

Summary for Cohort of “The Science of Fear: How the Culture of Fear Manipulates Your Brain” by Daniel Gardner

Summary by Del Keeney, January 13, 2010

Basic Concepts...related to our attitudes and responses to risk

Why do we so often get risk wrong? Why have we become a “culture of fear”?

- Fear sells (private enterprise, politicians, media)
- Fear utilizes system one of the two systems of our brains (the Greek system of feeling and reason)
 - o System One: Feeling (what the author calls “Gut”)
 - Functions from the amygdala and other brain structures referred to as the “reptilian brain”
 - Without conscious awareness (intuitive and emotional)
 - Very rapid response
 - Able to make snap decisions based on built-in rules of thumb and automatic “settings”
 - o System Two: Reason (what the author calls “Head”)
 - Relies on conscious thought
 - Works slowly and deliberately
 - Examines evidence, calculates and considers
- These two “systems” or minds function semi-independently, but have a constant and complex interrelationship of influence
 - o Head to Gut (the conscious becoming intuitive)
 - o Gut to Head (fear rationalized consciously)
- Head and Gut “compete for the control of overt responses” (each of us as the caveman and the lazy teen racing down the road in a car)
- When functioning well, Gut makes quick judgements on the basis of scant evidence , offers approximations to Head, which slowly and deliberately adjusts those approximations on the basis of further evidence and conscious thought.
- When not functioning well, Head fails to monitor and adjust the approximations, and accepts the quick assessments
- Summary of System One (Feelings/The Reptilian Brain)
 - o Strength: can assess and respond to a situation in an instant, usually “sounding the alarm” in circumstances deemed threatening.
 - o Weakness: rules of thumb can generate irrational conclusions
 - o Problem: System One developed/was created for survival in a different environment (the stone age hunter)

Rules (Heuristics) utilized by System One: the reptilian brain

- **The Law of Similarity**
 - o Like causes like
 - o Appearance equals reality
- **The Anchoring Rule**
 - o Gut grabs the first information available (heard most recently)
 - o Head adjusts, but insufficiently, creating a bias toward the initial anchor
 - o Easily manipulated (marketing and statistics)
- **The Rule of Typical Things (representative heuristic)**
 - o Gut uses this as a primary guide: the familiar and typical “feels right”
 - o Head goes along with it, and justifies the decision

- Problems with this rule
 - Tend to give in to it even when evidence and logic indicate another truth
 - Influences how we view risk
 - Head persuades itself based on Gut
- **The Example Rule (availability heuristic)**
 - The more easily we can think of an example of something, the more common we judge that thing to be.
 - Not the examples themselves, nor the number of examples, but the ease of recall
 - The amygdala incorporates responses to very basic experiences (like the hissing of a snake, or a vehicle swerving into your driving lane)
 - Triggering hormones that heighten memory and activate the body for rapid response
 - Equipping use for flight/flight response
 - Emotional content “glues” memory in place
 - Fear, Novelty, Concentration/Repetition can accomplish this
 - Problem: Gut does not differentiate the imagined from the real, and so can be influenced powerfully by either.
 - Problem: the example rule is biased toward recent, emotional, vivid or novel events that are more easily remembered
- **The Good/Bad Rule (affect heuristic)**
 - The raw feeling that something is good or bad
 - Judgments/assessments that follow are influenced by the initial feeling
 - Problem: reaction can be very different to same information, based on the emotional response of good or bad; and so can be powerfully shaped by selective use of language (vividness)
 - Problem: initial influence can strongly affect our rational appreciation for probabilities (odds, cost/benefits). Gut does not care about odds.
 - Problem: it makes us vulnerable to scary scenarios (like the rule of Typical Things)
- **Why do we feel what we feel?**
 - The source is the unconscious mind
 - Head cannot normally access Gut to find out
 - Since Head needs to rationalize, it “makes up” an answer
- **What besides the brain influences our perception of risk?**
 - Our peers (confirmation bias) and “the Herd”
 - Our self-perception (optimism bias, that is, seeing ourselves in a good light or as better than others)
 - Our culture (influences of sense of right/wrong, the stories we tell, the examples we rehearse)
- **Why are we afraid?**
 - Our culture “markets” fear!
 - Fear motivates, and so it is utilized as a tactic in economics, in politics, and in the promotion of social agendas, and in the promotion of media
 - We are still shaped primarily by Gut, and are inclined to be unwilling to make the effort to apply Head to correct Gut’s approximations.
 - There is significant self-interest (and benefit) on the part of many in our culture to benefit from the promotion of fear.
 - We are at our best “boundedly rational”; that is, able to be rational within limits.

- **Our Unique Challenge**

- We live in a world with an overload of information and access to it
- Yet we function with brains that are heavily influenced by:
 - The first available information/number in an avalanche of statistics (The Anchoring Rule)
 - Trusting that elaborate predictions of the future are more typical (thus more trustworthy) than simple ones (The Rule of Typical Things)
 - What we most easily remember being the most likely thing to happen again (The Example Rule)
- As we habituate to risks, our perception of the risk becomes lower
- Time pressure reduces Head's ability to modify Gut's judgement
- Gut does not handle numbers well (does not grasp randomness)

Addendum: The Weighing of Risks (Slovic's Risk-Perception Analysis)

- The risk will be considered greater based on:
 - Catastrophic potential
 - Familiarity
 - Understanding
 - Personal Control
 - Voluntariness
 - Children
 - Future Generations
 - Victim ID
 - Dread
 - Trust
 - Media Attention
 - Accident History
 - Equity
 - Benefits
 - Reversibility
 - Personal Risk
 - Origin
 - Timing