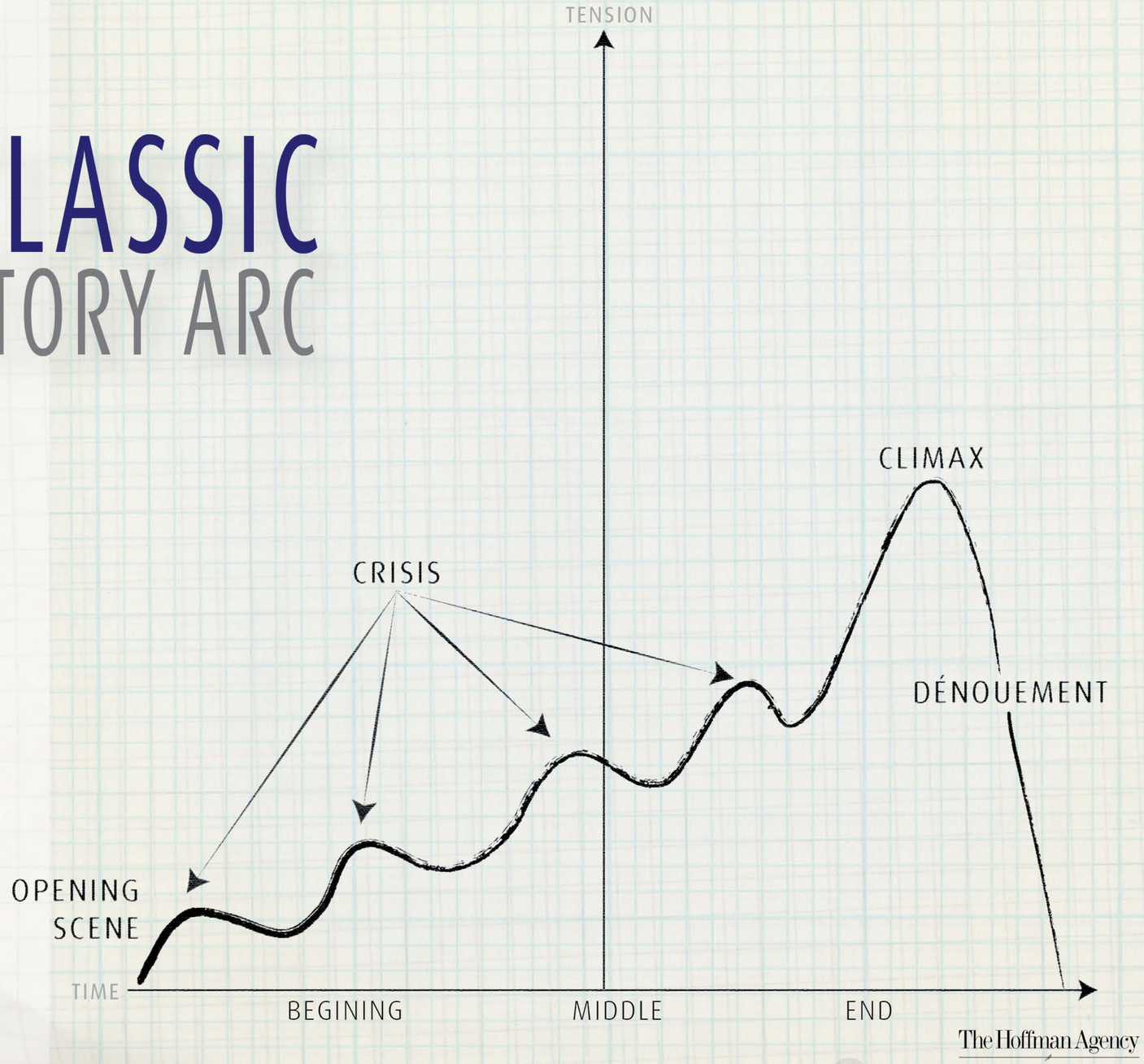
- Every creative person, no matter their field can draft into service those around them who exhibit the right mixture of intellegence, insight, and grace. You can and should make your own solution group

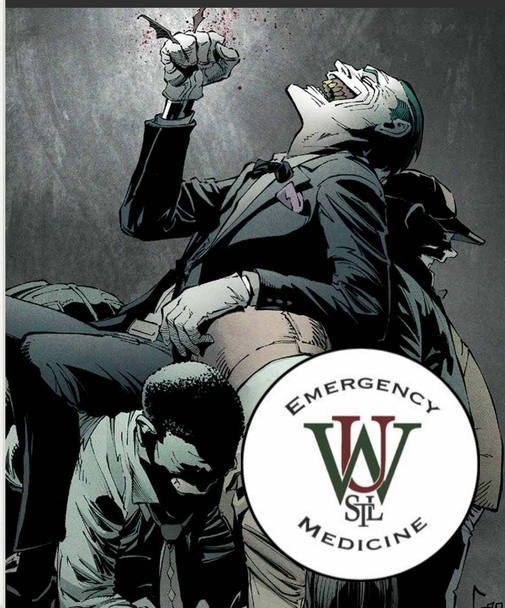
- Here are the qualifications required: the people you choose must A - make you think smarter, and B - put lots of solutions on the table in a short period of time. It doesn't matter who it is. If they can do that, they should be at the table.

- Seek out people who are willing to level with you, and when you find them, hold them close.

EMERGENCY
WSL
MEDICINE

CLASSIC STORY ARC





EMERGENCY
MEDICINE

- Candor isn't cruel. It doesn't destroy. Any successful feedback system is built on empathy, on the idea that we are all in this together, that we understand your pain because we've experienced it ourselves.

- The Braintrust is fueled by the idea that every note we give is in service to the common goal: supporting and helping each other as we try to make better movies.

- Every creative person, no matter their field can draft into service those around them who exhibit the right mixture of intellegence, insight, and grace. You can and should make your own solution group

- Here are the qualifications required: the people you choose must A - make you think smarter, and B - put lots of solutions on the table in a short period of time. It doesn't matter who it is. If they can do that, they should be at the table.

- Seek out people who are willing to level with you, and when you find them, hold them close.

NIVEA
EMERGENCY
WSL
MEDICINE

- Candor isn't cruel. It doesn't destroy. Any successful feedback system is built on empathy, on the idea that we are all in this together, that we understand your pain because we've experienced it ourselves.

- The Braintrust is fueled by the idea that every note we give is in service to the common goal: supporting and helping each other as we try to make better movies.

- Every creative person, no matter their field can draft into service those around them who exhibit the right mixture of intellegence, insight, and grace. You can and should make your own solution group

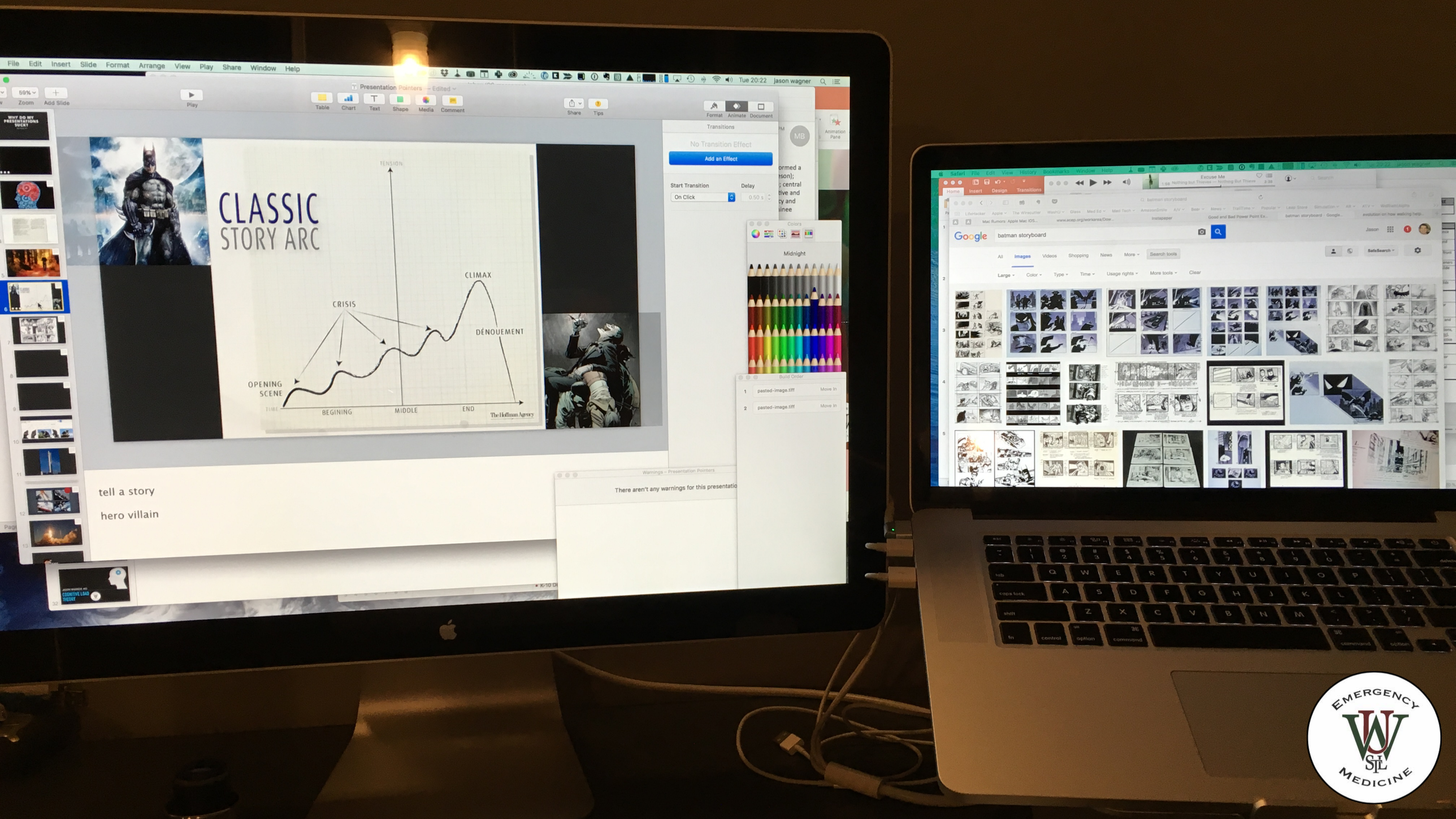
- Here are the qualifications required: the people you choose must A - make you think smarter, and B - put lots of solutions on the table in a short period of time. It doesn't matter who it is. If they can do that, they should be at the table.

- Seek out people who are willing to level with you, and when you find them, hold them close.

ROCKET SHIP
CRANE GAME
READY TO
LAUNCH

Road sign

PREPARE


CLASSIC
STORY ARC
TENSION
CRISIS
CLIMAX
DÉNOUEMENT
OPENING SCENE
BEGINING
MIDDLE
END
The Hoffman Agency
tell a story
hero villain
Google
batman storyboard
EMERGENCY MEDICINE

PRESENTATION MAGIC

Mention
WS only
SAMSUNG
EMERGENCY
WSL
MEDICINE

PAS 2016 NABL session

Home Insert Design Transitions Animations Slide Show Review View

Paste Cut Copy Format New Slide Layout Reset Section

Calibri (Body) 27

Convert to SmartArt Picture Shapes

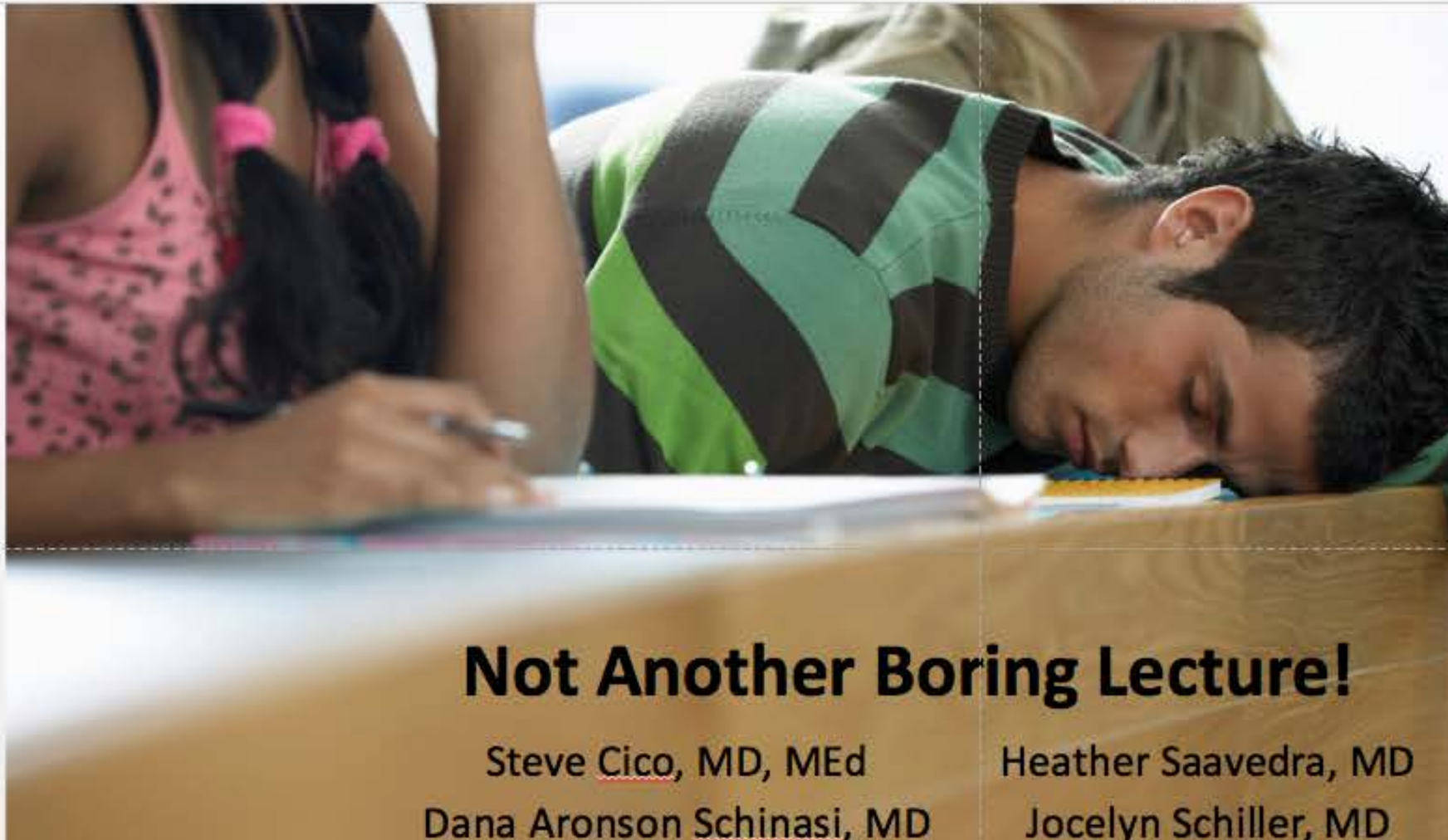
1

2

3

4

5



PAS 2016 NABL session

Home Insert Design Transitions Animations Slide Show Review View

Paste Cut Copy Format New Slide Layout Reset Section

Calibri (Body) 27

Convert to SmartArt Picture Shapes

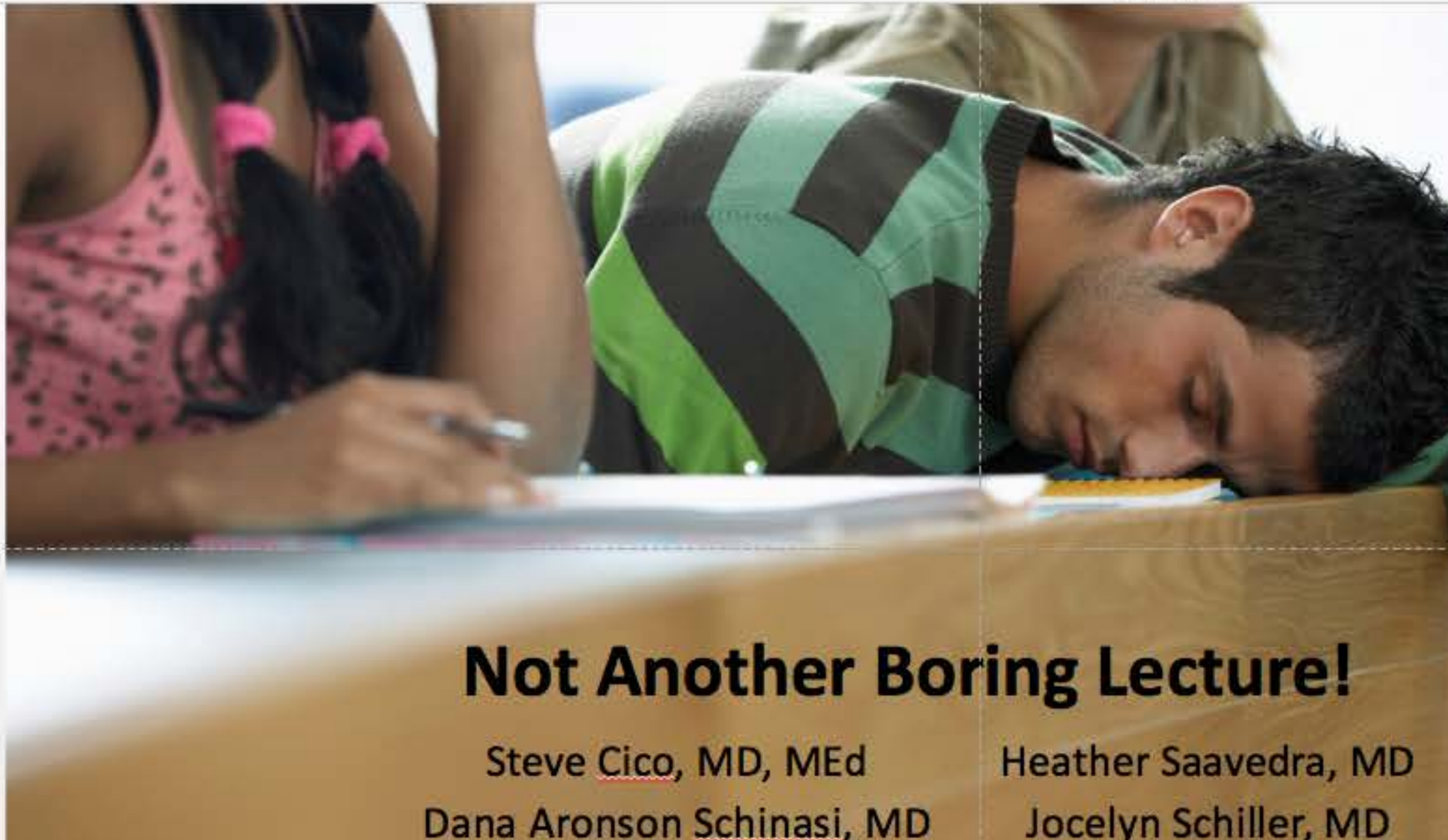
1

2

3

4

5



PAS 2016 NABL session

Search in Presentation

Home Insert Design Transitions Animations Slide Show Review View

Slide Size

1

2

3

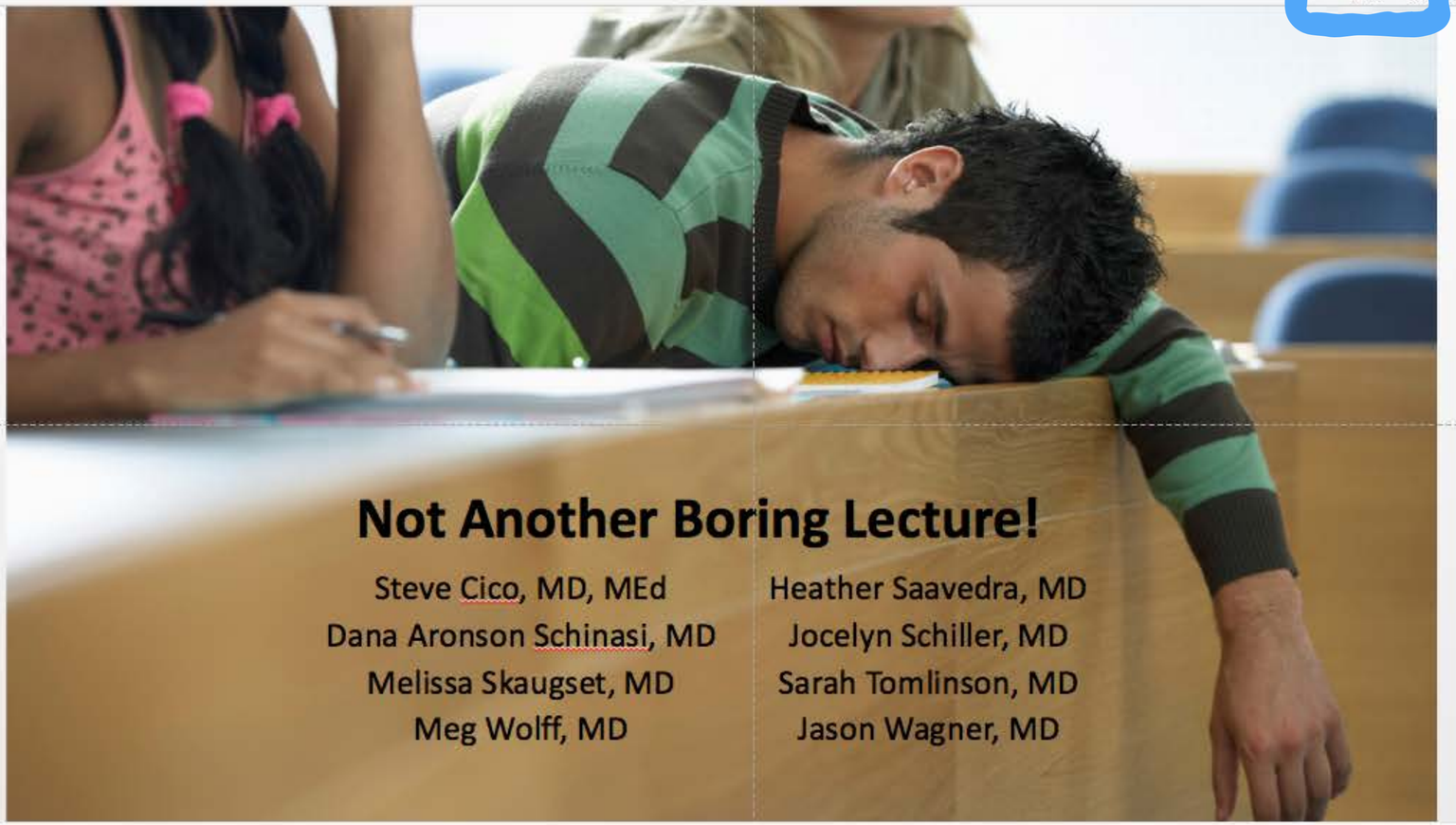
4

5

6

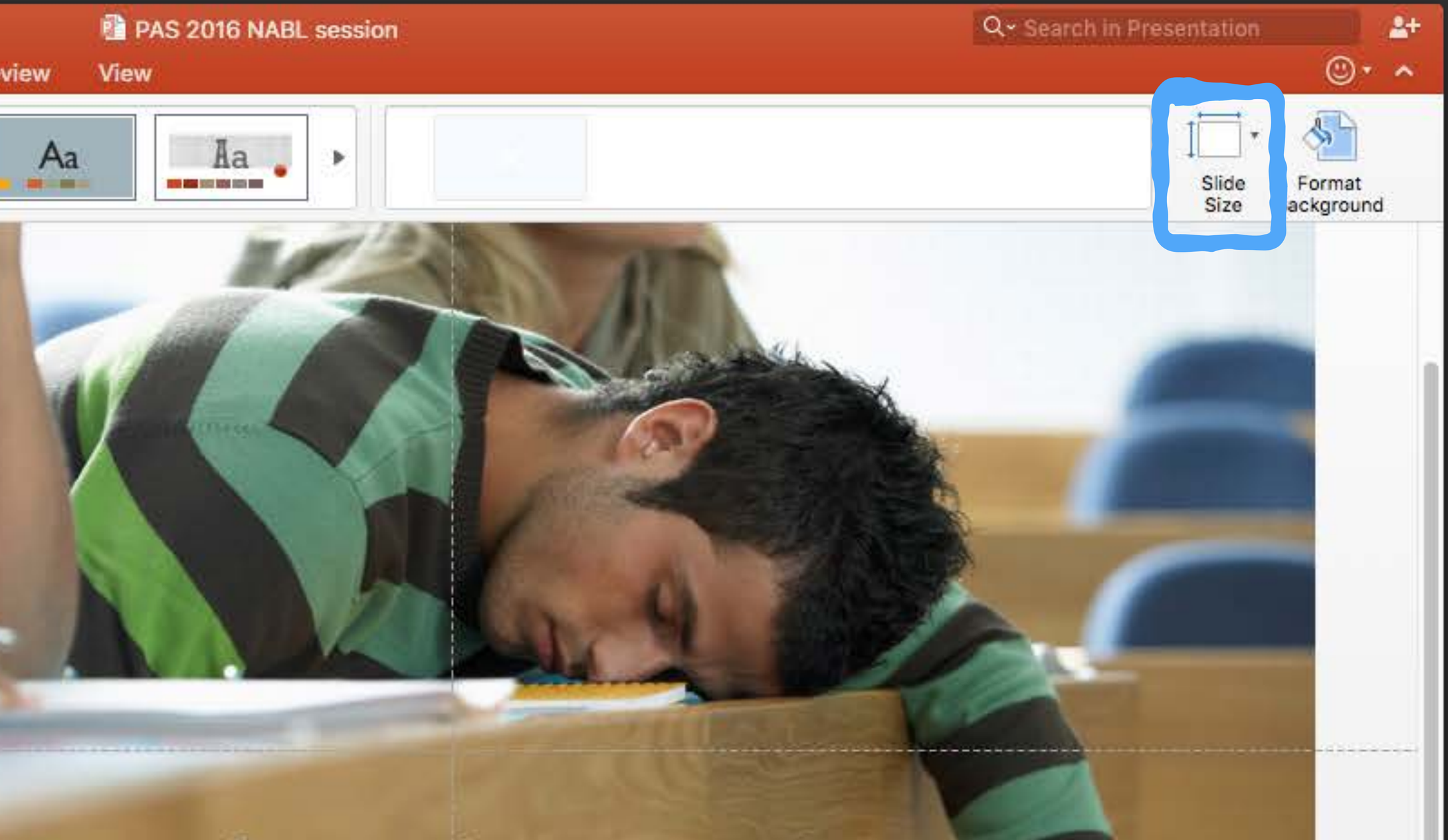
7

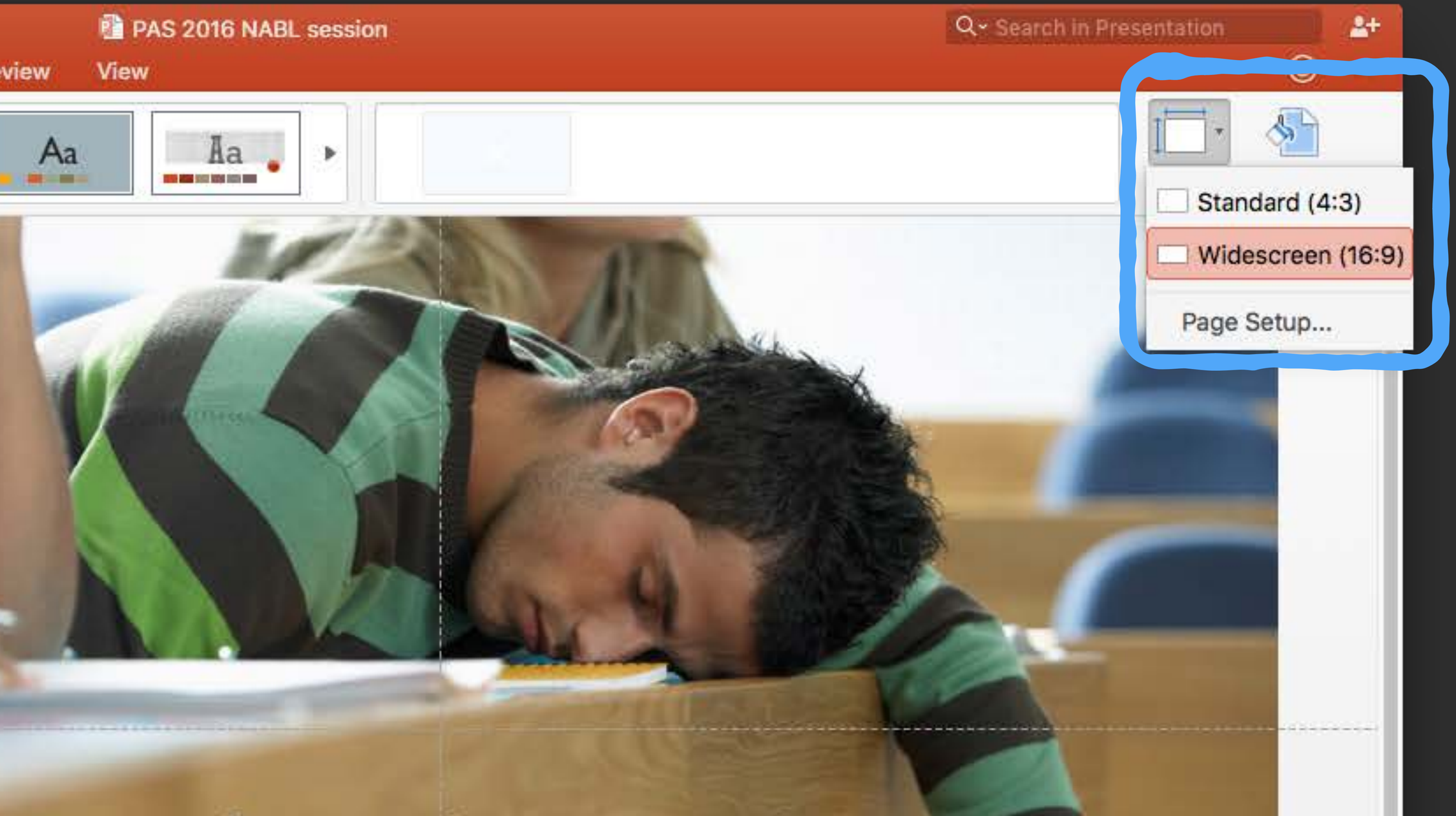
8



Heather Saavedra MD

Slide 2 of 62 English (United States) Notes Comments 91%


PAS 2016 NABL session
Search in Presentation
view
View
Aa
Aa
Slide Size
Format ackground


PAS 2016 NABL session
Search in Presentation
view
View
Aa
Aa
Standard (4:3)
Widescreen (16:9)
Page Setup...

Choose a Theme

Standard | Wide | My Themes

Black

White

Gradient

Showroom

Modern Type

Exhibition

Drafting

Photo Essay

Classic

Slate

Cream Paper

Artisan

Cancel | Choose

Choose a Theme

Standard | Wide | My Themes

Black

White

Gradient

Showroom

Modern Type

Exhibition

Drafting

Photo Essay

Classic

Slate

Cream Paper

Artisan

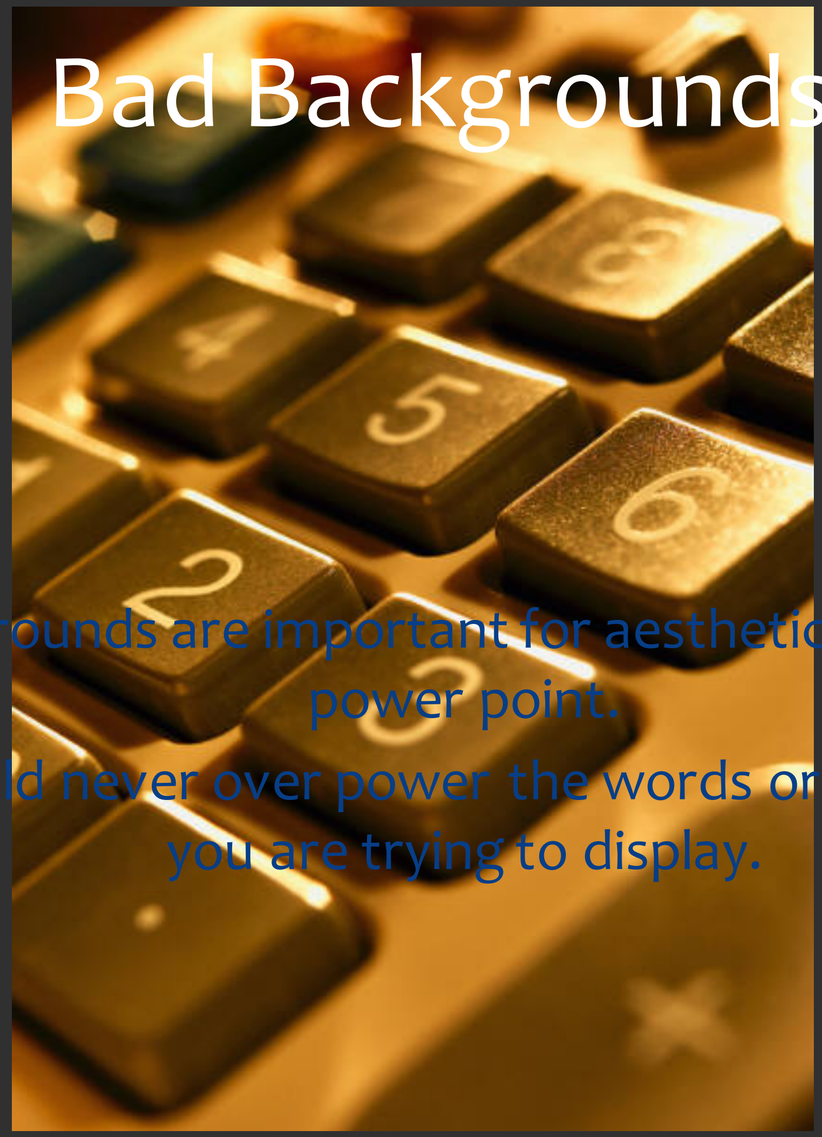
Cancel | Choose

Cut
EMERGENCY
MEDICINE

IRISH

EMERGENCY
MEDICINE

Bad Backgrounds



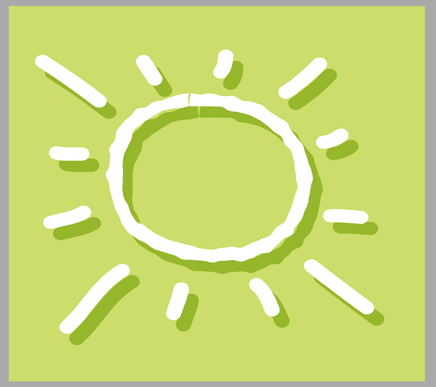
Backgrounds are important for aesthetics of your power point.

They should never over power the words or information you are trying to display.

K-Ras is currently the most effective clinically predictive biomarker

- there are virtually no biomarkers that are useful in predicting response to treatment strategies; the best one at the present time is the presence of K-Ras mutations
- K-Ras is a key cell signaling molecule that acts downstream of receptor tyrosine kinases such as EGFR; activating K-Ras mutations occur in ~ 40% of CRC and K-Ras mutations are associated with poor prognosis and poor survival
- two anti-EGFR monoclonal antibody drugs, cetuximab and panitumumab, are ineffective in patients with activating K-Ras mutations; see McIntire et al pdf

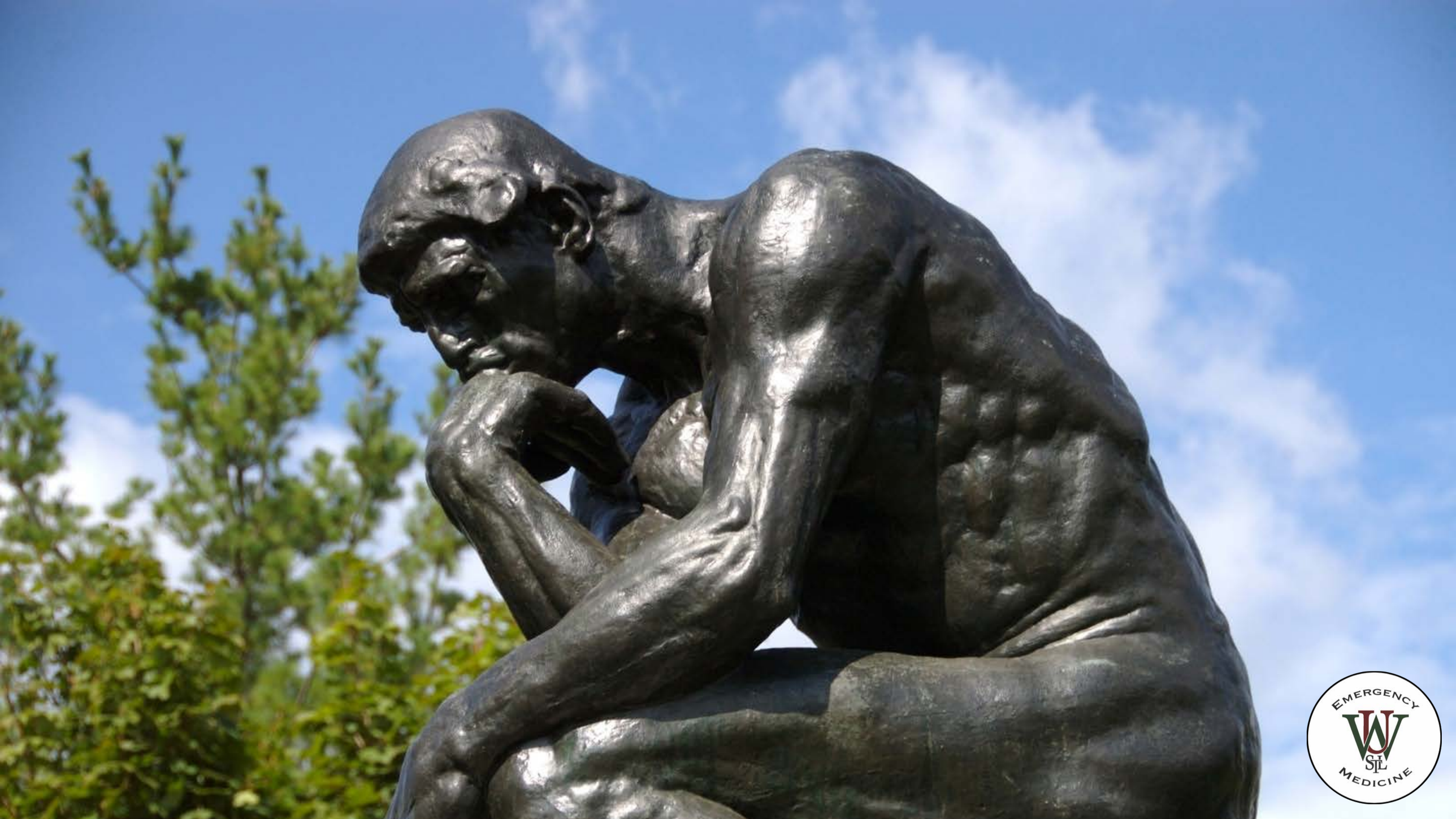
Bad Graphics



When using graphics, one good graphic will do better then several poor ones. Make good choices!

IMAGES

EMERGENCY
MEDICINE

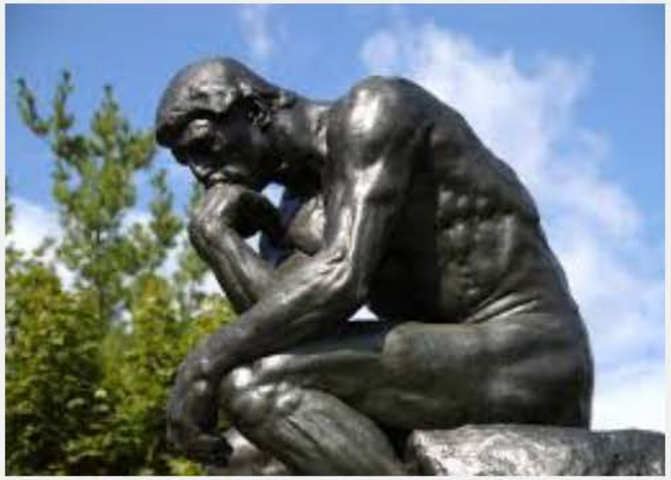
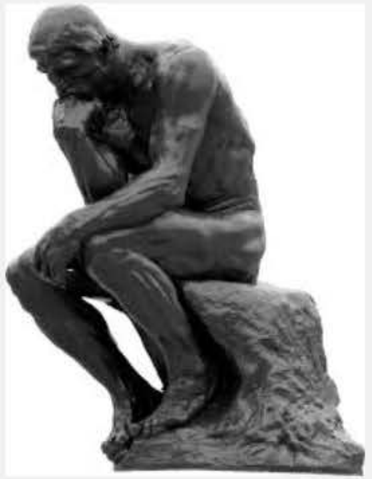

EMERGENCY
MEDICINE

Google

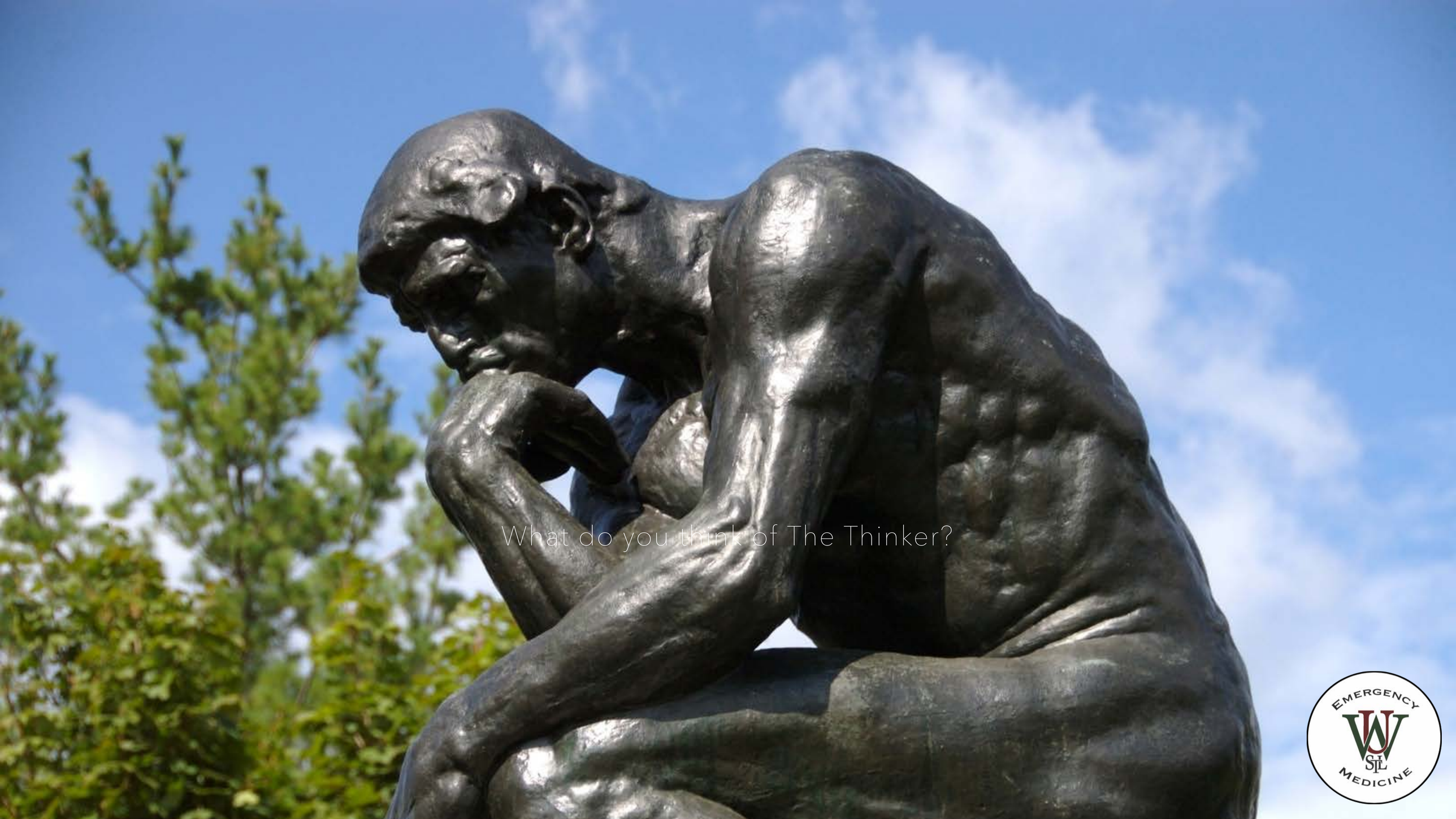
thinker

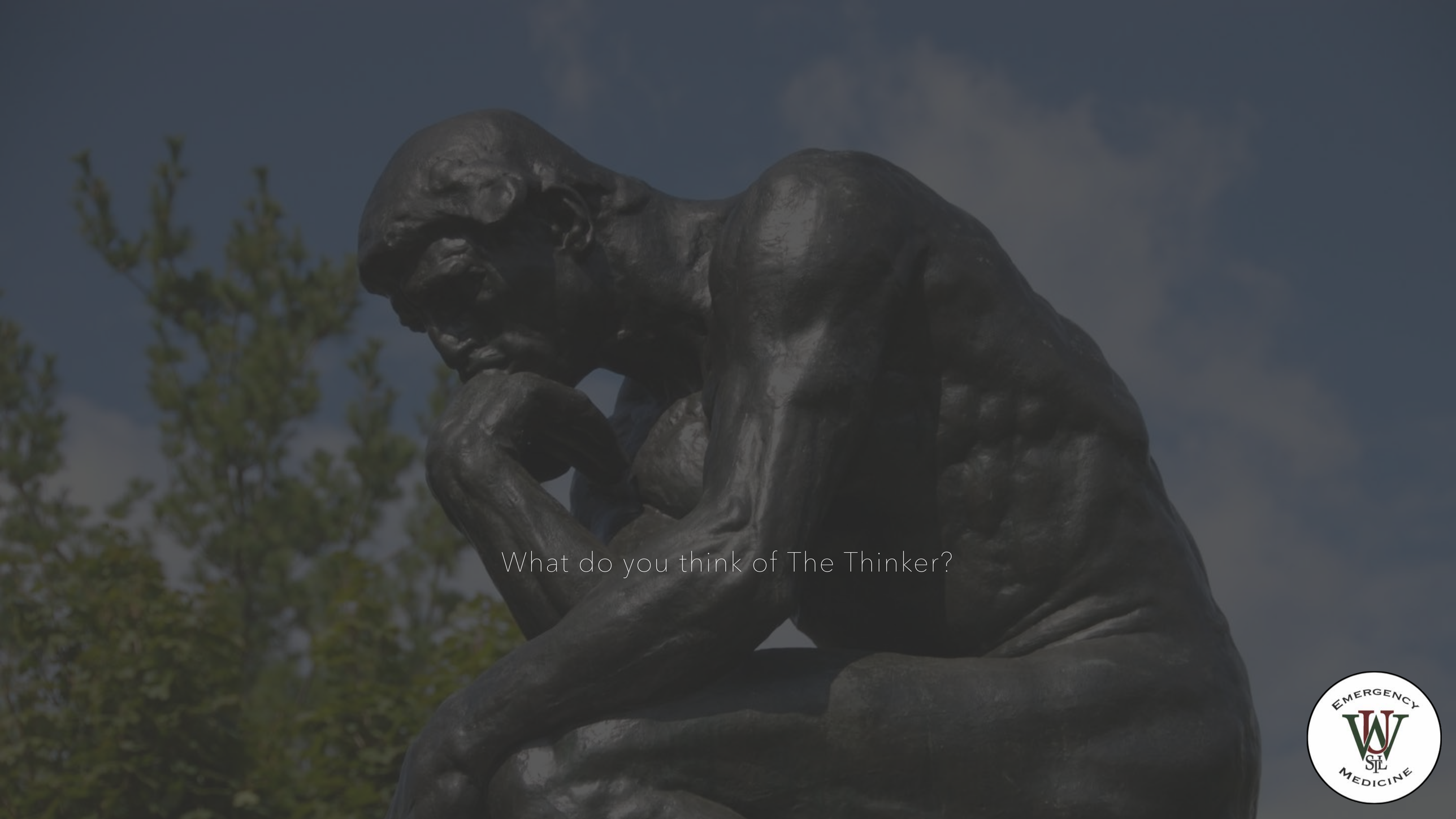
All | Images | Videos | Shopping | Books | More | Search tools

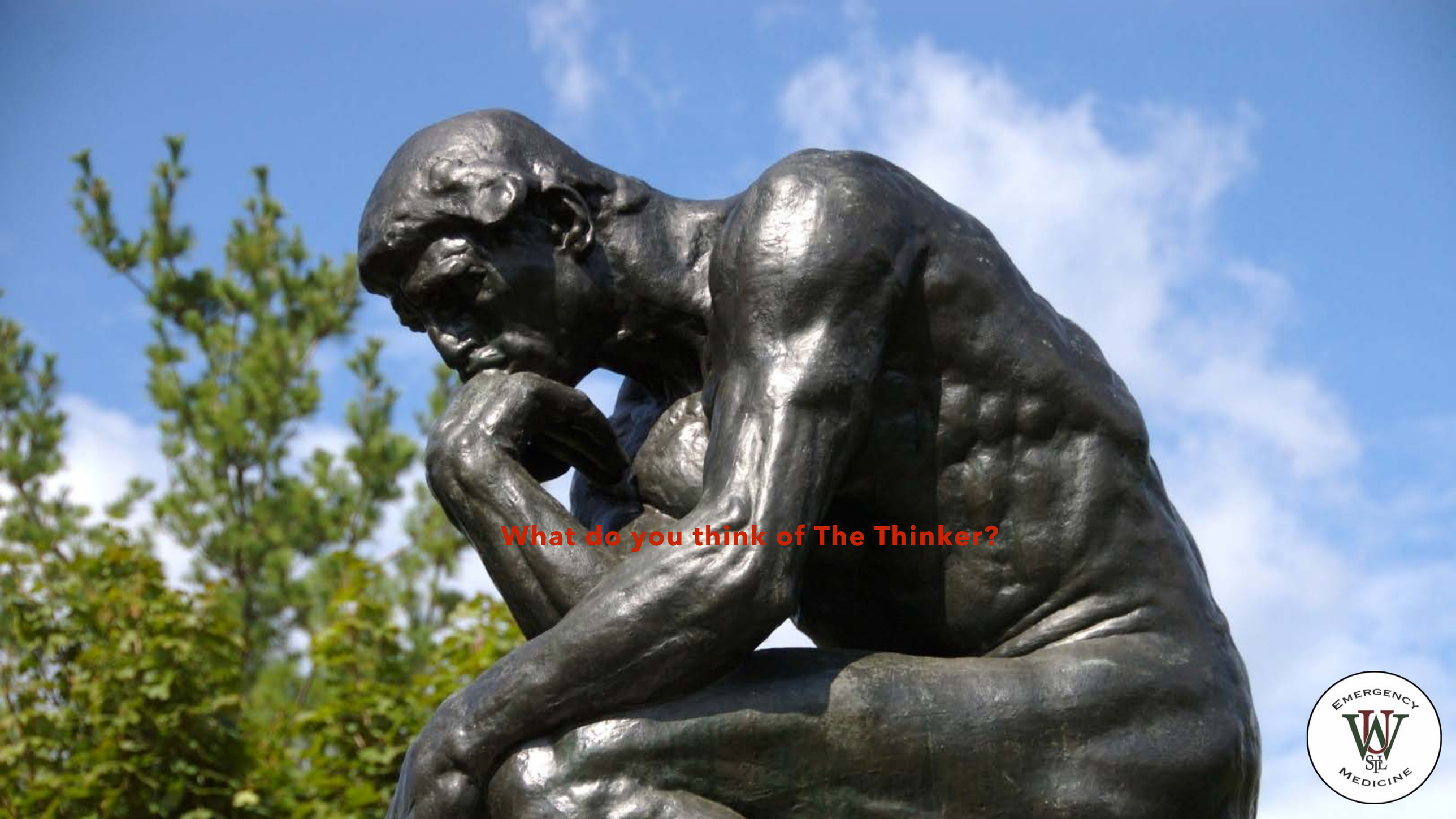
Large | Color | Type | Time | Usage rights | More tools | Clear

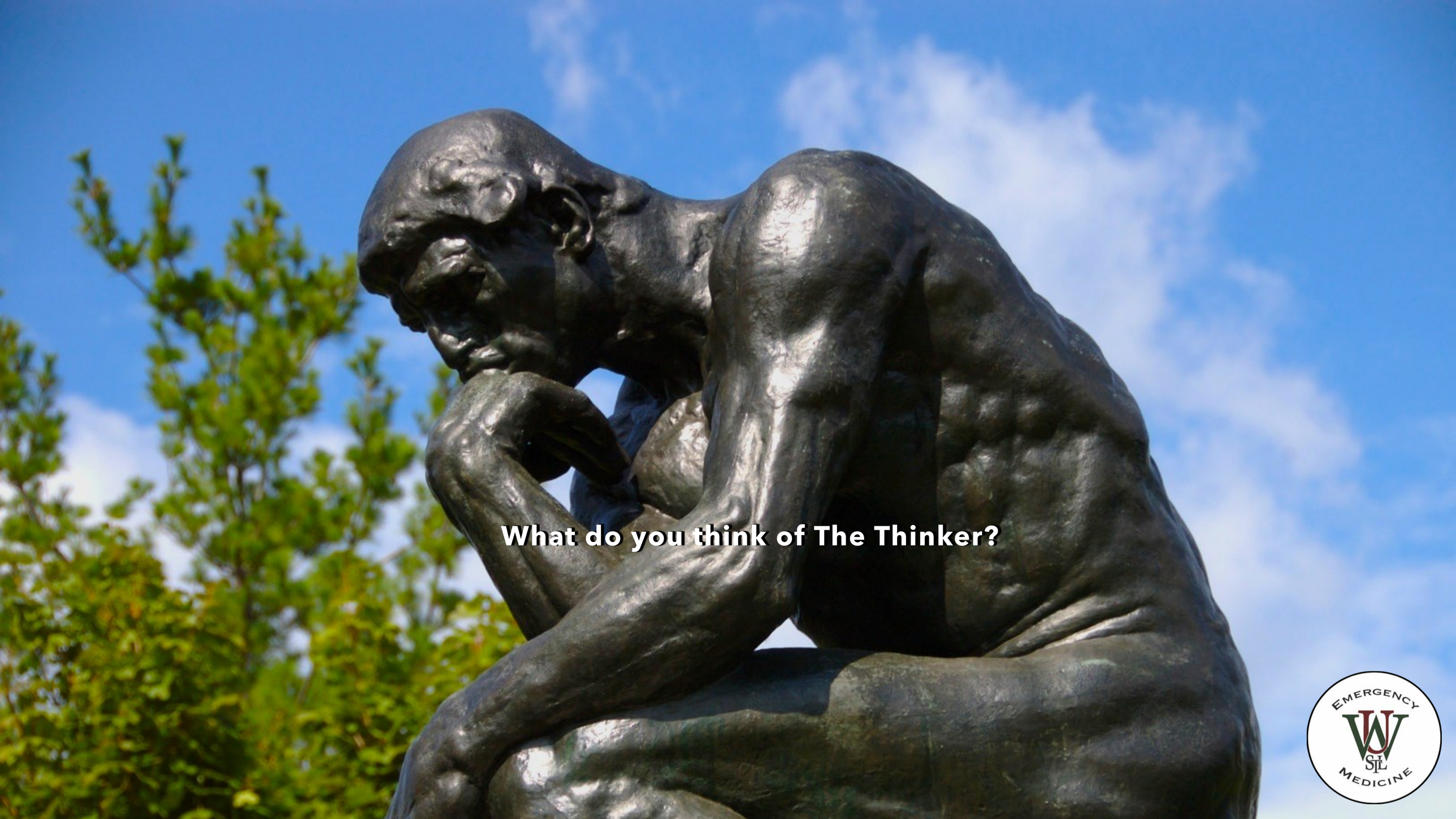



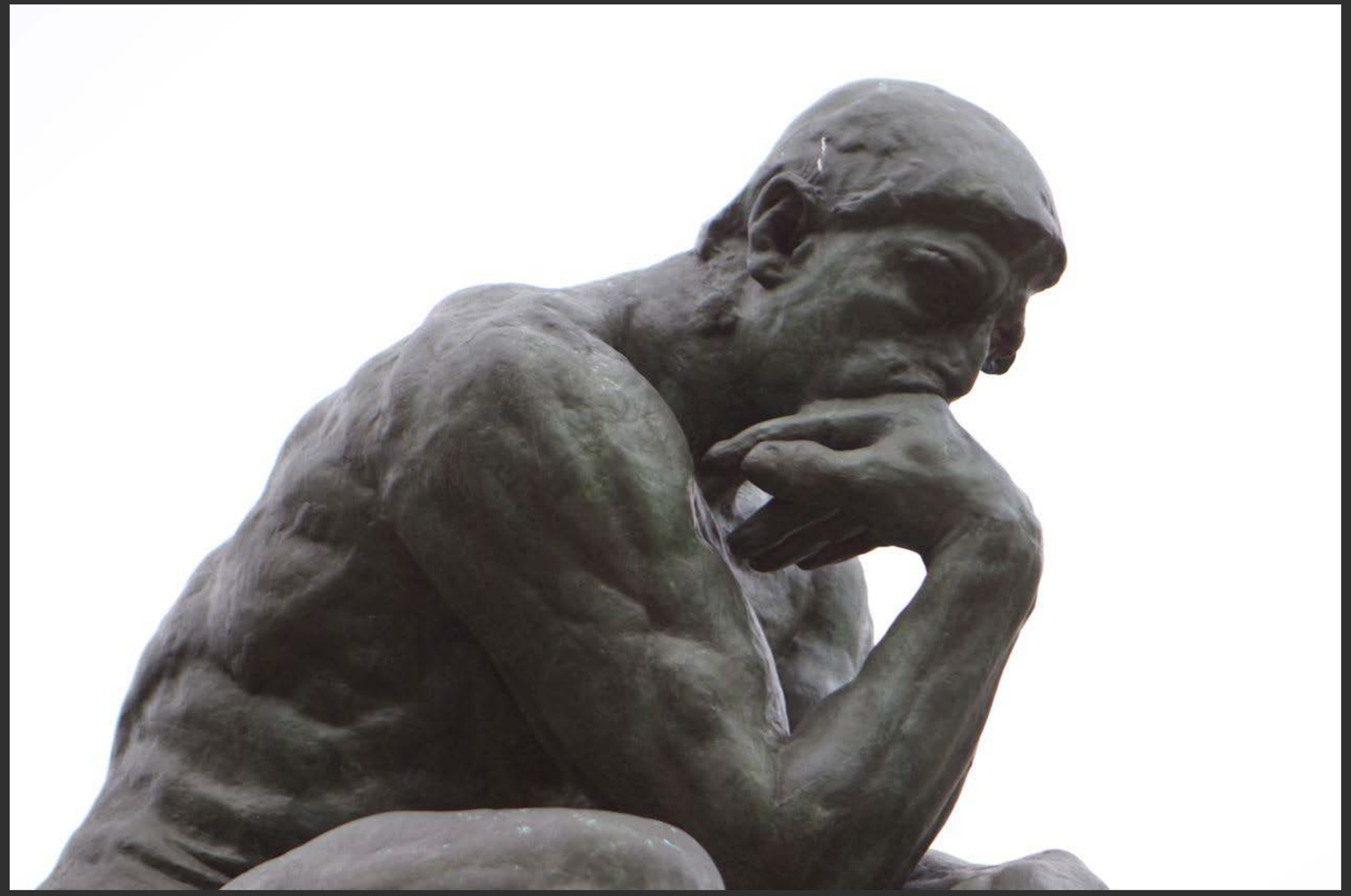
EMERGENCY MEDICINE


What do you think of The Thinker?


What do you think of The Thinker?


What do you think of The Thinker?

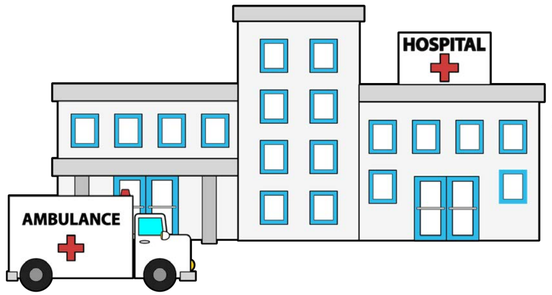

What do you think of The Thinker?



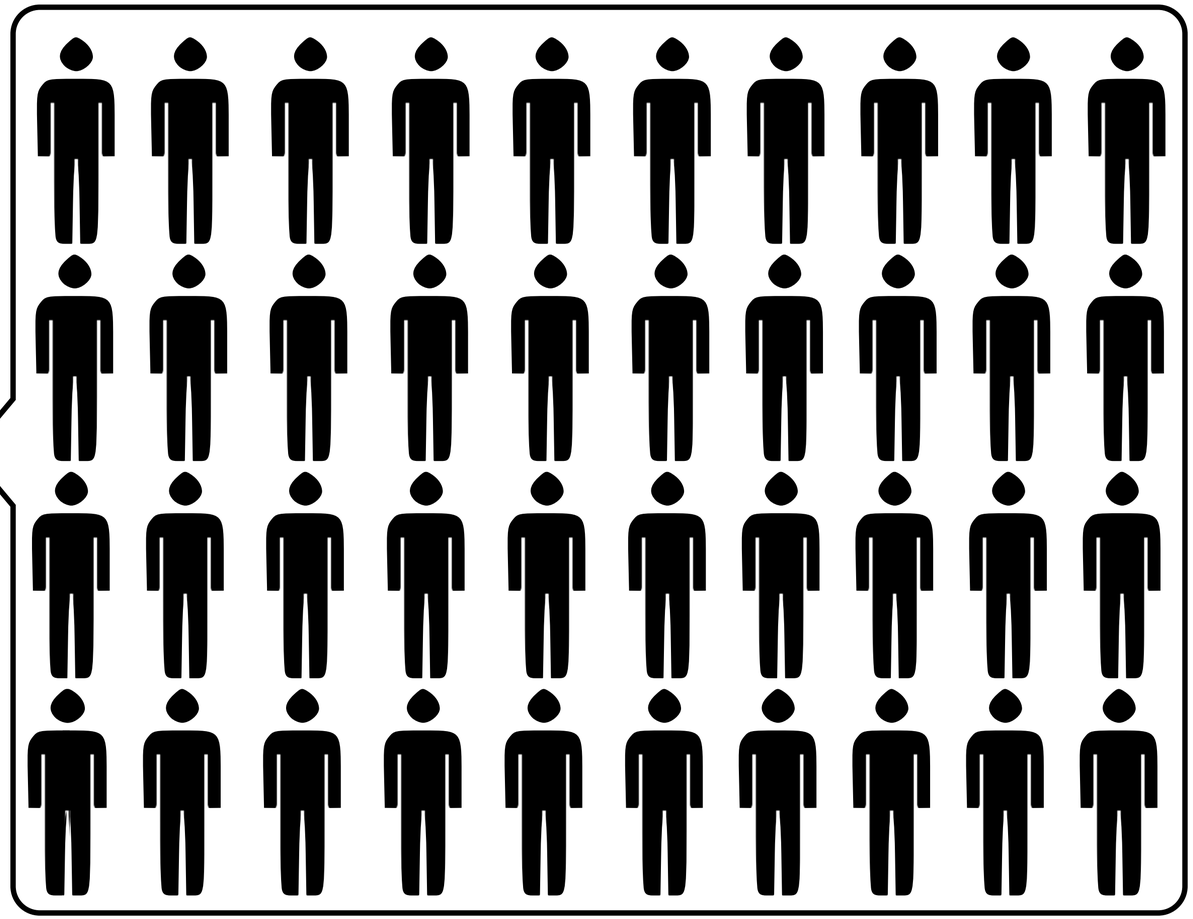
GIF ADVICE

CT influences disposition

Pre-CT



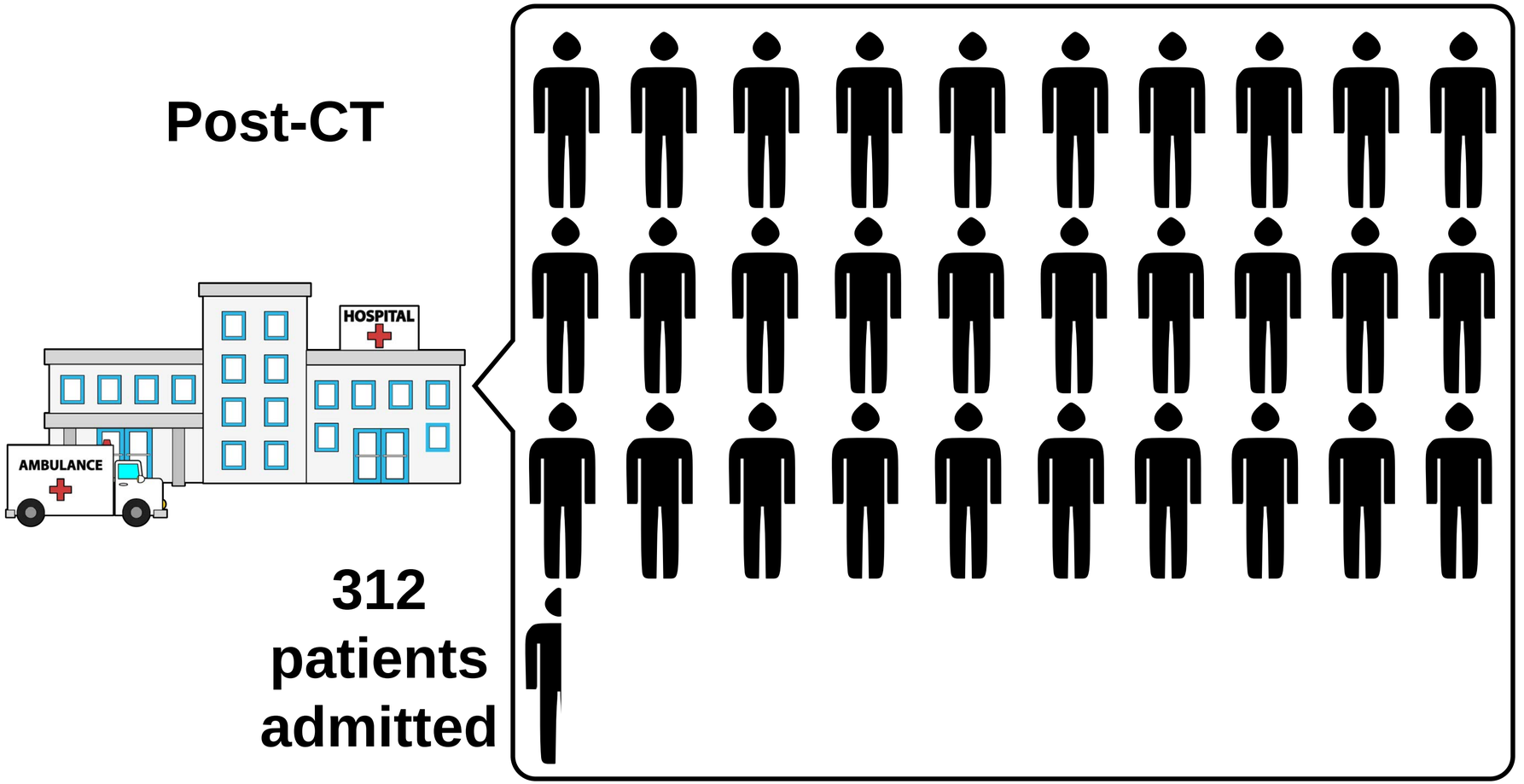
412 patients to be admitted



Rosen MP et al. Value of abdominal CT in the emergency department for patients with abdominal pain. 2013. *European Radiology*. 13: 418-24

CT influences disposition

Post-CT

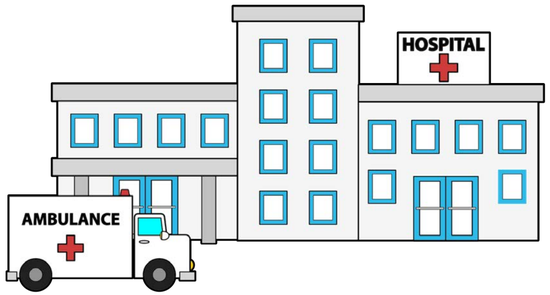


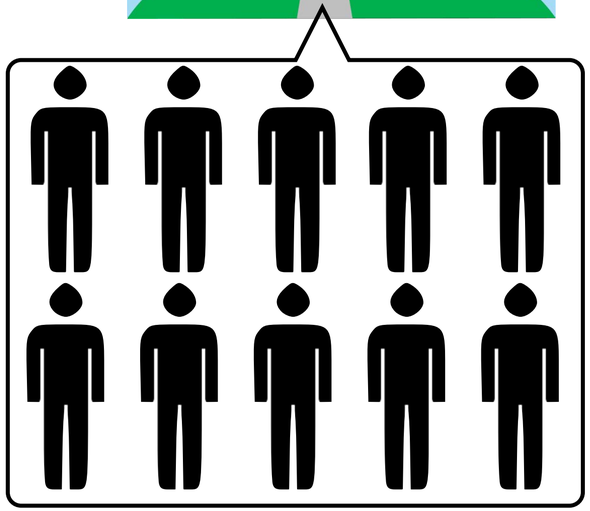
312 patients admitted

Rosen MP et al. Value of abdominal CT in the emergency department for patients with abdominal pain. 2013. *European Radiology*. 13: 418-24

CT influences disposition

Pre-CT



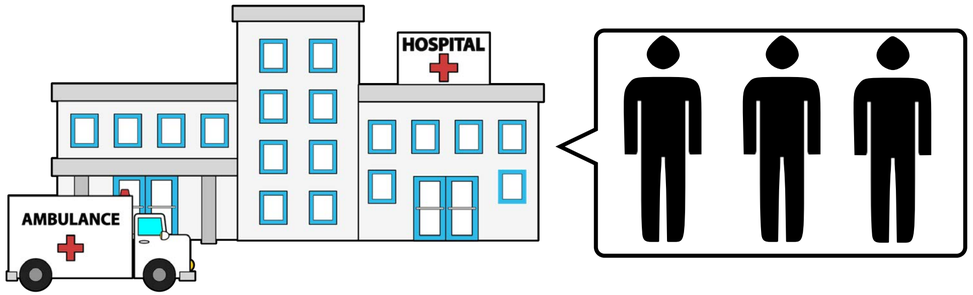


101 patients to be discharged

Rosen MP et al. Value of abdominal CT in the emergency department for patients with abdominal pain. 2013. *European Radiology*. 13: 418-24

CT influences disposition

Post-CT



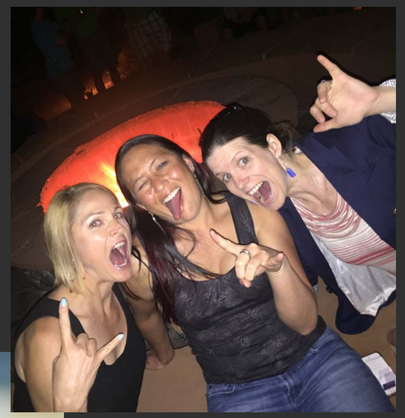
27 patients admitted

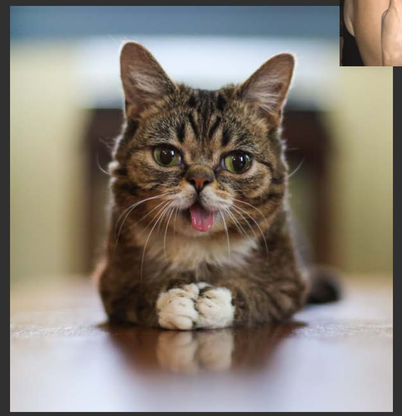
CT changed the immediate surgical management plan in 40% of patients with suspected appendicitis

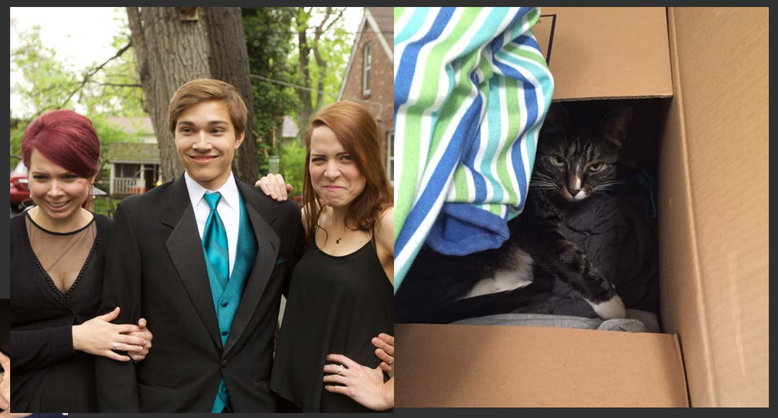
Rosen MP et al. Value of abdominal CT in the emergency department for patients with abdominal pain. 2013. *European Radiology*. 13: 418-24

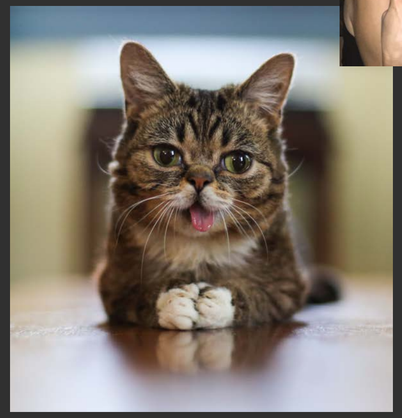
PRESENT

FALCON
9
SPACEX

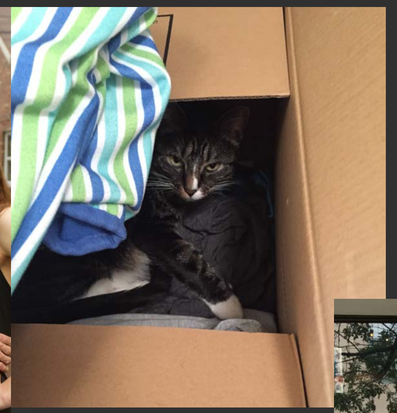


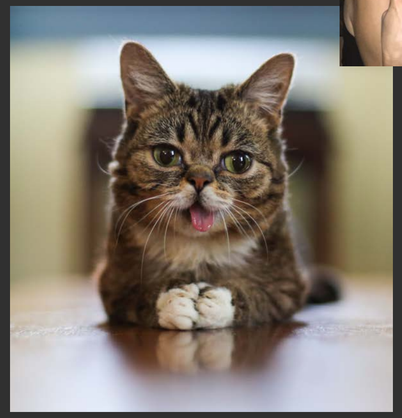
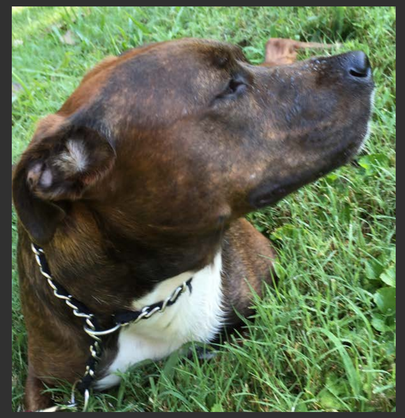
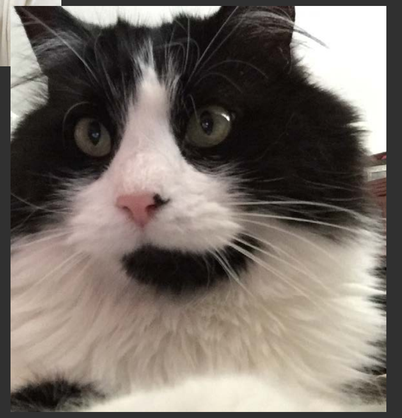


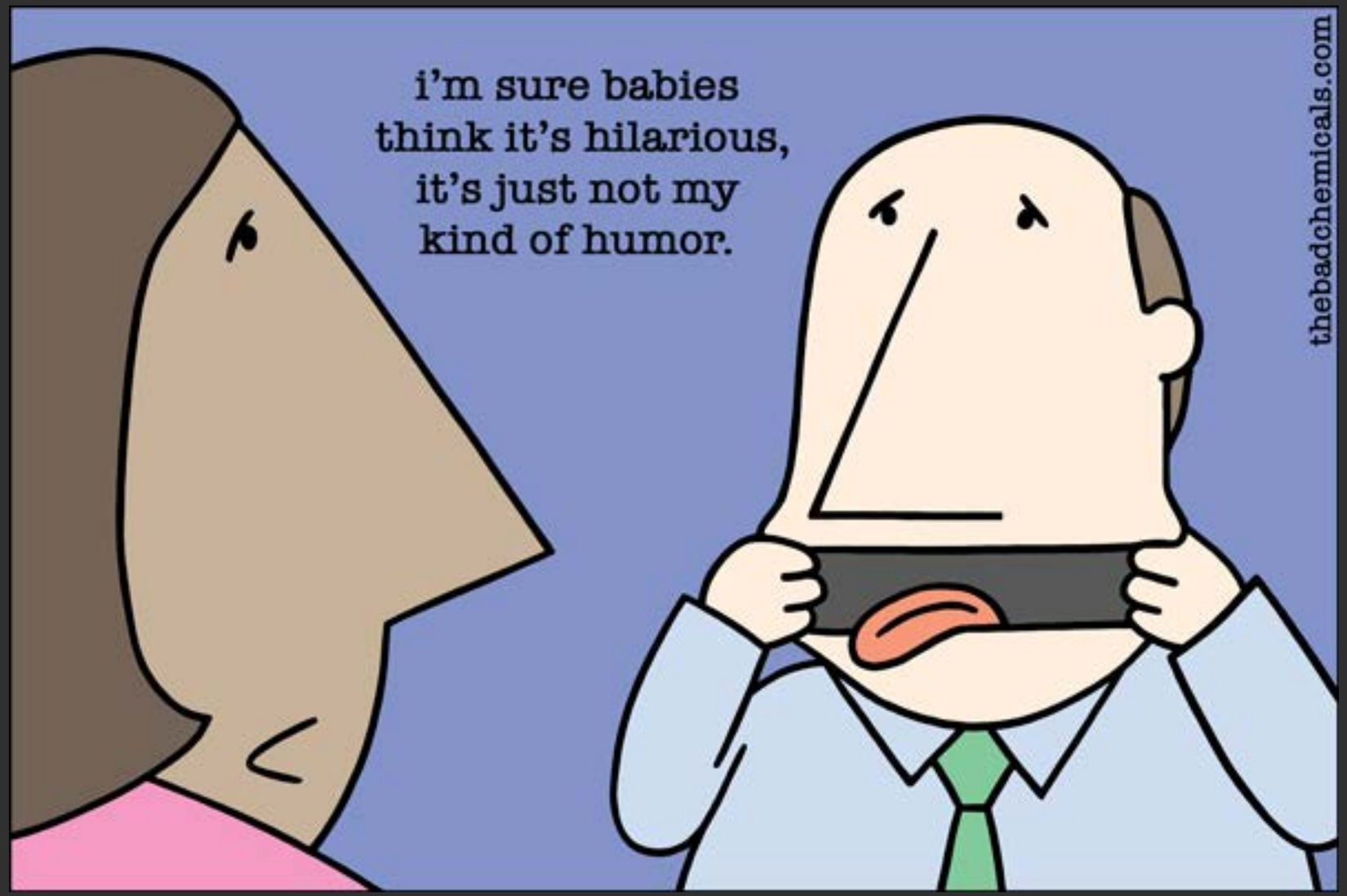




NASA
EMERGENCY
MEDICINE



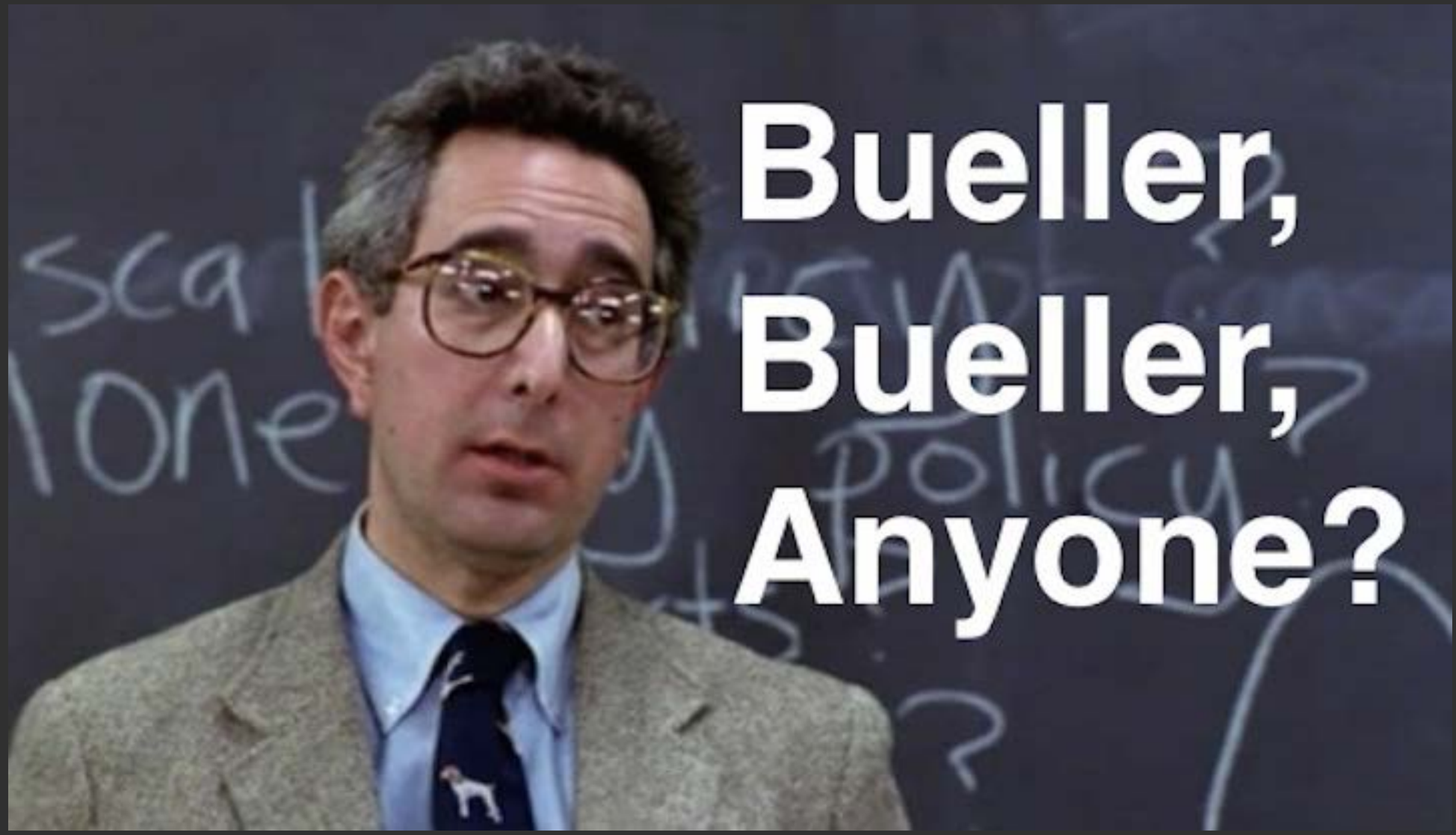




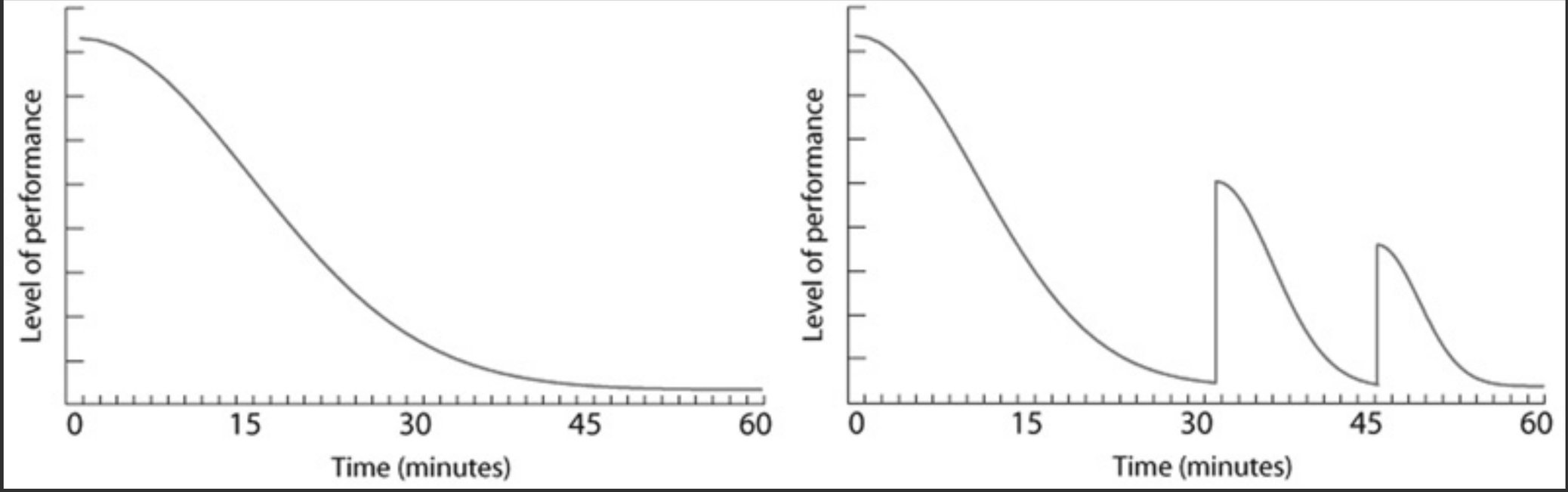

i'm sure babies think it's hilarious, it's just not my kind of humor.
thebadchemicals.com

BROWN

BROWN

EMERGENCY
MEDICINE


Bueller,
Bueller,
Anyone?

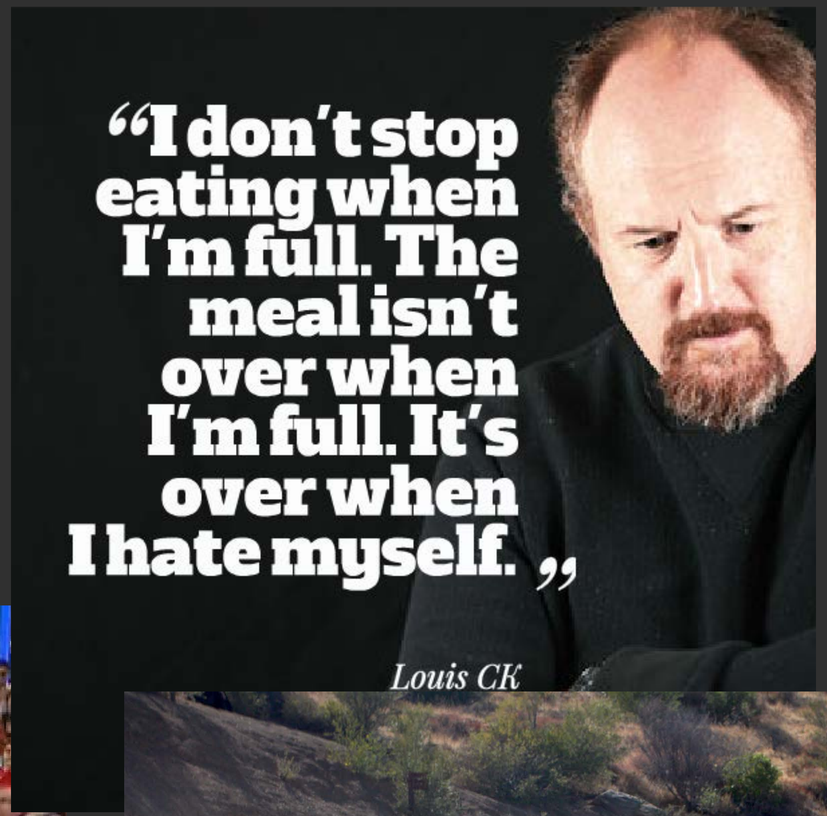

Level of performance
0
15
30
45
60
Time (minutes)
Level of performance
0
15
30
45
60
Time (minutes)

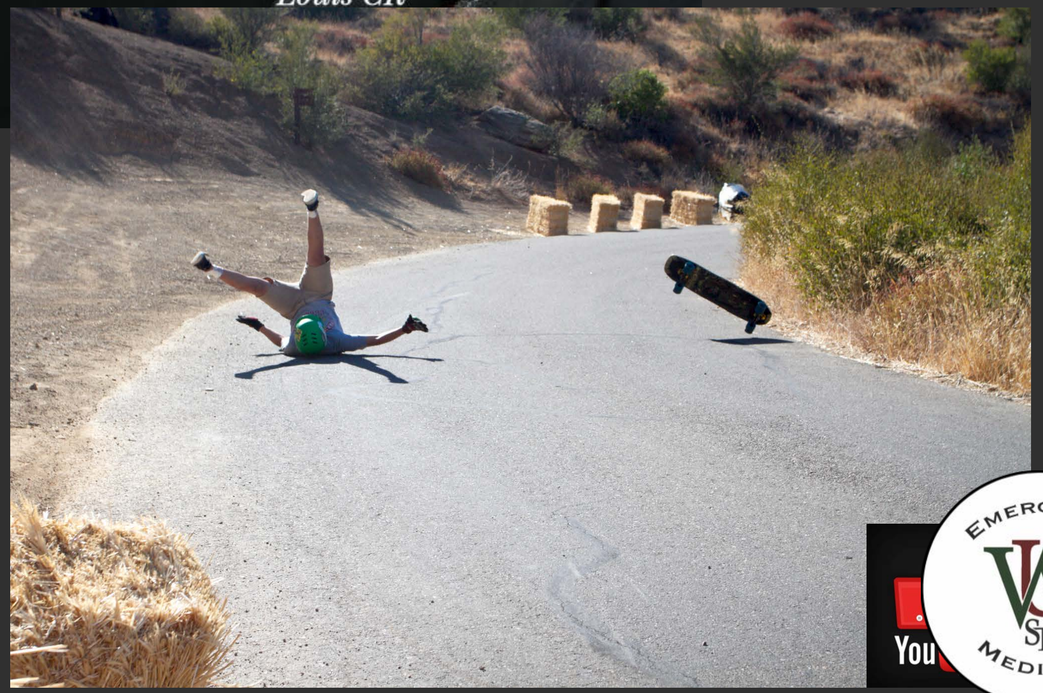
re|engage

marriage program

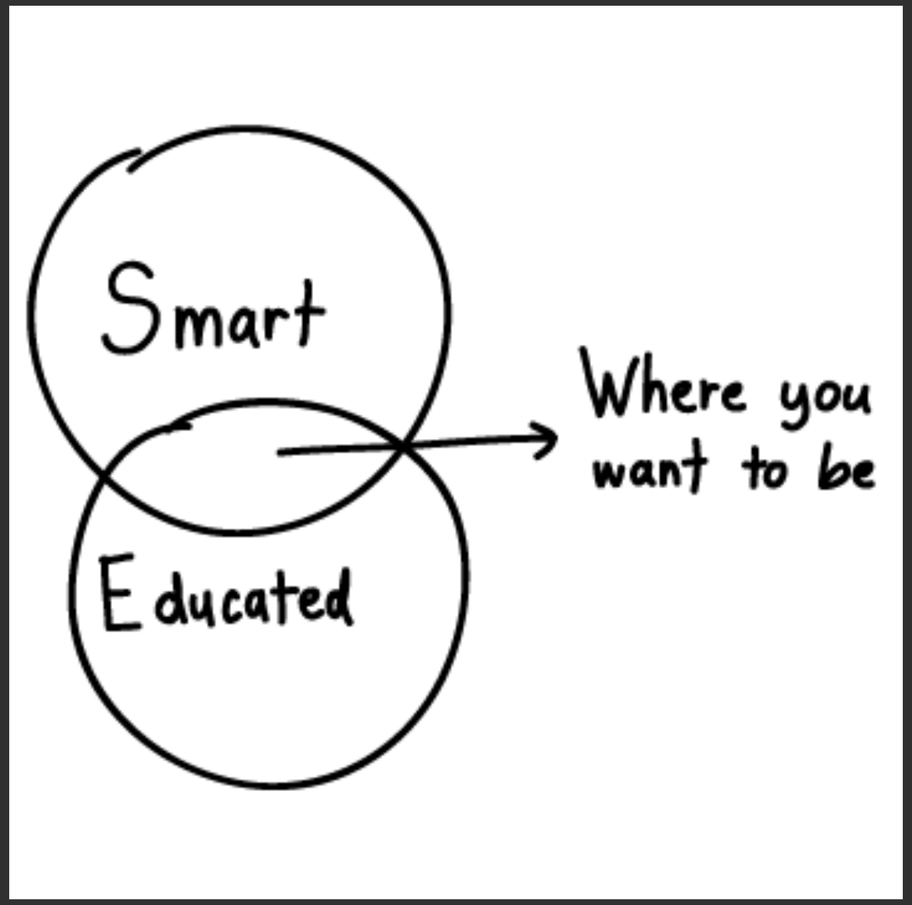
reignite resurrect reconnect

Poll Everywhere



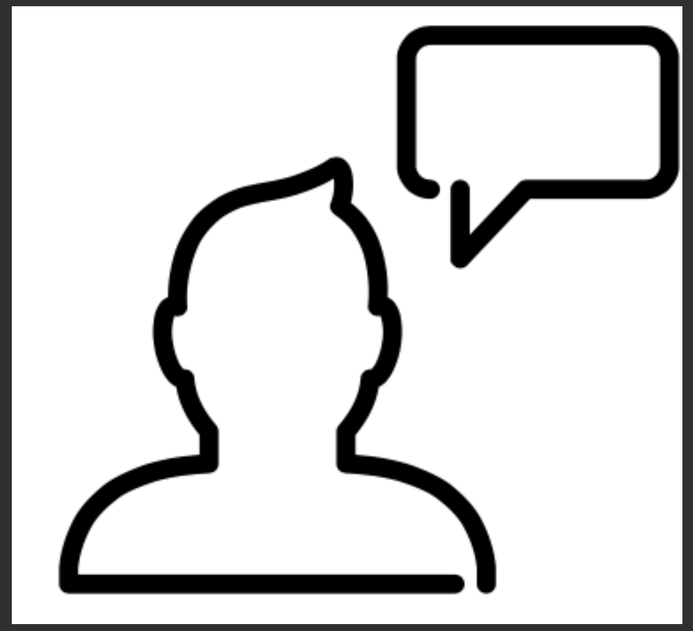


Surface


Smart
Educated
Where you want to be

Performance
Creative Suite Demo
Section Elapsed
00:09
Section Remaining
04:51
Introd
ID
FC
AI
QA
Introduction
Next: ID
00:09
Total Elapsed
59:51
Total Remaining
Run
Pause
Stop

COOLPIX
EMERGENCY
MEDICINE



@TheTechDoc