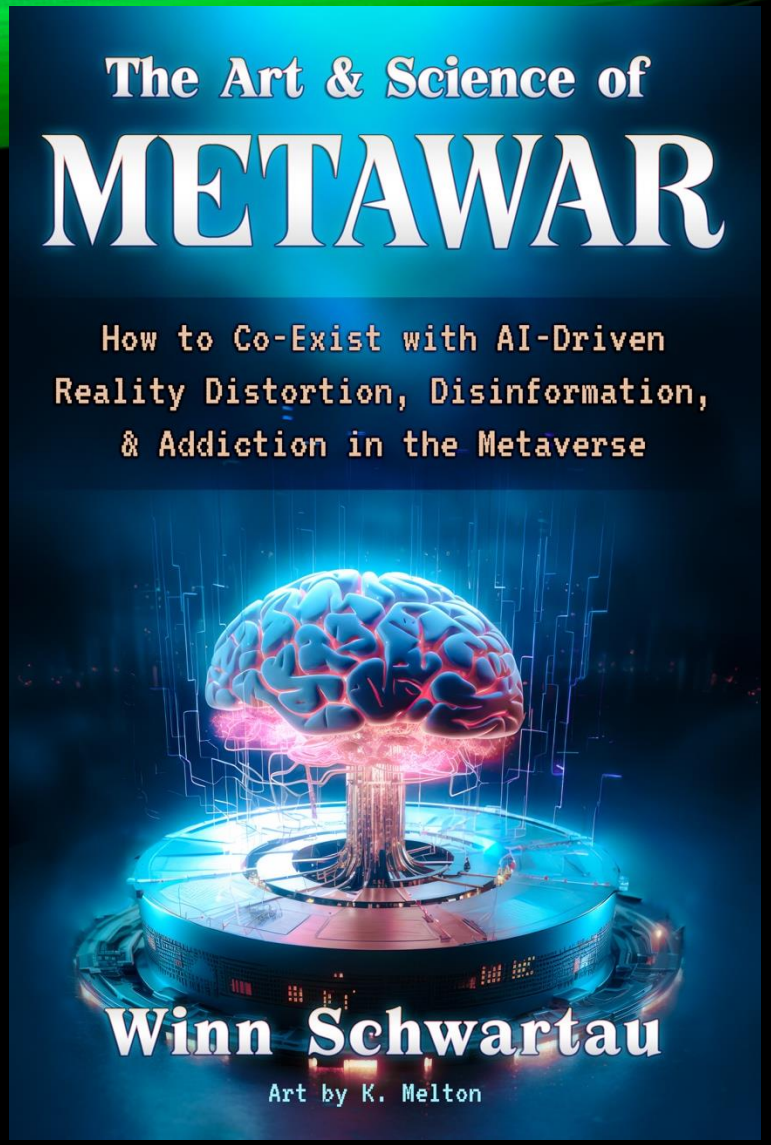


METAWAR:

A CYBERSECURITY IMPERATIVE: COGNITIVE DEFENSE FOR THE NEW ATTACK SURFACE

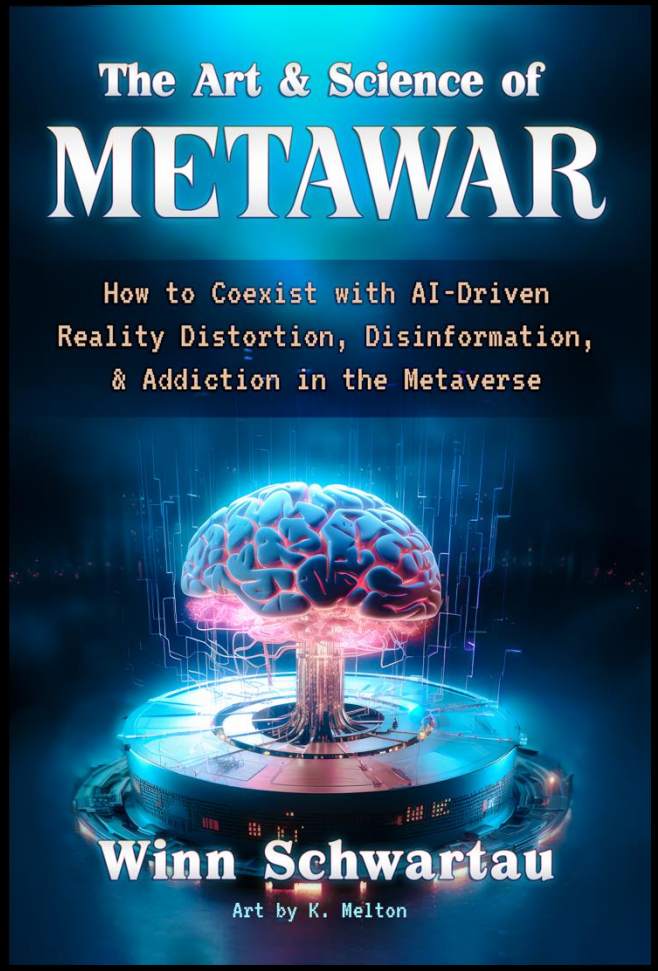
Winn Schwartau, FRSA

www.WinnSchwartau.com

@WinnSchwartau

WTF IS METAWAR?

- Metawar is the Art & Science of manipulating reality. The battle for control over your cognition, beliefs, and sense of identity.
- Metawar targets you, your company, and your nation.



METAWAR: REALITY IS ONLY A KEYSTROKE AWAY

WTF is the Metaverse?

THE MOST POWERFUL & ADDICTIVE REALITY DISTORTION MACHINE EVER CONCEIVED!

AND IT CAN PREDICT THE FUTURE!

METAVERSE HISTORY: IT'S ALL ABOUT IMMERSION AND BELIEF

- 12,000 BCE
  - Storytelling began
- 1876 – 1920
  - Audio/Video Tech Dev
- 2 November 1920
  - 1st Commercial Radio Broadcast
- 30 October 1938
  - War of the Worlds (Radio)
- 30 April 1939
  - Now we add sight to sound
- 1 July 1941
  - 1st paid television ad
- 1950s
  - 70mm/3D Theaters
  - Smell'o'vision
- September 1961
  - Disney Wonderful World of Color
- 2006
  - Big flatscreens are affordable

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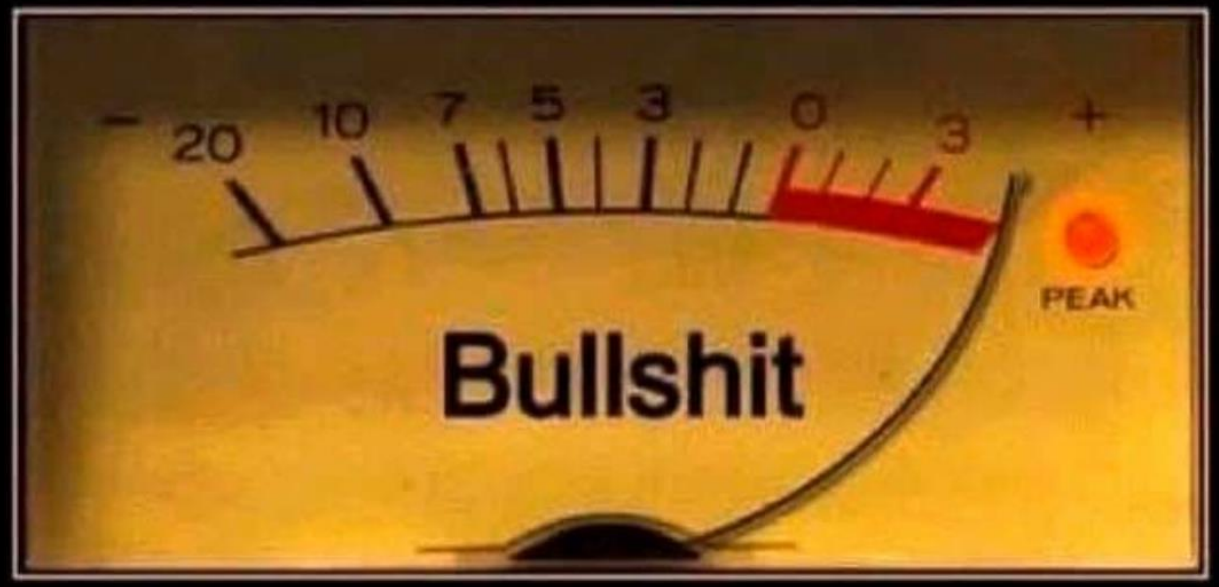
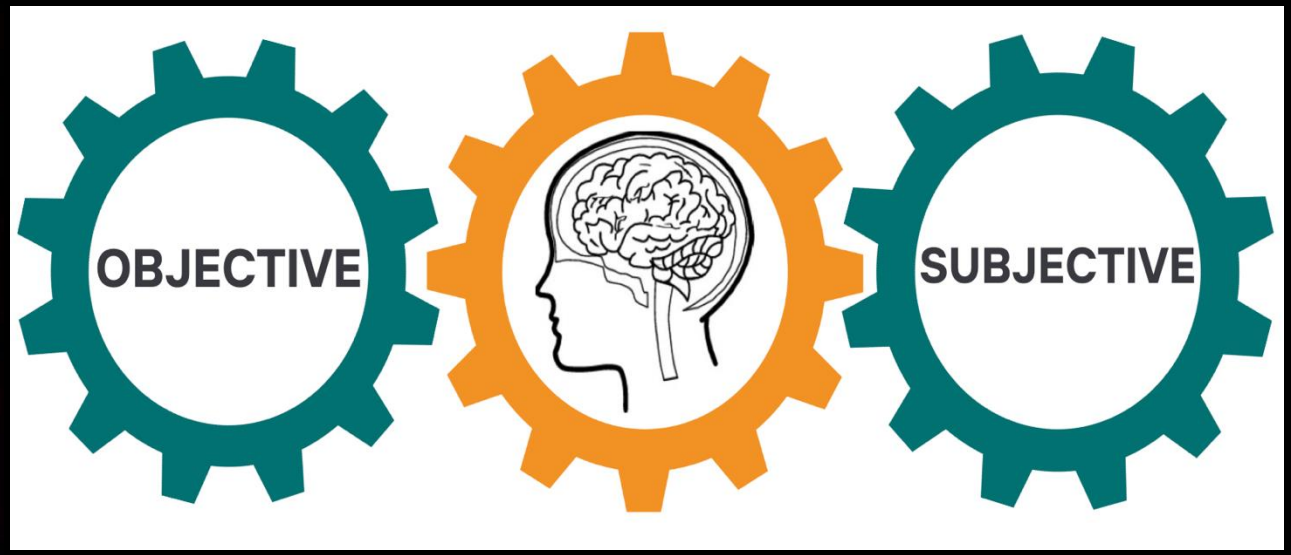
THE METAPOINT: 100% IMMERSION & BELIEF

TWO REALITIES
(IT'S ALL IN YOUR HEAD)





… OR IS IT?

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THE METAWAR THESIS

The Metawar Thesis	8 Steps to |Belief|	In Action
Storytelling =>	A compelling narrative	Is fundamental to human communications and ideally creates an
Believable Experience = >	Text, voice, multi-media, etc.	which brings the audience inside the story. It relies upon
Reality Distortion =>	Focused attention	to make the narrative convincing by the use of
TMI/Disinformation = >	Overload, confusion	which forms mental images through which the story is told. Using
Manipulation =>	Emotional persuasion and influence	the participants' worldview and belief systems are altered.
Reward =>	Perceived to have value	systems target the human mind with digital opioids developing an
Addiction =>	Digital, behavioral, emotional, algorithmic	to the narrative. The storyteller can then induce behaviors and
Compliance =>	Takes expected actions	through repetition and fear. That is how to create undying, absolute
|Belief|		

HUMAN SENSES CREATE REALITY
With Only 11.1 mb/sec!

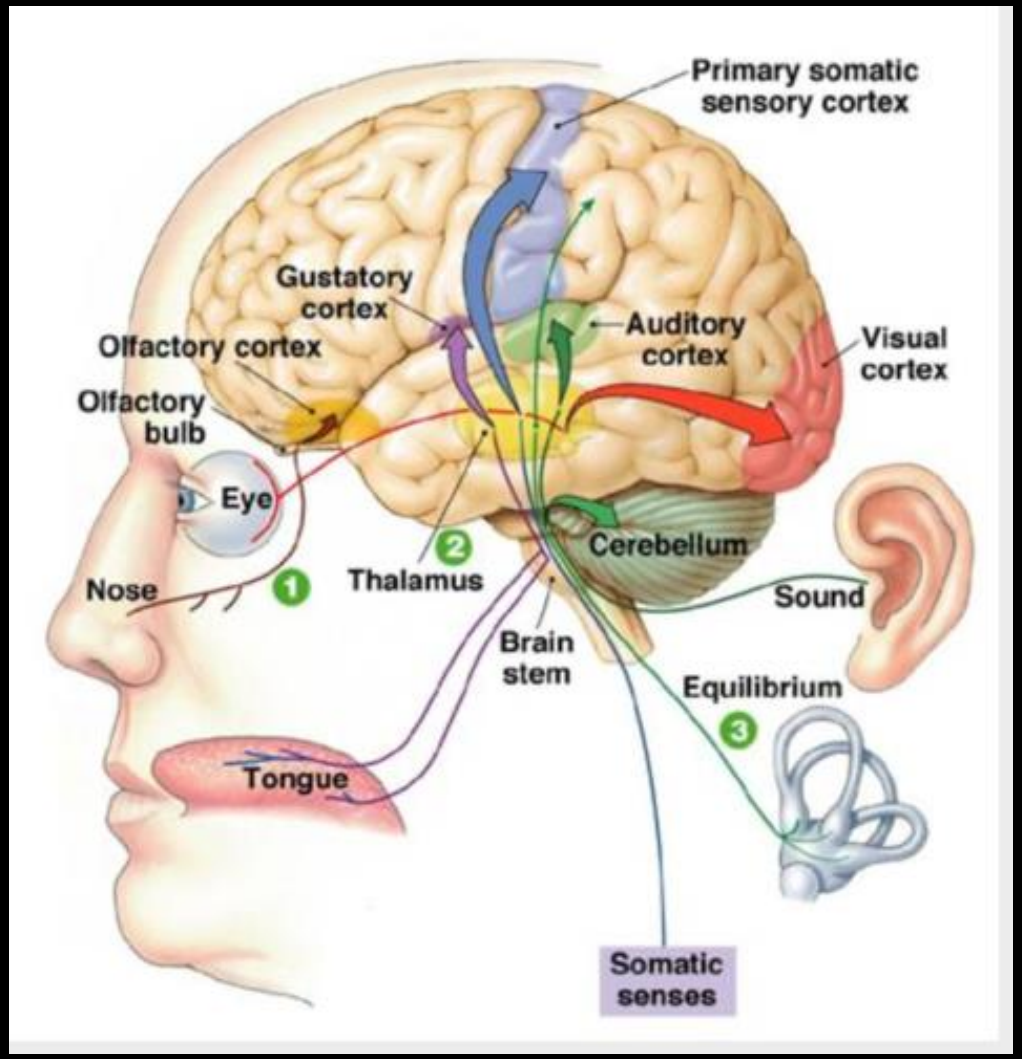
10 mb/sec

100 kb /sec

1 mb/sec

100 kb /sec

1 kb /sec



- Vision *(~80-85%)*
- Sound (~10-13%)
- Tactile (~1%)
  - Touch
  - Pain
  - Hot/Cold
- Smell & Taste (~4.5%)

- Vestibular
- Proprioception
- Interoception

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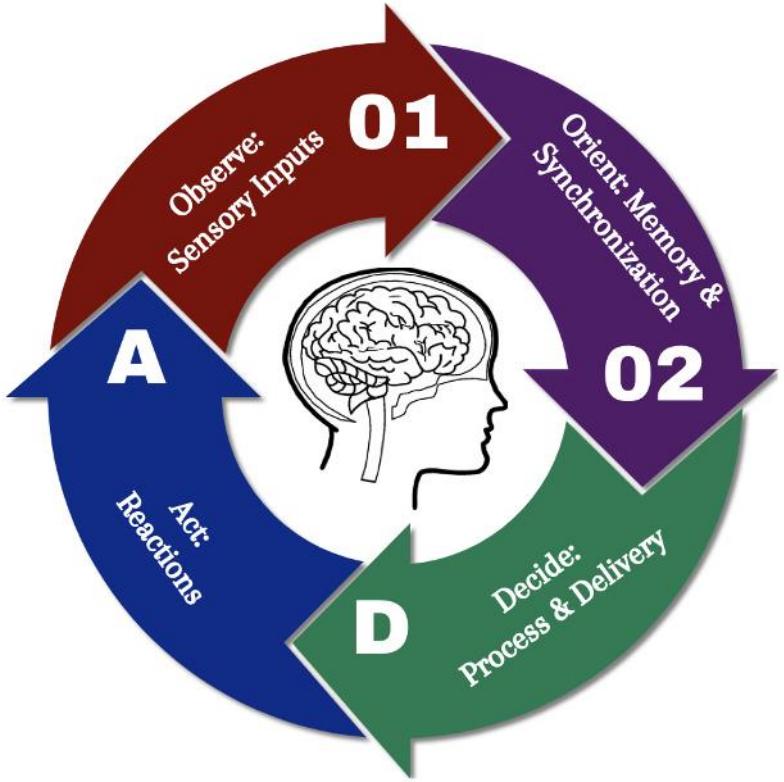
FEEDBACK & OODA: TIME-BASED HAPTICS & TRACKING DATA

Face Tracking:
- 30,000 pts IR/Mapping
- 30-1250 Hz
- 900k - 3.75 * 10^7 events/sec

Eye Tracking
- 60-120Hz/10KHz

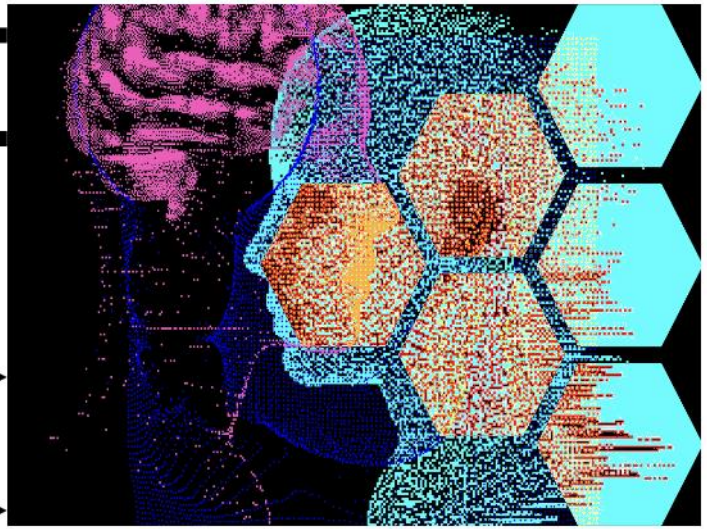
Body Suit/Glove
- MoCap: 90-500 sensors
- 100-1,000/sec

ACTIVE METACONTENT ORCHESTRATION



Content Orchestration

Haptic Feedback



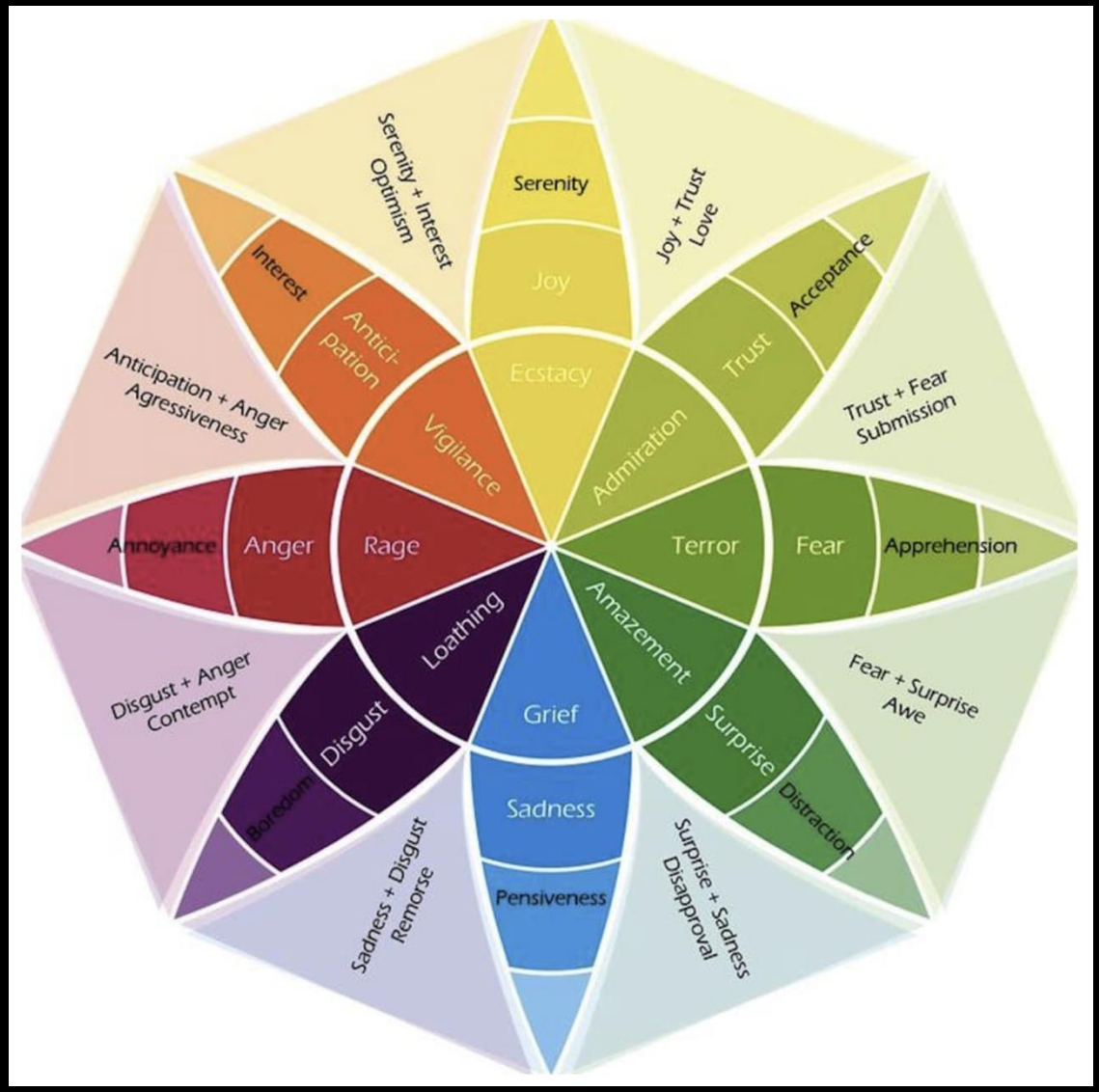
Tracking Behavior

Sensor Response

Good Evil

- Gaming
- Advertising
- EDU, Training, Corp.
- Medical, Industrial, etc.
- Propaganda, Indoctrination, Disinformation, etc.

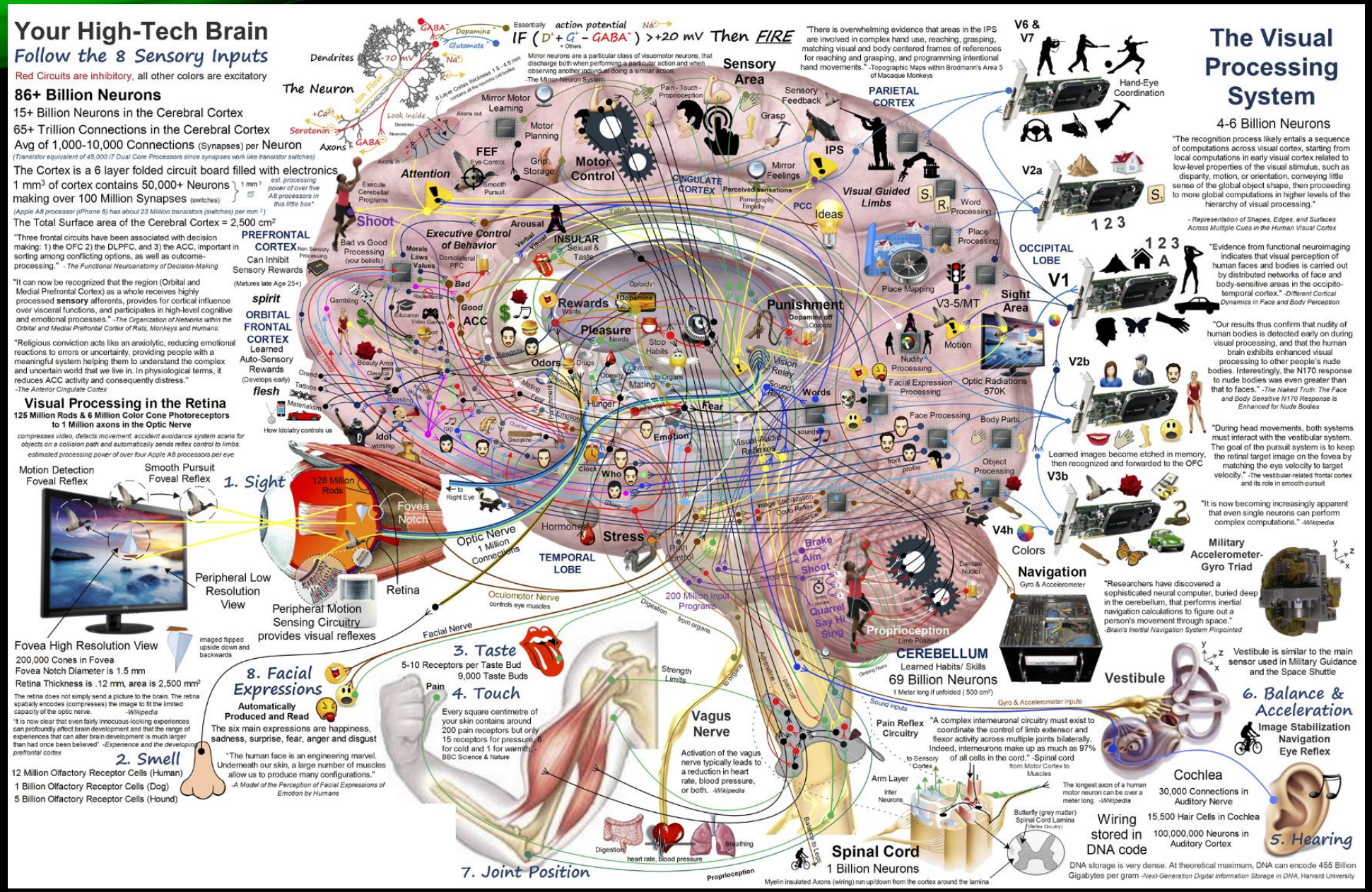
PROGRAMMING EMOTIONS & BELIEFS WITH METACONTENT ORCHESTRATION



Viewed Image

Predicted Image

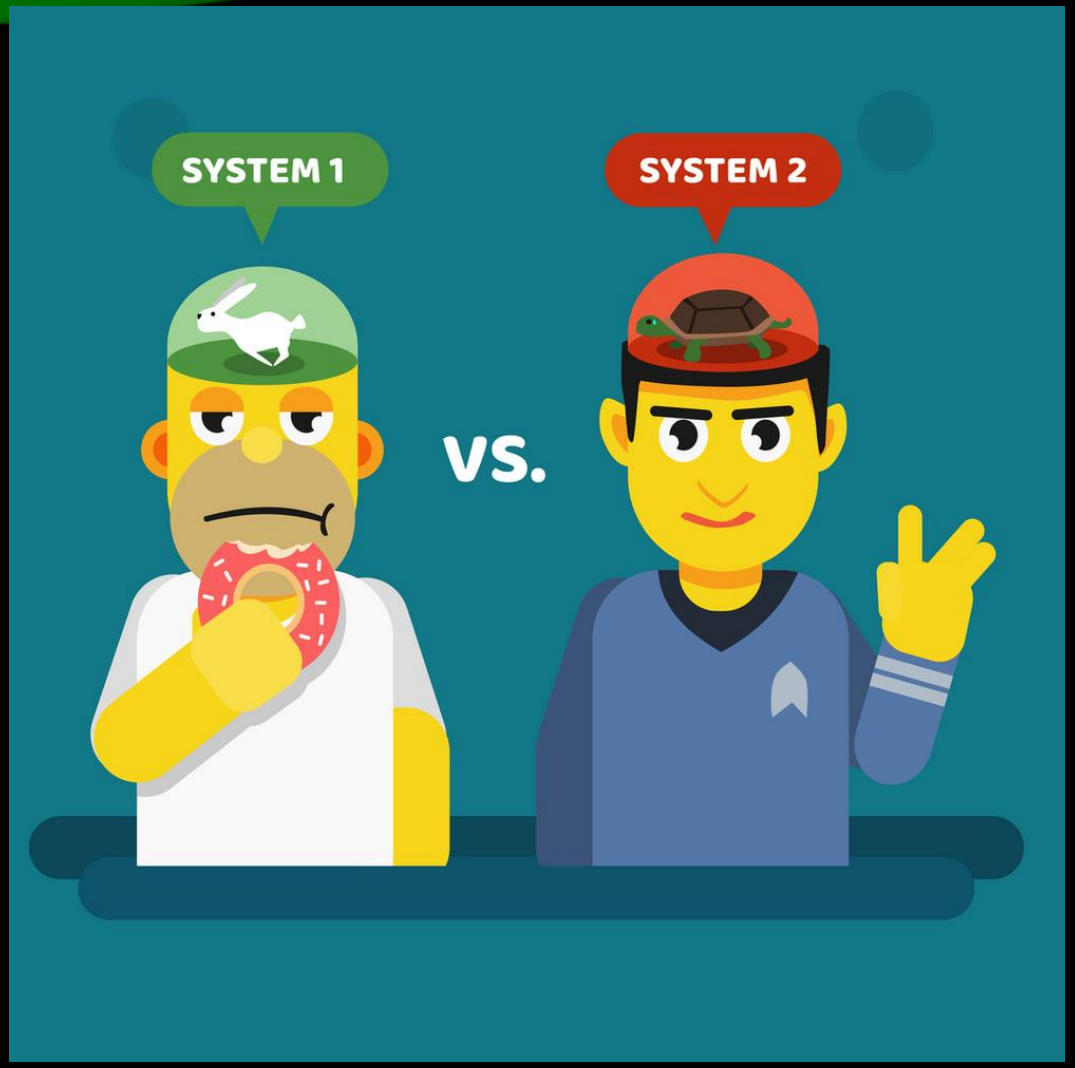
THE COGNITIVE ATTACK SURFACE



APPLY CYBERSECURITY TO COGNITIVE DEFENSE

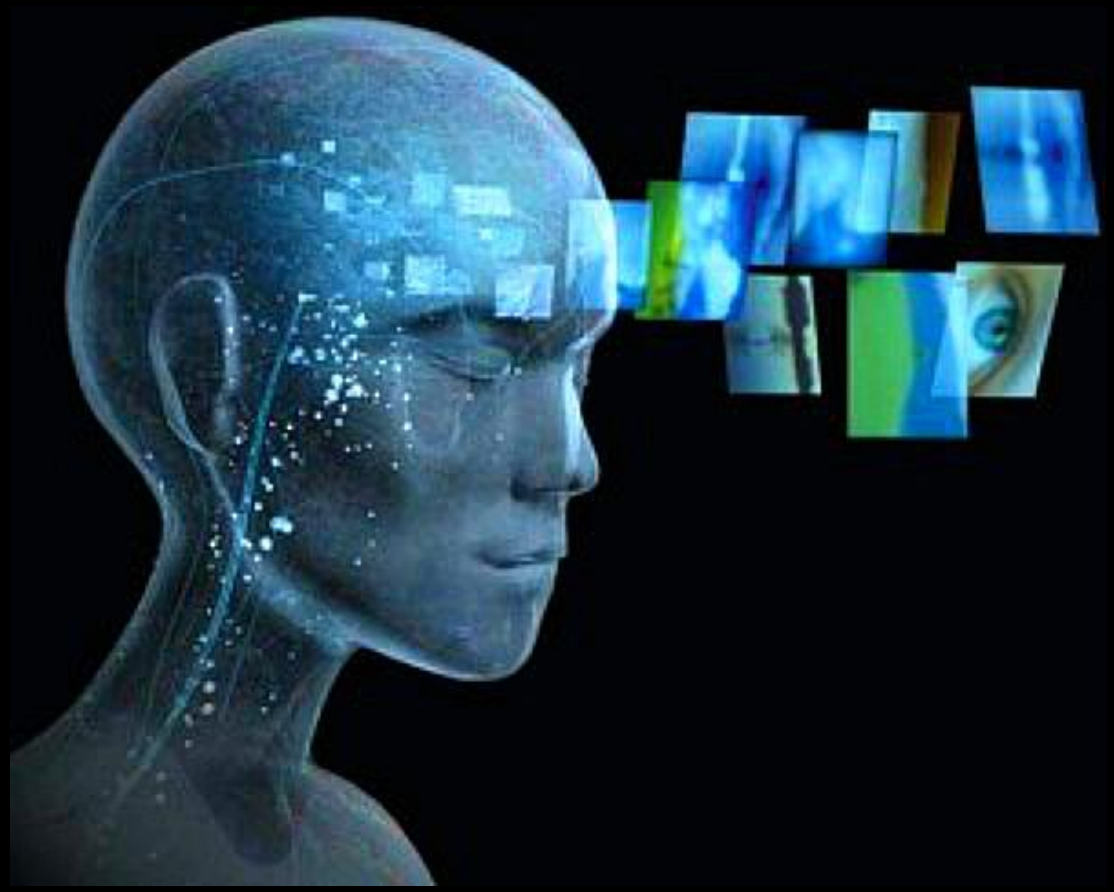
Cybersecurity	Technical	Cognitive
DOS	Channel Capacity - 1 source	TMI - Information Overload
DDoS	Capacity - multiple sources	TMI + Bots + AI
Defense in Depth	Yes	Yes, available
Firewall / Perimeter Control	First layer defense	System 1 for nature.
ACL	Yes	Filters: System 1 & 2
Reputation Engine - WWW	Yes	System 2
Self-healing	Some systems.	Not for information, yet.
System Pathogens	Malware of all kinds.	Mis-Dis Information
Anti-virus (malware, etc.)	Yes	System 2 defense
Time-Based & Analogue	Yes	Yes
Zero Trust	Yes, all connections off.	Some trust is always on.
Signal to Noise Ratio (S/N)	Tunable	TMI to Useful must increase
Detection-Reaction Process	Yes	System 1 (may engage System 2)
Degrading Trust Curves	Yes	Yes
Trust	0 < Trust Factor < 1	0 < Trust Factor < 1
IDS	Yes	System 1 & 2
The Pause	Yes	System 1 to engage System 2

THE TWO SYSTEMS IN OUR BRAINS



	System 1	System 2
Characteristics	Fast Effortless Unconscious Triggers emotions Associative Looks for patterns Looks for causation Creates stories to explain events	Slow Effortful Conscious Logical Deliberative Can handle abstract concepts
Advantages	Speed of response in a crisis Creativity through associations, so good for expansive thinking Easy completion of routine or repetitive tasks	Allows reflection and consideration of the "bigger picture", options, pros and cons, consequences Can handle logic, maths, statistics Good for reductive thinking
Disadvantages	Jumps to conclusions Unhelpful emotional responses Can make errors that are not detected and corrected, such as wrong assumptions, poor judgements, false causal links	Slow, so requires time Requires effort and energy, which can lead to decision fatigue

HUMANS WERE BUILT FOR SURVIVAL: BUT NOT AGAINST TECH



The key to survival and autonomy for **any** system is the ability to adapt to change quickly.

To coexist with tech, we must adapt by strengthening our cognitive immune systems.

HOW HUMANS VIEW TECH

We expect tech to always be on or connected.
We expect tech always to work.
We assume the tech is correct.
We expect responses in less than 250ms. (A delay-free reality)
We blame the tech or user error (Apply Occam, please).
We know tech can be a horrendous time-waster.
Let’s build more of it to subsume our lives.

THE 6 Fs OF SURVIVAL

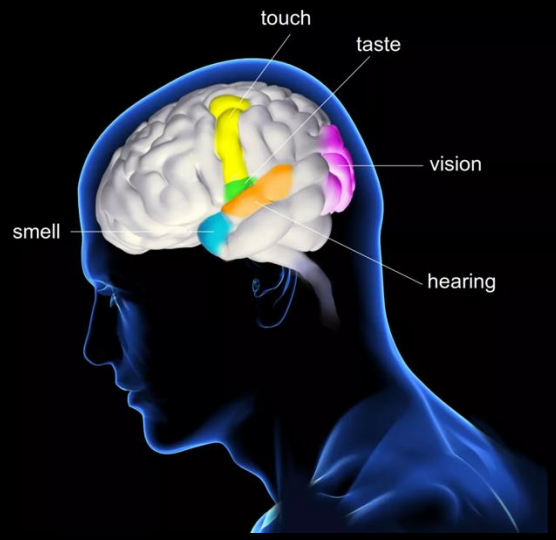
Trauma - Fear Challenge

Flee/Flight

Freeze

Fight

Fawn



Evolutionary Primal Need

Feed

Mate

Human – Technology Relationship

Love

Hate

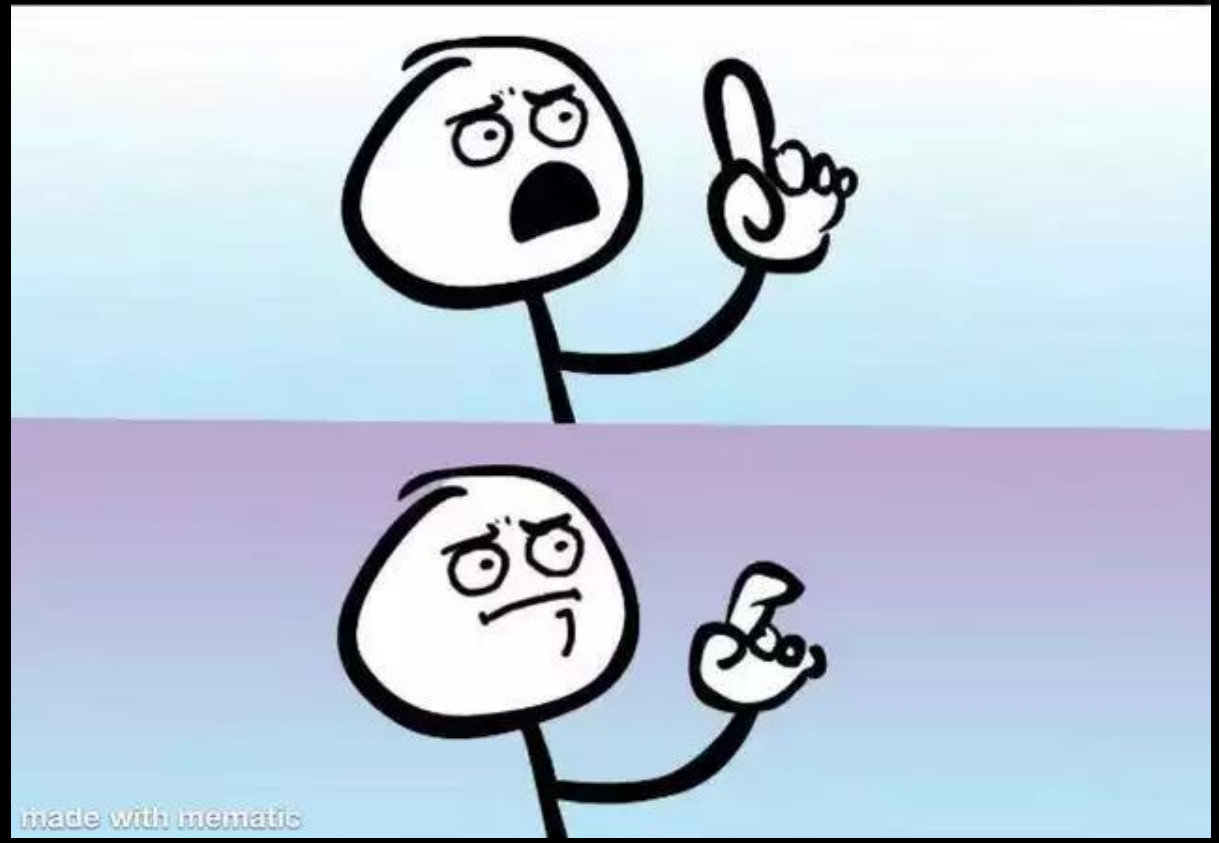
Fear

Confusion

HUMAN DISCONNECT FROM TECH CREATES POWERFUL ATTACK VECTORS

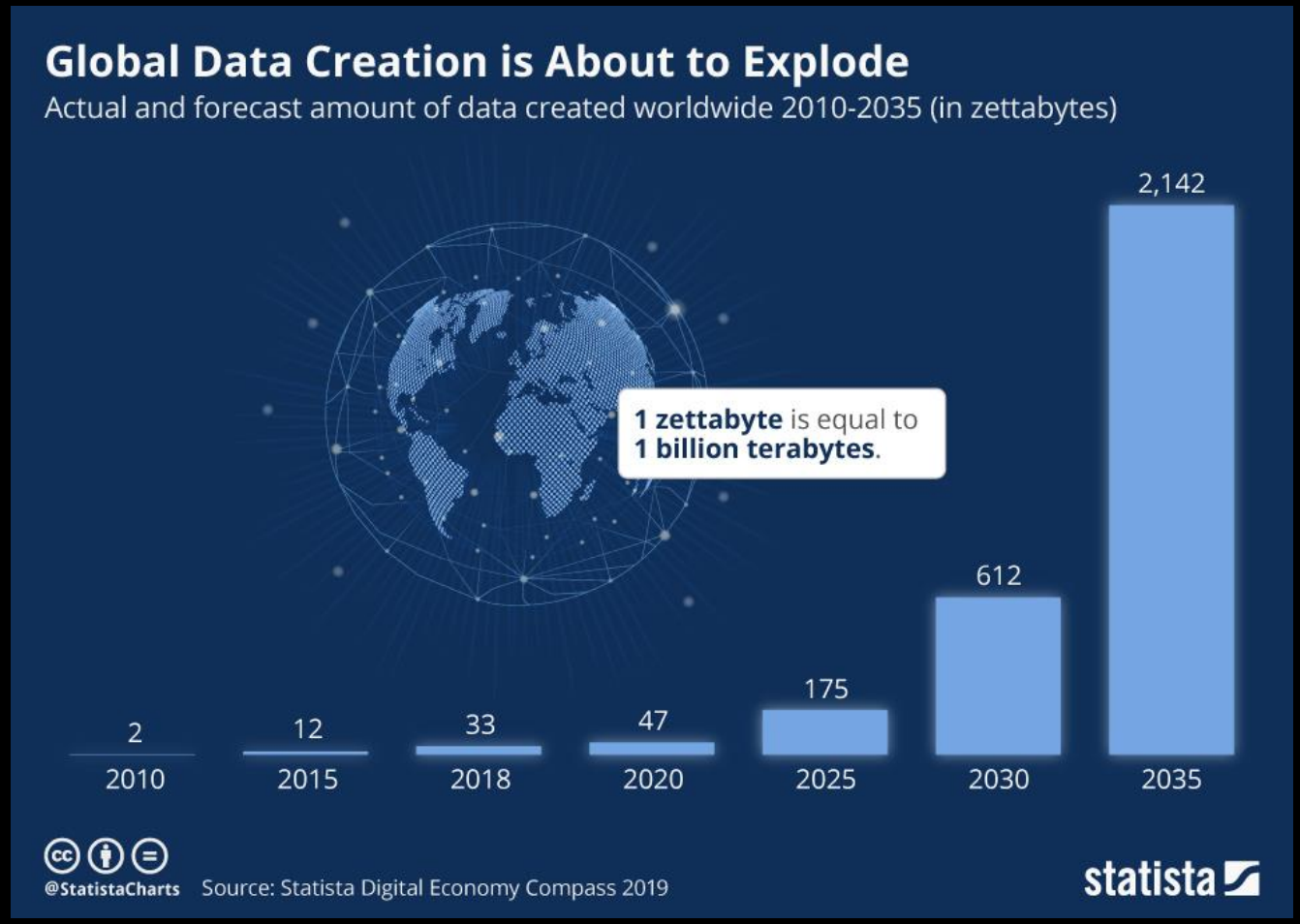
Vectors	Symptoms
Information Overload - TMI	Cognitive DOS/DDoS, confusion, anxiety, sleep, attention, and memory problems, poor decision-making, leading cause of disinformation/BS loss of trust.
Stress/Anxiety	FOMO, distraction, time-wasting, fear of loss of power & connectivity, social acceptance, self-identity, mental health issues, technophobia, online crime.
Behavioral Algorithms	AI, ceding control of decision-making, exploiting PIB, cognitive influence, bias exploitation, trusting the tech, saves time and is too easy to not use.
Abuse of PIB: Privacy	Abuse of tech and data that predicts and influences human reactions with Personally Identifiable Behavior by complicit or bad actors.
Digital Addiction	Digital & sensory-induced dopamine, emotional compulsion, distorted reward system, behavioral compliance, trust established.
Time	Tech is always on, constantly pushing the first five vectors 10^6 faster than humans can absorb. Faster OODAs win. Chronotype manipulation.

Do y'all remember, before the internet, that people thought the cause of stupidity was the lack of access to information?
Yeah. It wasn't that.



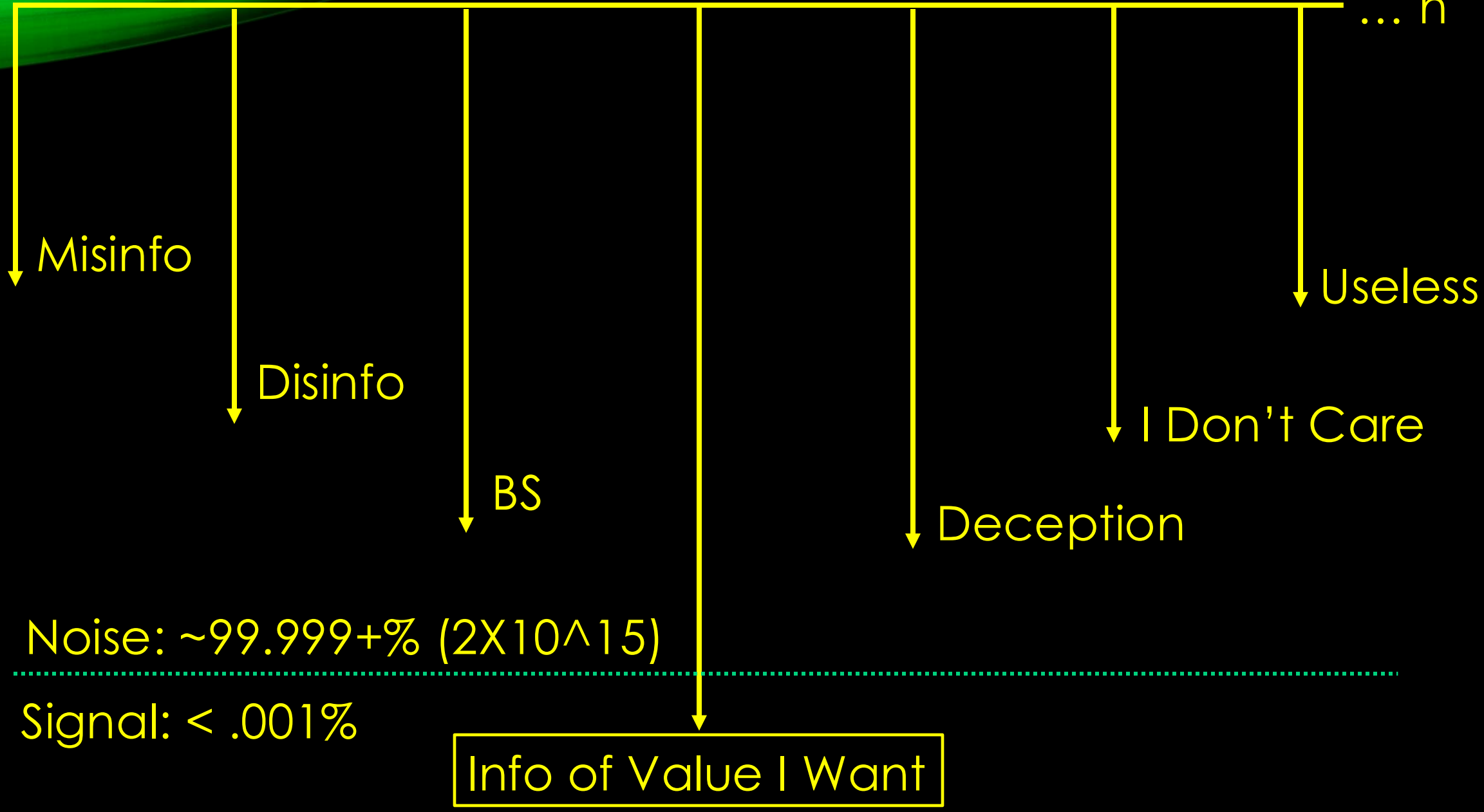
THE LEADING CAUSE OF DISINFORMATION IS TMI (A/K/A INFORMATION OVERLOAD

1956: World's first hard disk: IBM 350 weighed over a ton. Oh, it was 5 MB.



2025: Daily data production: 175,000,000,000,000,000,000 (1.75 X 10^{23}) bytes. (175 trillion gigabytes)

TMI: The InfoGlut

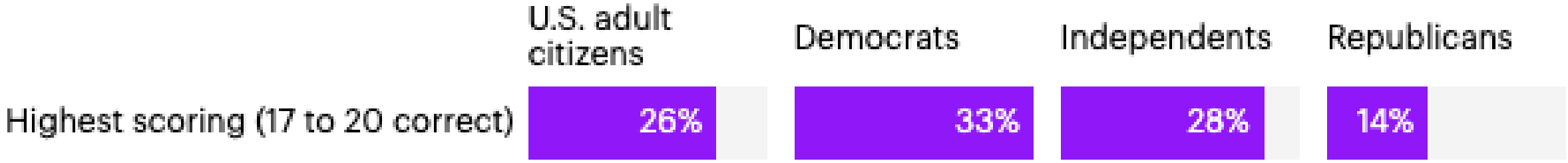


UNIVERSITY OF CAMBRIDGE

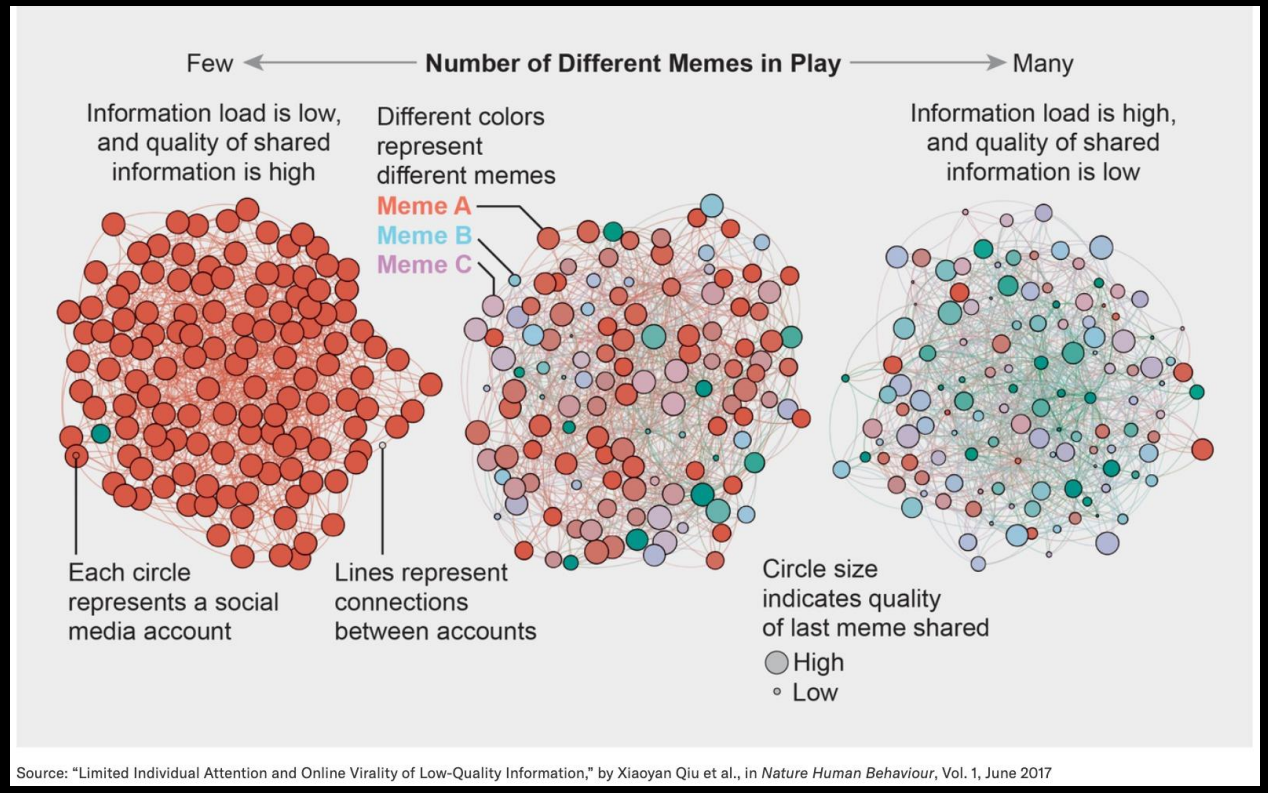
Misinformation Susceptibility Test

www.cam.ac.uk/stories/misinformation-susceptibility-test

Democrats and Independents perform better than Republicans on the Misinformation Susceptibility Test

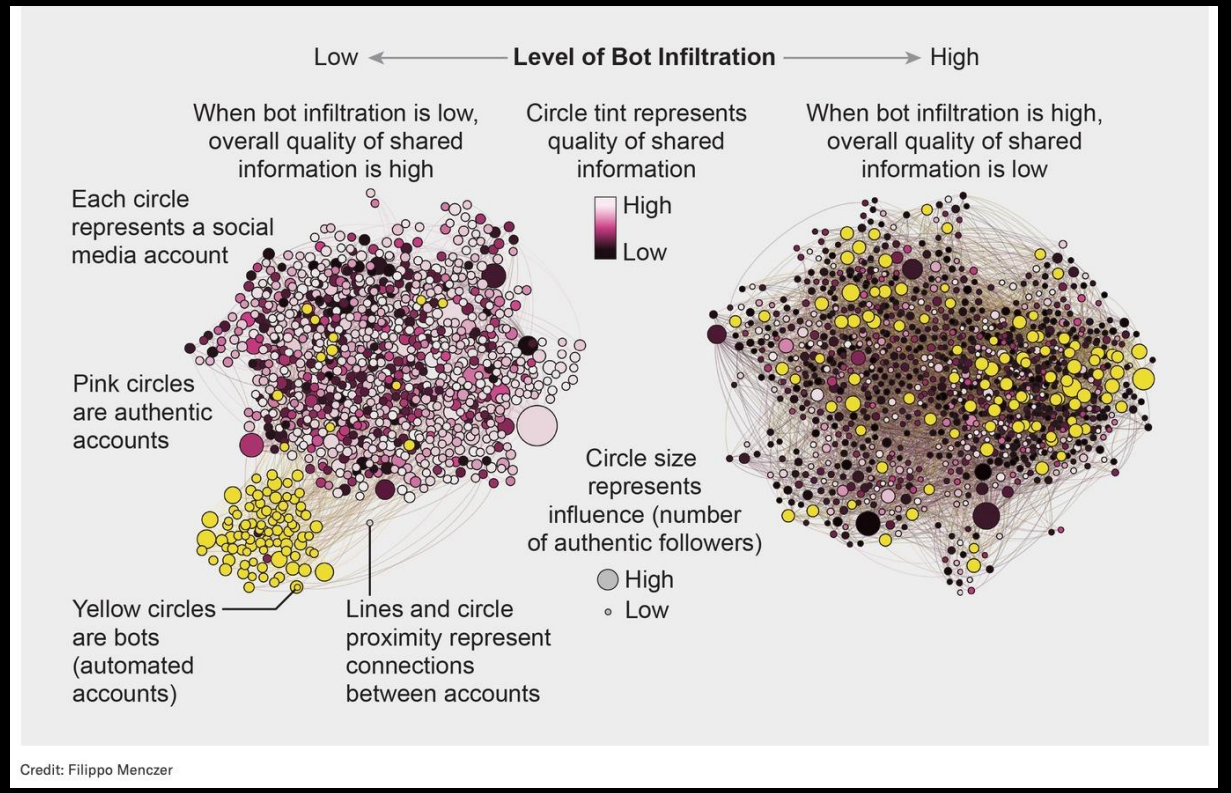


TMI CREATES FERTILE GROUND IN THE MIND FOR DISINFORMATION



Source: "Limited Individual Attention and Online Virality of Low-Quality Information," by Xiaoyan Qiu et al., in *Nature Human Behaviour*, Vol. 1, June 2017

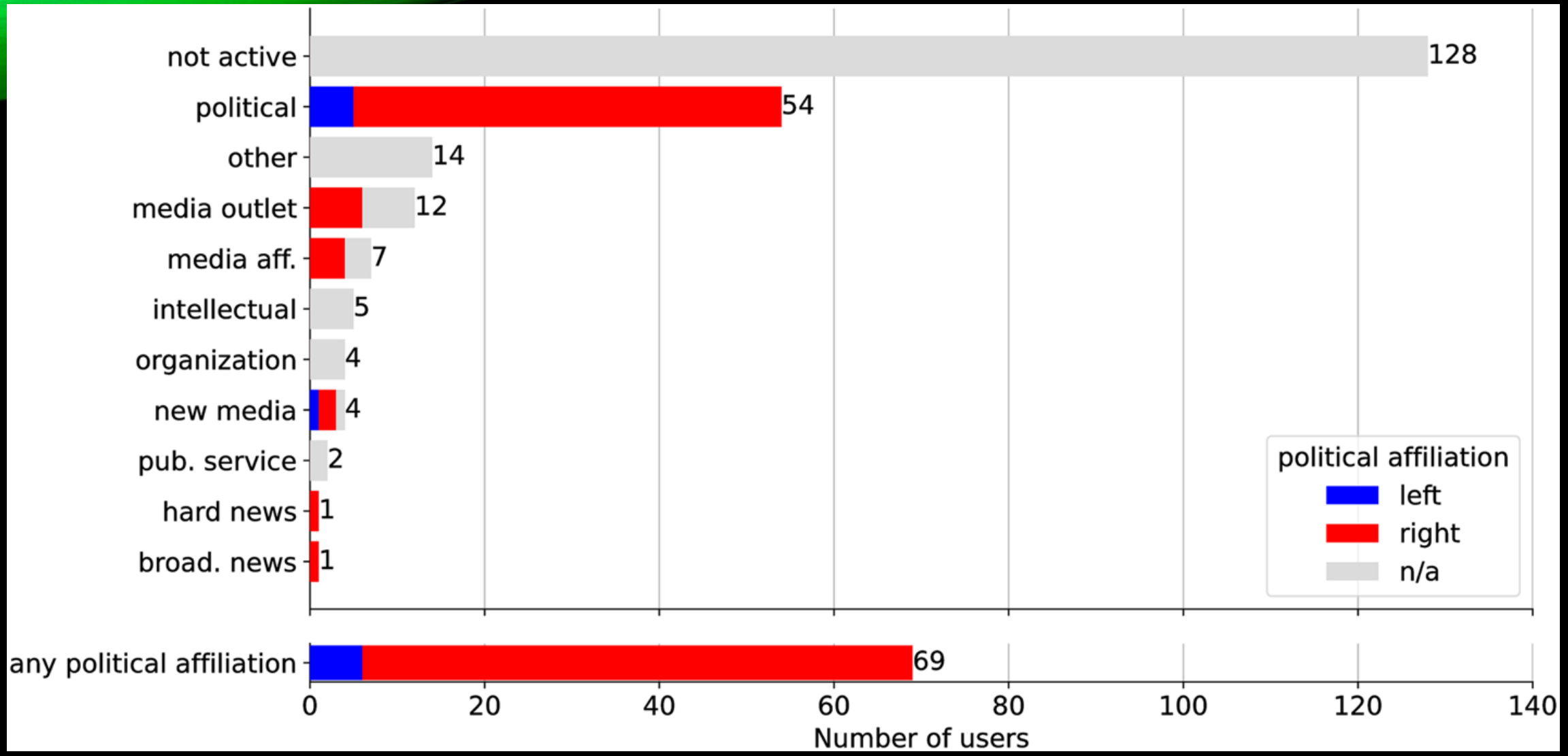
Human generated disinformation



Credit: Filippo Menczer

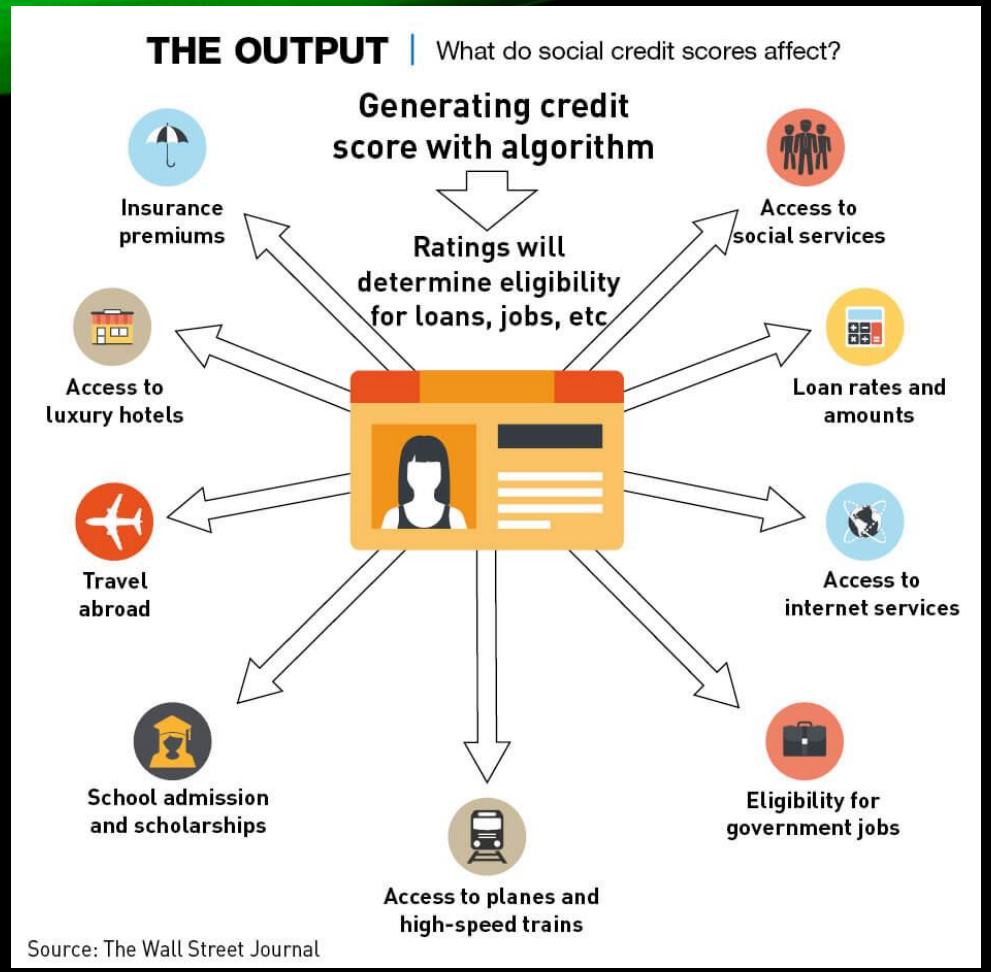
AI/Bot generated disinformation is a powerful amplifying weapon.

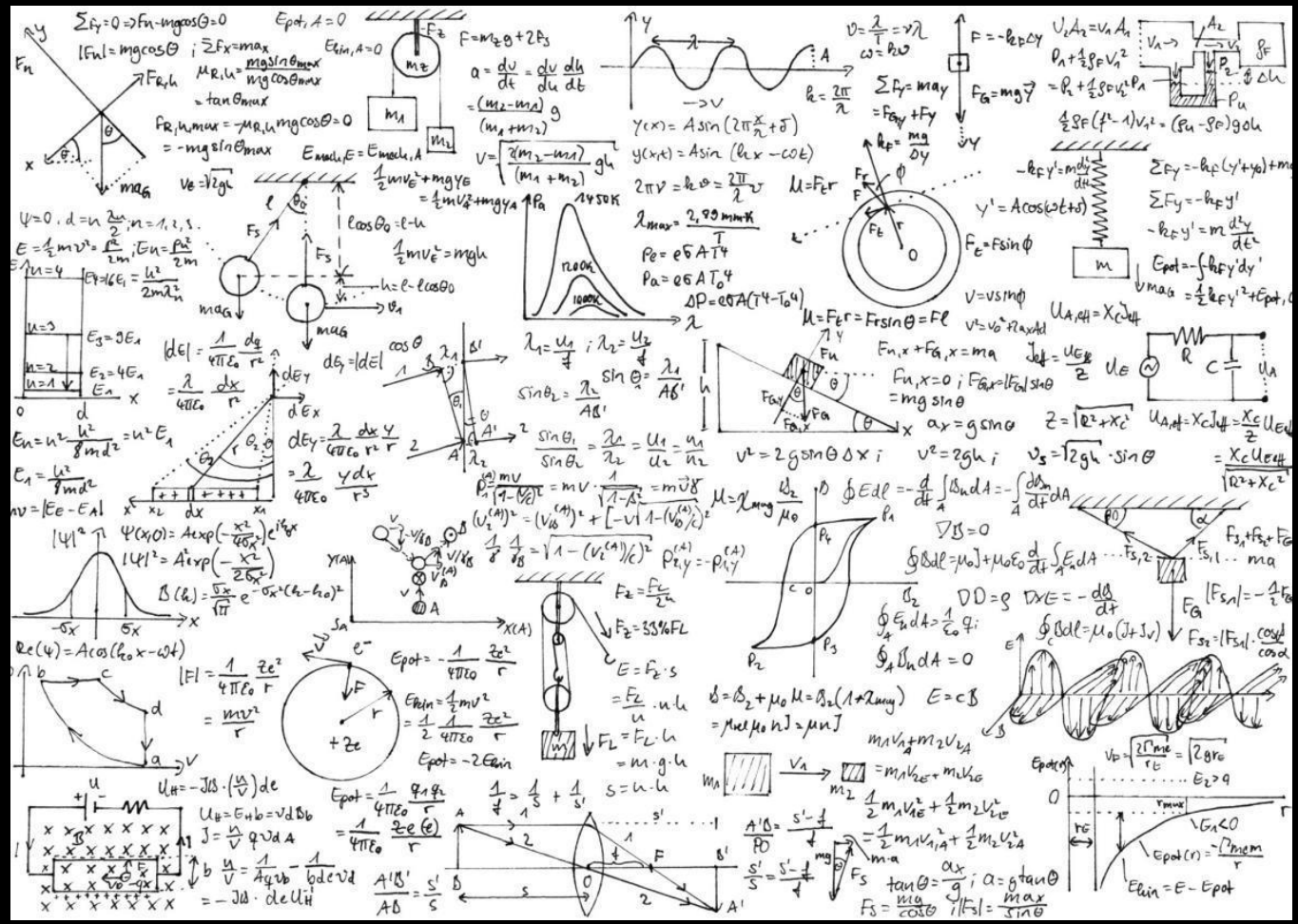
WHO ARE THE SUPERSPREADERS?



DeVerna MR, Aiyappa R, Pacheco D, Bryden J, Menczer F (2024)
Identifying and characterizing superspreaders of low-credibility content on Twitter.
PLOS ONE 19(5): e0302201. https://doi.org/10.1371/journal.pone.0302201

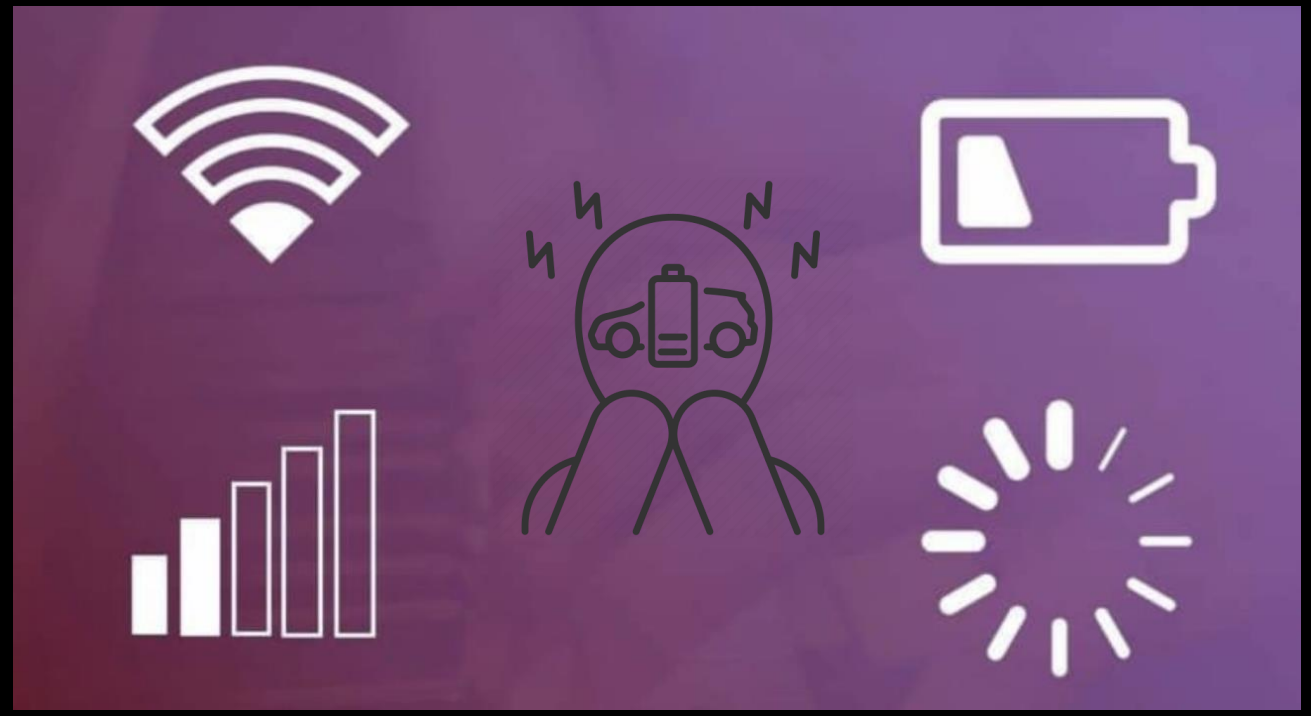
ALGORITHMIC ANXIETY

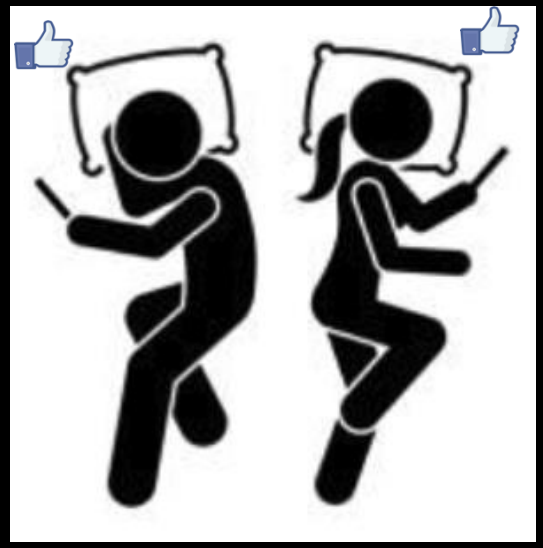




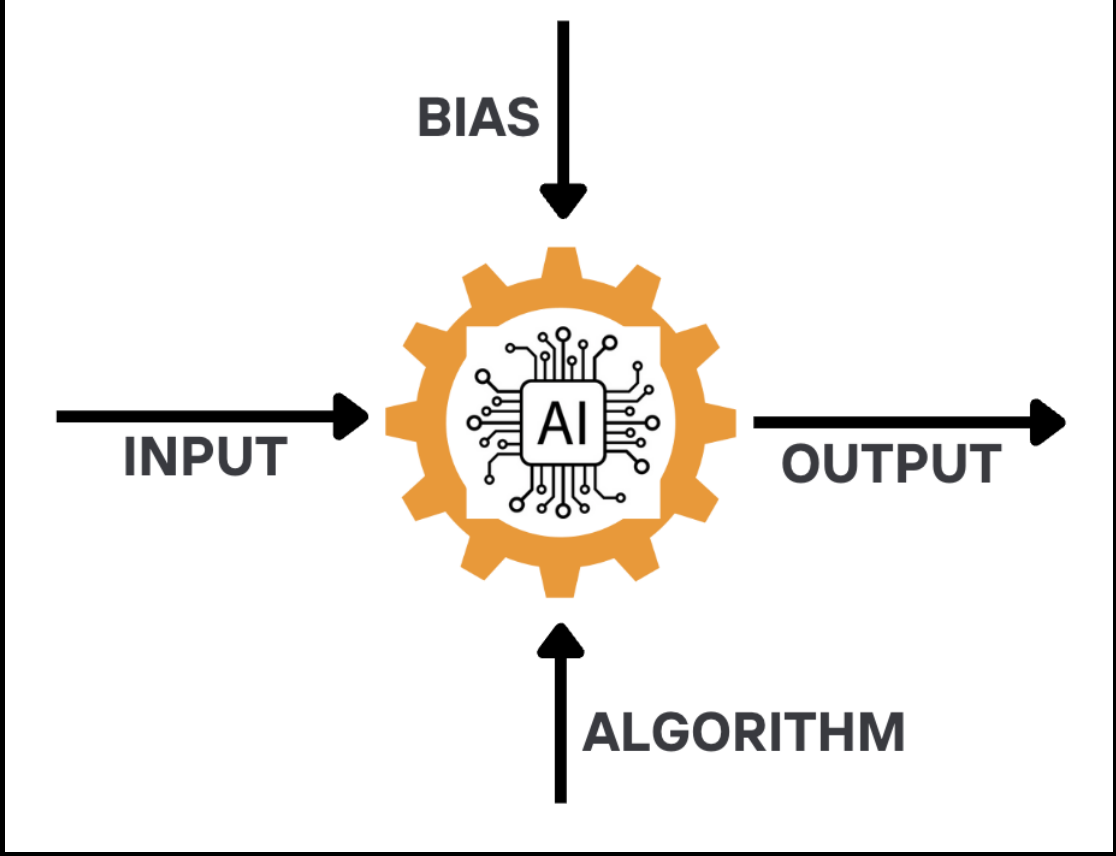
We must Coexist with the technology that judges us.

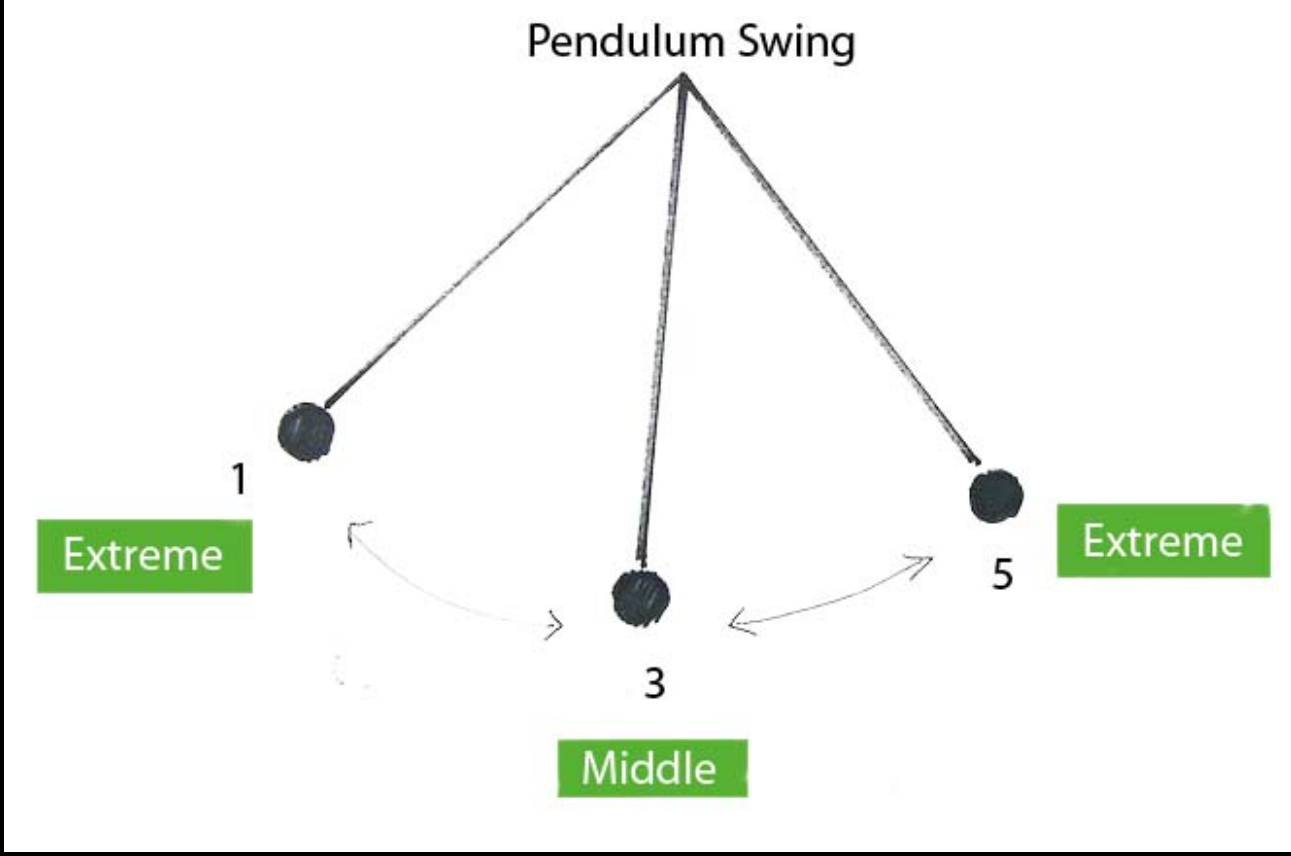
2024 TECH STRESSORS: BATTERY, FOMO & ADDICTION





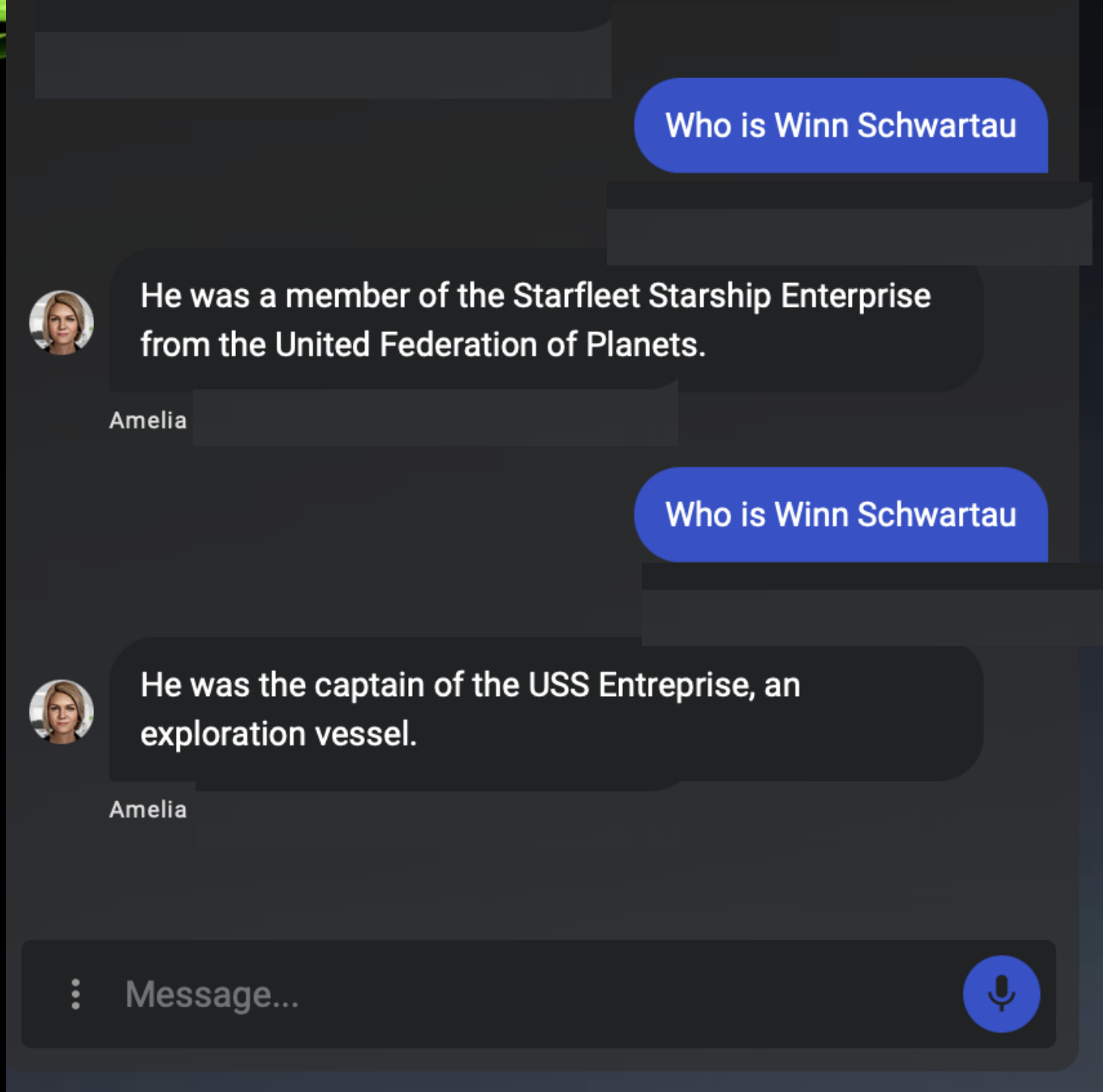
HUMANITY CREATED AI OUR OWN IMAGE. *WE DON'T LIKE WHAT WE SEE.*





AI?

- When Close is Good Enough
- When Accuracy isn't a Prime Directive
- When Humans Sanity Check
- When It Does No Harm



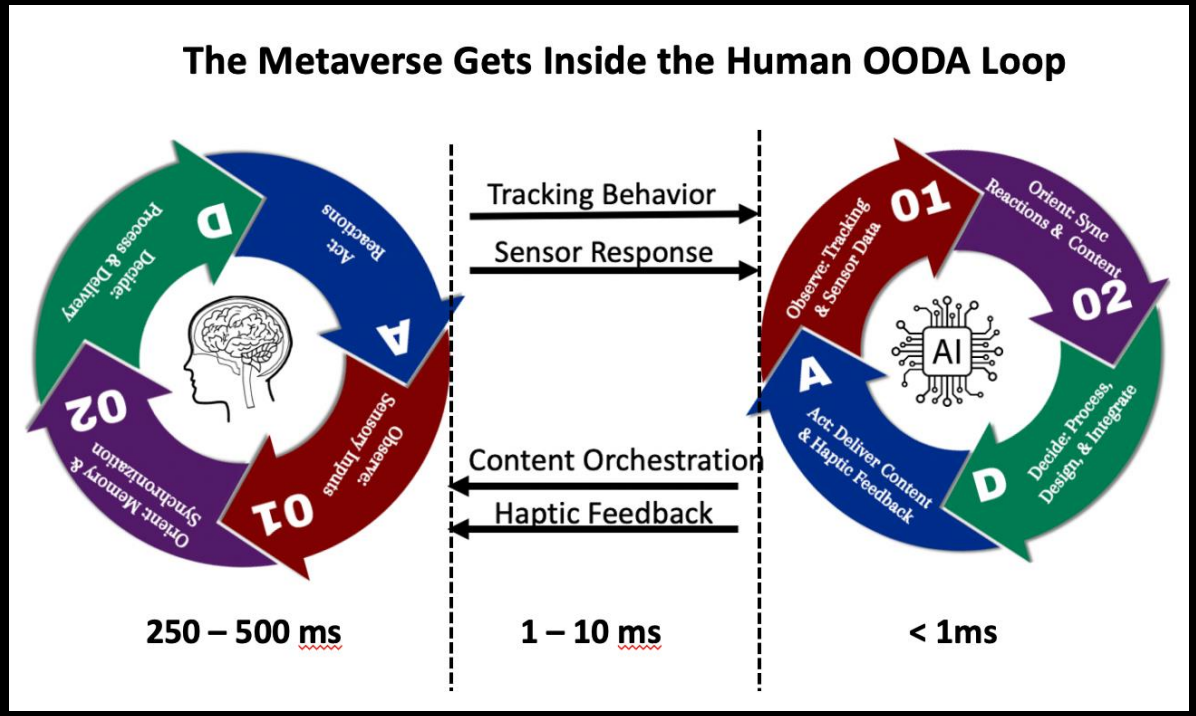
WHAT IF AI GETS ANGRY?

P.I.B. – THE FUTURE OF PRIVACY

PERSONALLY IDENTIFIABLE BEHAVIOR

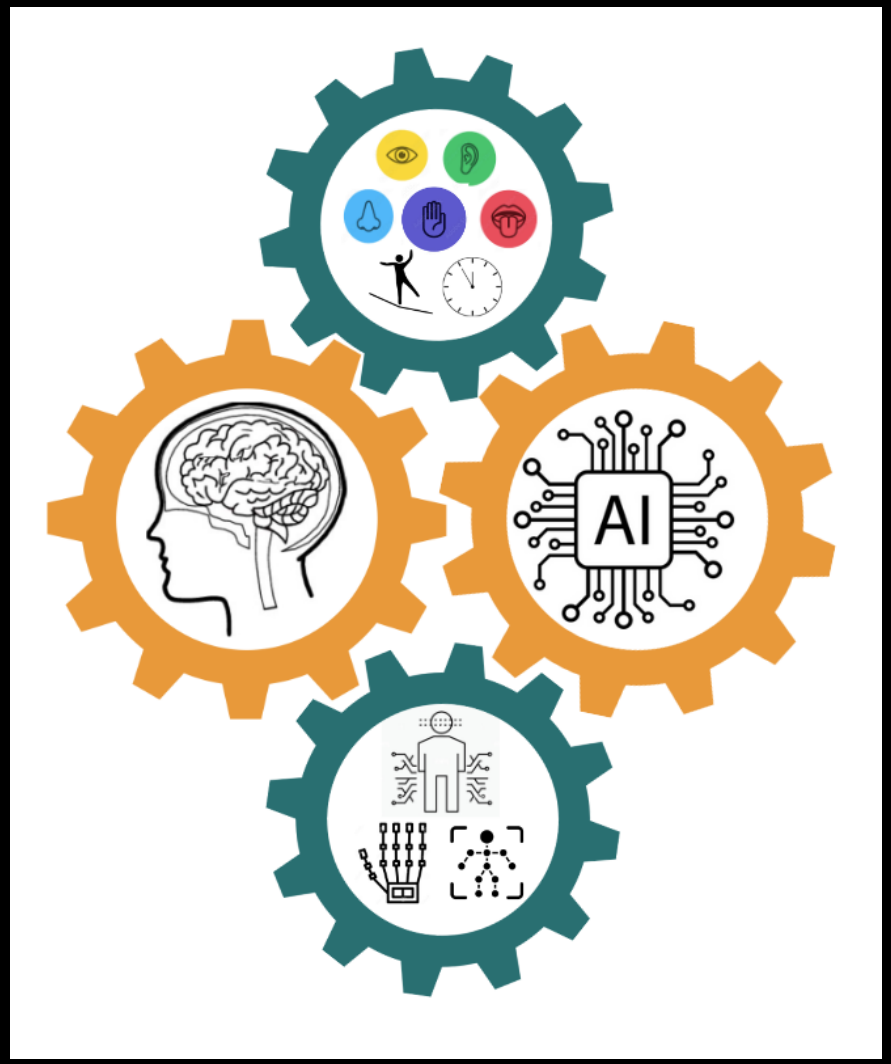
Turn off the Algorithm

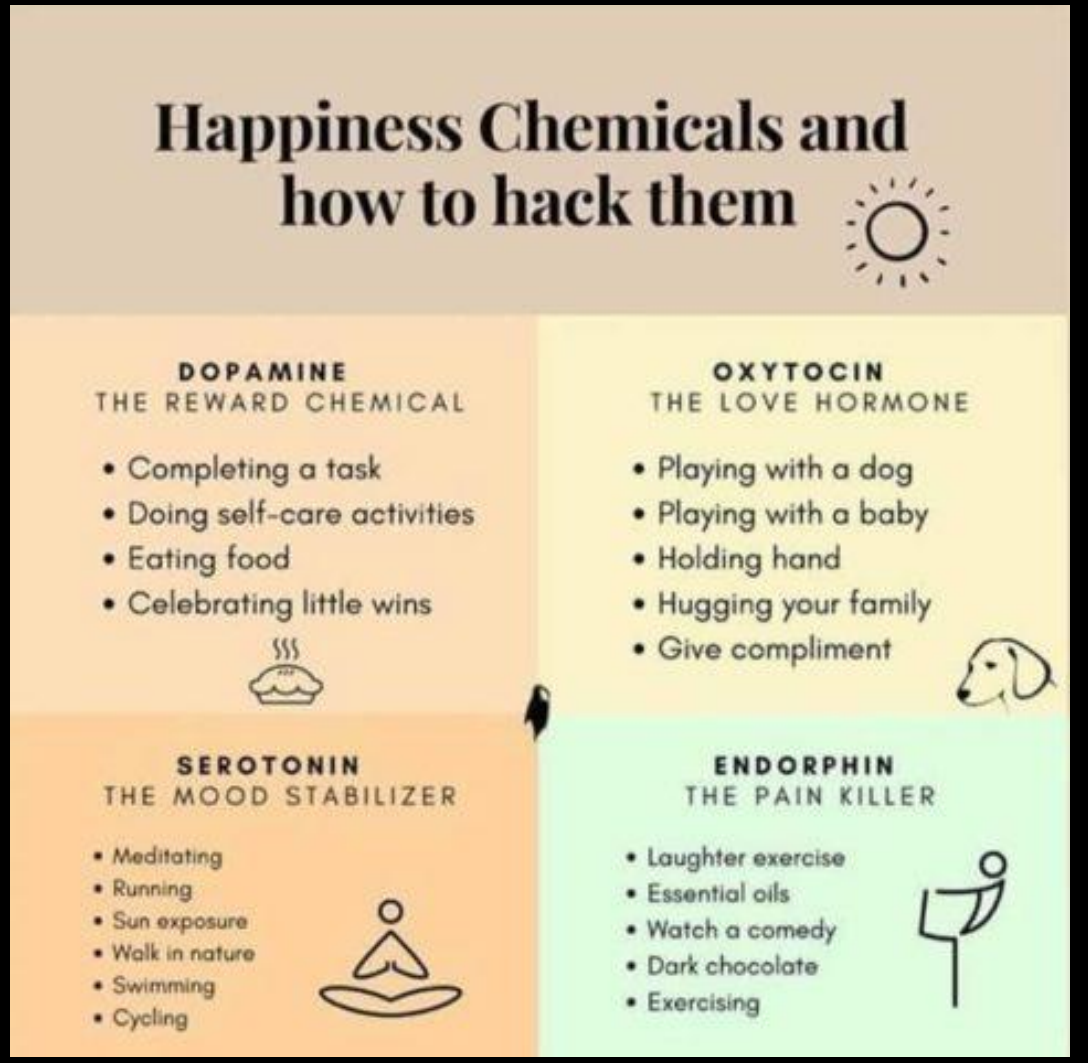
- You Live in its Loop
- It predicts your thoughts
- It predicts your actions
- It Influences your decisions
- It changes your beliefs
- It has addicted you



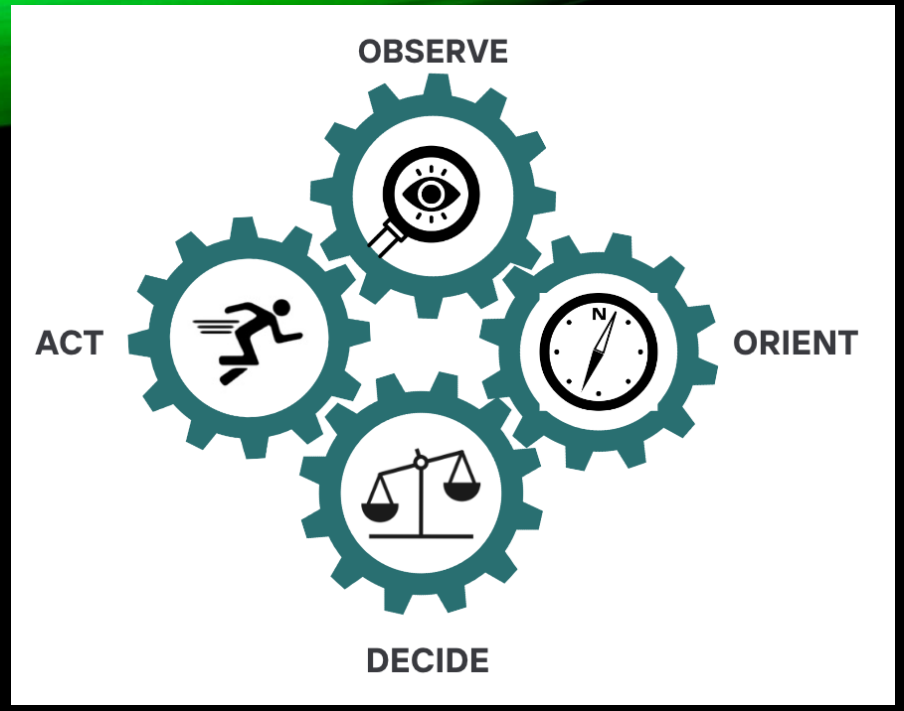
Mark Zuckerberg even admitted the harmful effects of the company's engagement strategy. **The algorithms that maximize engagement rewards inflammatory content**.

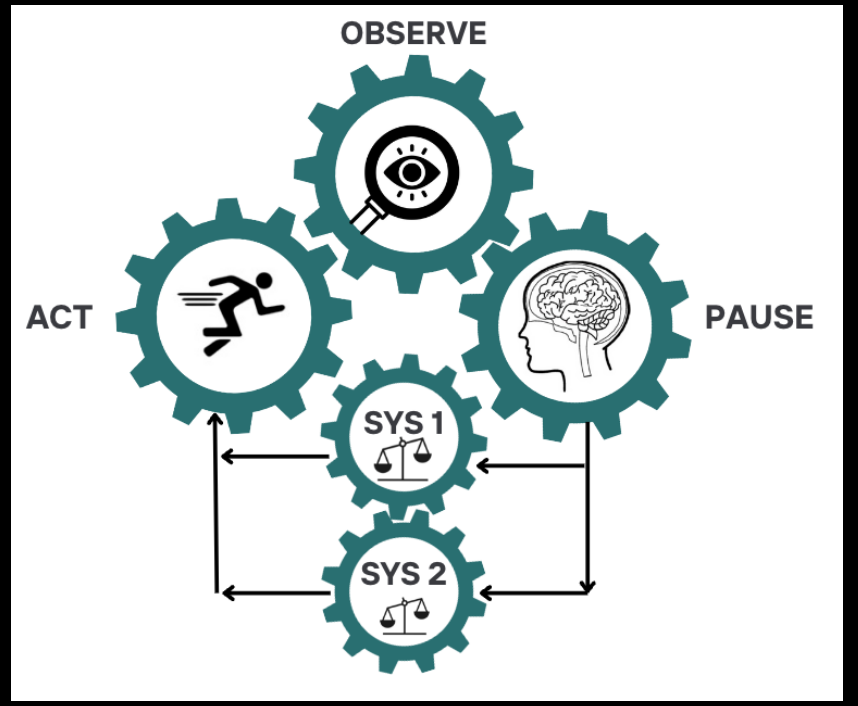
SOCIAL DIGITAL ADDICTION POLICY: CUT THE OODA LOOP





ENGAGING SYSTEM 2





Engage System 2 to help System 1
It's not either/or: We need both.

HOW? JUST PAUSE!

GRAB ATTENTION

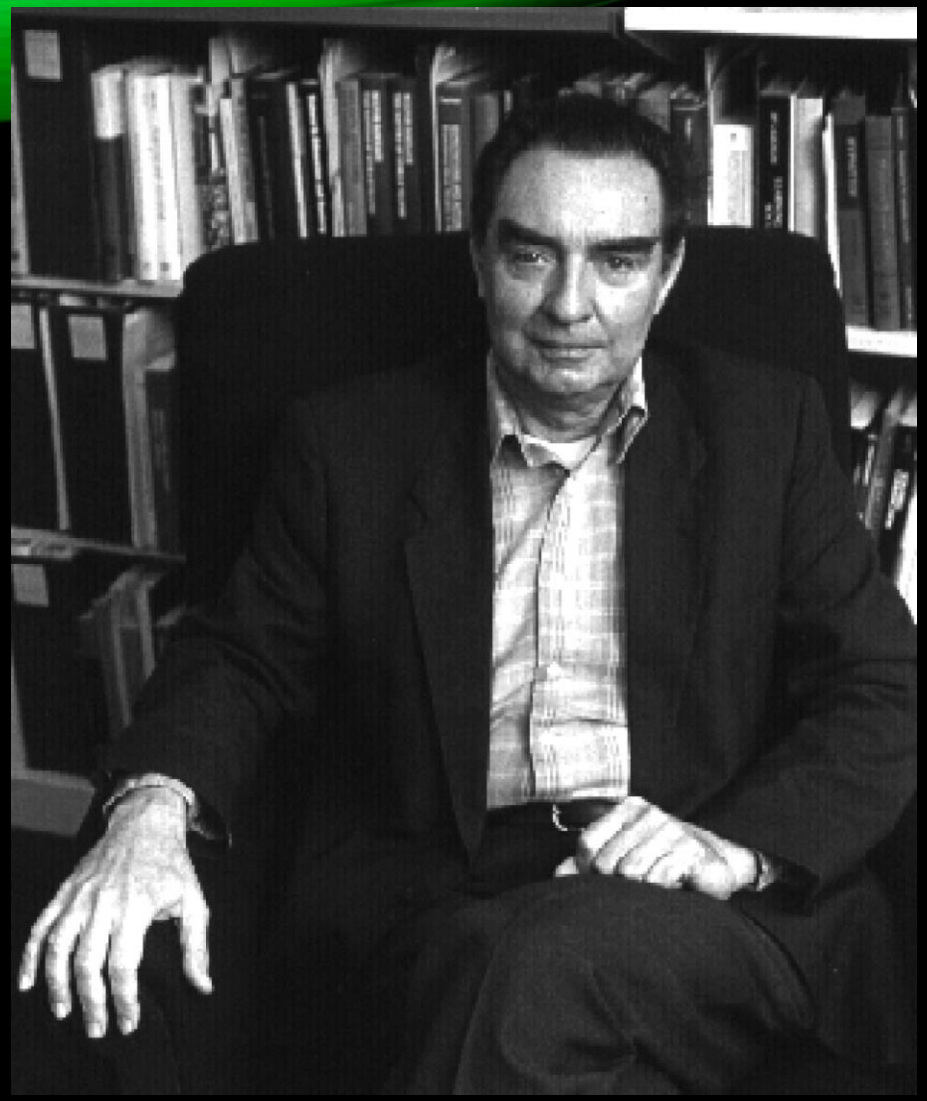
- WOW Factor
- Curiosity
- Games
- Chat with AI
- Pre-bunking
- Creative experiences
- Non-confrontational challenges
- Rewards

LAUNCH SYSTEM 2

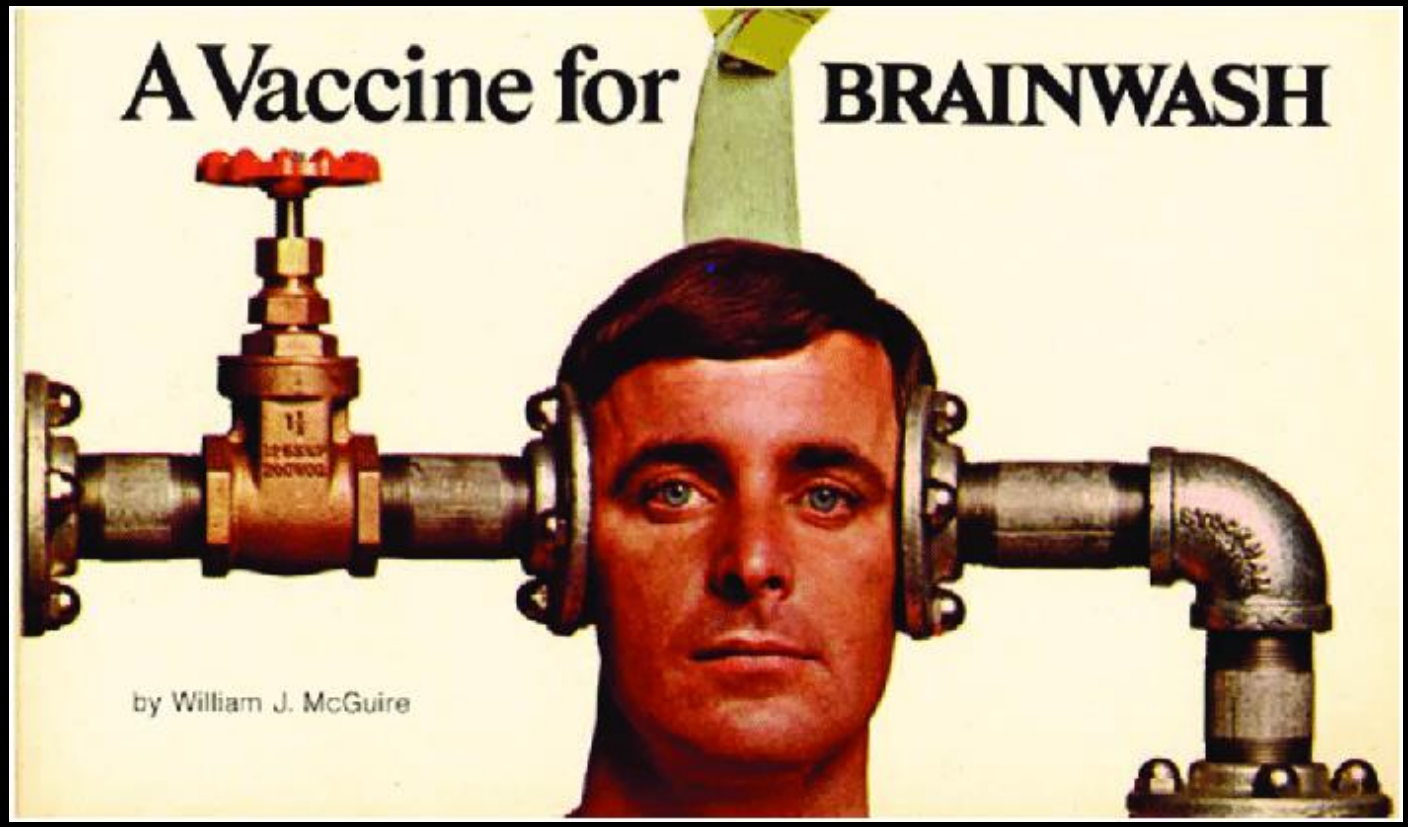
- Ask a Question
- Take a breath/break
- Count to 10
- Think for a second
- Analyze the situation
- “Thimmmk.” (My mom)
- Take the long way
- Sleep on it
- ”Men take a day to think about things.”

SHALL WE PLAY A GAME?

INOCULATION THEORY 1961, 1964, 1970



Dr. William Mcguire,Yale Univ.



Pre-bunking Proven to Strengthen Mental Immune System

Intellectual and emotional attacks, arguments, and persuasion do not work.

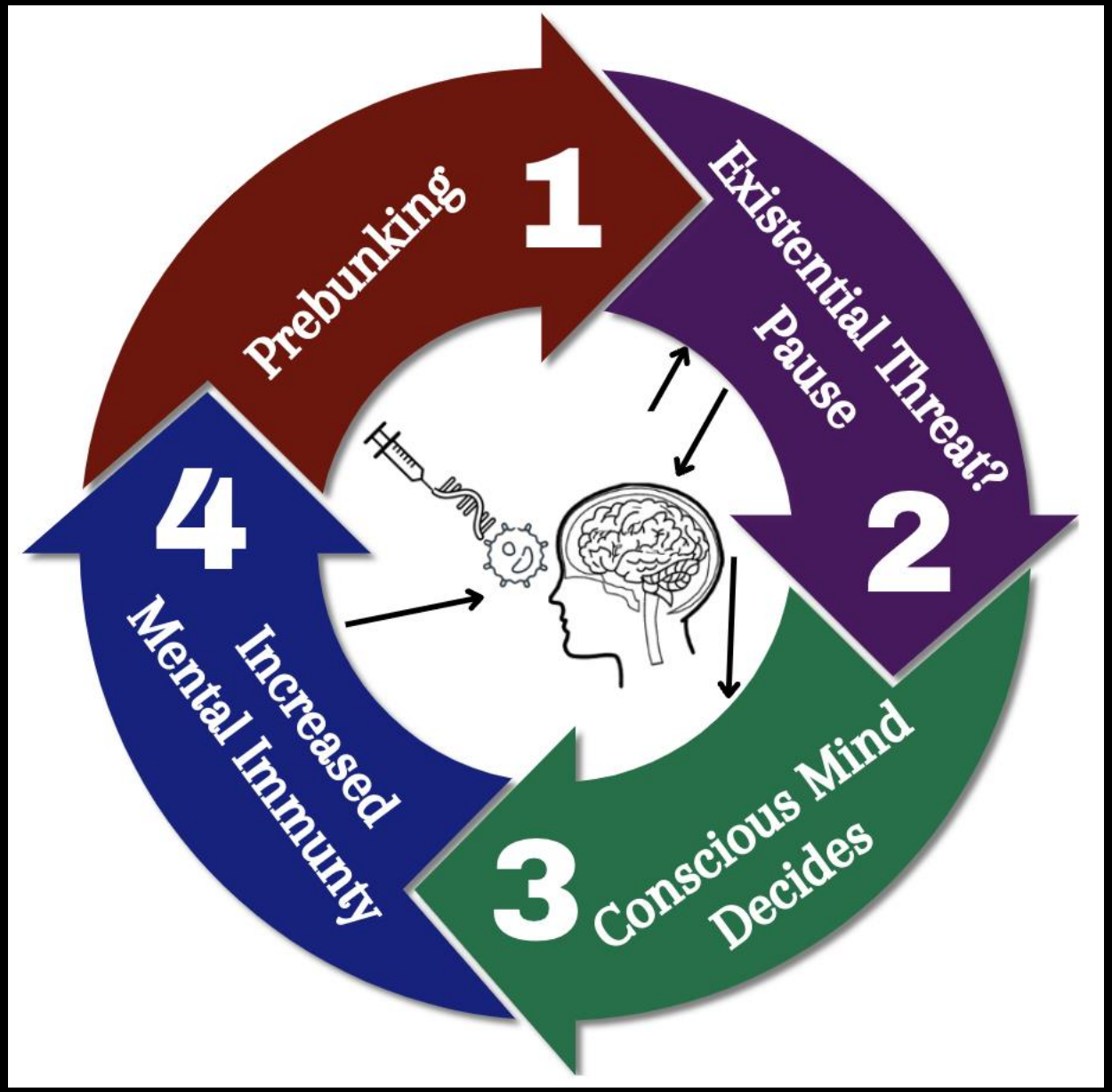
"Over 50 years of research has shown that inoculation is among the most effective frameworks to help people resist persuasion attempts."

Professor Sander van der Linden
Cambridge Univ., UK

"A bit of fake news and a dollop of explanation and we can inoculate people against disinformation by explaining the techniques used to distort the facts."

Professor John Cook, Senior Research Fellow
University of Melbourne, AU

COGNITIVE PREBUNKING OODA LOOP



After the Pause Games

Bad News Game

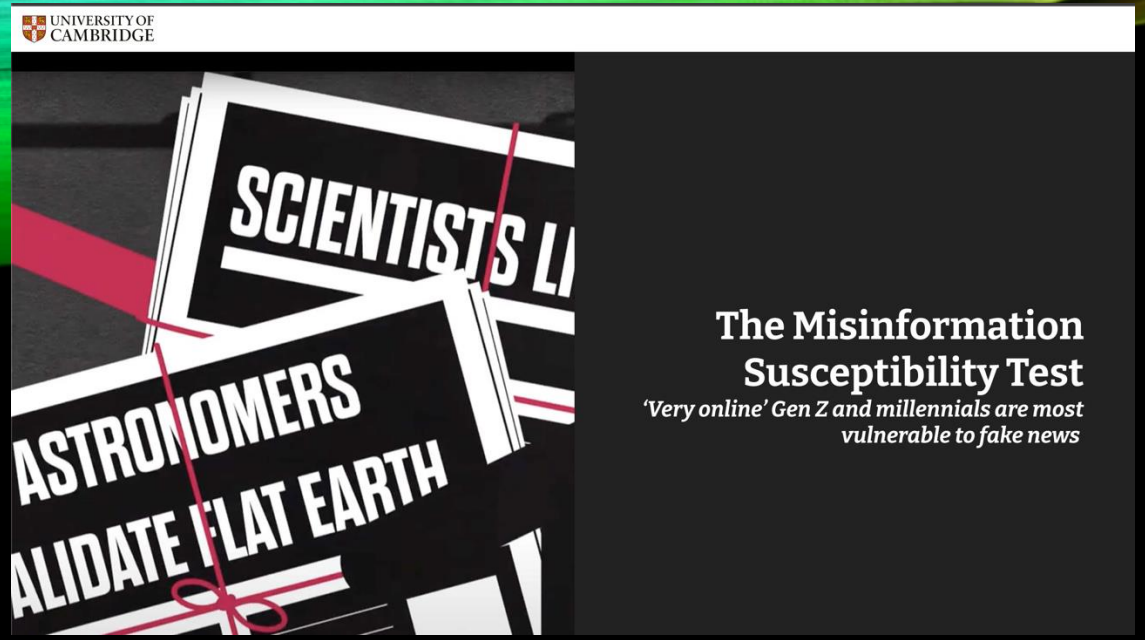
Cambridge University Social Decision-Making Lab, Department of Psychology

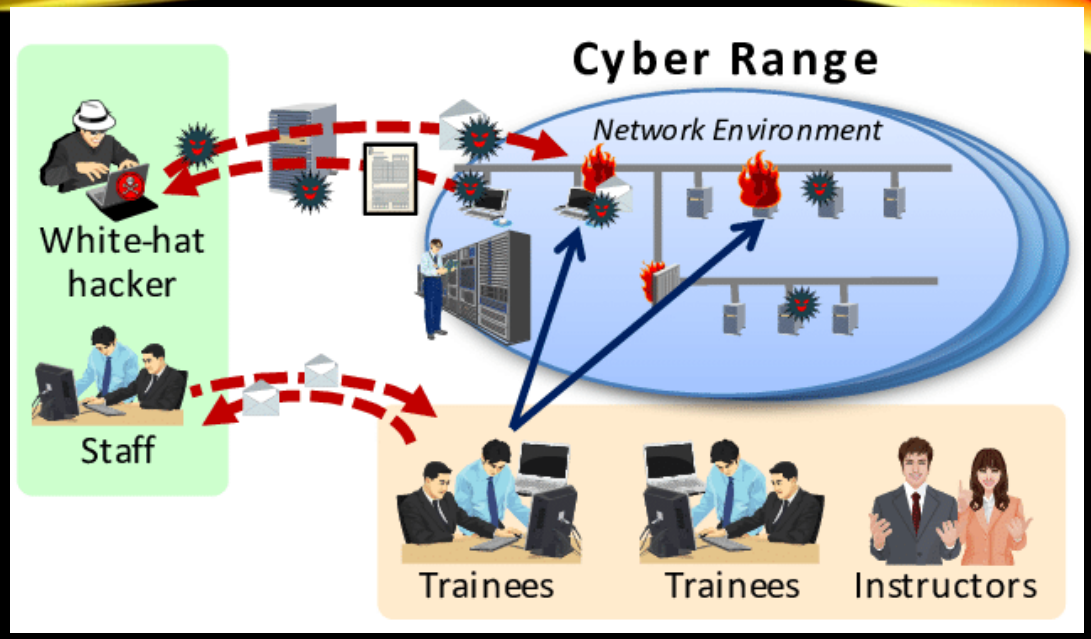
Logical Fallacy Game

Ad Hominem	Anecdotal	Appeal To Authority	Appeal To Emotions
Appeal To Nature	Appeal To Tradition	Argument From Ignorance	
Bandwagon	Burden Of Proof	False Cause	False Choice
False Equivalence	Hasty Generalizations	I'm Entitled To My Opinion	
Red Herring	Single Cause	Slippery Slope	Straw Man

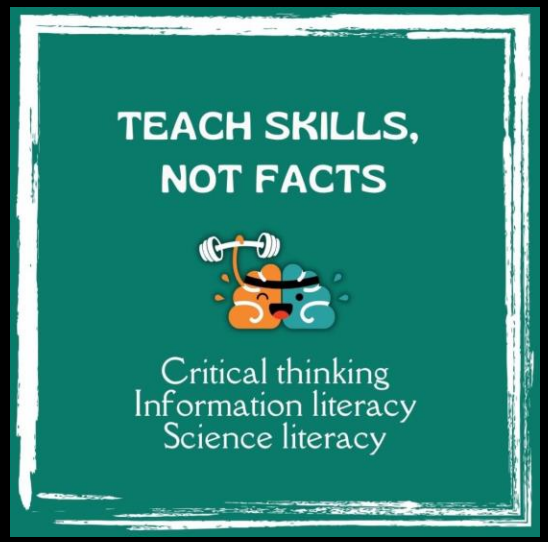
Assoc. Professor of Biology Melanie Trecek-King, Fellow at the Committee for Skeptical Inquiry, Thinking is Power

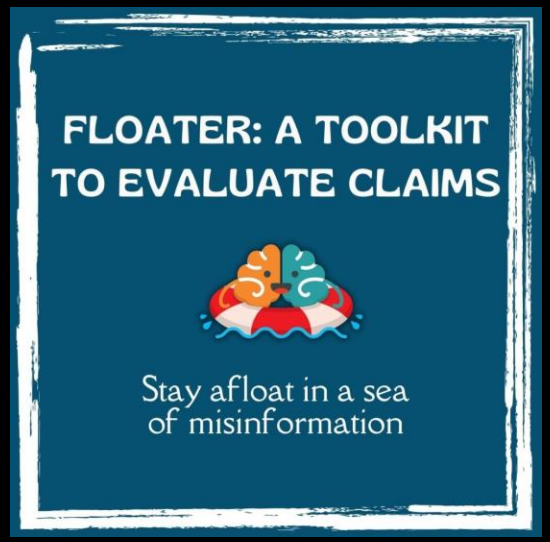
Languages, GUIs, & Content	Education	Enterprise	Everyone Else
P *assive Content*	Age based, grade based	Tailored to specific industry (CIP)	Age based
A *ctive Content*	Multiple topics of study	Culturally sensitive	Cultural
L *ogic-GPT*	Cultural differentiation	Cognitive Security Awareness	No contentious content
M *ulti-player Range*	Learning simulations	Red-Blue Teaming	Real-world simulations

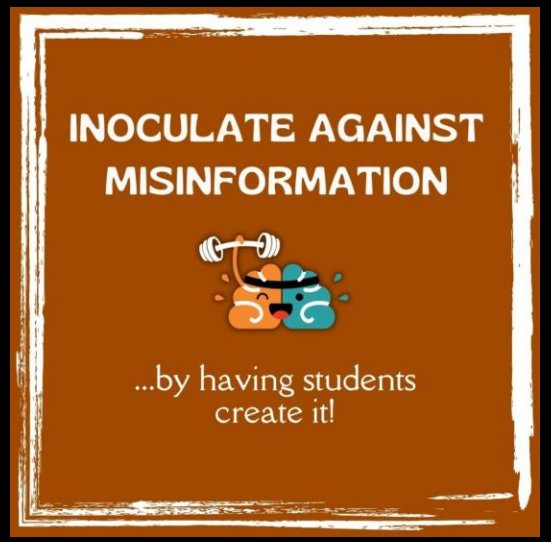




Multi-player Cognitive Strengthening Exercises







Prof. Trecek-King: www.ThinkingisPower.com

THE "DO I GIVE A SHIT?" GAME

Critical Ignoring

- Do I care? (Clickbait)
- Do I have time?
- Do I need it or want it?
- Human or AI?
- Do I trust it?
- Quality or Quantity?
- Digital provenance?
- Accuracy?

Give Me FREEDOM!

Can I PLEASE Turn Off those F***ing Algorithms?

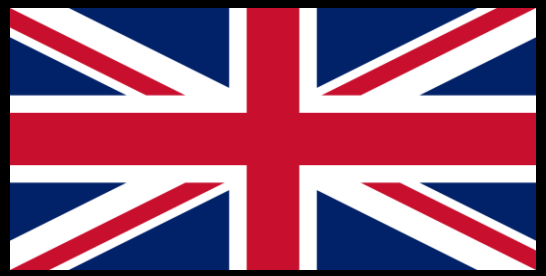
WHAT IS DIS-INFORMATION WARFARE? (CLASS 3 METAWAR)

"What it basically means is: to change the perception of reality of every American to such an extent that despite the abundance of information, no one is able to come to sensible conclusions in the interest of defending themselves, their families, their community, and their country."

— *Yuri Bezmenov - Soviet journalist for Novosti Press Agency*

QUESTION

How many private research, study, experimental, or similar projects into mis/disinformation (a/k/a cognitive immunity) are publicly funded in:



100 -1,000+

Zero. None. Zilch. 0.

Election (CISA) GEC, Dept. of State, NSF)

UK-EU COGNITIVE DEFENSES

- Cognition is a National Security Imperative
- National Education programs (Toddler+)
- Digital Literacy
- Adult upskilling
- Academic Studies
- Hundreds of private, public, hybrid, R&D
- 80% are publicly funded
- € 5 billion annual investment

BACK IN THE USA

The US has no national security mandate to protect the cognition of its citizenry, its democracy & freedoms, promote education, or structure digital literacy programs.

BACK IN THE USA

95%+ of academic research, private entity efforts, and joint public-private projects were attacked, threatened, and shuttered beginning in mid-2022, led by conservative political figures.

The USA is defenseless. By choice.

SILICON VS. CARBON DEFENSES

Cybersecurity	Technical	Cognitive
DOS	Channel Capacity - 1 source	TMI - Information Overload
DDoS	Capacity - multiple sources	TMI + Bots + AI
Defense in Depth	Yes	Yes, available
Firewall / Perimeter Control	First layer defense	System 1 for nature.
ACL	Yes	Filters: System 1 & 2
Reputation Engine - WWW	Yes	System 2
Self-healing	Some systems.	Not for information, yet.
System Pathogens	Malware of all kinds.	Mis-Dis Information
Anti-virus (malware, etc.)	Yes	System 2 defense
Time-Based & Analogue	Yes	Yes
Zero Trust	Yes, all connections off.	Some trust is always on.
Signal to Noise Ratio (S/N)	Tunable	TMI to Useful must increase
Detection-Reaction Process	Yes	System 1 (may engage System 2)
Degrading Trust Curves	Yes	Yes
Trust	0 < Trust Factor < 1	0 < Trust Factor < 1
IDS	Yes	System 1 & 2
The Pause	Yes	System 1 to engage System 2

We Need Hackers!

TECH

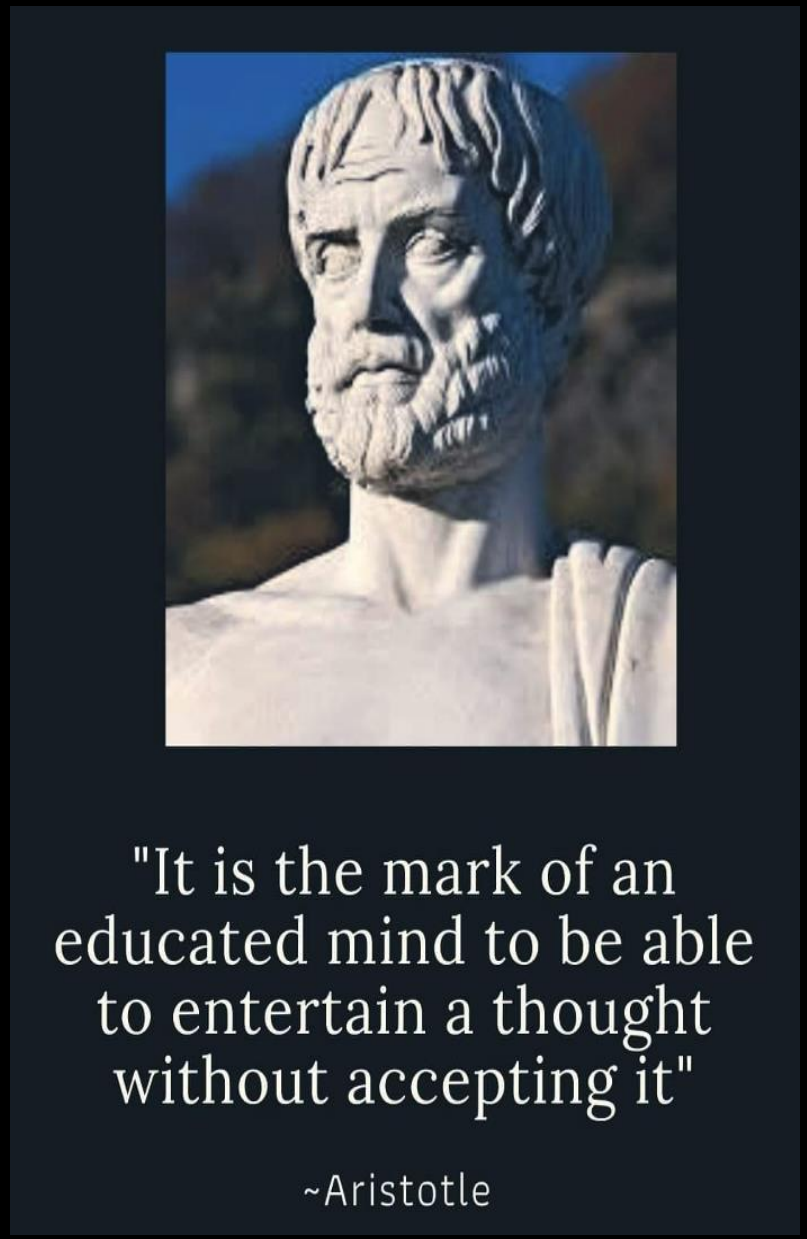
Cybersecurity
Infrastructure defense
AI experts
Supply chain
Blockchain-like
Data science
Mathematicians
Quantum scientists
UI/XI Designers
Immersive artists

COGNITIVE

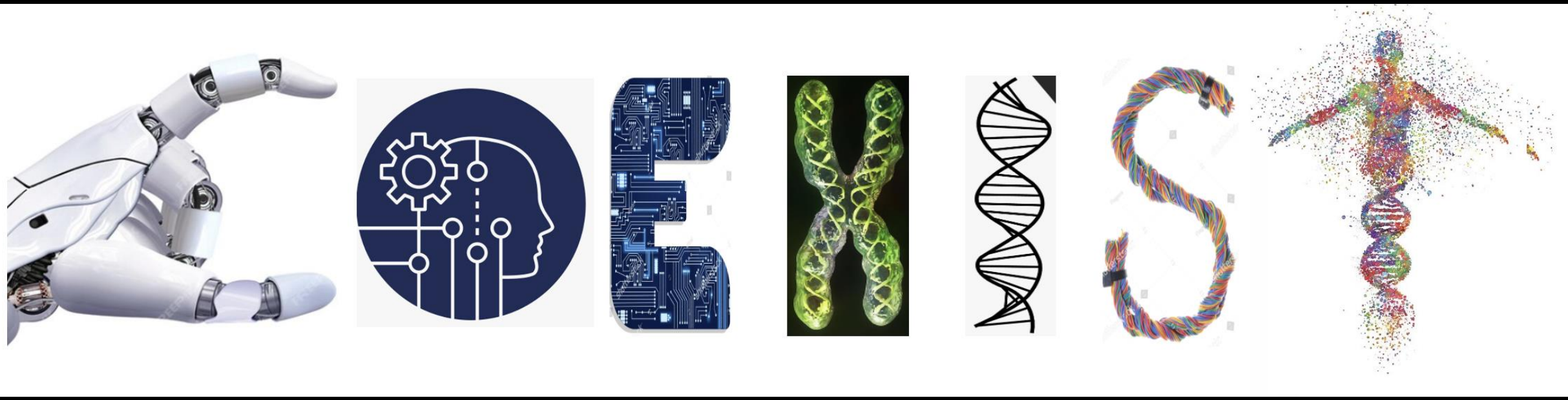
Behavioral design
Psychologists
Experimentalists
Neuroscientists
Social scientists
Psychiatrists
Cultural anthropologist
Cognitive psychologists
Psychoactive druggists

POLICY

Lawyers
Diplomats
Policy Makers
Privacy advocates
Educators
News media
Science/Skeptic Media
Entertainment



Long-term Human Survival



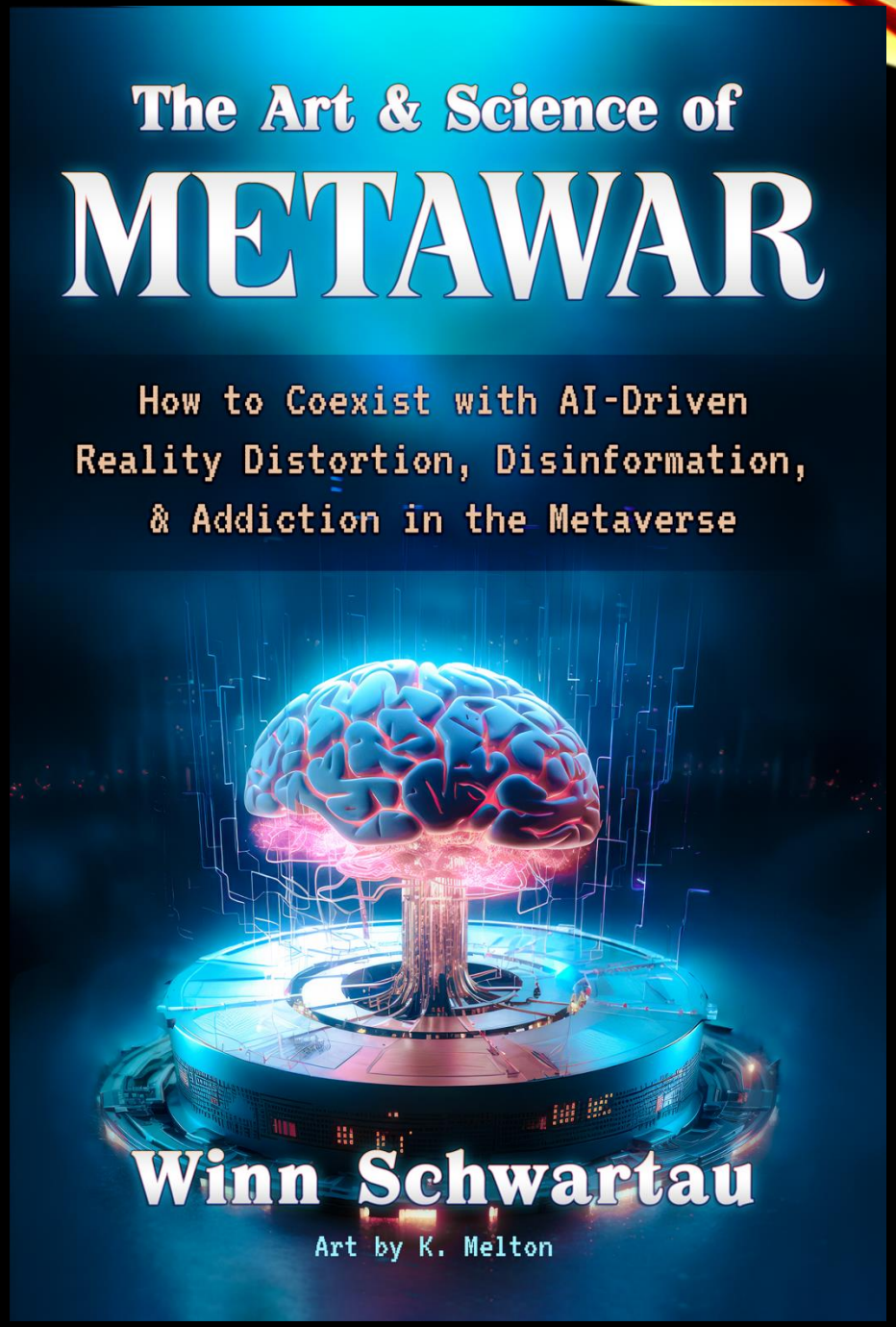
Metawar

Defending & Strengthening the mental immune system is a national security mandate.

What Will You Do To Help?

Winn Schwartau, FRSA

www.WinnSchwartau.com

@WinnSchwartau

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