



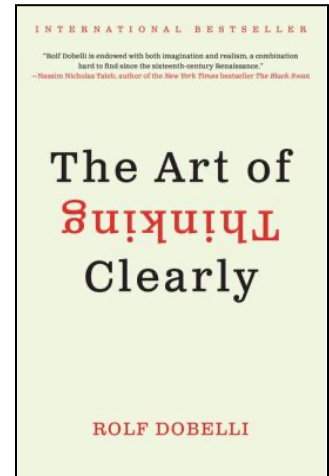
DODReads Executive Summary

The Art of Thinking Clearly

Thesis: By understanding and recognizing common cognitive biases and logical fallacies, individuals can improve their critical thinking skills, make more rational decisions, and avoid common pitfalls that lead to poor judgments.

- **Rolf Dobelli:** Rolf Dobelli is a bestselling Swiss author, entrepreneur, and former hedge fund manager known for his work in the fields of decision-making, rational thinking, and cognitive biases. He studied philosophy and business administration at the University of St. Gallen before a successful career in finance. Dobelli founded Zurich Minds, a community of scientists, entrepreneurs, and intellectuals dedicated to rational thinking and sharing knowledge.

- [Personal Website](#)
- [YouTube](#)



[The Art of Thinking Clearly](#)

Why this book is important for the Military Professional: Common cognitive biases and logical fallacies can impact decision-making. In high-stakes and complex environments, military leaders must make quick and accurate decisions that can have significant consequences for mission success, troop safety, and strategic objectives. By understanding cognitive biases, military professionals can recognize and mitigate their effects on the decision-making process leading to more effective and rational choices. The principles discussed equip military professionals with valuable tools to navigate the complex choices surrounding military operations and improve their effectiveness as leaders.

Clearly / ('klir-lē) adverb. 1. in a clear manner; free from obstruction. assuredly

Errors in Human Thinking

Our minds are prone to biases and errors in judgment, often leading to suboptimal decisions. By examining these biases, you can recognize and mitigate them in your everyday decision-making, ultimately leading to clearer thinking and better outcomes in both personal and professional life. Consider:

- The following list of fallacies is incomplete. New errors in thinking will emerge.
- Many errors are related to one another; they can be bundled or independent.
- You cannot recognize and prevent all errors in thinking, rather, making a marginal improvement can increase prosperity and reduce self-induced unhappiness.
- Note: The following is a long list, the most common and impactful errors are underlined.

Survivorship Bias: Focusing on successes rather than failures because the failures are less visible.

- This can lead to unrealistic expectations and greater risk-prone decisions.
- Routinely visit the (metaphorical) graveyard to remind yourself of the failures and temper expectations.

Swimmer's Body Illusion: Mistaking factors for selection with results

- World-class swimmers have a certain body type (long torso/short legs) that makes them successful...but no matter how much you swim, your torso won't grow and your legs won't shrink.
- Outcomes are affected by many factors, many of which are independent of the task itself.
- Everyone has inherent abilities; accept them, and do not let other's traits dictate the choices you make.

Clustering Illusion: Seeing patterns or clusters in random or unrelated data.

- This illusion arises from the human brain's natural inclination to find meaning and order in the world, even when none exists which can result in erroneous conclusions and decision-making.

Social Proof: Looking to others for guidance in uncertain situations.

- People mimic the behavior of others, even if it's irrational or incorrect.

Sunk Cost Fallacy: Continuing with something because they've already invested time, money, or effort.

- What you "spent" on something is gone regardless if you continue with the commitment.
- People fail to cut their losses, leading to further poor investments or time use.

Reciprocity: Feeling obligated to return favors or kindnesses you have received from others.

- People have extreme difficulty being in someone else's debt. This can be exploited—first give, then take.
- Refuse offers of "free" goods knowing they will come with emotional strings attached.

Confirmation Bias: Seeking out information that confirms existing beliefs. *The mother of all misconceptions.*

- Beware of the "special case." There is often no such thing, just skewing data to confirm your perception.
- People ignore or filter contradictory evidence, leading to flawed decision-making.
- Write out your beliefs and set out to find disconfirming evidence—abandoning beliefs that feel like old friends is difficult but imperative.

Authority Bias: Believing or following authority figures without questioning their expertise.

- Authorities often have poor forecasting track records and obedience to them can destroy what you know to be right and wrong.
- Reflect on if an authority is influencing your decision, then do your best to challenge their position.

Contrast Effect: Perception of one thing is influenced by a previous exposure to something similar but different.

- This distorts judgment by making us perceive differences between two objects or situations as greater than they actually are, simply because they are presented sequentially or in close proximity.

Availability Bias: Assessing the likelihood of events based on how easily you recall similar events from memory.

- This can lead to overestimating the probability of rare events.

The It'll-Get-Worse-Before-It-Gets-Better Fallacy: Mistaken belief that a situation will deteriorate further before it improves.

- Leads people to underestimate the potential for positive change or recovery in difficult circumstances

Story Bias: Constructing stories or narratives to make sense of random events or complex phenomena.

- This can lead to oversimplification and misunderstanding of causality.

Hindsight Bias: Belief that past events were more predictable than they actually were.

- People overlook the uncertainty and complexity of past situations.

Overconfidence Effect: Overestimating your abilities, knowledge, or the accuracy of your judgments.

- Leads to risky decision-making and overestimation of one's chances of success.

Chauffeur Knowledge: Superficial knowledge or understanding of a subject, often acquired through passive exposure or reliance on others.

- Leads to possessing shallow knowledge or expertise on a topic, lacking a deeper understanding or ability to apply the knowledge effectively.

Illusion of Control: Belief that individuals have more control over events or outcomes than they actually do.

- Leads to engaging in behaviors or actions based on the false belief that they can control outcomes, even in situations where outcomes are largely determined by chance or external factors.

Incentive Super-Response Tendency: Responding excessively to incentives or rewards, leading to exaggerated behavior or actions.

- Leads to prioritizing short-term rewards or incentives over long-term goals or considerations, potentially resulting in impulsive or irrational decision-making.

Regression to Mean: Misinterpretation of random fluctuations in data as significant trends.

- Most sensations revolve around a mean with infrequent extremes, but these extremes can cause us to make outsized decisions.
- Leads to drawing supportive conclusions from actions that had little to no effect at all.

Outcome Bias: Judging decisions based on their outcomes rather than the quality of the decision-making.

- Leads to overlooking good decisions that had bad outcomes and celebrating good outcomes that may have been complete luck or through a flawed process.

Paradox of Choice: Phenomenon of having too many options leading to decision paralysis and dissatisfaction.

- While choice is generally considered a good thing, an overwhelming number of options can actually lead to stress and regret.

Liking Bias: Tendency for individuals to evaluate people, products, or ideas more favorably simply because they like or feel positively towards them.

- Leads to overlooking flaws or shortcomings and prioritizing your positive feelings towards the liked entity.

Endowment Effect: Overvaluing objects you own compared to identical objects you don't own.

- Leads to an irrational attachment to possessions and reluctance to part with them.

Coincidence: Occurrence of events that seem related but are actually unrelated and happen by chance.

- People perceive connections between unrelated events, attributing significance instead of coincidence.

Groupthink: A phenomenon where members of a group prioritize consensus and harmony over critical thinking and independent judgment.

- Dissenting viewpoints or alternative perspectives may be suppressed in favor of maintaining group cohesion, leading to flawed decision-making and overlooking potential risks or drawbacks.

Neglect of Probability: Ignoring or underestimating the role of probability in decision-making.

- People react to the magnitude rather than the likelihood of an event; showcasing how intuition lacks the grasp of basic probability.
- Leads to poor risk assessment and making decisions based on statistically irrelevant data.
- Supports **Zero Risk Bias:** the desire for zero risk instead of meaningful risk reduction to non-zero levels.

Scarcity Error: Overvaluing or desiring resources that are perceived as scarce or limited in availability.

- Leads to prioritizing obtaining scarce or perceived to be scarce resources, sometimes at the expense of other important considerations or opportunities.

Base-Rate Neglect: Ignoring statistical base rates in favor of specific information or anecdotes when making judgments or decisions. ***One of the most common errors in thinking.***

- This can lead to erroneous conclusions and biased decision-making from data points with little relevance.
- Investigate the most common cause or solution before exploring exotic possibilities.

Gambler's Fallacy: Believing that past outcomes in random events influence future outcomes

- Arises from a misunderstanding of probability and the assumption that random events are influenced by past outcomes when in reality each event is independent and unaffected by previous occurrences.
- Leads to incorrectly predicting that certain events are "due" to occur based on previous results.

The Anchor: Relying too heavily on the first piece of information when making decisions.

- The "anchor" biases future judgments and creates an artificial and potentially damaging reference point.

Induction: Generalizing specific observations or instances to form a broader conclusion or hypothesis. ***The most serious flaw in reasoning.***

- Making probabilistic judgments based on observed patterns or trends, but it does not guarantee the certainty of the conclusion.

Loss Aversion: A greater sensitivity to losses than gains of equal magnitude.

- An asymmetry in risk perception leading to risk aversion and conservative decision-making.

Social Loafing: Tendency to exert less effort or contribution when working in a group compared to when working individually.

- Individuals feel less accountable for their actions in a group setting, leading to decreased effort.

Exponential Growth: Failure to understand the pattern of growth where a quantity, such as population size or financial investment, increases at an accelerating rate over time.

- It's difficult to visualize exponential growth so people incorrectly favor thinking in terms of linear growth.
- *Rule of 70:* To better conceptualize the growth rate, divide 70 by the rate to get the doubling time.
- When it comes to growth rates, don't trust your intuition. You don't have any.

Winner's Curse: Winners of an auction often overpay for the item due to the competitive effects of bidding.

- Leads to buyer's remorse and financial losses.
- Warren Buffett on auctions: "Don't go." If you have to go, set a maximum price and deduct 20% to offset the Winner's Curse.

Fundamental Attribution Error: Attributing others' actions to their personalities or traits rather than considering situational factors.

- Leads to misjudgments and misunderstandings in social interactions.
- Judge people less by "who they are" and more by the circumstances they are subject to.

False Causality: Incorrectly attributing causation between two events based on correlation or coincidence.

- Overlooks the distinction between correlation (two variables occurring together) and causation (one variable directly causing the other), leading to erroneous conclusions about cause-and-effect relationships.
- Sometimes what is presented as the cause is actually the effect; and sometimes there is no link at all.

Halo Effect: Judging others based on a single positive trait or characteristic, assuming that person has other positive traits as well.

- Obstructs the view of true characteristics. Dig deeper to find the true value or totality of someone.

Alternative Paths: Failure to consider the multiple options or courses of action available when making decisions or solving problems.

- Risk is not always directly visible and your mind will obscure thoughts of paths you are not currently on.
- Recognizing Alternative Paths allows you to explore different possibilities and consider various approaches before selecting the most suitable option or path forward.

Forecast Illusion: Believe in the accuracy of forecasts, even when they're often wrong.

- "Expert" forecasters lack negative consequences for their prediction; and are statistically only marginally better than a random guess.
- Failing to recognize the limitations of prediction without deeply assessing the pundit's track record.

Conjunction Fallacy: Mistakenly believing that the conjunction of two events is more likely than one of the events occurring alone, despite this being statistically improbable.

- Occurs when people ignore the basic principles of probability and make judgments based on perceived likelihood rather than statistical probabilities.
- Intuitive thinking can be fast to link concepts but slow, conscious thinking is needed to avoid the trap.

Framing: The way information is presented, or "framed," can significantly influence perceptions and decisions.

- Shapes how you perceive information and make decisions by highlighting certain aspects while downplaying or omitting others.

Action Bias: Preference for taking action, even when it may be more beneficial to do nothing.

- Stems from a desire for control and a belief that taking action is always better than inaction, even in situations where inaction may be the more prudent choice.
- Fight your instincts - if the situation is unclear, hold back and assess all your options before jumping in.

Omission Bias: Perceiving harmful actions as worse than equally harmful omissions or inactions.

- Leads to moral judgments that prioritize avoiding negative outcomes through inaction over taking proactive measures to prevent harm.

- Difficult to detect. “If you are not part of the solution, you are part of the problem”

Self-Serving Bias: Attributing successes to your abilities and efforts but blaming failures on external factors.

- Leads to biased self-assessment and overestimating your contributions.
- Have a no-holds-barred friend, or even an enemy, give you an assessment for a more accurate picture.

Hedonic Treadmill: Despite experiencing temporary increases in happiness from positive events (e.g., promotions, material gains) or decreases in happiness from negative events (e.g., loss, setbacks), individuals eventually adapt to these changes and return to their baseline level of happiness over time.

- Avoid negative things you cannot grow accustomed to (long commutes, chronic stress)
- Expect only short-term happiness from material things (new house, car)
- Aim for as much free time and autonomy as possible; long-term happiness comes from what you do.

Self-Selection Bias: Effect of existence on beliefs or hypotheses.

- Statistically, you are most likely to be in the majority.
- Studies only collect data from their participants, no data can be gleaned from everything else in the world.
- You can only revere what exists; nonentities cannot consider their non-existence.

Association Bias: Making associations between unrelated events, objects, or ideas based on perceived similarities or connections.

- Our brain is a connection machine - it makes connections even when there are none to be made.
- Leads to making judgments based on superficial or irrelevant associations rather than objective criteria.

Beginner’s Luck: A phenomenon where individuals new to a particular activity or endeavor, experience unexpected success or favorable outcomes in their initial attempts.

- Leads to overestimating your abilities or underestimating the role of luck, potentially leading to unrealistic expectations or excessive risk-taking in subsequent endeavors.

Cognitive Dissonance: The psychological defense mechanism for failure by reframing the outcome or your intended desire. ***One of the most common errors in reasoning.***

- After failing, telling yourself “I didn’t want it anyway”
- Leads to rationalization of poor decisions versus admitting to failure and implementing positive changes.

Hyperbolic Discounting: Placing a greater value on immediate rewards compared to larger, delayed rewards.

- The closer the reward is, the higher the “emotional interest rate” rises, and the more we are willing to give up in exchange for it.
- Leads to impulsive decision-making, as individuals prioritize immediate rewards over long-term benefits.

‘Because’ Justification: Using the word “because” in explanations or justifications can influence perception and compliance, even if the justification is weak or irrelevant.

- Providing any reason, even if it is arbitrary or unrelated, can increase the perceived legitimacy and acceptance of a request or action.
- Never leave home without “because.” This little word greases the wheels of human interaction.

Decision Fatigue: Mental fatigue is a result of making numerous decisions over time, leading to impaired judgment and decision-making.

- Leads to choosing the easier or default option rather than making complex decisions, leading to suboptimal outcomes.
- Less decisions = better decisions. Breaks help reset your mind; make important decisions after a break.

Contagion Bias: The influence on your emotions and behaviors from certain items.

- Leads to adverse reactions from inanimate objects with specific meaning even though they have no actionable effect on the task at hand.

The Problem with Averages: Averages obscure important variations within data sets, leading to oversimplified conclusions and decision-making.

- Averages may not accurately represent the characteristics or trends within a data set, especially when outliers significantly impact the average value.
- Distributions are becoming more irregular. Power Law implies a few extremes dominate distribution.

Motivation Crowding: Introducing external incentives or rewards that crowd out intrinsic motivation, leading to reduced engagement and performance in tasks.

- Individuals may prioritize external rewards over the inherent satisfaction or enjoyment derived from an activity, leading to a decrease in intrinsic motivation and lower performance.
- Financial rewards erode any other motivation, can be seen as bribes, and change interpersonal to transactional - this is particularly impactful with children.

Twaddle Tendency: Including unnecessary words, information, or details in communication or writing, which can obscure the main message or point.

- Leads to inefficient communication and comprehension, as the main message or point is buried under unnecessary information. *“Less is More.” “If you have nothing to say, say nothing.”*
- When used in conjunction with the **Authority Bias**, this can be especially dangerous.

Will Rogers Phenomenon: Moving items from one category to another to alter the overall statistics or outcomes, resulting in apparent improvements without actual change.

- Skews statistical analyses by altering the composition of categories or groups, leading to misleading interpretations of data.

Information Bias: The delusion that more information guarantees better decisions.

- Leads to excessive information gathering and analysis, which may not necessarily improve decision-making or outcomes.
- Forget trying to amass all the data, do your best with the bare facts, You will make better decisions.

Effort Justification: Overvaluing an item or event because of your investment of time, effort, or resources into it.

- A type of **Cognicent Dissonance**.
- Leads to become more committed to something, even when it may not be the best choice.

The Law of Small Numbers: Drawing conclusions or making generalizations based on small sample sizes, which may not be representative of the larger population.

- Leads to statistical errors and inaccuracies in analysis, as conclusions drawn from small samples may not be reliable or valid.

Expectations: Expectations influence people’s perceptions and interpretations of events, people, and situations.

- Unrealistic expectations can cause panic if they are not met. Conversely, they can cause inadvertent actions or efforts to help them become realized.
- Raise expectations for yourself and those you love. Lower your expectations for things you can’t control.

Simple Logic: Favoring simple explanations over more complex ones, even when the complexity is warranted.

- Leads to the oversimplification of complex phenomena or problems, ignoring nuances and contributing to flawed reasoning.
- Thinking is more exhausting than sensing. Rational consideration requires more willpower than giving in to intuition. Intuitive people tend to scrutinize less.

Forer Effect: Perceiving vague or generalized personality descriptions as highly accurate and personally relevant.

- Occurs when individuals subjectively validate vague or general descriptions by interpreting them as personally meaningful and accurate.

Volunteer’s Folly: Volunteers overestimate their value and impact of contributions to a cause or organization.

- Leads to biased self-assessment and perceptions of one’s own contributions, potentially overlooking the efforts of others or overstating personal achievements.
- Many volunteers engage in “personal happiness management” and derive satisfaction from volunteering regardless of their impact on the cause.

Affect Heuristic: Relying on your emotional responses and gut feelings when making judgments or decisions.

- Puts risks and benefits on the same sensory threat making them appear dependent when they are not.
- Simplifies decision-making by prioritizing emotional reactions over rational analysis, which can lead to biased judgments and decisions.

Introspection Illusion: Overestimating their own self-awareness and introspective abilities, leading to inaccurate perceptions of their own thoughts, feelings, and behaviors.

- Leads to limited self-insight and biased self-assessment, as individuals may not accurately recognize or understand their own motivations and behaviors.
- Creates inaccurate predictions of future mental states and the illusion of superiority. Be critical of yourself!

Inability to Close Doors: A reluctance to commit to decisions or close off options, fearing that they may miss out on better opportunities in the future.

- Options always cost something although generally the cost is hidden. Salesmen who chase every lead close no deals.
- Leads to indecisiveness and procrastination, as individuals delay making decisions in hopes of keeping their options open.
- Write down a “What not to pursue in life” list. Make calculated decisions to disregard certain possibilities once then stick to your list.

Neomania: Overvaluing new or novel experiences, products, or ideas, compared to established options.

- Leads to a focus on novelty at the expense of quality or effectiveness, as individuals may prioritize newness over more reliable or proven options. Old technology has proven itself for a reason.

Sleeper Effect: The persuasive impact of a message increases over time, even after the credibility of the source has diminished.

- Leads to long-term changes in attitudes and beliefs, as individuals may be influenced by messages or information they initially dismissed or discounted.
- Don't accept unsolicited advice, avoid ad-contaminated sources, and remember the source of the arguments you encounter.

Alternative Blindness: Overlooking or ignoring alternative options or possibilities when making decisions, leading to a narrow focus on a single option or course of action.

- Limits decision-making by restricting consideration to a limited set of options, potentially overlooking better alternatives or solutions.

Social Comparison Bias: Withholding assistance to people who might outdo you, even if you look like a fool in the long run.

- Impacts self-esteem and self-worth, as individuals may feel inadequate or superior based on comparisons with others.
- A-players hire people better than themselves while B-players hire C-players so they feel superior to them.
- Hire people who are better than you; otherwise, you end up leading a pack of underdogs.

Primacy and Recency Effects: Giving more weight to first encounters or recent events when making decisions.

- Leads to overlooking long-term trends and focusing too much on short-term fluctuations.
- Ask opinions from people in random order to prevent giving an unfair advantage.
- First and last impressions dominate, try to assess all parts impartially.

Not-Invented-Here Syndrome: Preference for internally developed solutions.

- Leads to reluctantly adopting or accepting external ideas, solutions, or products and to missed opportunities for innovation and collaboration,
- Causes inefficient use of resources to reinvent solutions that already exist externally.
- Split teams into two groups - one to create ideas, and one to rate them.

The Black Swan: Underestimating the role of randomness in life.

- People tend to focus on predictable events and ignore rare but impactful occurrences.
- There are things you know, things you don't know, and things you don't know you don't know.

Domain Dependence: Influence on judgments and decisions by the context or domain in which they are made.

- Apply different standards or criteria depending on the specific context, leading to inconsistent decision-making.
- Insights do not pass well from one domain to another.

- What you master in one area is difficult to transfer to another, particularly from theoretical to practical.

False-Consensus Effect: Overestimating the extent to which others share your beliefs and preferences.

- Leads to miscommunication and conflicts when dealing with diverse perspectives.
- Contributes to viewing those who do not share your opinions as *abnormal*.

Falsification of History: Subconsciously adjusting memories so they align with your current beliefs or attitudes.

- Distorts the accuracy of historical accounts.
- It's safe to assume half of what you remember is wrong; your faith in them can be harmful – or lethal.

In-Group Out-Group Bias: Favoring members of your own group over members of other groups.

- Groups often form based on minor, often trivial, criteria.
- You preserve people outside your group to be more similar than they are.
- Since groups form on the basis of common values, you receive a disproportionate amount of support for your ideas. See **Groupthink**

Ambiguity Aversion: Tendency to favor known probabilities over known ones regardless of whether it is logical.

- Risk = known probabilities; Uncertainty = unknown probabilities. You cannot calculate uncertainty.
- To avoid hasty judgment, you must learn to tolerate ambiguity.

Default Effect: Tendency to stick with the default option when faced with a decision, even if other options are available.

- Can lead to inertia and reluctance to change.
- **Loss aversion** causes you to keep what you have (the **Status Quo Bias**) instead of attempting to change from the default.

Fear of Regret: The emotional aversion to making choices that may have negative outcomes or cause remorse.

- Leads to avoid taking risks and conforming to the masses, even when it may not be beneficial.
- The “last chance” offer plays on the fear of regret.

Salience Effect: Focusing on the most noticeable or prominent information when making decisions, often overlooking less prominent but equally relevant information.

- This affects how we interpret the past and view the future. We neglect hidden, slow-developing factors.

House-Money Effect: Taking more risks with money or resources perceived as “house money” or winnings, as opposed to their own funds.

- Leads to excessive risk-taking and irrational decision-making when dealing with perceived free gains.
- Money is Money – unwrap the emotional shroud and treat it all the same.

Procrastination: Delaying unpleasant arduous acts or tasks.

- Caused by the time gap between sowing and reaping; bridging this gap takes a lot of mental energy.
- Willpower is like a battery, it has to be recharged. Eliminating distractions, resting, eating a good meal, and setting public deadlines can speed up completing undesirable tasks.

Envy: Feeling of resentment or discontentment caused by someone else's possessions or achievements.

- Lead to negative emotions and irrational comparisons, influencing poor decision-making and perceptions of success and happiness.
- Relatively easy to switch off–stop comparing yourself to others and fill in your “circle of competence”.

Personification: Giving a human face to statistics or non-human entities.

- Leads to anthropomorphizing objects or phenomena, influencing perceptions and decision-making based on the empathy you develop.
- Most effective when you can see your counterpart. Not seeing them almost eliminates the sensation. Stick to the facts and statistics of what is being presented.

Illusion of Attention: Believing that you notice everything around you instead of just what you are focused on.

- Individuals often overestimate their ability to perceive and recall information accurately, despite the limited capacity of attention and memory.
- Check the periphery, not just the center. Consider the unthinkable.

Strategic Misrepresentation: Intentional distortion or manipulation of information for personal advantage.

- Occurs when individuals deceptively present information to achieve their objectives.
- Most common when: accountability is diffuse, many businesses are involved, or the end is years away.

Overthinking: Excessively dwelling on or analyzing a situation or decision, often leading to poor outcomes.

- Results in mental fatigue and paralysis by analysis, hindering effective decision-making and problem-solving.
- If you think too much, you cut off your mind from the wisdom of your feelings.
- If it involves practiced activities - don't reflect to the last detail. If it is complex, logic trumps intuition.

Planning Fallacy: Consistently underestimating the time, costs, and risks of future actions.

- They're overly optimistic about their ability to complete tasks on time and within budget.
- Caused by a combination of wishful thinking and a failure to account for outside influences.
- Defeat this by looking at the base rate and considering the past. Conduct a premortem session.

Deformation Professionnelle: Perceiving the world through the lens of your profession or expertise.

- Leads to narrow perspectives, as individuals may overlook alternative viewpoints or solutions that fall outside their professional domain. Creates tunnel vision and **groupthink** within specialized fields.
- Seek diverse perspectives and consider interdisciplinary approaches to decision-making.

Zeigarnik Effect: Remembering uncompleted or interrupted tasks better than completed tasks.

- Outstanding tasks gnaw at us, but only until we have a clear idea of how we will get them done.
- Jot down tasks on a notepad by your bed and how you will get them done to clear your mind and sleep.

Illusion of Skill: Mistaken belief that your success is due to skill rather than luck or randomness.

- Leads to overestimating your abilities and making overly confident predictions about future outcomes.

Feature-Positive Effect: Focusing on the positive features or attributes of a situation, person, or object while overlooking or downplaying the negative aspects.

- Absence is harder to detect than what is present. What exists means a lot more than what is missing.
- Leads to overly optimistic perceptions and decisions, as individuals may overvalue the positive qualities and undervalue the negative aspects.

Cherry-picking: Selective presentation of data to support a viewpoint while ignoring contradictory information.

- Individuals may only consider evidence that confirms their preconceived beliefs or preferences while dismissing information that challenges them.
- Ask about the leftover cherries—the failed projects and missed goals and double-check the target—see if the goalposts were moved in the middle of the game.

Fallacy of the Single Cause: Mistaken belief that a complex phenomenon or event can be attributed to a single underlying cause or factor. ***The most common of all mental errors.***

- Oversimplifies causal relationships and ignores the multifactorial nature of most events, leading to an incomplete understanding of cause-and-effect relationships.

Intention-to-Treat Error: Failing to analyze data according to the original intention of the intervention.

- Occurs when individuals analyze data based on the treatment actually received rather than the treatment assigned, leading to distorted results in research studies.
- Always check if test subjects have vanished from the sample, and if so, discard the study altogether.

News Illusion: Belief that consuming news and staying informed about current events equates to being well-informed about broader issues and topics.

- News is like sugar for the mind—appetizing, easy to digest, and highly destructive in the long run.
 - Your brain reacts disproportionately to different types of information. Scandalous and shocking information stimulates us, an effect news producers capitalize on.
 - News is irrelevant—name one time when knowing the news helped you make a better decision.
 - News is a waste of time—the loss of productivity from time spent digesting news offsets any gains.
- Leads to overestimating their knowledge and understanding of complex issues based on superficial news coverage.

Thinking is tiring. Actionable advice for how to think (and when not to):

- If the potential harm of a decision is small—don't rack your brain, errors won't do lasting damage. Let initiation take care of the decision. This also works for decisions inside your "circle of competence"
- If the decision is meaningful:
 - Be rational and reasonable. Slow down and think critically.
 - Use a checklist to look for thinking errors
 - Rely on large sample sizes and long trial periods.
 - Research average success rates (base rates) and seek out people who have tried and failed to understand why they failed.

*This executive summary is composed of both verbatim excerpts and summarizations from **The Art of Thinking Clearly** by Rolf Dobelli.*

Resources and Additional Reading

1. The Black Swan
2. Thinking Fast and Slow
3. Predictably Irrational
4. The Signal and the Noise

Thanks to Adam Smith for writing this Executive Summary. Adam is a United States Air Force Pilot and former Headquarters Air Force Staff officer.

If your office or command is in need of one book or a hundred we would be honored to [source them](#)