

Winning the Brain Game

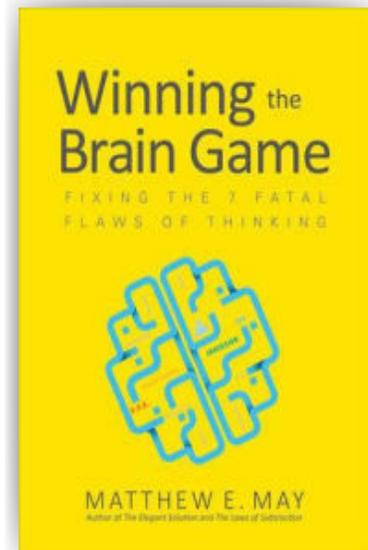
Fixing the 7 Fatal Flaws of Thinking

Matthew E. May

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KEY CONCEPTS

According to Matthew E. May, the human brain is susceptible to seven fatal thinking flaws that can prohibit effective innovation and problem solving:

1. *Leaping*: When the brain automatically jumps to a suboptimal solution. To activate the brain's slower, more thorough thinking system, professionals must frame problems as puzzles.
2. *Fixating*: When the brain can see a challenge only one way. To see a problem, product, or company in a new, innovative light, professionals must flip or invert all of its standard attributes.
3. *Overthinking*: When the brain is so focused on finding the right answer that it cannot be creative. Professionals must relearn how to engage in trial and error experimentation like children do.
4. *Satisficing*: When the brain settles for the "good enough" option. Instead of making either-or decisions, professionals must try to develop solutions that include benefits from both choices.
5. *Downgrading*: When the brain devalues goals that appear too hard to achieve. Instead of giving up on a goal, a professional must learn to connect its underlying purpose with the achievement process.
6. *Not Invented Here*: When the brain resists any ideas produced externally. Professionals must learn to deliberately and regularly seek input from a variety of creative individuals outside of their organizations.
7. *Self-censoring*: When the brain shuts down creativity in an effort to play it safe. Professionals must learn how to be more attentive to the moment and try to see their creative selves from the perspective of an objective outsider.

SUMMARY

INTRODUCTION

Although the human brain is capable of great things, it is also susceptible to a variety of unproductive thinking patterns. In **Winning the Brain Game**, Matthew E. May defines the seven fatal flaws of thinking that kill innovative ideas and prevent professionals from developing effective solutions to today's biggest problems. Drawing on psychology and neuroscience, May explains the cause of each of these flaws as well as the techniques professionals can implement to prevent them.

PART ONE: MISLEADING

Leaping

The *leaping flaw* occurs when the human brain is faced with a complex challenge and immediately jumps to a less than perfect solution. Leaping is the result of the brain's *FAST circuit*, or its unconscious thinking system. Built on patterns of information that the brain has encountered over time, the FAST system is responsible for instinctive, seemingly thoughtless responses like catching a ball. Meanwhile, the brain's *SLOW circuit* is designed to handle effortful, conscious, and rational thinking. Despite being generally more effective at solving complex issues, the SLOW circuit is the brain's system of last resort.

When the brain views something as a problem or threat, it defers to the FAST thinking system. When something appears to be a puzzle, the brain engages in SLOW thinking. Professionals can prevent themselves from leaping to ineffective solutions by framing their work challenges as puzzles rather than problems. To accomplish this, they must engage in the practice of *framstorming*, a combination of framing and brainstorming. Professionals can framstorm by taking these three steps:

1. *Cue the language of questions.* One of the most effective ways professionals can tap into their brains' SLOW thinking system is by transforming challenges into compelling questions. The questions should be actionable, ambitious, and force them to look at their challenges in a new way. For example, when Netflix CEO Reed Hastings faced the challenge of developing a new kind of video company, he asked the question, "Why should people have to pay video rental late fees?"
2. *Generate questions.* Professionals must generate as many "why," "what if," and "how" questions about their challenges as possible.
3. *Pick the two best.* Once professionals have formed a master list of framing questions, they must select at least two that will get them into the innovative solution brainstorming mindset.

The cure for Fixation is what I call Inversion because it involves flipping your thinking around in order to see things through a new, fresh, and unique lens, in turn sparking new neural connections in your brain, effectively rewiring it.

Fixation

The *fixation flaw* is the brain's inability to look at something it is already familiar with in a new or different way. An unconscious thinking pattern that results in myopia, fixation can wreak havoc on professionals, companies, and even entire industries. For example, in the 1980s, General Motors' sales declined because its executives could not break out of the mindset that cars of style and status were more important to customers than quality. General Motors also could not see that foreign cars were a threat until it was too late.

When the human brain records experiences, it sends sensory information, or *grey matter*, to its cerebral cortex. There, the brain works to find connections and patterns in the sensory information. Such patterns become fixed *mental models*, or mindsets that people unconsciously use to make sense of the world the around them. These

mental models cause fixation and are difficult to break out of. Once people see something a particular way, it takes a great deal of effort for their perception to change.

The key to overcoming the fixation flaw is *inversion*, which requires professionals to flip their thinking and see challenges or innovation opportunities through a different lens. By doing so, they spark new neural connections in their brains. This process of rewiring the brain to think differently is known as *neuroplasticity*. To implement the inversion technique and subsequently overcome the fixation flaw, professionals must take the product, service, or company that they are trying to improve and completely flip its attributes. The following example of trying to see a traditional circus in a new light illustrates how the three steps of inversion can lead to innovative ideas:

1. *List the company or product's defining attributes or "sacred cows."* A traditional circus has clowns, multiple tents, animals, cheap tickets, and shows intended to entertain children.
2. *For each attribute, list the extreme opposite or reverse.* The opposite attributes of a traditional circus would include no clowns, one tent, no animals, expensive tickets, and shows intended to entertain adults. In other words, Cirque du Soleil.
3. *Framestorm/brainstorm.* Using the list of "opposites" or inverted attributes as jumping off points, people should start developing "why," "what if," and "how" questions in order to imagine the product or company in a new or different way. For example, "Why does a circus have to have clowns?" Or, "What if there was a circus for adults?"

We overthink for several reasons, including an evolutionary addiction to abundant resources and institutional education focused on certainty and reliability in which the test comes after the learning.

Overthinking

When faced with the team challenge of building a 20-inch tower out of spaghetti sticks, a yard of masking tape, a piece of string, and a marshmallow in 18 minutes, most Six Sigma Black Belt executives fail. Kindergartners, on the other hand, excel at this challenge, often building towers exceeding the 20-inch minimum and succeeding in placing the marshmallow at the top of the tower as requested by the instructions. The reason that these two groups have such different results is because children are willing to engage in trial and error, while the Six Sigma Black Belts, determined to build the "correct" structure, fall victim to the *overthinking flaw*.

Children are more creative than adults because they do not have the same thinking patterns. Unlike adults, children do not try to control and regulate risk. They do not ignore the constraints of the challenges they face but instead

allow such constraints to fuel their creativity. Over time, however, they are educated to stop being creative and to instead find the "right" answers. Studies show that people perform better when they do not overanalyze a problem. Instead, they must allow their minds to explore and experiment.

A combination of prototyping and testing, *prototesting* can help professionals combat the overthinking flaw. This technique requires professionals to come up with a *prototype*, or hypothesis, about a problem that they are currently facing. Once they have developed a hypothesis, they must use it as a guidepost to run a series of tests or experiments. According to May, two powerful tools help facilitate the prototesting process:

1. *Surfacing assumptions.* Professionals must first ask themselves what must be true about their challenges in order to achieve the best possible outcome. These assumptions are hypotheses that must be tested one by one. The reason Six Sigma executives fail the tower building challenge is because they assume that the marshmallow will not topple the spaghetti sticks, never testing this assumption before they begin construction.

2. *Engaging in rapid experimentation.* Next, professionals must design experiments to test whether or not their assumptions are true. To design effective experiments, professionals must ask the following questions:
 - Which assumptions are they most worried might not be true?
 - Why is it so worrisome if these assumptions are not true?
 - What should they aim to learn through experimentation?
 - What is their testable belief about future value creation?
 - How will they test their assumptions?
 - What is the target metric that will indicate whether or not an assumption is true?

If you don't set out to win—however you define it—you most certainly will not think about how to do so.

PART TWO: MEDIOCRE

Satisficing

The *satisficing flaw* is the cognitive inclination to settle for the “good enough” solution when faced with a complex decision. It is the result of the brain wanting to go with the first option that provides an acceptable payoff at the quickest rate. Often times this occurs because the optimal solution or choice seems impossible to achieve. Although satisficing may be fine for choosing an item off of a lunch menu, it is dangerous in the context of business. When professionals try to solve complex problems with suboptimal solutions, they put their teams and companies at risk of failure.

The brain engages in satisficing because it does not have patience or a solid algorithm for decision making; therefore, it relies on *heuristics*, or rules of thumb, to make decisions. To achieve elegant, optimal solutions for complex problems, professionals must adopt a holistic perspective and brainstorm what is possible. One of the most effective ways they can achieve this is through synthesis. Where satisficing decisions are typically made with an “either-or” mindset, synthesis involves “both-and” thinking. It requires professionals to stop trying to select the “better” choice and to instead develop a solution that combines the best of both choices. Professionals can implement the *synthesizing technique* in the following two ways:

1. *Doubling down:* Professionals or companies achieve the benefits of an alternative choice by doubling down on their current strategy. For example, Walmart faced the decision of how it, as a bargain store, was going to increase its profits. Rather than raise its prices, it doubled down on its strategy of affordability by pressuring its suppliers to lower their prices.
2. *Decomposition:* Companies face two equally attractive solutions to a problem that appear to be in conflict. The *decomposition strategy* requires professionals to break both solutions down into their most essential components. These components can then be applied to different parts of the problem. For example, Target was struggling to compete with bargain chains like Walmart and fashionable retailers like Nordstrom. Rather than choosing one of these competitors’ strategies over the other, it created a split strategy that borrowed from both competitors by becoming a discounter-plus-retailer. This meant it had affordable household and grocery items like Walmart and fashionable clothing like Nordstrom.

Downgrading

The *downgrading flaw* is the devaluation of a goal that proves to be more difficult than previously thought. Downgrading is comparable to satisficing, except that it is a premeditated revision of a stated goal. Downgrading can cause people to stop putting effort toward their goals or to give up altogether. When a goal is seen as unattainable, people go through four phases:

1. Try harder.

2. Get angry. People go through this phase when they do not achieve results.
3. Resign. This phase occurs when people become mentally disengaged from a goal.
4. Commit to a new goal.

We downgrade our goals for several reasons, including a natural tendency to sell our capacity short, failing to construct goals with motive and means, and a lack of good old-fashioned grit.

Downgrading is a common phenomenon among marathon runners. Many will train for months to achieve their goal; however, once they experience setbacks during the actual marathon they undergo a mindset shift that results in them consciously devaluing their objective of crossing the finish line. Downgrading occurs when a goal appears to be unachievable or the person trying to achieve it does not possess enough grit. Neuroscientists have also found that in order for the human brain to become fully committed to achieving a goal, the goal's "why" and "how" must be clear and connected. In other words, people must understand the purpose of a goal as well as the steps they must take to achieve it.

One way that professionals can prevent downgrading is by *jumpstarting*. Jumpstarting occurs when professionals turn to alternate sources of thinking in order to revitalize the creative neurons necessary to achieve a seemingly impossible goal. The following are three effective jumpstarting methods:

1. *Can-if cascading*. Professionals must learn to replace "I cannot because" statements with "I can, if" statements. For example, instead of NASA saying that it *cannot* land a rover on Mars for \$150 million *because* landing modules are too expensive, NASA should say it can land on Mars *if* it can determine a way to do it without the landing modules.
2. *Why-how laddering*. When the "how," or the current method for achieving a goal, is not resulting in any significant progress, professionals should take a step back and ask themselves "why" they are pursuing their goals in the first place. The more defined and connected a goal's purpose and process are, the easier the goal is to achieve.
3. *The fresh start effect*. To achieve the *fresh start effect*, which is the energy enthusiasm that accompanies New Year's resolutions, professionals can use the *pulsing technique*. Pulsing requires professionals to work in 90-minute increments before taking a break and then working in a different workspace for the next 90 minutes.

PART THREE: MINDLESS Not Invented Here (NIH)

Not Invented Here (NIH) syndrome can seriously damage businesses. Defined as the automatic rejection of any ideas produced by someone else, NIH often causes companies to unnecessarily reinvent the wheel and fall behind their competitors. An example of NIH is the reception of former Google designer Chris Messina's idea of using the hashtag to filter content and create channels on Twitter. Like the invention of the telephone or Mrs. Field's cookies, many potential beneficiaries suffering from NIH mistakenly believed the hashtag would never catch on.

NIH is an acquired attitude that exists in the brain's FAST thinking system. The flaw becomes more prevalent when professionals develop expertise on a subject. In addition to fixed brain patterns preventing them from seeing familiar challenges in new ways, many professionals unconsciously believe that as experts they are the only ones capable of coming up with great new ideas in their fields. Professionals must deliberately look to others' innovations and solutions to gain insight into how they can improve their own operations.

A *Proudly Found Elsewhere* (PFE) mindset is the antidote to the NIH flaw. Thanks to Steve Jobs' PFE attitude, Apple enjoyed early success. Rather than believing that his engineers were the only experts in their field, Jobs openly stole and improved many hardware and software ideas from Xerox. To implement PFE as an ethical strategy, companies must create a *permeable boundary* around their businesses by setting the goal that 50 percent of their innovations or solutions will come from external sources. The intention behind the permeable boundary is to provide in-house innovators with new industry ideas and insights.

If creating a permeable boundary is not possible, professionals can find alternative ways to integrate the two most salient features of the PFE strategy into their work. These NIH-busting features include the outside-in flow of ideas and the inside-out connection with sources of new ideas. The following tools can help professionals take advantage of these features:

- *Open hackathons—bringing the outside in.* Professionals must invite a diverse, passionate group of people like designers, coders, and entrepreneurs together for a day or two to solve problems and produce a collection of new, innovative ideas.
- *Knowledge network—reaching out to connect.* Professionals should create a network of resources with the intention of exploring and harnessing the talents of others and bringing ideas into the company's repertoire. A knowledge network may include social media, events, thinking partners, organizations, and media.

One of the best places to launch a knowledge network is at a hackathon. And if you're participating in a hackathon, don't give NIH a second thought. Your flaw is fixed.

Self-Censoring

The *self-censoring flaw* occurs when professionals voluntarily reject their own innovative ideas because they are too afraid of making mistakes. The enemy of creativity, self-censoring is caused by the brain's *threat-protection system*, which keeps people from making harmful mistakes like touching a hot stove. However, sometimes this system goes too far by confusing creative risk-taking with actual danger.

At the root of self-censoring is *mindlessness*, which occurs when the brain allows the past to overshadow the present. To combat self-censoring, professionals must learn how to cultivate *mindfulness*, or the awareness of one's experiences in real time. Once professionals learn how to be mindful, they can more easily recognize when they are self-censoring their imaginations.

One of the most effective ways that professionals can consciously overcome self-censoring is through *self-distancing*. To employ this technique, professionals must learn to see and speak to themselves as they would another person. Rather than saying things like, "I will be fine," they must start saying, "Do not be nervous. You will do great!" By gaining psychological distance from themselves, professionals are not only more willing to take creative risks but are also more open to objective feedback.

FEATURES OF THE BOOK

Estimated Reading Time: 2–3 hours, 208 pages

In **Winning the Brain Game**, author and innovation consultant Matthew E. May provides a guidebook for overcoming the seven fatal thinking flaws that prevent most professionals from doing their best work. The book, which must be read in chapter order, illustrates the seven fatal flaws and their solutions by blending neuroscientific research with psychology and examples of real companies. **Winning the Brain Game** would be beneficial to executives and entrepreneurs.

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ABOUT THE AUTHOR

Matthew E. May is an award-winning author and noted thought leader on strategy and innovation. A popular speaker, facilitator, and coach, he works with individuals and organizations all over the world.

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