



Can You Trust Your Brain?

Holland Professional Club
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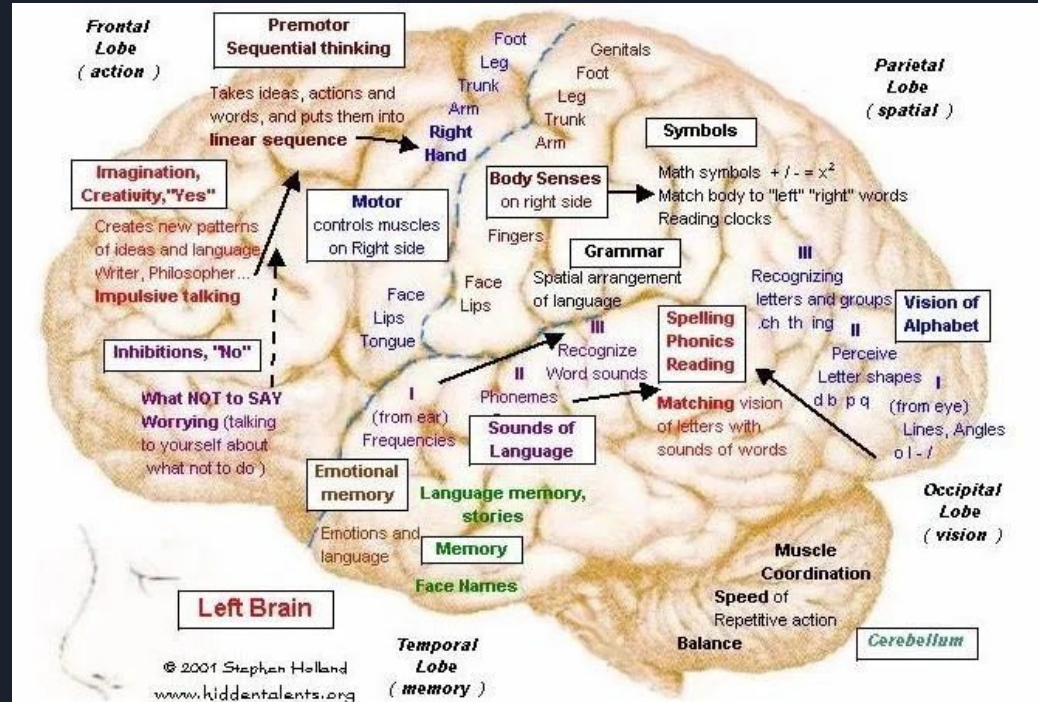
as

- Our brain is energy demanding, but amazingly energy-efficient.
- The brain can process information at an astounding rate. It is estimated that the brain can perform about 10 quadrillion calculations per second.
- It takes the brain just 200 milliseconds to determine a person's emotional state by their facial expression.
- Your brain detects confidence in voices faster than you can blink.

The Spectacular Evolution of the Human Brain

The human brain excels at:

- Complex Problem Solving
- Social Interaction
- Language Processing
- Tool Use and Invention
- Adaptability
- Memory Formation
- Pattern Recognition
- Emotional Intelligence
- Long-Term Planning
- Creative Thinking



Reality



Reality is a complex and multifaceted concept that can be approached from various perspectives, including philosophical, scientific, and experiential viewpoints. Here are a few ways to consider the concept of reality:

- Objective Reality
- Perceptual Reality
- Subjective Reality
- Consensual Reality
- Quantum Reality

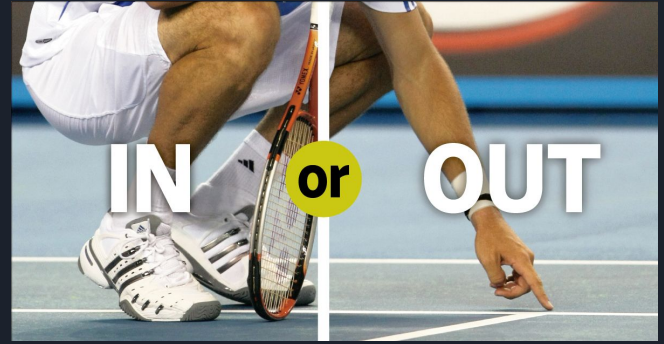
Ultimately, the nature of reality is a complex and debated topic. Different disciplines, such as philosophy, physics, psychology, and sociology, offer unique perspectives on what constitutes reality. It's important to recognize that our understanding of reality may evolve as our knowledge and methods of inquiry progress.

Tennis Line Calls

The human brain engages in a process of **reconstructing reality** based on sensory input, past experiences, and cognitive processes. The brain doesn't passively record events like a camera; instead, it actively interprets and reconstructs the information it receives.

Line Call Studies:

- Umpires, perched in high chairs at one end of the net: Two miscalls in 73 attempts, a 3% error rate, and an average error of almost three inches per call.
- The players were worse: they misestimated the point of impact by an average of five inches, had seven miscalls in 63 attempts, for an error rate of 11%, and were unable even to call the ball on ten other occasions because they could not see it. This was especially true on the 100-mile-an-hour serves.
- Another study of 57 randomly selected matches during the 2007 Wimbledon tournament found that officials were more likely to err by calling a shot "out" than "in."
 - Of the 83 wrong rulings, researchers found, 70 — or 84%— were instances of a shot landing in but being called "out." Only in 13 cases was a ball that landed out ruled "in." Researchers attributed the errors to perceptual bias in which a moving target appears to be farther along its path than it really is — a bias phenomenon also seen in the general population.



The Brain's Perception of Reality

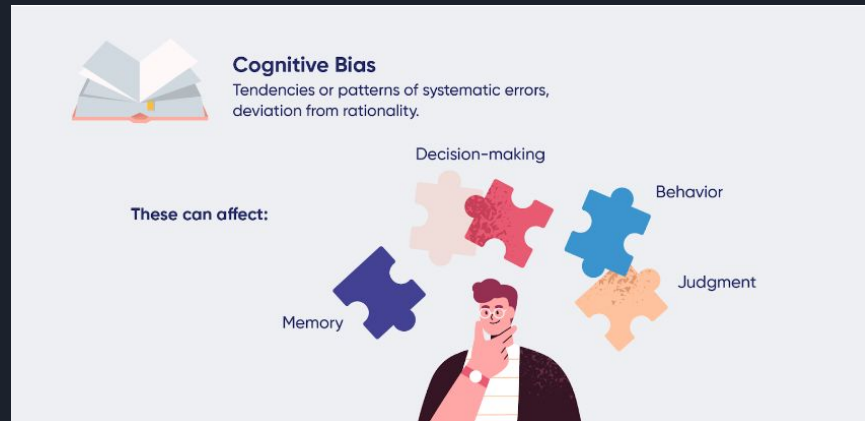


The human brain is a complex organ, and its ability to interpret and perceive reality is influenced by various factors. Some reasons why the human brain can be susceptible to misinterpreting reality include:

- Sensory limitations
- Cognitive biases
- Subjectivity of experience
- Selective attention
- Memory distortion
- Cognitive dissonance
- Social influence
- Emotional state

It's essential to recognize these factors and strive for critical thinking, open-mindedness, and a willingness to reconsider one's beliefs in the face of new evidence in order to minimize the impact of these potential cognitive pitfalls.

Cognitive Bias



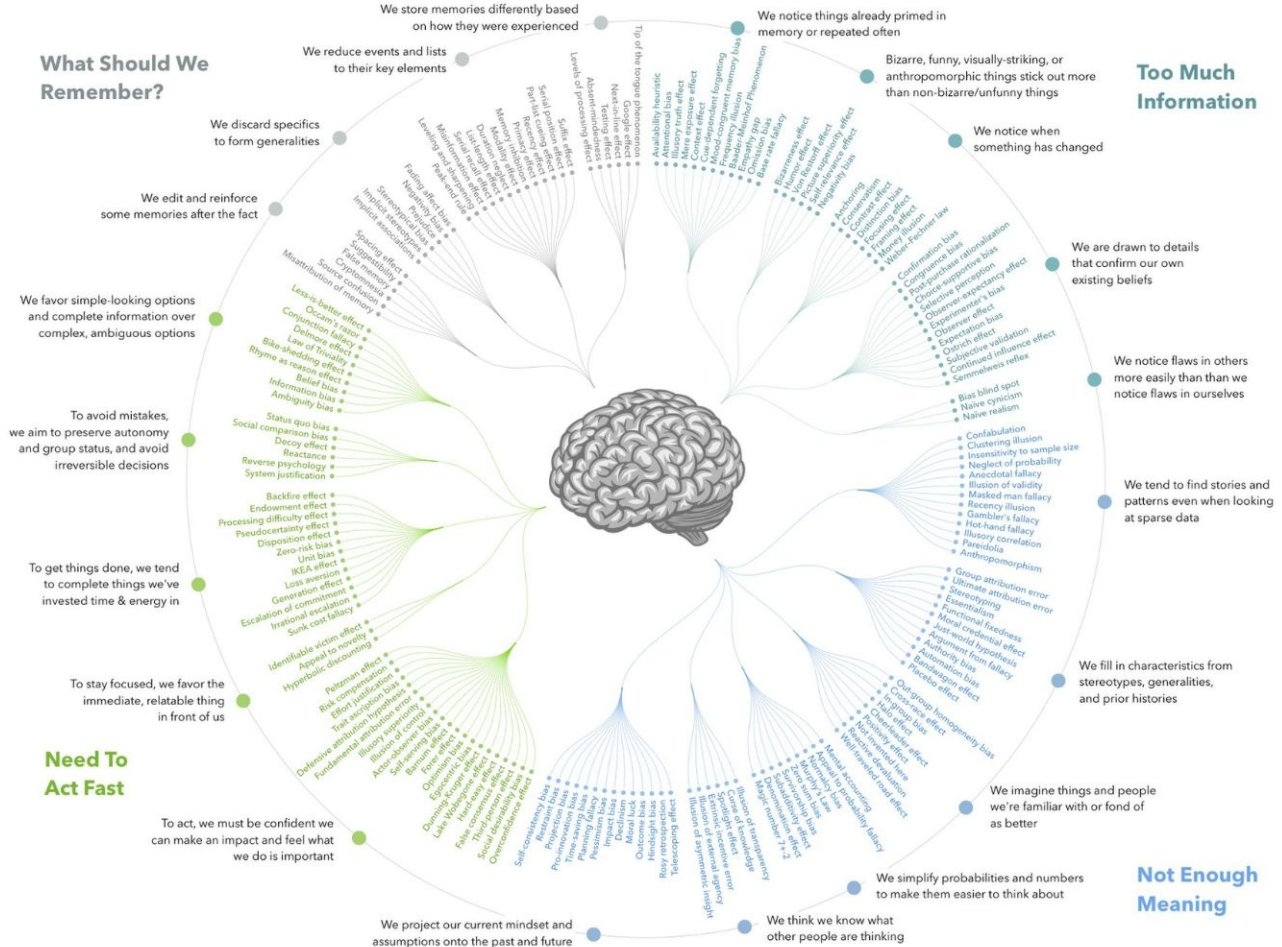
The human brain, while remarkable in many ways, is subject to various cognitive biases and limitations. Here's an extensive list highlighting some of the ways in which our brains can be unreliable:

Cognitive Dissonance
Overconfidence Bias
Hindsight Bias
Availability Heuristic
Anchoring Bias
Sunk Cost Fallacy
Groupthink
Neglect of Probability
Misleading Vividness
Self-Serving Bias
Optimism Bias
Base Rate Neglect

Anchoring and Adjustment
False Consensus Effect
Fundamental Attribution Error
Memory Distortions
Placebo and Nocebo Effects
Misinformation and Memory Bias
Conspiracy Beliefs
Cultural Bias
Emotional Reasoning
Regression to the Mean
Illusory Correlation
In-group Favoritism

Given these inherent biases and limitations, relying on data, quality studies, and a preponderance of evidence becomes crucial for making more objective and informed decisions. Emphasizing critical thinking, skepticism, and a commitment to evidence-based reasoning can help mitigate the impact of these cognitive biases.

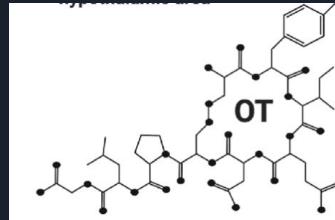
COGNITIVE BIAS CODEX



The Brain and Happiness

The evolution of the human brain is not specifically geared toward delivering a constant state of happiness. Evolutionary processes shape traits and behaviors that enhance an organism's **survival and reproduction**, not necessarily their constant happiness. However, certain aspects of human brain evolution have contributed to emotions and behaviors that are associated with well-being and contentment.

1. Survival and reproduction
2. Social connections
3. Reward system
4. Adaptability





Cognitive Behavioral Therapy

Distorted thought patterns, often referred to as cognitive distortions, are common focus points in CBT. These distortions are cognitive biases or irrational beliefs that contribute to negative emotions and behaviors. Some common cognitive distortions include:

1. **Catastrophizing:** Expecting the worst possible outcome, even when there is little evidence to support such a prediction.
2. **Black-and-White Thinking:** Seeing situations as all good or all bad, with no middle ground. This polarized thinking can lead to extreme emotional responses.
3. **Overgeneralization:** Drawing broad conclusions based on limited evidence or a single negative experience.
4. **Personalization:** Taking excessive responsibility for events, ascribing external events to oneself without sufficient evidence.
5. **Mind Reading:** Assuming that others have negative thoughts or judgments about oneself without concrete evidence.
6. **Filtering:** Focusing solely on the negative aspects of a situation while ignoring any positive elements.
7. **Should Statements:** Holding oneself to rigid, unrealistic standards and experiencing guilt or frustration when unable to meet these expectations.

CBT aims to help individuals recognize and challenge these distorted thought patterns, replacing them with more balanced and adaptive ways of thinking. Through this process, individuals can develop healthier coping mechanisms and improve their overall mental well-being.

Case Study: Me



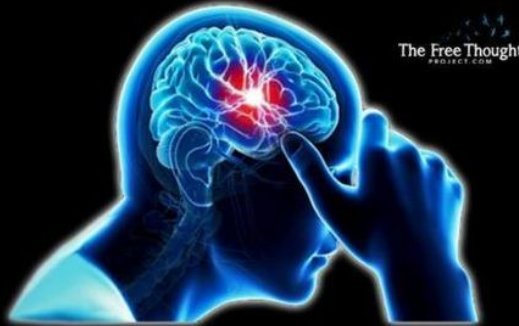
Mormonism and Me



Deconstructing High-Demand Religion

COGNITIVE DISSONANCE

**THIS IS WHY PEOPLE GET UPSET WHEN
THEIR BELIEFS ARE CHALLENGED**



A MENTAL CONFLICT OCCURS WHEN BELIEFS ARE CONTRADICTED BY NEW INFORMATION. THIS CONFLICT ACTIVATES AREAS OF THE BRAIN INVOLVED IN PERSONAL IDENTITY AND EMOTIONAL RESPONSE TO THREATS. THE BRAIN'S ALARMS GO OFF WHEN A PERSON FEELS THREATENED ON A DEEPLY PERSONAL AND EMOTIONAL LEVEL CAUSING THEM TO SHUT DOWN AND DISREGARD ANY RATIONAL EVIDENCE THAT CONTRADICTS WHAT THEY PREVIOUSLY REGARDED AS 'TRUTH'

Neuro-histologically: One reason we persist in cognitive dissonance is because the neuronal pathways established as a result of the emotion of fear are more resistant to neuroplasticity (neuron “pruning”, etc). Fear is an emotion associated with rigid or inflexible neural structures and can prevent rationale assessment of facts (LeDoux, 1996).

NEW YORK TIMES BESTSELLER

“Sapiens tackles the biggest questions of history and of the modern world, and it is written in unforgettably vivid language.”
—JARED DIAMOND, Pulitzer Prize-winning author of *Guns, Germs, and Steel*

Yuval Noah Harari


Sapiens

A Brief History of
Humankind



Elevated Emotions

The psychology of elevated emotions encompasses a range of intense and profound emotional states that go beyond the ordinary and may involve feelings of heightened significance, intensity, or transcendence. These experiences often evoke a sense of awe, wonder, and interconnectedness with something greater than oneself. Some key components of the psychology of elevated emotions include peak experiences, religious experiences, synchronicity, magical thinking, and awe.

- **Peak Experiences**
- **Religious Experiences**
- **Synchronicity**
- **Magical Thinking**
- **Awe**

Elevated emotions can have various psychological and even physiological effects. They may contribute to a sense of purpose, personal growth, and increased well-being. Moreover, individuals who frequently experience elevated emotions may be more resilient in the face of challenges and have a more positive outlook on life. Researchers continue to explore the neurological and psychological underpinnings of these experiences to better understand their impact on human behavior and well-being.



Cultivating Critical Thinking

Cultivating critical thinking skills involves developing the ability to analyze, evaluate, and synthesize information in a thoughtful and reflective manner. Here are some strategies to help humans enhance their critical thinking abilities:

- Question assumptions
- Be open-minded
- Develop curiosity
- Practice active listening
- Evaluate sources critically
- Develop research skills
- Practice reflection
- Engage in discussions
- Consider implications and consequences.
- Seek feedback

Continuous learning: Embrace a mindset of continuous learning. Stay curious, explore new topics, and challenge yourself to acquire new skills and knowledge. A commitment to lifelong learning fosters intellectual growth and critical thinking.

By incorporating these strategies into daily life, individuals can enhance their critical thinking skills and develop a more robust framework for understanding and engaging with the world.



The End

Thank you for hanging in there!