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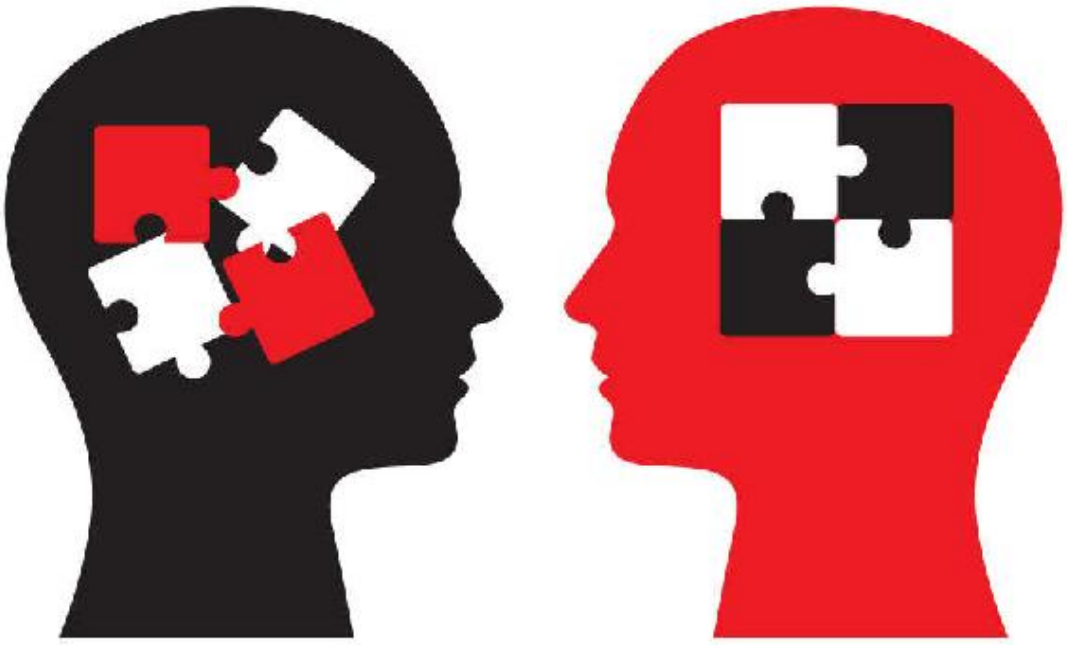
CRITICAL THINKING

Think Clearly in a World of Agendas, Bad Science, and Information Overload



IAN TUHOVSKY

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Author's blog: www.mindfulnessforsuccess.com

Author's Amazon profile: amazon.com/author/iantuhovsky

Instagram profile: https://instagram.com/mindfulnessforsuccess

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CONTENTS

CHAPTER 1:

Introduction

What differentiates us from other animals? Is it our ability to speak? To understand complex ideas? To think before we act? To make rational decisions?

Cameron Buckner, an assistant professor of philosophy at the University of Houston, had similar questions. He dedicated his research to evaluate the cognitive abilities of different animals and found that a variety showed some level of control (i.e., made conscious considerations before acting). [1] Through empirical research, he was able to show how matriarchal elephants in Kenya's national park determined threat levels of human intruders by considering their age, gender, and

ethnicity and how giraffes were not considered prey by lions in Africa, because they were aware of their defense mechanisms (a life-threatening kick was enough to have these lions reconsider). All this indicates that on some level, animals have executive control, just like us.

But for us, the critical ingredient for success goes beyond executive control. The distinct advantage we have is our ability to communicate using language. Through language, we access our metacognitive abilities; we think about abstract concepts and adapt our behaviors as the situation deems fit. We communicate our ideas, negotiate deals, conquer lands, achieve the seemingly unachievable, simply by using words and actions that are understandable to others. This has established us at the top of the hierarchy in the animal kingdom, but where do we go from here? Is our ability to communicate enough?

In the 1600s, Galileo was imprisoned for saying that the earth revolved around the sun, in the 1700s, many women were burned at stake for being involved in witchcraft, and most military leaders of the past relied on their readings and stars to gauge their success in battle and life.

When we were hunters and foragers, it was our quick instinct and ability to communicate that got us from point A to point B. Survival was the name of the game, and survive we did. We didn't need logic. We needed to be quick on our feet, eat or be eaten. We had to use our reflexes, sharpen them, and even join forces with others in a tribe to create the means for our survival. Those days have passed, but our reliance on our reflexes haven't. That needs to change.

In today's world, we have to look beyond survival, evolve from our primal instinctual decision making to a type of decision making that requires more careful thought, more deliberation. That is the need of the future of mankind. That is how we make room for the Galileos of the world. That is how we make sure we make decisions that are best for us in our daily lives.

And for that, we need to fight millennia of conditioning that has been ingrained into our very DNA. We have come a long

way. While we may still rely on reflexes to make decisions, it is far tougher to be locked up now just because someone believes you're a sorcerer. This means that we've moved on to a world where we rely more on fact than fiction, that instead of believing in dragons and warlocks, we want a deeper understanding of the world. This is where critical thinking helps.

But because scientific/critical thinking is still alien to most people, they have preconceived notions about it. For example, did you know that 95% of Americans are unable to explain how a scientific theory (e.g., Big Bang) is different from a statement like "ghosts exist"?[2] This means that their ability to critically reason is so limited that science and superstition are the same for them; this is why many of their decisions are rooted in fear.

Fear is a powerful motivator and is one of the many emotions that guides our choices in our daily life. One of the bonuses of critical thinking is making choices based on rationale and facts, not just emotion. Science does not say God does not exist, it says that it is not yet proven. This can be frustrating for people who have a more emotional approach to life and a static understanding of the world, but critical thinking challenges us to keep questioning so that our world view stays dynamic.

Some of our beliefs find their roots in early history. For example, we still talk about five senses, an idea that gained popularity as far back as 350 BC with the Greek philosopher Aristotle. In reality, we have around 14-20 senses, scientists disagree on the exact number.[3] There is proprioception, which is our ability to tell where our muscles are in space, equilibrioception, which is our sense of balance, kinesthesia, which is our sense of movement, and conception, which is sensing the passage of time. If we continue to go down this path and define senses as our ability to observe the outside world in connection to our body, then the number of things we "sense" and the way we "sense" them are unique to us and are far more than the basic five, yet those are the ones we are taught about. Many of our beliefs are archaic even if there have been studies to disprove them.

Did you know that rolling your tongue is not a genetic predisposition?[4] Alfred Sturtevant, a geneticist, introduced us to this idea and was disproved by another geneticist Philip Matlock just twelve years later through a study comparing a set of 33 identical twins.[5] He found seven pairs within his study where one twin could roll the tongue and the other couldn't. Despite being disproven just a decade or so later, it is still quoted in science books across the globe. At least this misconception wasn't life-threatening, but what about the ones that are?

Henry Faulds was a Scottish physicist and scientist who in 1888 wrote an article about how every person has a unique set of fingerprints.[6] The problem with this theory is that there is no way to prove this unless we collect and compare the prints of every single person who ever lived. A single fingerprint could be the cause of a wrongful criminal conviction creating cause for concern with the legal system. Simon Cole, who is a criminologist at the University of California, published a study in 2005 that presented 22 cases where people were wrongfully accused and, in some situations, even convicted BECAUSE of the assumption that fingerprints are unique.[7]

Scientific or critical thinking asks to constantly update our views, to make room for ways to improve. Long before we understood the universe, when the ancient man looked at the moon, he thought he saw a face. Now we know that we are looking at craters that are billions of years old. We can be sure that there's no man in the moon, because through telescopes, we have carefully examined the surface and disproved this hypothesis. That is the beauty of rational thinking, the ability to observe and evaluate all options and then choose the most probable one. With science, the possibilities are endless.

How is it that while scientists are evolving their learnings and constantly readjusting their worldview, the rest of us who think we know right from wrong are stuck with a primitive understanding of the world and what is in it?

Think you're different? Think again.

Have you ever rolled dice in certain ways and at certain angles because you think that will influence the decision? Or

have you found that when you have a certain opinion, other sources seem to corroborate the same idea? Or when you've checked your horoscope, it predicts your exact day? Often we prefer wrong information to no information, and we use it to justify our ideas and views. These are decisions made on impulse and emotion, not rationality. As humans, we look for patterns everywhere, and the greatest patterns we build are the ones we make ourselves. We are more swayed by a compelling story than by reality.

Consider the very popular modern-day folklore of Barney and Betty Hill.[8] In the '60s, the husband and wife made the news by insisting that they both were examined as well as abducted regularly by aliens in their sleep. Upon closer examination, doctors discovered that the scenes they described sounded a lot like the 1953 movie, *Invaders of Mars*. But it made great television. Much better than the rational explanation that people can experience visions, sometimes shared hallucinations occur because of fever, lack of sleep, or even changes in brain chemistry.

Our need for a powerful narrative is so strong that we neglect facts. Think of the number of TED talks, even political speeches you have been swayed by. What you focus on are the stories, not the numbers and figures, because the stories are rooted in emotion.

"But I'm not like that," you'll argue. "I listen to fact and figures, and data."

But what if I told you even facts and figures can be manipulated?

We quote "experts" who rave about the Atkins diet only to disprove it a decade later and then replace it with the next fad. Even though they are based on facts and figures, it is evident that the data is being used to justify not teach. The more facts, graphs, and charts you add to any idea, the more likely you are to find the pattern, even if it doesn't exist. That is how we are influenced, our power of storytelling can even seep into numbers and statistics. And once we are convinced of something, we use the information we receive to interpret it to

support the way we think (i.e., we use our cognitive abilities to justify our belief system).

Our inflated view of ourselves and our beliefs has repercussions. It's how bad presidents get elected, how we end up shopping for the items that weren't even on the list, how our retirement plans don't come true, and how even though we think we are open-minded people, we are inherently designed with biases.

When it comes to our prejudices, intelligence does not determine our rationality. What matters is our mindset and our ability to override our instinct. The more cognizant we are of our biases, the more likely we are to self-correct.

And that is all we are aiming for, the ability to gently steer ourselves in a direction where we create room to believe that we are fallible. It is not possible to be fully rational, nor should that be our aim. What we need to develop is the capacity for rational thought. Every day and every minute, you are making a multitude of decisions, and they all can't (and shouldn't) be well thought out. Nor should you eliminate emotional thinking. It is an important ingredient for creativity and motivation, the stuff visionaries are made of. Emotions are only a problem when they are outside the realm of our conscious awareness. That is our undoing and what can taint our judgement.

Rational thinking is important when the stakes are higher. I am less likely to care about what color of socks I pick for my run than I am about the president I vote for. The latter is the decision that I have to live with for a full term, and so I have to weigh the pros and cons, evaluate the policies, see the actual quantifiable benefits I will receive, look at the candidate's actions, not just words, outwit us versus them mentality, and then make a decision that is best suited for me at that particular time.

Similarly, if I choose to make investments in the stock market, I have to accept that the stock market will change and there will be good days and bad days, but I have to stay put, because what goes up must come down.

It is not fair that you are subjected to this constant self-evaluation, but it is a necessity, because you are not alone in the belief that you are rational, or that you are smarter than the average person, or that you don't fall victim to the same biases that everyone else does. We live in a world that is based on systems that corroborate that belief. In a way, we are set up for failure, and while we can hope for a world that accounts for actual human behavior, chances of that happening are slim. What we can do is understand the pitfalls likely to come our way as a result of emotional thinking and safeguard ourselves against them.

Since rational thinking is not dependent on intelligence or factors out of our control, cultivating it becomes easier. We can become more critical of the world around us by developing a critical understanding of ourselves.

Take a second to think about yourself. When are you most likely to think rationally and where are you likely to be overwhelmed by emotions? In situations where you become emotional, what direction do you take? What are the thoughts that begin to spiral in your mind? What are the different states you experience?

Lucky for us, we are not clueless about rational thinking and have experienced it more and more in our lives since the Scientific Revolution in the 1600s. What scientific thinking has done is allow us to engage in a healthy amount of skepticism, enough for us to make room for good ideas while siphoning out bad ones. Galileo did this, as did Copernicus and Newton, and through their understanding of the world, we began to tread on a path of rational and evolved thought, leaving the ways of superstition behind.

But the dangers still lurk for us if we are not guided by conscious reasoning. It is very easy to fall into the trap if we do not evaluate the root of our decisions. And I don't just mean impulse buys at the shopping mall or our questionable retirement plans. The decisions we make may perpetuate certain societal beliefs, especially if we base our decisions on ego and our biases. Without meaning to, we might inadvertently encourage many of the world's evils. We need to

adopt a more rational point of view so that we don't have a bigoted view of the world, so that we don't promote racism, so that we don't keep making the rich richer and the poor poorer.

Here is the point that I am certain I have lost you. Yes, racism, hatred, bigotry, all of them exist, but not with you. You are enlightened, you don't let emotions cloud your judgement, you are liberal in your beliefs. And maybe you are right.

But what if you're not?

As a rationalist, your behavior has to be guided more by conscious reasoning than your beliefs about that behavior.

Through this book, we will understand how multiple systems exist in the world that are designed to make us make bad decisions. We will evaluate those systems, and our choices within those systems, to see how deeply and systematically irrational we all are in our choices. We will discuss how our need to find patterns makes our world view simplistic, how we'd much rather rely on coincidence than fact, how our emotions are based on memory and our predictive systems can fail us, how we are primed to make certain decisions through subliminal messages, fear, and loyalty, and how our group-think behavior is rooted in our survival mechanism.

But I am not just here to tell you what's wrong with your belief system. I'm also here to show you how you can train yourself to ask better questions and then make better decisions. Not only will we evaluate how the world's system operates, but we will also evaluate our internal systems, what the biases are we fall victim to and why, when those biases are handy for decision making, and when we need to think a little more deeply to get the most out of life.

Because ultimately, that is the reason you are reading this book. You want to make decisions that will improve the quality of your life, and that is what we'll aim for.

You are a creature of nature, explaining away your actions, rationalizing your behaviors, answering questions about your life that you don't have the answers to. You have been telling yourself stories, the same anecdotes that I mentioned earlier, but they are all the more powerful because you are the

narrator, and you know what you need to tell yourself to be convincing. You have been telling yourself a story for as long as you could use words, and you are so convinced of it that it will be difficult to talk yourself out. You have created shortcuts and through that, your brain has created experiences that allow you to whizz through the day.

And that's okay. But now let's add another layer to the story, the one that makes for compelling narration because you, the narrator of your story, will now observe your life and choices from an intellectual curiosity, one that will expose the underlying principles and thoughts behind your decisions. You will understand the battle in your mind between intuition and logic. You will understand that there is a place for both. You will dig deeper.

You will make better decisions, because this time you will seek to understand both yourself and the world.

I hope you're ready.

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SECTION 1:

OUR BIASES AND WHERE THEY STEM FROM

CHAPTER 2:

Interoception

Before we understand our biases, we need to rethink our understanding of emotions. When we realize that a lot of how we feel is drilled into us, not just something we are born with, it gives us a choice, a sense of control over how we function and the influence we exert over our daily decisions.

Let's start by asking ourselves a simple question. Are you in favor of genetically modified food?

Chances are your mind immediately gave you an answer. Most likely your answer was no.

Now let's evaluate that decision. If you adopted a completely rational approach, you would have first considered both the advantages and disadvantages of modified food. Once you finished that, you would have considered the list of positives and ranked them in order of importance. Then you would have multiplied each with the probability of those advantages occurring. Next, you would have repeated the process for the cons list. Once you arrived at a number for both the lists, you'd subtract the pros and the cons, and there you'd have your answer. If the answer was greater than zero, you would view genetically modified food favorably and if less than zero, you wouldn't.

Now I will take liberties to assume that your approach to answering this question was not as methodical, that your answer was "no" or even "yes" as soon as you read the question. So was mine. Most people do not have the time of day (or the inclination) to evaluate decisions so painstakingly, which means that we are not as rational in our decision making as we'd hope.

Often we rely on our mental shortcuts that are stimulated by certain emotions. What was the first thing that came to your mind when you read the word "genetically modified?"[9] Studies show us that even markets can be impacted by these emotions. A study conducted in 2003 by finance researchers David Hirschleifer and Tyler Shumway showed us that twenty-six major stock exchanges' daily performance was impacted by the amount of morning sun those places received.[10] When the sun shone, positive emotions were triggered, and billions of dollars flew in.

Happiness, sadness, greed, jealousy, we think of these emotions as inborne, something that emerges from within us that needs to be mastered. Here is where our understanding of emotions is incorrect; emotions differ for different people and are constructed by our mind and culture in a way that is far more nuanced than our depiction of them.

Again, this belief is rooted since the time of Aristotle, carried forward right through to modern-day thinkers such as Steven Pinker and even Dalai Lama. This passive understanding of

emotions is taught to us and reflected in media in a way that makes us believe that these emotions are universal. The idea that we all have the same emotions and experience them, in the same way, is known as essentialism—the belief that everything has an underlying essence that makes them what they are.[11] This leads to erroneous thinking.

Before Darwin, people believed that each species had essence and any variation from the same was an error. Darwin challenged that belief by pointing out how a species is not just one ideal individual but a variety of different individuals. While Darwin's theory was validated to then trickle into mainstream media and shape our understanding of genes, in many fields, essentialism is still a widely accepted idea. As an example, for a long time, scientists believed that emotions resided in different parts of the brain. This means that our brains were pre-wired with certain feelings (e.g., if "anger" neurons were triggered, our body would physically respond with a scowl or a red face).

Lisa Feldman, author of *How Emotions are Made*, decided to evaluate this in her laboratory. She analyzed brain-imaging between 1990-2011 and divided the human brain into cube-like pixels, and within each cube, she examined brain activity to see when the patient experienced fear, anger, happiness, or even sadness. What she found was that the emotion region of the brain increased its activity even with non-emotional thoughts and perceptions. In simpler words, the same emotion can be experienced in different ways. When you think of sadness, the feeling can range on a wide spectrum (grief, regret, and pain to name a few), and all of them are experienced and exhibited in different ways.

Despite this, companies continue to spend money to identify emotions through physical signs such as facial expressions, body changes, etc. In 2007, the Transportation Security Administration (TSA) agents wanted to find potential terrorists based on their facial and body movements. Not only were they unable to do this, but they also spent 900 million dollars of American taxpayers hard-earned money.[12]

The truth is that emotions are created as a response to a person's own experiences. This is especially hard to grasp because we have been hardwired to believe that emotions are natural and triggered involuntarily. But according to the Theory of Constructed Emotion, emotions occur in different areas of the brain at the same time based on a person's history.[13] Responses to situations are created based on the anticipated sensory inputs for vision, hearing, and even taste. The brain then uses the input to either agree with the prediction or to alter it. It "constructs" a reality based on past as well as sensorial experiences.

For example, if somebody eats the sandwich you left for yourself, your response to it could vary, and each would come with its own set of neural patterns as well as bodily changes. If you had a difficult day where everything went wrong and that sandwich was going to be a saving grace, you might slam the door, shout, bang your fist, make an exasperated sigh, or walk off. Or, you could simply scowl and vow to label your food the next time. It is possible to have a wide range of responses to similar life events depending on what the emotional and situational context is. Much like Darwin's theory, this theory of emotions also diminishes our understanding of "essences." While our memories may exist and cause us to be predisposed to certain emotions, we are the architects of our own experiences and have the liberty to design them as we please.

Being an architect means that a blueprint exists. This is true for most of what happens in our body; we rely on our memory to make decisions we don't want to consciously think of. How often do you turn into your driveway wondering how you got home?

Our memory is the result of an autopilot system known as "interoception."[14] This system helps our body run like a smooth operation by managing our immune system, our nervous system, and our hormones. By running this tight ship, it allows us to disengage and not be conscious of what's happening at all times. It is also why we mistake our emotions to be innate.

The interoception system processes our internal and external sensations at all times and creates data that is then used as emotions. It's experienced by us in two affects, pleasure/displeasure and agitation/calmness.

To understand this concept, close your eyes and imagine the perfect day at the beach. Feel the soft white sand as you curl your toes into it, feel its warmth, feel the sun beaming down at you, smell the salty air. Now imagine a different scenario. Think of a time where you were severely ill. Maybe you had mumps and were down and out in bed or had a terrible stomach. You'll experience affective feelings in both respects, but you are not experiencing the actual emotion. Either of the situations doesn't make you happy or sad.

This is the part of our emotions that are understood by scientists to be innate. For example, babies wail and laugh from birth so they can experience the affects of both pleasure and displeasure. What our interoception system does is regulate our body budget to make sure that our resources aren't depleted, and several different parts of the brain work alongside to implement it. This network is made up of two components:

1. Body-Budgeting Region

   This is the area that uses past experiences to determine what the body needs and then sends the body instructions to control the internal environment (e.g., asking the heart to speed up).

2. The Primary Interoceptive Cortex

This is how the internal sensation feels (e.g., pounding when your heart speeds up).

Together these two networks form a feedback loop to keep regulating the body. It is what ensures that your heart rate, cortisol, and glucose are in control. From this state, your emotions are then stimulated. You need not be actively doing something. For example, your boss just walking by behind your screen can be enough to cause you some agitation, even if he or she doesn't say anything. In that situation, your

interoception system will let your body know that it requires more energy.

Sometimes our bodies may not have the resources to regulate us, in such a case, this sets off emotions. In such a situation, an affective system could be intimated (e.g., displeased and that feeling could then be associated with fear).

The word "associate" is key because often our concepts around emotions are created through society and culture. In Tahitian vocabulary, the word "sadness" doesn't exist. The closest is a word that means "the kind of fatigue associated with flu," and in Urdu, the word "shame" doesn't exist, and the closest word associated with it is "sin." So many such cultural conventions have evolved. Kissing on the lips as a means to show affection is a concept that developed over time, and smiling was not used to display happiness in ancient Greece and Rome. The smile was an invention of the Middle Ages.[15] This shows us that our worldview is shaped by our environment. Once we understand the context, we understand that the emotions we experience are culturally charged.

At least through this new understanding, we know that these emotions that we feel daily aren't even universal, we've learned them through observation. Beyond our affective systems, emotions are explicitly taught. Our brain takes those learnings, combines the new with the old, and learns to recreate new concepts by shaping old ones.

By evolving our learning process, we become adept at distinguishing between actual emotions and emotional concepts, which helps us regulate them at critical decision-making times. If we practice enough, we can even better distinguish between spectrums of emotions (e.g., distress from discomfort or excitement from anxiety). As a child, we might have been petrified of standing up with pins and needles in our foot, but as an adult, we know that discomfort won't last as long. By understanding our experiences, we can understand our emotional context and use it to create new, more positive experiences. And we can also understand that much of how we experience emotions has been learned and can, therefore, be unlearned.

Awareness is the first step to understanding.

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CHAPTER 3:

The Bystander Effect

So before we move on to our biases about the world, let's first examine the beliefs we may have about ourselves. Our irrational beliefs begin with the ones about ourselves (e.g., our belief about our inherent goodness). Most of us believe that we make good choices, are wronged by others, and help out friends in need. But do you know who you would be in a crisis? Research suggests that if there are more people around you in times of calamity, the less likely you are to extend a helping hand. You'd pawn the responsibility off to someone else. This phenomena even has a name: The Bystander Effect.

This idea was first evaluated through the real-life tragic story of Kitty Genovese, who was a victim of a thirty-minute long knife attack in the middle of a New York parking lot while up to 38 witnesses ignored her cries for help.[16] While the media might have had a role to play in sensationalizing the story, the crux of it was enough to pique psychologists' interest, mainly because this wasn't a once-in-a-lifetime occurrence.

It happened in 1968 when Eleanor Bradley fell and broke her leg in a department store while for forty minutes people stepped over her until a man finally stopped to see what was wrong, and in 2000 when a group of young men attacked sixty women in a parade in Central Park, New York while thousands of people looked on.[17] It happens around us every day, and often we are the bystanders.

John Darley and Bib Latane, two psychologists, set out to evaluate this behavior, only to learn that if there are more people there to witness a person's distress, the lower the chances are for someone to step in and help them.[18] In their first experiment, they decided to keep stakes low and dropped coins and pencils in a room. They conducted this in groups or sometimes with just one other person. They did this over 6,000 times only to discover that they got help 20% of the time in a group, 40% of the time when there was one other person.

They decided to take this one step further. In their next experiment, they asked one participant to fill out a questionnaire. Within a few minutes, smoke would begin to fill the room, entering through a vent in the wall. This experiment had two versions, one where the person was alone and the other where two other people were also filling out the questionnaire. When people were alone, it took them five seconds to act, but within groups, it took people around 20 seconds to even notice. When alone, the participant would go and examine where the smoke was coming from and then inform the experimenter that something was wrong, while in the other, people were oblivious or refused to act until the smoke was thick enough to impact visibility. In total, three people out of twenty-six in the group experiment did something about it, and even so it took them six minutes to rise to action.

I think what's distressing for most of us is that while we assume ourselves to be moral and assertive, our behavior doesn't always live up to our beliefs. Think about yourself on a daily level. Has there been a time where you saw someone in trouble and you didn't stop to help? Why is it that some people are more likely to help than others?

The first cure to The Bystander Effect is understanding why we fall victim to it. One reason is our assumption that we don't need to take responsibility if there is someone else willing to assume it instead of us, and the second is people's need to behave in a manner that is socially acceptable. When other people fail to act, individuals think that they don't need to act either. Group cohesiveness comes into play since, in a crisis situation, things often seem chaotic, and people look to others to figure out how to act. When they see no one else react, they believe that they don't need to take action. Onlookers are also less likely to intervene if the situation is ambiguous (e.g., in Kitty's case, people believed that she was having a fight with her lover and did not realize that she was being murdered). And even if some people realized she was being murdered, it is a natural reaction for a person to go into shock if they witness violence; that is usually how we respond when we see a situation that scares us.

Charles Garlfield, a clinical professor of psychology at the University of California, tried to examine the difference between bystanders and people who showed "moral courage."[19] Turns out, often there are only very subtle differences that separate a bystander from a morally courageous person. We all have the potential to fall in either category, and it's only minor details of a certain situation that can push us in either direction.

A major contributor to this research was a psychologist named Ervin Straub who took keen interest because of his own experiences as a Jewish child in Hungary during World War II.[20] Ervin would have been killed in the Holocaust had it not been for his family's Christian maid, Maria, who risked her own life to shelter Staub and his family while 75% of Hungary's Jews were killed by the Nazis. He dedicated his life to gather what motivated her to put her own life at risk; his

research was a spin on the studies that had been started by Darley and Latane.

In his experiment, a study participant and a confederate were placed in a room together and were to work on a task together. Soon after, they heard crashes and cries of people who seemed to be in trouble. The confederate dismissed it and said it sounded like a tape, which could have been a part of another experiment; only 25% of the participants went to the next room to help. BUT in the situation where the confederate said it sounded like something bad was happening, 66% of the participants took action. In the case that the confederate asked the participants to check where the sound was coming from, every single one attempted to help.

Another study showed Staub that kindergarten and first-grade children were more likely to respond to the sound of distress when they were in pairs compared to if they were alone. Unlike the adults that were studied in Darley and Latane's study, the children talked about their fears and then joined in to help. Similar to how passive bystanders make us believe there is nothing wrong in a situation, an active bystander can get people to focus on a problem and then do something to take action.

Samuel Oliner, a sociologist and a Holocaust survivor, conducted a study known as "the altruistic personality" where he interviewed more than 400 people who had rescued Jews during the Holocaust.[21] The study began in 1982, and a team of investigators devised a questionnaire to interview more than 400 rescuers who lived in Italy, Poland, Germany, France, and elsewhere before and during World War II. They also interviewed 124 non-rescuers (i.e., bystanders who claimed to have helped or worked with resistance groups, but there was no information to suggest that) as well as 15o rescued survivors. Through the research, they discovered that while chance and awareness did play a part and create an opportunity for the rescuers (many of them had Jewish friends before the Holocaust), there were also certain personality traits that the rescuers shared (i.e., attachment and connection to others, a feeling of responsibility for other people's plight). The bystanders were paralyzed by fear because of uncertainty and

were emotionally distant from others, which created ample room for passivity.

So what does that mean for us? Just because some people are naturally inclined in a certain way does not mean that we are incapable of taking action. It's important to understand The Bystander Effect, because in life we often take the passive approach. Our way of contributing to the betterment of society cannot be to let someone else do the hard graft work. Our world has become far more convoluted, and now passivity is as good as ignorance, and ignorance can inadvertently cause evil. Our awareness of our natural tendencies leaves room for us to act.

And what differentiates us from the primal humans of the past is our ability to take action, to help the person across the road, to not be paralyzed or motivated by fear, to deviate from the pack, to create a new path, to not fall into the easier way of living (i.e., not living at all). In a world where we are all on auto-pilot, from our emotions to our actions, we need to wake up and to examine our choices, our inherent beliefs, and the spillover they cause in the world. Our ability to examine ourselves and our biases can lead us to create meaningful change by sowing the seed for our rational self. It already exists within us right alongside our emotional self.

16 Mc. Raney, David. *You are not so smart*, Chapter 10, p. 164.

17 Mc. Raney, David. *You are not so smart*, Chapter 10, p. 163.

18 Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*.

19 https://greatergood.berkeley.edu/article/item/we_are_all_bystanders

20 https://greatergood.berkeley.edu/article/item/we_are_all_bystanders

21 https://greatergood.berkeley.edu/article/item/we_are_all_bystanders

CHAPTER 4:

The Law of Least Effort

Our choices and interactions are led by our inner systems. Like good and evil, black and white, Jekyll and Hyde, our systems also exist in contrast to one another and create compelling stories within our minds. Think of the systems as characters. System 1 relies on emotion, impulse, and intuition, while System 2 relies on thought and careful consideration. These two systems interact with one another and these interactions determine our behavior, our decisions, our worldview, and their consequent results.[22] Let's take a look at both of their operations.

Think of a time you heard a loud sound, jumped up startled, and looked around for a threat. That is System 1 kicking in. It is a result of evolution, and it operates from a place of innate knowing. Our ancestors used this ability to survive, move rapidly, and make quick judgements that allowed them to live to see another day; it is why we are here now.

Now consider solving the following math problem: 436 x 55. This would require more deliberation. To solve this problem, you would multiply the two numbers step by step to reach the right answer. For that, you would require System 2, the system required for careful thought and deliberation.

To simplify, there are two ways in which you can make decisions. You can either base them on a feeling, or you can process the information and arrive at a conclusion. Both work, it's just that using feelings to make decisions is faster. Because we need to make quick decisions every day, we often rely on System 1's astute ability to recognize patterns. But if we rely mainly on pattern recognition to solve problems, it can lead to poor and sometimes even irrational results.

Daniel Kahneman's, the Nobel Prize Winner, explores this concept in his book *Thinking Fast and Slow*. Try solving the following mathematical problem:

A bat and ball cost $1.10. The bat costs one dollar more than the ball. How much does the ball cost?

If you reached a response quickly and your answer was $0.10, you reached this conclusion because System 1 took control and answered before System 2 even had time to comprehend what happened. It ended up answering too fast, and therefore did not understand the problem fully.

Now try to solve this question again, but this time do it step by step. (The correct answer is $ 0.05).

Our systems are designed to help us conserve energy, which is why System 1 does most of the difficult work. It only makes room for System 2 in situations it can't understand. But our systems can often be deceived, and in the problem stated above, System 1 was duped into thinking the problem was

simpler than it was. Because it assumed it could handle the problem on its own, it ended up making a mistake.

Although well-meaning, System 1 also encourages lazy thinking. It minimizes the energy we use for every task and employs what is known as the Law of Least Effort.[23] The problem with this law is that while System 1 solves the problems, it doesn't consult with System 2 and sometimes makes incorrect assumptions.

System 2 is an important part of our intelligence and by practicing tasks that require us to use it, we can learn more focus and self-control, which then leads to greater intelligence scores. For example, with the bat and ball problem, had we taken the time to think, we would have come to the right conclusion. Because the math isn't complicated, all we needed to do was check in with the other system. But by not using it, we ended up limiting the strength of our intelligence.

So now that we know all of this, which system would you choose for decision making?

If the answer is System 2, you have fallen prey to the same trap. System 1 was trying to make the easy decision for you, telling me what I want to hear so that I'd stop asking difficult questions. But if you thought about it, you'd find that both systems have their place in our lives.

System 1 is automatic, and yes I'll admit, impulsive, but it is still able to function and synthesize complex patterns of ideas (our experiences and understanding of the world do count for something). System 2 allows us to order them seemingly and logically. Both systems are agents that have their strengths, limitations, and roles.

System 1 is what we have in common with other animals. It allows us to recognize objects, to operate out of fear, and to minimize our losses, and the more experiences we collect, the more adept it becomes at arriving at conclusions. It does this by making associations and linkages. But while it allows us to arrive home safely unaware of the route we've driven because of sheer repetition, it also tells us to avoid subways in Paris because we got mugged at a subway there once. That is where

System 1 is dangerous, where it jumps to a conclusion based on logical fallacies.

Here, we have to spend some time and effort to understand the situation. Using the example before, while we may have been mugged at a subway in Paris, it is unlikely that we will get mugged every time we use the subway there. While it is probable, it is not to be expected. This type of thinking has to be cultivated and requires effort on our part. Some people argue that to learn how to use System 2, we have to engage in close, focused attention, but that's not true. If our attention is too focused, we could miss out on things happening around us that may be of interest.

Christopher Chabris and Daniel Simons explored this idea with an experiment in their book *The Invisible Gorilla*. In their experiment, they observed a group of viewers who watched a video of students passing basketballs back and forth. They had to count how many times the players who were in white T-shirts passed the ball. Once they were done counting, the subjects were asked if anything unusual caught their eye. Half of them said no. What they didn't realize was that by paying such close attention, they missed a person who stood in the middle of the court dressed like a gorilla pounding his chest before scurrying out again.[24]

From the above example, we can see that attention that is too focused can have its consequences. This is why we are told not to use cellphones while we are driving. If our attention is too stretched, we won't be able to react to danger (ordinarily, this is where System 1 can kick in to help us swerve and avoid any untoward accidents).

For best results, the two systems divide tasks between one another. Both are activated as soon as we wake. System 1 bustles around in the background, conserving our energy and taking automatic decisions, while System 2 engages on minimum capacity. System 1 provides different suggestions to System 2 in terms of impressions, intuitions, and feelings, and if these are endorsed by System 2, they are then converted into beliefs. If all is well (which it mostly is), System 2 accepts System 1's suggestions with very little changes.

But in cases where System 1 runs into a problem, it calls on System 2 to evaluate the situation in more detail. This will happen in case the system is caught off guard or encounters a problem that requires more conscious attention. Here, System 2 will spring to action.

The gorilla experiment shows us that for us to notice something out of the ordinary, it needs to catch our attention for the surprise stimulus to be activated. If surprise would reorient your attention, you would activate your mind to sift through different memories to form a story and make sense of the event.

System 2 also allows us to reflect on our behaviors and to make conscious decisions to act in a certain manner. For example, if your boss doesn't like your work, you can't rip it up and tell him to do it himself. Before you utter those words, System 2 will rush to your rescue and will recommend that you politely ask for areas of improvement. Its job is to eliminate potential mistakes. While a lot of what System 2 does and thinks originates in System 1, System 2 gets the last word when the going gets rough.

True to their functions, between the two of them, the systems minimize the effort expended, and this works especially with short-term predictions and challenges. But System 1's biases can cause systematic errors in specific circumstances, especially because it has little understanding of logic and statistics.

When the two systems cooperate, our story is calm, and our lives move along peacefully. But when conflict arises between an automatic reaction and an intention to control, our narratives become more challenging. How often have you found yourself reading a page over and over to pay attention? What about when someone walks through the door and your friend tells you not to turn around? I'm sure you can't help but sneak a peek! One of the many tasks of System 2 is to look after our impulse control and to exert self-discipline.

Judging by how quickly we react in those situations and the fact that we can't just "switch off" that mechanism, our ability to overcome these reactions doesn't seem promising. Errors

caused by our intuitive thinking are difficult to predict. Sometimes our biases can't even be avoided because System 2 does not have enough information to form a logical response. There might be cues in a certain situation, but if we are not privy to them, our system will not be activated. For System 2 to monitor an activity, it first needs to be aware of the situation. Otherwise, System 1 is likely to take over and solve the problem for you, as is the case with the bat and ball question.

What makes the process of decision making difficult is that both systems are prone to bias. System 1 can provide the right information, which can be processed poorly by System 2, or System 1 can gather biased information, which System 2 can process correctly. In both cases, you'd reach the wrong conclusion. In some situations, both System 1 AND System 2 can make errors!

This kind of constant vigilance can be exhausting, and to constantly think about how we think would be too tedious, and quite frankly too slow. System 2 cannot substitute System 1. System 1 cannot replace System 2 because many of our decisions would be based on "superstition" or widely held beliefs.

At best, what we can do is recognize situations where we are more likely to fall prey to mistakes, and avoid mistakes where it has negative repercussions.

Consider the high stake decisions of your life. Are they investment-related? Are you trying to save for your child's college fund? Are you trying to pay your mortgage? Are you finding that you are spending far more than you are saving, but it's justified because every purchase is a necessary one?

Don't fall for the trap. Let the two systems work in tandem, let them integrate experience with new stimuli to make your decision making purposeful and effective. Remember that while the "reasoning" system is a method of calculation and shows us what the consequences of our actions can be, System 1 or the "feeling" system can guide us as to whether that "consequence" is desirable.

Just as Darwin disproved essence, Lisa Feldman told us that emotions can be created.[25] Daniel Kahneman's theory also shows us that the two systems are not tied to any specific area of our brain. They work together, complement one another, and lead to situations where we make more efficient decisions. It is our dependence on System 1 to create a simpler understanding of the world that causes us problems that create havoc in our lives.

So now that we have brought System 2 to life, I want to encourage you to fight the lazy mind and answer the following questions:

1. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?
2. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half the lake?

Can you feel the conflict between the two systems?

22 Kahneman, Daniel. *Thinking fast and slow*. Chapter 3: “The Lazy Controller,” p. 45.

23 Kahneman, Daniel. *Thinking fast and slow*. Chapter 3: “The Lazy Controller,” p. 46.

24 Chabris, Christopher. *The invisible gorilla.* Chapter 1: “I Think I Would Have Seen That,” p. 16.

25 Feldman, Lisa. (2017). *How emotions are made.* Chapter 3: “The Myth of Universal Emotions,” p. 33.

CHAPTER 5:

Heuristics

Our mind tends to come up with shortcuts not just to allow us to spring to action but sometimes also to help us contextualize certain situations. This ability to quickly form an opinion about our surroundings is known as heuristics.[26]

Heuristics play a huge role in our problem-solving as well as decision-making abilities. For a greater part of the day, these processes are very helpful (they tie in superbly with System 1 and help us get through a lot of decision making without the hassle). If we began to analyze every single decision we made, we would never get any work done. Questions like what you should wear, should you take the other route to work, and what

you should eat for breakfast can all be decided by using heuristics. When you know there is a roadblock on your regular route, your mind can quickly compute all the other ways in which you can get from point A to point B. That is its key benefit, helping us make decisions about mundane tasks quickly so that we can spend our time focusing on more important decisions. But these shortcuts can also lead to hasty decision making. To best protect ourselves from these heuristics and use them to our advantage, we need to know what they are:

1. Availability Heuristic

This is when decisions are based on what we are easily able to bring to mind, not necessarily what is true. For example, you may want to travel to Thailand, but your friend who went got grievously ill after eating their street food. You might begin to doubt the hygiene levels, and this might influence your decision to consider an alternative holiday spot, like Vietnam instead. The availability heuristic planted a fear, not based on reality but on the information you could easily bring to mind.

2. Representative Heuristic

This is when you decide by comparing a present situation to a prototype in your mind. For example, maybe you had a great relationship with your teacher who helped you through school. If you see someone similar, you might assume that person to be as dedicated, thoughtful, and kind.

3. Affect Heuristic

This involves making choices that are influenced mainly by the emotions that a person is experiencing at one particular moment (remember affective behavior?). For example, people are likely to see decisions to be more positive and less risky when they are in a good mood. Negative emotions cause people to look at potential downfalls instead of benefits.[27]

4. Substitution Heuristic

This is when we answer an easier question than the one posed to us. For example, with a question like "Adam is going to apply for the lead role. Do you think he will be up to the task?" we will substitute the question that we're supposed to answer with an easier one like "Does Adam seem like the kind of person who could be a leader?" This means that instead of looking realistically at Adam's accomplishments, background, and previous leadership roles, we will ask ourselves whether he matches our "mental prototype." In case he doesn't, we might reject him, even if he is a worthy candidate.

5. Anchoring Heuristic

This is when we rely heavily on the first piece of information we are given when making a choice, even if it isn't the most relevant. We anchor the likelihood of any event as a starting point and then make adjustments. For example, when a salesperson quotes high prices and works his way down, it is because he is trying to convince the consumer that he is getting a great deal when he finally offers a lower price.

6. Peak-and-End Heuristic

This is when we judge our past experiences on how they were at their peak and how they ended. In this situation, we discard any other information (pleasant and unpleasant as well as how long the overall experience lasted). What we remember are two main details of the experience—the peak and the end.

7. Base-Rate Heuristic

This is when we make a decision based on probability (i.e., a statistical base on which other statistics rely). A great example of this is covered in Daniel Kahneman's book *Thinking Fast and Slow*. Think of a taxi company that has 20% yellow cabs and 80% red cabs. If you ordered a cab and had to guess the color, you would have to remember the base rates to make an accurate prediction. We often ignore the base rate in our decisions because we want to focus more on our expectations than

the probability of the occurrence of an event. In the case of the cabs, if you saw five red cabs, you would begin to feel that maybe the next one would be yellow. No matter how many cabs pass, the probability will be higher for red given that it accounts for 80% of all the cabs. Had we kept the base rate in mind, we would have realized this. Everything eventually tilts back to the mean, even in cases where there is a variation, it always moves back to the average.

8. Satisficing

This is a strategy where the first option satisfies certain criteria, and we make that choice even if better choices may exist. For example, when prices of plane tickets plummet, you buy a relatively cheaper ticket even though chances are you could find better deals if you searched more.

While heuristics are not a formal problem-solving method, they can be used either alone or combined with others to sometimes find a solution, mainly through a process of trial and error. Although useful, over-reliance on them can cause us to make incorrect judgements or biases. That is because they might offer rapid solutions, but that doesn't mean that these solutions are long-term in nature.

To fully understand the flaws and complications of heuristics, we can look at a hypothetical case of Audrey.[28] Audrey is a hypochondriac who takes many vitamins to tackle her "health problems," but a recent study linked these vitamins to a high risk of death. Up till now, Audrey had assumed her good health was a result of these vitamins and her friend agreed; the friend went as far as to say that the study was incorrect and she should ignore it. Since she has a strong emotional investment in the decision (literally life or death), it is likely that the choice that she makes is irrational or not based on thorough enough research. She will use heuristics and give in to her common pattern of thinking. Because she is emotionally attached to vitamins, she will likely give in to her bias in favor of what her friend said and reject the study entirely, becoming a victim of affective heuristics.

Hypochondria itself is a mental illness where a person has a deeply irrational fear of illness, so Audrey's fear and anxiety is likely to be high in any case. The vitamins give her a sense of security (which may very well be false). This way of thinking will further be compounded because of another category of shortcuts known as intuitive toxicology. This is people's incorrect conclusion that chemical compounds are either entirely safe or entirely dangerous, there is no in-between. This sort of simplified decision making also causes people to ignore the complexity that is associated with chemical health risks.

If Audrey falls prey to this all-or-nothing mentality, she will either think they are fully harmless or too toxic. This kind of belief will increase her emotional investment even more. This kind of heuristic links belief about risk and benefits (i.e., if people believe something is a high risk, they also believe the benefit to be low, and they find it very difficult to see that one item can be both). In this case, if Audrey believed that her vitamins are high risk, she'd convince herself that they are a low benefit and begin to believe that she was actively harming herself and that her vitamin taking regimes had no benefit at all.

In such a case, she'd have to question her life-long consumption and would be more inclined to prove the study wrong. That's because we think more deeply about evidence when it contradicts our beliefs. In this case, she is likely to be skeptical about the report, its findings, and its methodology, because she disagreed with the conclusion of the study. In certain cases where people's beliefs are challenged by conflicting points of view, they start relying on their prior beliefs to guide them.

Now to prove that she was right in taking vitamins all along, she would start looking for evidence that validates her belief. She will easily believe the evidence that agrees with her point of view but aggressively scrutinize contrary evidence. She could also use a representative heuristic to measure her opinion. She might base her opinion about the effects of heuristics on her previous experience of them, where they alleviated her concerns about her health. She would not be

required to think deeply about the nuances of her decision (i.e., how much she should be taking, to what level they were helpful, where they became harmful, what damage she may have already inflicted on herself through continued usage). Instead of having to make several tiny decisions, she would make one swooping one about the study; it was wrong and she was right.

Decision making is a complex thing. Audrey's emotional reaction dominates her rational thought process, and her reasoning is then impacted by several general heuristics. While she can take the time out to disengage from these shortcuts and conduct thorough research that allows her to come to a more conclusive and unbiased result, chances are she won't because they confirm what she wants to believe, and that holds for most of us.

Warren Thorngate, a social psychologist, used ten decision rules or heuristics and tested them in a computer program.[29] He looked at how each heuristic selected different values from highest to lowest in randomly-generated decision-based situations. He found that most of the simulated heuristics chose the highest expected value and seldom selected the lowest expected value. This shows us that if we continue to rely on heuristics for our decision making, we will opt for the easier conclusion, not the correct one.

Cass Sunstein, a legal scholar, pointed out how people search for familiar problems and then apply it to solutions of much harder problems (as was the case in the Audrey scenario). We are all victims of bias, especially if the issue at hand has such an emotional connection to us. But by knowing the kind of impact heuristics can have on us, we can choose to engage in critical thinking to overcome our biases.[30]

In situations where there is a possibility of making an easy choice, we have to actively adopt a more systematic approach to processing information, which requires more analysis, as well as curiosity. This is just the beginning; our shortcuts and understanding of the world are based on context and bias. To cultivate rationality, we need to examine what our biases are in our daily life, nor just when it's a matter of life or death.

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CHAPTER 6:

Confirmation Bias

Have you ever met someone and thought, “Wow, my first impression of you was right!” Do you believe you have a natural knack for understanding people and their intentions? While we all believe that our understanding of people and the view of the world is correct, on some level we are all victims of confirmation bias. Think of confirmation bias as a “Yes Man,” the voice that believes everything you say and somehow finds that all evidence points to the same. Truth be told, it is an art to interpret information in a way that our previously held beliefs remain steadfast. It is one of the most dangerous of all the misconceptions we hold and one that all

of us suffer from to some degree.

Let's consider the news for example. We have political opinions, or even personal opinions on celebrities' love lives, but we don't seem alone in those views. Many people, we argue, seem to have the same analysis as we do. We can't be wrong if the world also sees it the same way? Here we leave out a crucial factor, that the news and websites we favor are the ones that have the same values as us. This means that we actively seek out a community of people who have the same beliefs, like-minded people who deepen our understanding of the world. Sometimes, that opinion is not just limited to our world view but also on the information we believe about ourselves.

It is this very bias that encourages people to believe in horoscopes. This concept was tested by psychologist Bertram Forer.[31] He created different personality readings from a combination of different astrology columns and then gave them to his students as individual, personalized assessments. When the students looked at these "customized" results, they judged them as 86% correct.

The same result can be found if we are asked a leading question. If someone says, "Is Anna likeable?" chances are that you are going to consider Anna to be so because your mind immediately confirms the idea—it is eager to make a quick decision. But this false suggestion and over-simplification might lead you to make an incorrect assumption about her.

You won't even realize that you're making the wrong assumption because your brain will come up with enough stories to explain your feelings. Maybe you saw Anna help an old lady cross the road once, and that has formed your opinion. What you might neglect to note is that Anna could be mean to animals. Whatever your opinion is, chances are you will explain away your actions through a story. We seek "confirmation" for our beliefs and ignore everything else.

In his book *You Are Not So Smart*, David Mc. Raney discussed a study that took place in a department store. Here, nylon stockings were arranged, and the subjects of the study

had to rate their quality just by looking at them. The majority chose the stocking that was towards the right. Here's the catch —all the stockings were identical. When these people were then asked to explain their choice, they commented on the texture of the stocking, but not one of them mentioned the position as the reason for their choice. Even when they were asked outright whether the position influenced their decision, the subjects answered with certainty that the placement had no impact whatsoever.

That is how unaware we are of how biased our decisions can be. If our decisions don't add up, we get creative with our rationalizations and move onto something else.

Even when we read articles, our objective is not to learn something new, it's to validate an existing notion. Through a customer buying trend report during the 2008 U.S. presidential election, Amazon discovered that people who purchased books with positive views about Barack Obama were already supporters of his campaign.[32] In short, these people weren't looking for information, they were looking for validation.

Even our memory isn't reliable in these circumstances. The way we recall events also supports our beliefs and conveniently leaves out details that don't fit our narrative.

Another study was conducted where two groups were presented with a day-in-the-life story about someone called Jane. The way the story was narrated could indicate that Jane could be introverted AND extroverted both.[33]

After a few days, one group was asked whether they thought Jane would make a good librarian, and the others were asked if she would make a good real estate agent. Since the first group remembered her as an introvert, they told the researcher she'd be better off as a librarian, while the other remembered her as an extrovert and said she would be a great fit as a real estate agent.

Now, in this case, the confirmation bias led the subjects to remember details that confirmed the question. They weren't considering the contradictory parts of the story that would allow them to arrive at a different answer. At the end of the

research, when they were questioned and even informed of another choice, the respondents still insisted that Jane wasn't suited for the other job.

We carry this opinion into the stereotypes we form about people too. If you believe all artists to be free-spirited, if you meet such an artist, your mind will applaud you for being right.

This mode of thinking can dictate our entire worldview. Now in some cases, confirmation bias also provides us with excellent evolutionary advantages. The reason we are susceptible to confirmation bias in the first place is that it is an efficient way to process information. We are bombarded with so much information daily that it is not possible to carefully evaluate all the information we are given. Sometimes we need to process information quickly for our survival, or even to protect our self-esteem. And there is nothing wrong with finding information that recalls a preexisting belief or hypothesis. It is only negative if that bias ends up giving us the wrong answer, which in turn produces negative consequences.

The definition for confirmation biases matches scientific thinking in some ways. For both, we are "searching" for information that "confirms a hypothesis." It is when we are fixed in our understanding of that hypothesis that this type of thinking can be faulty.

The impact of confirmation bias is interesting to evaluate. In the book *Research in Psychology: Methods and Design*, James Goodwin provides a great example of confirmation bias, especially in the context of extrasensory perception. People who believe in ESP will put two and two together, even when it doesn't exist. For example, there could be situations where when they thought about a certain person, that person ended up calling. Based on these far and few between coincidences, they will begin to believe that they can predict the unpredictable. What they will not look at is the number of times they may have thought of the same person in the past, which didn't result in a phone call.

Personal beliefs aside, confirmation bias can also have negatives impacts on our professional lives. Peter O. Gray

explains this concept in his book *Psychology* through the example of a doctor's diagnosis. If a doctor has jumped to a particular hypothesis as to what disease a patient would have, then they would look for evidence that tends to confirm that particular diagnosis without looking at other evidence that could perhaps negate it. This can cause the doctor to come up with faulty assessments and in life or death situations, such a diagnosis can have serious repercussions. Doctors (and medical practices in general) would benefit from a course that introduces the idea of inductive reasoning so that the doctor would be aware of his biases. This would lead to him making fewer diagnostic errors. Even a patient's reaction to a diagnosis is a result of confirmation bias. A patient is more likely to agree with a diagnosis that supports their preferred outcome rather than a diagnosis that doesn't.

Other life or death situations include our judicial system. Even judges and jurors are not above personal grudges or preconceived opinions based on their beliefs. In the famous book *Midnight in the Garden of Good and Evil*, John Berendt wrote about Jim Williams, a bourgeoise middle-aged man, who had been convicted for killing a young boy who worked for him. Jim Williams was convicted TWICE for the same crime. Both times he was convicted within days, not because of damning evidence (the same evidence could be construed in multiple ways), but because of the town's beliefs. At first, Jim was thought to be guilty by people who were envious of his newfound wealth; these people were soon joined by another set of people who learned about Jim William's sexual orientation.

When they found out Jim was gay and the murder could be a crime of passion, they were quick to change their opinion, even though they knew the young boy who was murdered to be violent and temperamental.

Twice convicted, the third appeal for mistrial was a difficult one, and Jim's attorney had to make sure that he was able to convince the crowd. Upon research, the attorney found that Jim's homosexuality or wealth would not have any impact in Denver. The people of Denver had no opinions about either.

He was able to build a strong narrative (using the same facts and evidence), and Jim was finally vindicated.

We may not face life or death situations in our line of work, but confirmation bias still trickles into our lives. Imagine the following scenario. Your boss has an idea to launch a new product. He knows exactly what he wants to launch, and so he makes his team come up with a feasibility report based on adequate research. You might think this is an unbiased approach, but even the research displays confirmation bias. His opinion might even trickle into the way you and your team handle that research. You might find yourself crafting the questions you ask in the research on what he wants to hear and even crafting the product the way he wants, not necessarily the way you should. You are not letting the data do the talking, you are talking for it.

Do you see the dilemma? Confirmation bias is inescapable, and it is a part of lives in capacities big and small. But there are ways in which we can sidestep it.

To make more informed choices, and to limit our biases, we can ask neutral questions or play devil's advocate. By arguing a point from another extreme, or by asking questions that aren't leading, you will find a more balanced opinion.

Looking at two sides of a story is important because it provides perspective. Who you perceive as bossy might be perceived by another as a leader.

To actively disengage with your patterns, put yourself in someone else's shoes. Imagine life from another point of view, break the information bubble that you hold so dear. Outside of it exists an entire world. Don't be afraid to dip your toes in it, you might just learn something new.

31 Dobelli, Rolf. *The art of thinking clearly*. Chapter 14: “Why You Should Keep A Diary,” p. 108.

32 Mc. Raney, David. *You are not so smart*. Chapter 3: “Confirmation Bias,” p. 78.

33 Mc. Raney, David. *You are not so smart*. Chapter 3: “Confirmation Bias,” p. 80.

CHAPTER 7:

The Halo Effect

In 1920, American psychologist Edward L. Thorndike made an interesting observation through experiments he conducted among servicemen.[34] He discussed these experiments in his paper titled "The Constant Error in Psychological Ratings," where commanding officers were asked to rate their subordinates on several traits such as leadership abilities, character, physique, and intelligence without having spoken to the subordinates. The results showed that the service members who were taller and more attractive were rated as more intelligent and better soldiers, which led him to conclude that when people see one outstanding trait in a

person, they form a positive opinion about the person's whole personality without any real knowledge of the same.

More than two decades later, another experiment conducted by a Polish-born psychologist, Solomon Asch, verified this theory. He found that people form opinions about others based on the initial information they receive about them. These first impressions are so deeply entrenched in their minds that any subsequent impressions don't have as strong an impact.[35]

He tested this hypothesis by giving participants two lists of the same adjectives with the order reversed. The first list had adjectives listed from positive to negative, while the second list had adjectives listed from negative to positive. He discovered that people's ratings depended on the order in which they read the adjectives. As it turned out, the adjectives that were presented first had more influence on the rating than the adjectives that were presented later. If the positive traits were listed first, the person was viewed favorably, and if the negative traits were listed first, the person was rated less favorably.

Judging by these two experiments, the halo effect is quite aptly known as the "physical attractiveness" stereotype and the "what is beautiful is also good" principle. This way of thinking isn't just limited to looks, it can also spill over to include other traits. For example, because we view celebrities to be popular, talented, and well-liked, we also assume that they are kind, generous, and interesting. While in certain cases this can be true (who doesn't love Tom Hanks?), the halo effect can lead us to be biased in our judgement of a person's qualities. Religious interpretation of a halo is a ring of light that bestows light on the saint, bathing them in pure, heavenly good, and our literal interpretation of it is quite similar. When we view someone through the lens of the halo, our impression of them overshadows who they are in their entirety.

The fact that attractiveness plays a role in us forming first impressions comes at a price.[36] While certain people credit positive qualities to attractive people, others make negative assumptions about them based on the same attributes. For

instance, they may view attractive people to be vain, manipulative, or even dishonest.

The halo effect can have an impact on many different situations. Research has found that it plays its part in a variety of situations ranging from education to politics and even to the workplace.

In fact, in certain education settings, teachers have more expectations from better-looking children.[37] A study looked at the academic records of more than 4,500 students and selected a group of 28 students based on their photo ID. These students were then rated from 1 (very unattractive) to 10 (very attractive).[38] The same students were then divided into three groups based on their attractiveness (i.e., below-average, average, and above-average). Researchers concluded that if they compared the students' grades between online classes versus face-to-face classes, the students who were rated above-average in appearance got significantly lower grades in online classes than in traditional classes. The halo effect works both ways.

Even students view teachers to be friendlier based on how attractive or likeable they are. This was explored through a study done by Richard E. Nisbett and Timothy DeCamp Wilson.[39] The two researchers conducted an experiment on college students where they were asked to evaluate a psychology instructor who they viewed on a videotaped interview. The instructor was to be judged on several different traits based on two interviews. The instructor was Belgian and spoke English with an accent. In one of the videos, the instructor was presented as likeable, flexible, enthusiastic, and respectful of his students. In the other, he was rigid, cold, and distrustful towards the students. After watching the videos, the subjects were asked to rate the lecturer on his physical appearance, mannerism, and accent (his mannerisms and accent were the same in both the videos). The students who saw the "warm" version of the lecturer believed him to be more attractive, his mannerism more likeable, and his accent more appealing, while the ones who saw the "colder" version viewed him negatively. What's more is that when they were asked to evaluate how much their personal opinions weighed

in on their rating, the students were surprised to learn how influenced they were. Both groups had liked the lecturer's style of teaching and had not realized how unconsciously they had formed opinions on him based on their first impression.

We encounter similar scenarios in the workplace. A report in the Journal of Economic Psychology found that attractive food servers earned $1,200 more in tips than their counterparts who weren't deemed as attractive.[40] It is not a coincidence that this idea of attractiveness boosts a person's self-worth and leads to their financial security.[41] Think about how deeply the halo effect drives your work life. It should start making sense now how supervisors rate certain subordinates favorably in appraisals and reviews based on one positive contribution rather than their overall performance. Have you ever heard employers talking about finding someone who is a "cultural fit?" Often that's just code for someone likeable and enthusiastic and does not have as much bearing on their skill and ability.

Not only can the halo effect be used for hiring and playing favorites, but it also affects business strategies. Joe Marconi wrote in *Reputation Marketing* that books that have "Harvard Classic" written on the front can charge twice the price of the same book that doesn't have the Harvard endorsement. The same applies to the fashion industry. Often when you walk into designer stores and you read the labels, you will find that the clothes are made in Sri Lanka/India/Pakistan, but because they are found in a well-known fashion designer's store, the price can be severely inflated, even though the labor that produced it was far cheaper.

The halo effect and our tendency to form these perceptions is a type of learned behavior that we all experience from the time we are children. Think about the conditioning that even Disney is responsible for. Through fairytales such as Snow White and Cinderella, we learn that goodness and beauty are linked, and the evil-doers are often the "ugly sisters" or "wicked stepmothers." This belief can trickle into our expectations from our partners and how we find beauty and goodness to be synonymous.

While we are all privy to this behavior, being aware of its influence on your judgement can allow you to assess situations carefully and therefore make more rational decisions. Once you are aware of it, you can also reduce the influence through various "debiasing" techniques.[42] Many of the underlying principles of the techniques are similar, and as a result, the strategies are related.

One way to reduce bias would be to alter the way you present information. That way you would change the way people understood it. We believe in stories, we tell/listen to stories, we are stories. Presenting the same information in two different ways to the same person can lead to two different outcomes. Just by modifying how you convey a message, you can reduce a certain amount of cognitive bias. You can even use this technique at work. Some bosses are more easily convinced through facts and figures, while others rely more on anecdotal information to make their decisions. By modifying the way you present data and showing it in a way that is easy to understand, you can reduce their reliance on anecdotal data, and encourage the decision to be more rational. You can do this by crafting the information in a way that encourages people to think rather than react intuitively. That in itself goes a long way in reducing cognitive biases.

Certain people are also more inclined to simple explanations than complicated ones. Many people are likely to reject complex explanations as it allows them to believe that there can be a simpler alternative. A study was conducted to test this idea where people were told to think of ways in which a past event could have turned out differently.[43] People who were told to list only two ways in which the event would have turned out differently found the task easy and did not end up suffering from hindsight bias (ability to predict events), whereas people who were told to list ten ways in which an event could have turned out found the task difficult and experienced a significant amount of hindsight bias.

While we want to prime the listener/reader/viewer to think, we also don't want to inundate them with information. We want them to think of a few options, and then give them the time to think about it. Many biases can be mitigated if only

you give yourself time to process. When you reflect on your reasoning process, you are more likely to think through different viewpoints and not rely too heavily on intuition. One way to do this is by setting a couple of routines or a system check, which allows you to slow down. Instead of reacting immediately, let the initial reaction subside, and then approach the situation again so that you can look at it from a fresh pair of eyes.

Another way to encourage people to take more accountability without letting their opinions get in the way is involving them in a decision-making process. This increase in accountability will also encourage them to make better decisions. Also, discuss and get feedback from one another by asking people specific questions. Additionally, looking for flaws in a reasoning process can help you arrive at a more balanced answer.

You will find that health gurus always tell you to “alter your environment” when you are trying to change your habits. And they’re right. By creating a “nudge” in a certain direction, you can hinder a certain pattern of decision making. For example, if you go towards the fridge on a Friday night, and you find hummus instead of chocolate, you will be reminded of the choice you need to make.

You could also change the incentives related to certain decisions. Maybe you could reward non-biased thinking with positive social feedback, or you could increase the penalties for biased thinking. While human cognition is complex, and this approach can seem antagonizing, there are situations where such kind of thinking can help. For example, maybe you have a subordinate who you don’t like as much and who doesn’t share the same interests as you but is excellent at her work. By letting her lead a project, you might just make your team look good and have a hands off-approach, even if you don’t have as much in common.

And most importantly, when making unbiased decisions, you have to improve both your internal and external conditions. Many internal factors impact our ability to think such as sleep deprivation, fear, multitasking, etc. Meanwhile, external

conditions such as social pressure and high noise levels can also impact our cognitive capacity as well as demands. While there is no such thing as a perfect condition, even minor changes can help you adopt a more balanced approach. Internal conditions and creating a psychological distance is especially important because memory is subjective. Often we view situations based on what was important to us, not to the other people involved in the same memory.

Remember that biases are a result of patterns, patterns of thinking that have deviated from rationality based on how our system works. Altering even in the smallest of ways can lead to amazing results.

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CHAPTER 8:

Probability and Presentation

“Probability” is a difficult concept to grapple with because when we are making decisions, we want to make sure that we are 100% certain of our choice. As a result of this, people tend to completely ignore the numerous possibilities that lie within each decision and go from 0 to 100 when making these choices. Now if the world were black and white, that wouldn’t be as problematic, but it isn’t, which is why this kind of thinking is likely to cause some level of disappointment.

One of the most common types of biases, when we talk about probability, is neglect of probability (i.e., our tendency to completely overlook probability when deciding with

certainty). This kind of bias is most common among children; a study was conducted in 1993 by researchers Baron, Granto, Spranca, and Teubal where they presented children with the following situation.[44]

"Susan and Jennifer are arguing about whether they should wear seat belts when they ride in a car. Susan says that you should. Jennifer says you shouldn't … Jennifer says that she heard of an accident where a car fell into a lake and a woman was kept from getting out in time because of wearing her seat belt and another accident where a seat belt kept someone from getting out of the car in time when there was a fire. What do you think about this?"

Baron transcribed the conversation with one of the subjects:

"A: Well, in that case, I don't think you should wear a seat belt.

Q (interviewer): How do you know when that's gonna happen?

A: Like, just hope it doesn't!

Q: So, should you or shouldn't you wear seat belts?

A: Well, tell you the truth we should wear seat belts.

Q: How come?

A: Just in case of an accident. You won't get hurt as much as you will if you didn't wear a seat belt.

Q: OK, well what about these kinds of things, when people get trapped?

A: I don't think you should, in that case."

The subject was asked to evaluate the situation in which he disregarded the probability of an accident happening versus the probability of getting hurt by the seat belt when it came to making the decision. In such a case, we would have been advised to weigh the changes within each option by the probability of each option occurring, something that the subject did not even consider when concluding.

Another subject responded to the same question with a different analysis:

“A: If you have a long trip, you wear seat belts halfway.

Q: Which is more likely?

A: That you’ll go flyin’ through the windshield.

Q: Doesn’t that mean you should wear them all the time?

A: No, it doesn’t mean that.

Q: How do you know if you’re gonna have one kind of accident or the other?

A: You don’t know. You just hope and pray that you don’t.”

Even in this case, the subject does not carefully evaluate probability in making the decision and treats each possible outcome as equal when it comes to his reasoning.

With children, it is easy to understand how this kind of thinking can dominate their decisions; they have not yet begun to grasp the complexity of life and decisions. In fact, it is during teenage years that humans develop the cognitive ability to comprehend abstract thoughts.

But what about adults?

An experiment was conducted in 1972 where participants were divided into two groups where the first group was informed that they would be given a slight electric shock while the second group was told that there was a 50 percent chance they would receive an electric shock.[45] When the physical anxiety of both subjects was measured, there was no difference between the two groups. This remained the case even when the latter group’s chances of being shocked were lowered to 20 percent then ten and five. The conclusion was this: people respond to the expected gravity of an event, not its likelihood. We do not intuitively understand probability.

This bias further manifests itself among adults when it comes to complex choices such as medical decisions. Especially in decisions where one possible outcome has a higher utility but a small probability of occurring, this bias could drastically alter the decision making and not for the better.

Upstate New York has a neighborhood by the name of Love Canal, which became very important in the late 1970s because of very popularized concerns regarding abandoned waste that was causing medical issues in the area. As a result, the U.S. federal government set up a program to clean up the sites without actually examining the probability of illness. When controlled studies were conducted, these showed that there was little evidence to suggest that the waste would be a menace to people, but even then the anxiety of the residents remained.[46]

We can also witness this anxiety in current times. In November 2019, coronavirus was a virus we heard of that had impacted a province in China. By February, the world began to see its impact, and it was unprecedented. Peaks in illnesses, deaths, world in a lockdown, industries in crisis, this is something that most people alive today have not ever lived through. Conflicting reports are shared daily on the way the virus can be transmitted, and up until now, none of us has a real clue as to the level of threat the coronavirus poses. But many of us are scared beyond belief, because we expect our risk to be far higher than it is. This, too, is a result of "neglect of probability." When something grips us emotionally, be it positive or negative, chances are that we direct all our emotions to it and pay less attention to the real question at hand (i.e., how likely is this to occur).

Since the disease is new, we don't have enough information, and it CAN be fatal. This is enough information for us to trigger probability neglect. This has two profound effects. First, if the disease is not contained soon, it is going to cause a lot more fear and cause far more economic and social displacement than is necessary. People will take precautionary steps in the long run (i.e., not travelling to certain places, not interacting with certain places), which can bring the economies down as a whole. The second impact is the amount of excess fear that is being put in the hearts and minds of people based on what they see on their screens.

To give you an example, think of a small city that is watching global news, constantly bombarded with facts, figures, and sometimes false rumors. Maybe one person is affected by the

virus, and that is enough to let the fear spread. The risk of infection may be low in the city, maybe as low as any other risk, but because there is so much information flying around, they are likely to believe the risk is far greater than it is. By informing people with appropriate facts and figures and not using a blanket approach, that level of anxiety that we are all experiencing can be alleviated. On the flip side, people who walk around without taking precautionary measures need to err on the side of caution too; just because the risk is lower in certain areas does not mean that we don't need to take necessary measures. This all-or-nothing mentality makes decision making easier but not necessarily accurate.

In matters of life and death, fear is a natural by-product, and people act irrationally when afraid. But even when they have a chance to gain something, they don't evaluate probability as thoroughly as one would hope. In 2016, Rolf Dobelli, a Swiss author and businessman, presented a choice between two games of chance:

You have a one in a 100 million chance of winning $10 million.

Or

You have a one in 10,000 chance of winning $10,000.[47]

Which would you choose?

While the more rational choice would be the second, most people would choose the first. Although the probability of winning that much is lower, the emotional excitement associated with the amount is so great that we would adopt our good ol' all-or-nothing approach. This way of thinking can have a serious impact on our psychological well-being, on our interactions with people, and in some cases, even our biases towards other people.

After 9/11, many people refused to fly because of the amount of fear they had, even though they were statistically not anymore at risk after the attacks than they were before.[48] People were more at risk during long-distance drives than flights, but the fear was too strong to make that kind of link. This fear-mongering can also impact how we view other

people, and our biases can also trickle into our preconceived notions about race, illogical as they may be. Fear is one of the strongest ways to bring about us versus them mentality, and when we feel someone else could be responsible for our peril, we would much rather fall back on our biases than use probability to answer the questions for us.

The problem also arises when data is presented to us in a certain way. Our bias is not just limited to probability but all numbers. The way we judge ideas or even approach problems has a lot to do with how information is presented to us. For example, people will consider a rare event to seem more likely if it is expressed to us in terms of relative frequency rather than the statistical probability.

In an experiment known as Mr. Jones experiment, two groups of psychiatric professionals were asked if it was safe to discharge Mr. Jones.[49] The first group was told that Mr. Jones had only 10% probability of committing a violent act, while the second was told, “Of every 100 patients similar to Mr. Jones, 10 are estimated to committing acts of violence.” Twice as many respondents in the second group denied the discharge.

So what does this mean for us in our daily lives? How can we safeguard ourselves from these biases that seem to find us no matter where we look? In situations that require detailed thinking and analysis, we should take the due time and do the due diligence before arriving at a decision. And in other spheres, we should see how we can use this to our advantage.

In our daily lives, we can use this information in altering the way we present ourselves and our information. While gathering appropriate information is essential, how you develop and deliver the information is of utmost importance as well. To better connect with the audience, understand the kind of people you will be confronted with, and according to that, change the way you deliver your information. If you use the Myers–Briggs Type Indicator, you can divide people into four basic types:

Drivers: Those who want a lot of facts and are data-driven and to the point

Analytical: Those who love facts to be organized and love a spreadsheet

Expressives: Those who like fun and flashy presentations

Amiables: Those who love a story and like abstract concepts better than facts.[50]

By combining a variety of ways of delivering the same message, you can hit all the right notes, and engage the audience in a way that is suitable for you.

And in the case of your own decision making, remember that while it is easy to get caught up in the emotions of a moment, there is always a way through. Once you know that whatever it is you are experiencing will pass, you will be more likely to look at the situation at hand more thoughtfully, from a place of care and empathy. When you do, you will open the doors to reason and avoid biases that could cause you or others harm.

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CHAPTER 9:

Arbitrary Values and Their Impact on Our Decisions

If there's anything designed to throw rationality for a loop, it is the word "free." Think of the number of useless things you have stored at home on account of it, the endless number of key chains you brought home from a conference, the teddy bears you won at carnivals, the buy 1 get 1 free offer stacked in your bottom drawer just because it was "a great deal."

The best things in life ARE free, but they aren't manufactured, things such as walking in the park, spending

quality time with friends, getting fresh air, smelling flowers—everything else labelled "free" has a value attached to it. If nothing else, the biggest price to pay is our response because of the emotional pull the word has.

A study was conducted where people were given a choice between two chocolates—one was Lindt Truffles priced at 15 cents apiece and the other was Hershey's Kisses that was available for one cent apiece.[51] At these prices, 73% of people chose Lindt. But what do you think happened when Hershey's Kisses were dropped to zero and Lindt's were reduced to 14 cents apiece? Even though the price difference was identical in both situations, 69% of the people went for Hershey's, even though their initial choice indicated that they liked Lindt better. That's the power of the word "free;" we even forgo what we like to get it.

This is especially the case with us frugal buyers and for a simple reason—whenever we pay for an item, there is a risk associated with it. We don't know what we are getting, and if it is not worth the money, then it isn't worth the risk. We don't like missing out, and we certainly don't like losing. But when something is free, there is no flip side. Since we have no personal losses to bear, we perceive it to be much more valuable than it is. That is also known as the zero-price effect.[52]

Companies understand this impulse and they take full advantage of it. Because of "free deliveries above a certain amount," Amazon (and other companies like them) make a sizeable amount by encouraging people to order more than one item.

While there are negative connotations associated with it, we can also use the word "free" to push meaningful change. In the world of policymaking, the word free can encourage people to make decisions that could benefit them. No one likes to spend a fortune on yearly health checkups; they're too pricey, and even decreasing the cost isn't a powerful enough motivator. The impact of long-term consequences isn't visible enough, so what if these checkups became free? The same people who

were reluctant to take the tests would become advocates of sound health decisions.

Not only does the word “free” have us purchasing on impulse, but most of our beliefs about pricing are also irrational. Did you know that the first number you heard about a price is the amount you would pay for it later? That is how we decide how much we are willing to pay for something; our irrationality becomes far more complex.

Instead of looking at supply and demand and making practical decisions, we rely on an idea known as arbitrary coherence.[53] In this, no matter how randomly we arrive at a number, it is the basis to determine a reasonable price for all our future purchases. For example, if you are looking to buy a television set, the first thing you’ll do is try and deduce its value. If the first price you hear is $1,450, then all subsequent prices you hear need to be within the range of the first. Anything below $1,000 would seem like a steal, and anything above $1,800 would not be worth your attention (even though you don’t know where the number 1,450 was derived from).

We easily use price as a base constructed on a number we most recently thought of. This impact also trickles into people’s decisions when they are bidding for products during auctions. If people write the last two digits of their security numbers down before bidding, and by chance the last two digits are high, the person will be willing to pay a higher price for the items, whereas a low number will have the opposite effect.[54] Think about all the times you have browsed for an item on Amazon and stumbled upon a price. You will view every other version of that item with the same lens as the first. If anything is priced out of that ballpark, you are likely to eliminate it. Our estimation of what something is worth is not based on concrete facts.

Sometimes we are likely to overvalue the worth of something, especially if we own it ourselves. Let’s consider an experiment conducted at Duke University.[55] It is a mission for students to get any tickets for basketball events. Students have to camp outside of the stadium for days just to participate in the lottery for the tickets. Right before the lottery, the group

seems to have equal odds. All of them have a fair chance of winning the ticket, all of them have worked the same amount, so they all agree on the ticket's value. Now, as soon as the lottery is over, this seemingly homogenous group splits into two—people who won the tickets and those who didn't. Now this division (also made randomly) has a large impact on the tickets and their valuation. The students who won the ticket don't sell it for anything less than $2,400, while the students who hadn't won them wouldn't buy them for more than $170. A difference of $2,230 over a decision not even in their control.

How is it that people who agreed on the value disagree so vastly on it once the division has been made? It's because we love what we own. We start viewing its value in its entirety, for instance, in this case, the person who has the tickets starts thinking of the experience of attending a basketball game, or they think of all the things they could do with the ticket. For the seller, the focus changes to what we are losing (buying something and not liking it is risky), so we focus on all the other things we could do with that money. This extends to items as well, especially if there is an emotional value attached to it. A person might want to sell a house at a higher price because of its history and heritage, while the buyer might want to limit the amount they spend because of the rusting pipes and seepage in the walls. In both cases, each party feels what they are parting with is worth a lot more than what they are getting in return. And because they feel a certain way about it, they assume everyone else does too.

This way of thinking is not just limited to items, it also extends to the opinions we hold dear. If we have spent a lot of time and effort working on something, we will own the idea, sometimes stubbornly, even if the arguments against it are rational. That is because the effort we have put in colors our reality, and that leads us to think of it differently. This also affects our expectations around it.

Our experiences are a result of our expectations, not necessarily the truth, and this is highlighted clearly through the long time corporate war between Pepsi and Coke. At one point, both companies claimed that their cola was the

customers preferred choice. Only one of them could be telling the truth. But which one?

During a blind test, it was clear that people preferred Pepsi to Coke, but during a test where both brands were visible, people preferred Coke to Pepsi.[56] Just the mental image and association with a brand was enough to influence them to prefer one thing over the other. How we experience a product and our idea of it is enough to affect our perception. If we hear canned laughter in a sitcom, we know the cue is for humor, and if somebody enjoys a movie, we expect that we would enjoy it too.

Even in the field of medicine, the clearest signs of this impact is through the placebo effect. If a patient expects a drug to work, they will feel better once they have taken it, and those who don't expect any difference, won't be any better for it. Again, we are impacted by the price here. The more expensive a medicine, the more powerful its effect. A study showed that people who were told their pain medication cost $2.50 found it to be more effective than those who were told that it cost just 10 cents.[57]

That is how deeply we are influenced by price, no matter how arbitrary. Our association and behavior around pricing also change depending on the norms we are following. There are social norms and market norms, and both evoke a different way of being.

Our expectations and behavior in market norms are cold and calculating. Market norms (since they are primed by money) make us more selfish. This is because we are making an exchange, goods in place of money. When it comes to social norms, we are very different. We do things out of friendliness and do not expect to be paid.

A research study was conducted where lawyers were asked if they would provide their services to retirees at affordable prices.[58] Most of them said no. When the same people were asked if they would do it for free, they said yes. Why is it that they were willing to make no money but the thought of forgoing their standard fee was a no-no?

When we attach even the smallest value to something, market norms apply, but the moment work is asked for "free," especially when it concerns the needy, social norms apply. So, when you ask for a favor or work, be careful about the norms you evoke.

Our irrational buying behaviors are constantly studied by corporations and marketers to assess what emotions they can trigger in us. We avoid risk at all costs, so business owners have important questions to ask themselves: what product will they position as free or as a bundled offer, what brands will they cobble together so that we get a sense of satisfaction that we got something for more than its value? Products and how they are sold are guided by our emotions, and marketers base their whole careers on designing our experiences, placing items at certain eye levels, in certain spaces, of certain colors, just so that they arouse the right kind of response in us. All of this happens so subliminally that we don't even realize we are being manipulated.

So the next time you grab a product not on your grocery list, pause and ask yourself an important question. Why are you buying it? What is the need? Do you need that extra keychain, mug, pillow just because it is on sale? This is not as easy as it seems. In some cases, we can stop ourselves, but in a world where we are constantly being sold love, happiness, and adventure through brands, when every item is packaged into neat little stories that strike emotional chords, how can we teach ourselves to make better decisions?

Our best bet is to understand the strategies marketers employ to make their brand's stories irresistible.

51 Ariely, Dan. *Predictably irrational*. Chapter 3: “The Cost of Zero Cost,” p. 51.

52 Ariely, Dan. *Predictably irrational*. Chapter 3: “The Cost of Zero Effect,” p. 55.

53 Ariely, Dan. *Predictably irrational*. Chapter 2: “The Fallacy of Supply and Demand,” p. 48.

54 Ariely, Dan. *Predictably irrational*. Chapter 1: “The Truth About Relativity,” p. 28.

55 Ariely, Dan. *Predictably irrational*. Chapter 7: “The High Price of Ownership,” p. 155.

56 Ariely, Dan. *Predictably irrational*. Chapter 7: “The High Price of Ownership,” p. 166.

57 Ariely, Dan. *Predictably irrational*. Chapter 8: “Keeping Doors Open,” p. 175.

58 Ariely, Dan. *Predictably irrational*. Chapter 4: “The Cost of Social Norms,” p. 71.

CHAPTER 10:

Priming

Priming—planting an idea in people's minds to dominate them—dates as far back as the age of the Romans when Cicero manipulated juries to incite action against Julius Caesar. Its impact runs deep.

Priming requires a certain amount of deceit, and research suggests that we are all slightly dishonest.[59] A study showed that people would slightly exaggerate their marks on a math quiz IF there were a monetary prize associated with it. Fortunately, when the chances of being caught were lessened, the amount of cheating did not increase. Even when it became impossible to get caught, people's cheating remained

consistent. There is an invisible self-created line we impose on ourselves when it comes to dishonesty, which was exemplified by popular TV character Ross, from the 90s TV show *Friends*.

Ross was often shown taking amenities from the hotels he stayed in as a way of exacting revenge, but he also drew a line between stealing and "taking what was his." For example, he would take the salt, but not the salt shaker. This is because our inherent need for honesty is so strong that we can only be comfortable with dishonesty if we can rationalize it. It is far easier to justify taking stationery items from your office than it is to take money from your boss's wallet.

The reverse is also possible. It is possible to reduce our overall dishonesty if we "prime" people into thinking certain things before they begin a task. In the study above, when the participants were asked to recall the Ten Commandments before the quiz, they did not cheat at all. This means that simply by thinking about honesty, we stay on the path of goodness. Priming is a tool that is used to plant a seed or an idea in our mind so that it can be called upon later for action.

Consider this. What would you think of if you saw the word L_AF? Maybe nothing, maybe a word in particular. But if I asked you to think of the word "tree" before that, what would come to your mind? It would probably be the word "LEAF." That's priming. It's exposure to a certain idea, event, or a concept that gets us to think of similar words, ideas, and concepts. Had I mentioned the word "food" instead, you might have completed the letters as "LOAF." That's the beauty of priming, it is designed to affect the way we think so that it impacts our actions.

Priming affects the way we perceive the world in ways big and small. In May 2018, an audio clip went viral on YouTube, and a user put up a poll to ask what people heard. Some heard "Yanny" while others heard "Laurel." Some could even switch between the two words. This is because our brain recognizes some sounds like speech and then uses contextual cues to give it some meaning. This is the reason why people get song lyrics wrong. When the sound entering your ear does not have any real meaning, your brain fills out information based on the

missing information it has. In fact, with the whole "Yanny" and "Larry" debacle, younger people were more likely to hear "Yanny," because their ears were better able to detect higher frequency sounds. Those who heard "Laurel" heard lower-frequency sounds.

Just as our mind is impacted by the words it reads/hears/sees, so is our body. A study was conducted where participants were primed with words that were associated with old age (e.g., "wrinkles" and "Florida"), and because they were impacted by it, they ended up walking at a slower pace than usual.[60]

There are many different types of priming in psychology, and each has its way of working, as well as different impacts[61]:

1. Positive and Negative Priming

This is how priming influences our processing speed. Positive priming leads to faster memory retrieval, while negative priming slows it down.

2. Semantic Priming

This is when words are sequenced logically and linguistically to lead to an association. For example, if you think of the word "blue," the word "sky" might come to your mind quicker.

3. Associative Priming

This is when you use two stimuli where one is associated with the other. For example, the word "cat" can be associated with the word "mouse" or "dog." By thinking of Pepsi, you may also think of Coke. Those are words that are often linked together in our memory, and if one of the two words appears, the subject is likely to respond much faster when the second word appears.

4. Repetition Priming

This happens when a stimulus and response are paired repeatedly. That way a subject is more likely to respond quickly each time the stimulus appears.

5. Perceptual Priming

This involves stimuli that are similar in form. For example, a word such as “tea” will get a faster response if it is preceded by “sea” because the words sound similar.

6. Conceptual Priming

This is when the stimulus and the response are related through concepts. For example, if you think of desks you will think of a chair, if you think of cushions you could think of pillows because the words lie in the same conceptual category.

7. Masked Priming

This is when a certain part of the initial stimulus is hidden with marks. Even though the whole stimulus is not visible, it can still get a response. For example, blurring people’s faces on television to respect their privacy doesn’t take away from the message.

Our entire process of priming actions and thoughts happens unconsciously. We do it without even realizing what’s happening to us. This shows that despite our arguments, we are not always in control of our actions, judgements, and choices. Social and cultural conventions often dictate the way we behave.

A research conducted by Kathleen Vohs shows that the concept of money itself was enough to prime people to act selfishly.[62] People who were exposed to images of money were willing to act independently and were unwilling to accept demands or money from others. This has its implications on our lives, too, as our society is filled with triggers that prime money, a reason why many of us don’t behave in altruistic ways.

Mainstream media has recognized the importance of priming and uses it to manipulate our buying behaviors and even our political viewpoints. The theory of media priming finds its roots in cognitive psychology. Human memory is a result of associative networks—an idea is stored as a node in the network, and then it relates to other ideas or concepts through semantic paths. Through priming, there is an activation of nodes within the network, which serve as a filter through

which a person can view or interpret certain information and form certain judgements.[63]

When media priming is used in political media, it is done to shift the media's focus to certain issues to alter the standards through which a candidate is evaluated. Many studies have been conducted to determine the impact this has, and the impact goes far beyond the agenda-setting. Iyengar, Peters, and Kinder's first identified this added dimension in their paper in 1982 as the "priming effect."[64]

This priming theory is based on a simple foundational assumption—people do not have a lot of knowledge about political matters, and if they do, they do not take into account all of it when they make political decisions. They just think about the things that come to their mind readily. So, what the media does is draw attention to certain details of a political agenda at the expense of others.[65]

Elected governments can also use media to push a certain agenda while ignoring another that may be equally important. It is possible, for instance, that a government highlights how much the economy of a country is booming while failing to acknowledge how they are not working on providing an adequate health care system for the country. Since the media is going to cover the issue that is "primed" by the government, unless people are personally affected, they are unlikely to consider it a pressing concern.

Priming also impacts children greatly, especially through the content shown on television. If you have a child under the age of five, you may be familiar with Peppa Pig. Your child may have also adapted certain mannerisms from the cartoon as children tend to enact the qualities of their favorite characters and emulate them in public. It is one of the main reasons why the big tobacco companies were banned from advertising to children and the youth. If certain associations were triggered, they would be too powerful to fight off with rational discussions on how "smoking is bad;" the problem had to be tackled before it even began.

But priming isn't all bad. Educationists can use priming as a learning tool, as certain students perform better when they

know what's coming. Learning something new altogether can be daunting, but presenting the information to students before the lesson can be quite helpful.[66] It can also be used as a tool of intervention for people who have learning difficulties. Allowing students to familiarize themselves with certain material beforehand helps them pay attention during class.

As with any tool, priming can be used to empower or to manipulate. To be aware of this, look out for the most common priming sources. Pay attention to the words being used by a marketing ad, or by a political campaign, or even a website. What are the words they are using? Slow down your reasoning process to anticipate what they want you to act on.

Pay attention to the images these sources are using and what these images represent. Are they empowering or inciting fear? Are they using your weaknesses and biases to incite you to action? What are the actions of the people using these words?

Then, think about how you can use this concept positively in your life as well. How do you want someone to feel, act, or behave? Prime them to do it. We're all a little dishonest, but even "research" suggests we aren't all bad. Let's try and use this tool for good.

59 Ariely, Dan. *Predictably irrational*. Chapter 1: “Introduction,” p. 15.

60 Kahneman, Daniel. *Thinking fast & slow*. Chapter 4: “The Associative Machine,” p. 55.

61 Cherry, Kendra. *Priming and the psychology of memory*. https://www.verywellmind.com/priming-and-the-psychology-of-memory-4173092

62 Vohs, Kathleen D.; Mead, Nicole L.; & Goods, Miranda R. (November 17, 2006). The psychological consequences of money. *Science*, New Series, *314*(5802), pp. 1154-1156.

63 Pan, Z., & Kosicki, G.M. (1997). Priming and media impact on the evaluations of the president’s performance. Communication Research.

64 Iyengar, Peters, & Kinder. (1982). Experimental demonstrations of the “not-so-minimal” consequences of television news programs. *The American Political Science Review*, *76*(4), pp. 848–858. doi:10.2307/1962976

65 Alger, D.E. (1989). *The media and politics*. New Jersey: Prentice Hall.

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CHAPTER 11:

Comparisons

Did you know that if you were single and looking to attract a dating partner at a club, the best way to increase your chances would be to bring along a friend who looks like you, only slightly less attractive?[67] Our minds are fundamentally wired to look for comparisons, and we do it in a way that requires very little effort from us. By showing up somewhere with a version of yourself that is less appealing, you are giving potential partners a clear and preferable choice. Since this would be an easier comparison, chances are that you will be viewed as the best choice there. Works perfectly so long as your tag along doesn't know the role they played in your love

life!

This applies to many other areas too, especially when it comes to the price of products. Marketers take advantage of this often by introducing expensive products to make other options seem cheaper by comparison. Some restaurants go as far as overpricing certain items on the menu so that the customers will opt for the second most expensive item as it appears cheaper.

Living a life where we are constantly comparing can get exhausting. Think of the time when you and your sibling both received presents. Unless the presents were identical, chances are you both compared the items and ended up being ungrateful for what you already had. While the rational part of your brain would have told you that something is better than nothing, the social comparison part of your brain would see which present was bigger, shinier, or more attractive. It might have convinced you that "it's not fair," but our view of fairness is also biased. Leda Cosmides and John Tooby, two American psychologists, conducted an experiment in their lab in which they gave a logical problem that even mathematicians and philosophers find difficult to solve.[68]

Let's see what you make of it.

The respondents were tasked with determining whether the following logical rule was True or False: All A's must be 2's.

1. You are shown four cards and informed that each has a letter on one side and a number on the other.
2. One card shows an A, one card shows a B, one shows a 1 and the last shows a 2.

Which cards do you turn over? Before reading on, think about this problem. Did you want to flip the card with 2 written on it to see whether there was a B on the back? Or did you want to turn over B to check if it had 1 written behind it? If you thought either, you are wrong and also not the first to make that error. The only card you need to check is A and the card with 2. If B had a 2, it is irrelevant to the rule itself, and a 2 with an A on the back would only indicate that some A's

might have 2's with no suggestion that a 2 MUST have an A on the back.

Now consider the following rule:

All medical marijuana users need to be above the age of 20.

Four people smoke it:

1. One is a medical reefer.
2. One is drinking water.
3. One had grey hair and wrinkled skin.
4. One is a college student who could be between 18 and 22.

If you were to leave out the old person and the person drinking water and check out option 1 and 4 instead, you'd be right. Now while both problems are logically similar, people are more likely to solve them when there is some sort of social contract associated with it. By changing the problem around, what the two psychologists discovered was that people make mistakes when the material is familiar. Even judges can be thrown off when they are making judgements regarding genetic relatives.

We become irrational with social comparisons because that is how we are also judged. We are looked at relatively, not in absolute measures. A young man who is competing professionally will judge his success on how much a colleague on the same level as him is making, brands will price themselves according to competition, coaches will judge their student's athletic ability compared to other teammates. In some cases, parents might even compare siblings academically and behaviorally. Comparisons are ingrained in our behavior and sometimes help make our lives easier.

For example, when we make purchases, it helps when similar products are placed side by side in an aisle so that we can compare prices to make sure we aren't being duped.

But while making comparisons can be helpful, it can also make us more miserable. By always comparing our clothes,

salaries, and cars to other people, we can be in a constant state of displeasure with what we have.

James Hong, the founder of hotornot.com, after selling his Porsche Boxter said:

"I don't want to live the life of a Boxster, because when you get a Boxster, you wish you had a 911, and you know what people who have 911s wish they had? They wish they had a Ferrari."[69]

Comparison triggers our emotional side and robs us of our happiness as it is often accompanied by jealousy. When we compare our abilities, success, body, or money to someone else, we engage more in competition than in the community.

This idea of competition has adverse impacts, because rather than celebrating diversity, it creates labels. We divide the world in terms of winners and losers, and we start seeing people as competition instead of companions. This leads us to have feelings of either inadequacy or superiority, and it is a precursor to us versus them mentality. In either scenario, it will not cause us to contribute healthily and productively. If we are constantly fretful of what we sound like when we talk to others, we are unlikely to share our unique perspective. When we see someone who sounds smarter than we do, we might clam up, or conversely, if we hear someone stammer in a meeting, we might think we have more information than them, even though their idea might be worth listening to.

The most problematic result of these comparisons is envy, which is because we don't have enough information about a situation and our judgement is based on what we see externally. It is based on an illusion, a perception we have created based on our tinted view or understanding of something. We might envy someone who seems to have it all but neglect the fact that it took the person years of perseverance, failures, and discipline that got them where it did. It also causes us to create unrealistic expectations for ourselves. In certain cases, our envy can lead us to believe that we dislike someone even though it is possible that we just resent them for a version of a "perfect life" we believe they are living.

If we operate from a place of envy, it often holds us back. We withhold information, we don't give our time, and we don't spend our money, because we assume people who have more will also give more. We find it difficult to be happy for someone who accomplished something we wish we'd accomplished ourselves. Believing that someone else is doing better can cause us to cultivate a mindset where we think we have less left for us.

To make the right decisions, we have to look at a situation in its entirety. We have to look at the whole compendium of experiences that drive a decision. We have to be mindful of the kind of comparisons we are making.

Shai Davidai and Sebastian Deri are two psychologists who conducted a study where they wanted to explore the factors that underlie "fear of missing out," in colloquial language also referred to as "FOMO"—the idea that other people have better lives than us.[70] They found that most people believed they spent more time alone and were a part of fewer social circles than their friends. That is mainly because they were comparing themselves to their friends who lived highly social as well as highly visible lives. This also applied to other aspects of their lives.

When we compare ourselves to other people, we often look at the best in a category. For example, to judge our fitness levels, we will look at the fittest person we know, to judge our culinary abilities, we will compare ourselves to those who have the best cooking skills. This means that we always fall short.

But that can change. If we compare ourselves to someone who was on a similar level as us or had moderate abilities, the jealousy, envy, and feeling of low self-esteem are likely to diminish. We can create a system of checks in place to make healthier choices and consequently better decisions.

First and foremost, we need to recognize when we are setting unrealistic targets for ourselves. It is good to aim high, but at least at the beginning of any goal, compare yourself to someone in the mid-range so that the biased comparison effect is reduced. Don't look at No. 1, look at No. 7. It would also

help for you to gather what you are trying to achieve with that comparison. If you are comparing yourself to learn from someone else's skills, well and good, but if the purpose is to throw yourself a pity party, you may want to reconsider.

And most importantly, if making comparisons is causing you to feel down, you should spend some time thinking about the positives of your situation. Look at your skillset in isolation, and think about how much you may have improved over time. Try to consider how good you actually are and how many people you may already be a role model for. While we may not be the best at something, we might be better than others and rank somewhere in the middle of those comparisons. You could be someone else's No. 7 or even No. 1!

By focusing on our journey of self-discovery, improvements, pitfalls, and successes, we will find that the joy lies in the learning and living, not in the result. So while comparisons might help propel you in a certain direction, let them just serve as signboards and means of direction. Let the road be more important than the destination, let others be companions in a shared goal rather than competitors, let your assessment of other people's skills factor in their blessings as well as their shortcomings, and let your assessment of yourself and others be realistic so that you use comparisons to foster community rather than mistrust.

67 Ariely, Dan. *Predictably irrational*. Chapter 1: “Introduction,” p. 11.

68 Kenrick, Douglas T. (October 18, 2010). *But his is bigger! A sad story of irrational social comparison why are children so irrational? Or are they?*

69 Ariely, Dan. *Predictably irrational*. Chapter 1: “The Truth About Relativity,” p. 21.

70 Davidai, S., & Deri, S. (2019). The second pugilist’s plight: Why people believe they are above average but are not especially happy about it. *Journal of Experimental Psychology*: *General*, *148*(3), pp. 570–587.

CHAPTER 12:

Social Proof

Humans are strange creatures. Within them, they carry the need to be unique and the same all at once, and it is these ways of being that often get us into trouble.

Think of a time you went to watch a play and it ended, everybody got up to applaud a fantastic performance, and you joined them too, even though you didn't necessarily believe it to be the best. This is because of social proof—our belief that our behavior is correct if it matches someone else's. This behavior is so ingrained in our being that it can be traced back to our ancestors, who copied other people's behavior to ensure their survival.

At that time, it made sense. If you were moving and hunting in packs and you heard a strange sound behind you, it would be the wiser decision to run with your friends than to wait and wonder whether it was necessary to run at all. In case the sound was caused by a predator, and you'd taken too long to reply, you would be somebody else's lunch. While this was a great survival strategy then, this herd instinct has followed us to this time, and sometimes the consequences aren't the best.

Social proof was coined as a term in 1984 in Robert Cialdini's book *Influence* and is prevalent in many of our daily situations, especially if there is a degree of uncertainty involved. Our Instagram accounts are inundated by influencers who are telling us what we should and shouldn't buy. There's a reason for that—it works! A study was conducted that showed that when people were purchasing a product, consumers were more likely to pay attention to other people's opinions with social proof if their feelings about the product were ambiguous.[71]

Another scenario in which social proof takes full effect is when we think of ourselves as similar to someone else. In that case, we are likely to adopt the behavior of those around us because we assume that that behavior is correct. That explains why canned laughter works so well or why Graham Norton seems so much funnier in front of an audience than when conducting interviews remotely; the laughter cues us at the appropriate times.[72]

Robert Cialdini went as far as to include social proof as a part of his six principles of persuasion where he asserted that people were likely to perform certain actions if they could relate to the people who performed the same actions before them. Researchers conducted an experiment where they joined a door-to-door charity campaign.[73] They found that if the list of donators was longer, more people were likely to donate. This list grew even further in size if the person happened to know the people who had donated.

Even though the term "social proof" was coined in 1984 through Robert Cialdini, experiments evaluating our need for approval through social proof were underway as far back as

1935. Back then, an experiment was conducted by a Turkish social psychologist where he placed subjects in a dark room and asked them to look for a dot of light, which was 15 feet away.[74] They were asked to assess how much the dot was moving (in inches). The truth was that it was not moving at all, but because of visual perception, it seemed to be moving. How much the individuals assumed it to move varied from person to person but were consistent overall. After a few days, the second part of the experiment was conducted where a subject was paired with two other subjects and asked to give an estimate of how much the light was moving out loud. Although the subjects had given different estimates before, when they were put in groups, they came up with a common estimate. They depended on each other to define their reality for them.

How deeply we are affected by social proof also varies from culture to culture. Studies suggest that collectivist culture conforms more to social proof than places where they have an individualist society.[75] Although just to assume that it is one way or the other would also be admitting to simplifying for the sake of ease; a person's own tendencies play an important part on how decisions are made.

But because most people do fall prey to social proof on some level or the other, it is used across the board in many different fields. It is used heavily in the entertainment industry but has now trickled into our daily lives through social media as well. Think of the amount businesses invest in the number of followers they have, their fans, views, likes, clicks, shares. The more you have, the more trustworthy and credible you seem to others. This phenomenon is so deeply ingrained in our minds that many companies grow their numbers by paying for fake followers just so that there seems like there is more of a pull than there is.

We believe an idea to be better if more people follow it. Think of the trends that take the world by storm, in fashion, lifestyle, diets, and even market norms. We don't just do the same thing as the group, sometimes we even change how we feel so that we can stay a part of the group. This is known as

groupthink, a term coined in 1974 by social psychologist Irving L. Janis.[76]

Groupthink occurs when people who have the right intentions and systems in place make irrational or spur of the moment decisions because they don't want to cause any ripples. Think of yourself at work. How often has it happened that you're in a meeting and someone has made a suggestion, which everybody else agrees with, but you might think there are flaws in the idea? How often have you actually done something about it?

Often group members refuse to express their doubts and judgements about a subject at the expense of moral and ethical consequences. A perfect example of groupthink is what happened to Swissair, Switzerland's national carrier.[77] In October 2001, Switzerland had to halt all its flights because of severe cash shortage, to the extent that passengers who had booked the flights were unable to fly out because their tickets were not recognized by other carriers. The crisis had struck when the company started making hefty losses, which used up all their capital reserves. During their 70-year history, this was the first time that they were making such significant losses, but they did not want to see the implications of that. Because of this, they missed all the warning signs and ended up in more danger than they would have had they taken the time to make smarter decisions, and if someone had stepped in to inform the rest about the reality of the situation.

Even politics very heavily rely on groupthink. In 1967, Ron Jones, a social studies teacher in California, wanted to teach his tenth-grade students about how ordinary Germans fell for the Nazi trap.[78] Jones himself was a very likeable and relatable teacher, so he decided that the best way to show his students how people can be swayed by ideology was by demonstrating it. He informed his class that he would conduct an experiment, which was non-threatening, but he adopted a sterner approach. He gave a set of rules that were to be abided by in class. Because it was also a break from the day-to-day monotony of school, the children were open to doing something new. Jones expected the experiment to last a day, but he saw that the students were following the rules even beyond.

He called this project the “Third Wave,” and initially it was treated as a game. There were many rules, and a lot of things that had to be done (e.g., saluting people with a Nazi-style hand gesture, asking questions in three words or less and only while standing up, and focusing heavily on “unity”). Unity meant leaving no room for a different approach. The group made banners with logos that read “strength through involvement” and “strength through discipline,” and group gatherings were limited to two people. The conditions of the experiment were simple: the students would get an A if they went along with an experiment, an F if they disagreed with Jones, and they were banished to the library if they didn’t participate.

The rules extended outside of the classroom too. If a student caught another not following the rules of greeting, the fellow member could be reported or sent to the library (i.e., out of the Third Wave). This created a climate of fear, and all trust was eliminated. By the fourth day, Jones felt himself lose control of the experiment as more people joined the movement, which is when he decided to call it quits. He conducted a presentation in the auditorium where he showed how fascism had been planted in peoples’ minds. A group of logical, young, well-meaning children had normalized certain behavior because someone they liked (i.e., Jones) had told them to, plus everyone else was doing it. The pleasure of exclusion, membership, and discipline was enough to cause the students to rally for a cause, even when there was none. This is where groupthink is at its most dangerous, where our need to belong overrides all sense.

Groupthink is easy to recognize when we are aware of the situations it is most likely to occur in. According to Irvin, there are eight situations which call for groupthink:

1. The Illusion of Invulnerability: The leaders believe that the idea is flawless and engage in high-risk activities.
2. Unquestioned Beliefs: Here, lead members ignore the moral/ethical standpoint of certain decisions and don’t

consider the impact it can have on the individual or a collective group.

3. Rationalizing: Members want to believe in the cause and so ignore the warning signs by explaining away or justifying certain behavior (as is the case with many followers of fascist or dictatorial regimes).
4. Stereotyping: Everyone on the outside of the group is deemed as wrong, and anyone who could contradict or challenge the group's ideas is dangerous.
5. Self-censorship: This is where members know how they feel but feel uncomfortable sharing their fears because of a hostile setting.
6. Mind Guards: This is when certain people in a group appoint themselves as censors and hide problematic information.
7. Illusions of Unanimity: This happen where lead members believe that everyone has the same opinion.
8. Direct Pressure: This is seen when anyone who poses a question is coerced to agreeing or made out to be disloyal.[79]

It happens most when groups feel a physical threat or a threat to their identity, again a precursor to "us versus them" mentality. It can incite people to action even if they don't necessarily agree in views, and it also happens when decision making is rushed. This often leads to catastrophic results.

To reduce the risk of groupthink, it is imperative to allow enough time for issues to be discussed in full length so that as many group members as possible can share their thoughts. Groupthink is less likely in the face of disagreements. It is also important that the leader of a group avoids stating their opinions first and gives people enough time to come up with their own. At least one person should be assigned the role of devil's advocate, and the idea should also be taken outside the group in order to get a more impartial opinion. It's the least we can do for ourselves and others to live in a humane world.

Which leads us to our next section … Our belief systems, our way of being, our prejudices, and our emotions are all fodder

for corporations to work on. We discussed how economics was built on the false promise of man's rationality, but the systems within it know our weakness and how to exploit them. In the next chapter, we will see how giant corporations take advantage of our irrationality to further their own causes.

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SECTION 2:

HOW OUR BIASES ARE USED AGAINST US

CHAPTER 13:

“They really get me!” A Marketer’s Guide to Our Hearts

What was your last purchase? Do you remember why you bought it? Did you choose one brand over the other? Dove in place of Rexona? Coke instead of Pepsi? How did you know which one to pick?

Our decisions to purchase an item aren’t a result of a meticulous pros and cons list, but a gut-based decision that we

can’t quite understand or explain. So why do we buy certain products then? Price? Availability? Convenience? Personal preference? The answer is far deeper than that. There are many neurological reasons behind why we do what we do.

Giacomo Rizzolatti is a scientist who in 1992 conducted a study on a type of monkey species called macaques.[80] In this study, he was astonished to find that a monkey’s premotor neurons would light up even if another macaque picked up a nut. They were equally stimulated whether they performed the action themselves or watched someone else do it. Have you ever yawned just looking at somebody else? Or if someone smiled at you, did you smile back at them? Mirror neurons are a type of visuomotor neurons, which according to researchers are our brains basis for learning through imitation.[81]

What this means is that when we watch someone do something, we end up wanting to do it as well, because we assume it will elicit the same response. Our mirror neurons respond to different targeted gestures, and companies use this information when they craft their advertisements. When we watch people on TV sipping coffee, tasting a juicy burger, looking good in Calvin Klein, all of these trigger our mirror neurons. We believe that we can enjoy something as much as the young, beautiful people displayed on our television screens.

Mirror neurons also act in conjunction with other hormones (e.g., dopamine and serotonin).[82] Dopamine is known as the pleasure hormone, and it can be activated even when we see another person smile. That’s why “retail therapy” always cheers us up. The rush of excitement from the purchase, a smiling salesperson, all these experiences are designed to make us feel happier and therefore more reckless with our choices.

And the more we buy, the higher we are in social ranking. Believe it or not, the desire for the latest bag, car, and phone are a result of our evolutionary past. This rush we feel is because our purchases are linked to our status, and our status is in turn linked to our reproductive success.[83] This might seem laughable, but think about what makes one person more

eligible than the other? Shows like *The Bachelor* point out these tendencies. The most suitable men are those who are good looking, charming, and wealthy. Since our social standing depends on our ability to buy, we go on purchasing, get the dopamine hit, and climb up the eligibility ladder. And here is where companies swoop in to make their brands come out as the clear winner.

They do it so seamlessly that we don't realize how ingrained these choices are in our unconscious decision making. To understand, try and answer this as quickly as you can—if given an option between the two, which would you pick?

Surf or Ariel? Ruffles or Lays? Pepsi or Coke? Chanel or Gucci?

Chances are that you chose without having to think too hard, and that is because of somatic markers.[84] These are shortcuts in our brain that develop over time so that our thinking process becomes quicker. As our experiences keep collecting, rather than starting the process afresh, our brains create links based on our prior experiences, thereby making our decisions "gut-based" or instinctual.

These little maps, interestingly enough, also cause us to prefer certain brands over others. For example, research found that customers preferred Andrex over Kleenex toilet paper because they liked Andrex's Labrador puppy mascot.[85] Now, this might seem like a strange reason to prefer one brand over the other, but it is not an unnatural choice. When we look at cute puppies, we often think of young families and associate it with toilet training. These conceptual links are strengthened over time and cause us to prefer one brand over the other.

Because we also associate Germany with technological excellence, we often turn to German-made kitchen appliances when we want long-lasting products. Somatic markers are very effective marketing tools, and advertisers use them to create associations between things that may seem disparate. Martin Lindstrom, author of *Buyology*, convinced a struggling bank to paint its institution in pink vibrant color. Left with not many options and not much to lose, the business decided to do so. Within three months, it was booming. Can you guess the

connection? Customers associated the color pink with the piggy banks they collected their coins in as children, and as a result, they were willing to put money in their bank because of the safety association.

Using mirror neurons or ingrained somatic markers might seem sly, but it is still harmless compared to other more manipulative marketing tactics. Feelings of safety and happiness are just some of many emotional pulls that marketers use. One of their most important pulls is fear—nothing works better. We can't bear the feeling of sadness or fear for long, and we try to alleviate it by seeking out pleasurable experiences.

This was tested during the 1964 American election campaign.[86] Lyndon B. Johnson, a politician, used the "Daisy" commercial in which a child played with daisies right before a nuclear explosion erupted. The association was simple—vote for Johnson to end the nuclear war. To see whether this advertisement was effective or not, political strategist Tom Freedman examined the voters' amygdala, the part of the brain that controls fear. As the viewers watched the advertisement, there was a surge of activity in the amygdala. Incidentally, Johnson did win that election.

Fear-based somatic markers can also make associations in cases where there are no negative experiences. In our health crazed society, diet pills are all the rage because we are scared of what would happen to us if we didn't use them. Johnson & Johnson's No More Tears baby shampoo also plays on this concept. We all remember the burning sensation of shampoo in our eye. That feeling is so strong (affective behavior: displeasure) that we buy it because we want our babies to avoid that negative experience at all costs.

But fear isn't always the motivator marketer or social worker some hope it to be. In some cases, what we assume will cause a fear-based reaction elicits no reaction at all. For a very long time, there have been warning labels on cigarettes, and yet that has had no impact on reducing the smoker's cravings. A study was conducted where volunteers were shown different images of cigarette warnings and were then asked to rate their need to

smoke.[87] The brain scans of these people showed that the warnings had no effect on their cravings on a neurological level. If anything, rather than repulsing people, it caused them to crave the cigarette even more.

Somatic markers work in the background and push us to buy a product, while subliminal messaging solidifies that desire. Although we all believe we are smarter consumers, neuromarketing studies show that we are all impacted by subliminal messages. Think about how you respond to an enthusiastic salesperson versus a disinterested, or worse, unpleasant salesperson? Your experience will determine the price you would pay for the product.

To test this, two researchers conducted an experiment where the respondents were shown a happy face and a frowning face.[88] They were then asked to pour themselves a drink and were asked how much it was worth. The people who had been shown the smiling faces poured more and were also willing to pay double the price of the people who had been shown the picture of the frowning faces.

Companies have recognized the importance of emotional connection, and so once the emotions have been triggered and the pathways have been set, brands can swoop in and attract customers with a binding story, the kind that we associate with religion. We make distinctive and powerful associations with iconography such as logos. McDonald's M, Nike's swoosh, Apple's bitten apple (and that's a direct reference to a forbidden fruit), all form links, and our brain responds the way it would to religions. In fact, a neuromarketing study found that volunteers' brain activity was as charged from images of strong brands as it was with religious icons.[89]

Similar to religions, brands create rituals around an experience so that the ritual itself becomes as important as the brand itself. For example, Oreo's can be split in half and eaten separately or dunked in milk; those rituals are as important as the taste itself. The rituals can then tie into a larger vision or mission.

The strongest of brands distinguish themselves from the rest by professing their mission. The Body Shop and its anti-

animal testing policy and IBM and its solutions for a small planet are examples of the kind of ideologies customers feel passionate about, and when they assign themselves to a cause, they remain committed to these brands for life; they view these brands as extensions of themselves. And therein lies humanity's unshakeable loyalty. Apple and Samsung both have a base of loyal customers who will fight tooth and nail to defend the features of their respective brands and try to convince the other of the superiority of their products, which leads us to the most powerful motivator of all, us versus them mentality. Manchester United or Liverpool, Visa or Mastercard, the strongest of brands define themselves by creating a contrast with others. The more the comparison, the more frenzied and loyal the customer base.

Companies create a group of fervent followers who believe objects to have similar values and beliefs to themselves and go on purchasing. But just as some emotions are strong motivators to purchase, others can be distracting. Just as fear works both ways, sex can work both ways too. A study was conducted where two groups were shown two different shows with commercial breaks in the middle.[90] One watched *Sex and the City* with sexually explicit scenes while the others watched *Malcolm in the Middle*, a dysfunctional family comedy. The viewers who watched *Sex and the City* were less likely to remember the advertisement than those that watched *Malcolm in the Middle*. What this shows is that instead of selling, sex blinds us to the product.

This was again evaluated through MediaAnalyzer, an English based software and research company, that conducted a study that showed a series of print ads that ranged from very racy to completely bland and asked volunteers to mention where their eyes naturally fell on a page.[91] Although the eyes naturally fell on the sexier content, the viewers had no idea what brand names or logos were associated with it. This was referred to as the "Vampire Effect"—the images sucked the attention away from the advertisement. The best way to use sexual content is for shock value. It may not sell, but it will cause some controversy!

With advances in neuromarketing, companies (who are keeping up of course) are becoming smarter in how they sell us their brands. By relying on our instinct to make shortcuts, companies try and steer us in certain directions. They encourage us to purchase products that make us feel special and unique and yet belong, building on an instinct that has been rooted in us from the earliest of civilizations—our need to rely on others for guidance, which is why we often fall for the ill-fated advice of many "experts."

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CHAPTER 14:

Bad Science

I spoke about "scientific thinking" in the introduction, and I want to draw attention to the weight that phrase carries. Science is synonymous with critical thinking. By using the word "science," we are "primed" to believe that whatever comes next is factually correct, even if that isn't the case.

Science wields great power because its applications extend to all spheres of our lives. It prolongs our lives, improves our health, and makes our every-day living easier. The problem with believing leaders and influencers and everything we hear is that a lot goes unchallenged, and the media takes advantage of that. A lot of what we are sold as science is actually pseudo-

science repurposed for a hidden agenda (usually spearheaded by big pharmaceutical corporations); we need to develop tools that separate phony science from genuine discoveries.

We've discussed marketing in detail in the previous chapter, and one of the main tools marketers rely on is advertising. We are bombarded by a myriad of products all day that are designed to make our lives better. There are skin products that get rid of blemishes, anti-aging cream that makes us look decades younger, even detox footbaths that cleanse our body of toxins by turning bathwater brown once we use the product. Most of these claims are exaggerated.[92] Often advertisements use different kinds of gimmicks (especially visual) to trick the audience. If we just do a little more digging, we'll discover how wrong we are in accepting what we see as pure fact.

For example, Aqua Detox, the detox footbath, turned brown not because of the toxins that left your feet, but because of the iron electrodes when the device is switched on. In some cases, what we are told is scientifically impossible! As an example, salmon skin cream treatments that claim to revitalize skin and bring back our glow can't because the DNA is too large to be absorbed by skin, and DNA that is different from ours is not beneficial for us.[93]

Companies can do this because they know we think that science is too complicated; we leave it up to the experts to tell us what we need to do (i.e., we rely on lazy thinking). Because of this, we assume what is presented to us as "science" is a "fact," leaving plenty of room for advertisers to explore our naivete and sell us things based on evidence that is at best misrepresented and at worst borderline fraudulent.

Think of the number of multivitamins that are sold under the guise of making you healthier and smarter. How many have been backed by actual numbers? Often with nutritional claims, the one common thread is overextrapolation. A finding is based on a small trial, which is then applied on a large scale. One of the biggest issues is when media pushes certain experts who we grow to trust, and they mislead us based on this thread. Patrick Holford, a famous academic nutritionist and known by the media as an "expert," once said that Vitamin C

was more effective in fighting HIV than the drug designed to fight it (i.e., AZT).[94] He cited ONE paper where a certain amount of Vitamin C that was injected into HIV-infected cells (in a petri dish) reduced the level of replication. There had been NO human trials and no mention of AZT, and here he was quoting it as if it were fact. This is where the danger of expert opinion begins. People will believe what they want to, especially from a source endorsed as reliable. The information can then be used to withhold treatments from people who would benefit from them.

For example, Matthias Rath, who was a vitamin salesman, influenced the government of South Africa to withhold anti-HIV drugs and promote multi-vitamins instead.[95] He claimed that the use of his multi-vitamins would reduce the risk of AIDs by 50% and that they had more impact than any other anti-HIV drug. Matthias Rath distorted the results to show a better diet could be used to push back effects of HIV and claimed that anti-HIV drugs could also worsen immune deficiencies. These claims came at a price. A study that evaluated the impact of this showed that had the South African government stuck to giving out anti-HIV medicines, they could have prevented up to 343,000 deaths![96]

Not only are we subjected to the manipulation of results, but sometimes even drug trials aren't held honestly. Many steps need to take place before bringing a drug into the market, and the whole procedure is quite costly. First, the drug needs to be determined as safe, next, tests need to be conducted to measure efficacy, and then a large scale-trial to see whether it measures up well against a comparable treatment or even a placebo needs to occur. The whole cost averages at about $500 million.[97] This price is unaffordable for any public organization, so nearly all clinical drug trials are commissioned by pharmaceutical companies themselves.

Harvard- and Toronto-based researchers who conducted a study in 2010 surveyed over 500 medicine trials where the key questions were:

1. Did the results favor the drug?
2. Were they funded by the industry?[98]

From those studies that were funded by the industry, 85% had positive results, whereas government-funded trials had only 50% positive results. This discrepancy brings to attention how the results are not always based on fact, just on their hidden agendas. In some cases, the industry-based results even included high methodological flaws just to keep their product in the market. Pfizer, a giant multinational pharmaceutical company, published seven trials on a drug known as Pregabalin, which was designed to treat pain.[99] The methodology was that the researchers measured the participant's pain at certain times. Some participants left the study because they began to experience the negative side effects of the drug. What Pfizer decided to do was take the last measurement of the pain severity and disregard the rest; this was a deceptive technique, because it neglected the negative side effects altogether. When the eventual analysis was reevaluated, it was discovered that Pfizer's last calculated pain measurement overestimated improvement in pain by 25%.

Given the fact that the pharmaceutical industry has a personal stake, it is no surprise that it influences how the information is researched, understood, and even reported. This is the first step to publication bias (i.e., people publish only positive trials rather than negative trials, and negative results are often undisclosed). In certain cases, companies have even published the same result more than once to make it look like many trials were confirming the same result. An anesthetist called Martin Traimer, upon close inspection, found that the trial data he had been comparing for a nausea drug called ondansetron was the same, only slightly reworded in different studies and journals, which is why the efficacy of the drug seemed higher than it was.[100]

Look at the extent we'd go to just to get the drugs on the market, whether they benefit our lives or not. Then when the drugs are brought into the market, drug companies hide the gravity of their side effects. SSRIs are known to cause anorgasmia (i.e., the inability to reach an orgasm), and researchers did not even write it as a list of side effects.[101] This means that even if you did your research, you still wouldn't have the full information.

Just how drug trials aren't to be fully trusted, the same is the case with medical trials; not all of them are designed to be fair. These trials don't draw any attention to how they select the participants. In every trial, there are meant to be two groups of patients who have a disorder, one group is treated while the other isn't; this approach allows researchers to then check the effectiveness of the drug. But the trouble is that not all participants are equal. Some participants are referred to as "heartsinks." These are the ones who keep complaining about symptoms that don't improve, the ones who drop out of the study, or the ones who don't respond to the treatment. In such cases, there's a spot open in the group, and because the experimenter so desperately wants a positive result for the experiment, they base their treatment results on respondents who have a greater chance to recover. This means that this unclear randomization can overstate the efficacy of the treatment by more than 30%.[102]

Trials also fail at times because they are based on studying the "ideal" patient. In reality, patients and their cases are complicated. They have a diverse medical background and history depending on the medicines they've taken in their life, and each of these medications interact with each other in different ways. Despite these facts, trials usually choose unrepresentative patients. This means that the trials are irrelevant as far as the real-world application goes.

Medical trials also underrepresent unflattering results. An investigative report was published in 2010 where researchers compiled results of all the trials that had ever been conducted on the drug reboxetine, an antidepressant launched by Pfizer. Seven trials were conducted where reboxetine was compared to a placebo.[103] Only one study showed positive results, even though it had only 254 patients, while the other six trials, which had nearly ten times as many patients, showed reboxetine to be no better than a placebo.

Another study compared drugs paroxetine and amitriptyline.[104] The former was a newer antidepressant and was free of certain side effects such as drowsiness, while the latter was an old drug prone to make its users sleepy. For clinical practice, the patients only took the drug at night to

account for the side effect. But during the trial, the drugs were given to the respondents in the morning. The amitriptyline patients showed daytime drowsiness, which made paroxetine a better choice by comparison, although according to the actual use, that was not necessarily true. By concealing the whole picture, it is hard for us to determine truth from largely exaggerated claims.

In some cases, testers also can influence the result of the study based on overt or subliminal communication with patients. Even knowing what drugs they are taking can be enough to influence the way a body responds to a particular treatment. Imagine, a trial was conducted without proper blinding, which showed that acupuncture was very beneficial, but when a proper blinding test was conducted, the benefits of acupuncture were "statistically insignificant."[105]

Withholding certain information and manipulating how we perceive information both are forms of publication bias. The purpose of medicine should be simple and concrete—save a life, reduce suffering, cure illnesses. Instead, now companies are using the same trials to further an agenda, capitalize on our fears, and push products that don't necessarily help us. Technically, the information we are provided should be free of commercial bias, but if they are conducted by clinical research organizations (CROs) on behalf of pharmaceuticals, is that even possible? Furthermore, the trials that are conducted by CROs bring down the cost of testing because they are usually outsourced to poorer countries, but this, too, has ethical conditions. As per the Declaration of Helsinki, one of the main ethical principles to consider as far as human experimentation is concerned is to make sure that the trial participants come from a part of the population that could benefit from the results.[106] For example, an AIDS drug that is pricey should not be tested somewhere impoverished because the participants of the study won't be able to afford it.

Another problem becomes the data used in these research trials. For example, if a blood pressure drug was tested on patients in China versus somewhere in America, the patients would have different characteristics, different lifestyle habits, and different access to medications, which would cause a

significant difference in terms of test results. The findings would not necessarily be befitting for a Western patient. Medical trials can have positive results in certain countries while having no real benefits anywhere else in the world.

Once the medications are approved through these (now seemingly dubious) medical trials, they then reach regulators for approval. Here is the second part of our problem, the illusion that people are rational and free from bias. Government regulators are not paid very well, but they have something valuable (i.e., information). This kind of knowledge on regulation is valuable for pharmaceutical companies and often tempts regulators to work as consultants in favor of the private sector instead. The future of the pharmaceutical becomes their top concern; they are now more likely to help the company overcome hurdles and have a drug approved. Because there is a conflict of interest, these regulatory bodies and their mechanisms are now ineffective. The bar is set so low that the regulators only require companies to show how their drugs are better than taking nothing.

With such flimsy regulations, as many as 197 new drugs were approved by the American Federal Drug Administration from 2000 to 2010, only 70% were better than other available treatments, and 30% should not have even been a choice.[107] Even in the EU, the only rule to get a license to market a drug is to show that it is better than nothing. Only half of the drugs that were even put out in the market between 1995 to 2005 had been compared to other treatments.

And once the drug is ready to be out in the market, the next target is the doctors. Doctors are busy and don't have time to read every single prescription or peer-reviewed article related to their work. This is where big-time pharmaceuticals swoop in and spend billions on their marketing (far more than the money they invest in research and development) to convince doctors that their medicine is the right choice. They market to the doctors directly, where most of the budget is directed to drug representatives visiting doctors in their offices to convince them of the efficacy of their drugs. These companies also print their advertisement in academic journals even though these journals are supposed to contain unbiased

information. The ads don't provide objective information and in some cases also reference high-quality trials to support their claims.

To provide a more objective view, statistics can be an incredibly resourceful tool. Statistics is particularly handy when it is used to form a larger, more robust depiction of treatment by combining results of several studies through meta-analysis. A great example of this is trials conducted on steroids. Between the years 1972 and 1981, seven trials were conducted to show whether steroids reduced infant mortality rates in premature births, and each showed no strong evidence to support the hypothesis.[108] Lo and behold, in 1989, the results were combined, and they found very strong evidence of the hypothesis; steroids did reduce the risk of infant mortality!

Sometimes patterns are only visible on a larger scale. But this is helpful if we examine data critically. Misrepresenting data can cause catastrophic results, as was with the case of Sally Clark and her two babies.[109] Sally was a solicitor whose two babies died suddenly and at different times. She was charged with murder and sent to jail; no one believed that two babies in the same family could die of Sudden Infant Death Syndrome (SIDS). One of the key evidence against her was the calculation that there was only a "one in 73 million" chance that both deaths could have been because of SIDS. What this analysis failed to look at were environmental and genetic factors that show that if one child died from SIDS, the chances of another child dying from SIDS is a possibility. And if we are to consider statistical improbabilities (what the prosecutor relied on to make his case), Clark committing double murder is twice as unlikely as her children dying of SIDS, which goes to show that statistics alone isn't enough to convict her. The way we interpret data depends on the meaning we want to give the situation. And usually, we like to craft information to encourage our agenda and not necessarily focus on the correct outcome.

We remember unusual events and forget everything else, which means that the information we pick up and remember is usually biased because, in our minds, not all information is equal. Aside from faulty memory, our ability to create

relationships when there are none is one of our biggest shortcomings (and also shows how powerful our storytelling ability is).

Sometimes two events coincide and don't necessarily have a link, but we create one anyway. For example, often illnesses progress and then regress to the mean.[110] This means that your illness may be at a peak, you take a placebo or homoeopathic medicine to heal you, and you get better thereafter. While you might attribute your lift in spirits to the medicine, in reality, it is a coincidental return from extreme illness to normal health.

And once we believe something, our conviction is borderline unshakeable. A U.S. study once examined two groups, one that supported the death penalty and another that opposed it.[111] In the experiment, half the group got evidence that supported the death penalty while the other received contrary evidence. What was interesting to note was that both groups identified flaws in the research methods that did not support their pre-existing beliefs, but ignored the flaws in the evidence that supported their argument (remember Audrey, our hypothetical hypochondriac?).

Now if we are so prone to certain belief systems, so convinced in our ideas, so driven by emotion, how do media companies take advantage of this? They take advantage of our need for the unordinary and sensational and feed us "10 ways in which science XYZ" stories that have nothing to do with actual science. Truth is that genuine scientific inquiry takes time, which is why it rarely ever makes it to the news at all.

This isn't always the case of course. There was a time where there was rapid scientific development; the man on the moon, planets, polio, intensive care, ventilation all were rapidly invented in the twentieth century within a few decades, but now scientific advances are slower. Because they are slower, they are certainly not riveting enough for editors looking for the next catchy headline.

Sometimes companies jump on the bandwagon to intentionally mislead people. An example of this was an essay that was printed by a political theorist that claimed that humans would evolve within a thousand years to look coffee-

colored and would divide into two species—tall, intelligent, and healthy or short, unintelligent, and unhealthy.[112] The story was paid for by a men's TV channel called *Bravo*, which was celebrating its 21st year of airing. The story was sold as a journalistic piece of scientific investigation but was nothing more than a publicity stunt.

Media takes full advantage of fearful readers by pushing science "stories" based on very little evidence. The reason why the media can peddle stories through "experts" is because these are people that have some TV charisma and media prowess. They may not be the best scientists, but they look good enough on television. An example of this is a single-cited paper written by a surgeon called Andrew Wakefield, which claimed that mumps, measles, and rubella vaccines caused autism in children.[113] This was then popularized by British newspapers. Academics refuted this with scientifically proven trials that showed that rubella was safe, but because these scientists weren't as good at communicating as the media, their message wasn't as convincing. What is interesting to note is that not only was there no link between MMR vaccines and autism, Wakefield himself had conflicting interests and had no trouble suppressing data that didn't fit his agenda. Because media is more concerned with putting stories out instead of looking at authenticity, they did not check this, fewer people got vaccinated for MMR, and the cases of measles, mumps, and rubella shot up.

These are examples of bad science, the science meant to mislead us or make matters worse. But sometimes the line between good and bad science can get tricky, and it's important for us to focus on the rationality to see what works best for us. We've discussed placebos before, and we'll touch upon them again, because they are such a beautiful illumination of our capacity to heal ourselves. It is hard to explain how a pill that contains only sugar can be used to treat conditions that vary from toothaches to anginas, but they work. Here is where the right branding can be useful; packaging, color, and price all affect our expectation and consequently the outcome of the treatment itself. For example, blue placebo pills relax us while pink pills motivate us.[114]

Another study shows how the treatment of narrowed arteries with a catheter that looked technical but administered no real treatment was almost as effective as getting the actual treatment.[115] Placebos, and even homeopathy treatment, often lead to the same results. Placebo are sugar pills, and homeopathic pills are water pills. If the homeopathic pills are put in a blind, randomized trial, they have the same impact a placebo pill does. But they both seem to cure illnesses.

The problems with placebo pills start when they are used for life-threatening illnesses—that's when our moral and ethics come into question. Placebo pills are essentially a bogus treatment. If a sick patient is given one, they may miss out on a treatment that would be beneficial for them, and instead their condition could worsen.

Between the years 1932 and 1972, the U.S. Public Health Service left 399 poor black men with syphilis untreated (they were under the impression that they were receiving treatment). The department just wanted to see what would happen. Their ailment grew worse, and the government didn't apologize until 1997.[116]

So what does this tell us? What do we do in a world where everything seems to be designed for us to buy something, or deny something, or fight something? How can we fight right from wrong, and where is media guiding us? From big pharma to big tobacco, to every other company (even politicians), everyone has put more money behind marketing, and that's the news we then see on our televisions. Their money is spent less on problems and more on advertising, and media companies are happy to jump on the bandwagon.

If mass manipulation is possible for buying the best brand, what do you think happens when power and leadership are involved?

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93 Goldacre, Ben. *Bad science*. Chapter 3: “The Progeniuim XY Complex,” p. 30.

94 Goldacre, Ben. *Bad science*. Chapter 6: “The Nonsense du Jour,” p. 96.

95 Goldacre, Ben. *Bad science*. Chapter 10: “The Doctor Will Sue You Now,” p. 184.

96 Goldacre, Ben. *Bad science*. Chapter 10: “The Doctor Will Sue You Now,” p. 187.

97 Goldacre, Ben. *Bad science*. Chapter 11: “Is Mainstream Medicine Evil,” p. 205.

98 Goldacre, Ben. *Bad pharma*. Chapter 1: “Missing Data,” p. 8.

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100 Goldacre, Ben. *Bad science*. Chapter 11: “Is Mainstream Medicine Evil,” p. 207.

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102 Goldacre, Ben. *Bad science*. Chapter 4: “Homeopathy,” p. 55.

103 Goldacre, Ben. *Bad pharma*. Chapter 1: “Missing Data,” p. 9.

104 Goldacre, Ben. *Bad pharma*. Chapter 4: “Bad Trials,” p. 57.

105 Goldacre, Ben. *Bad science*. Chapter 4: “Homeopathy,” p. 51.

106 Goodyear, MDE; Lemmens, T.; Sprumont, D.; & Tangwa, G. (April 21, 2009). *Does the FDA have the authority to trump the Declaration of Helsinki?*

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110 Goldacre, Ben. *Bad science*. Chapter 4: “Homeopathy,” p. 43.

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112 Goldacre, Ben. *Bad science*. Chapter 12: “How the Media Promote the Public Misunderstanding of Science,” p. 224.

113 Goldacre, Ben. *Bad science*. Chapter 12: “How the Media Promote the Public Misunderstanding of Science,” p. 239.

114 Goldacre, Ben. *Bad science*. Chapter 5: “The Placebo Effect,” p. 71.

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CHAPTER 15:

Fake News

When media companies select the kind of news they show us, they are no longer concerned with how relevant that news is to our well-being and futures. There is a simple reason for this. Media is owned by big-time corporations that care mainly about stories that make them money. What sells goes. This also means that journalism is now a capitalistic venture, which changes the role of the journalist from authentic reporting to reporting what they are asked to. Gone are the days of the traditional journalists, people rushing to the site of the event, interviewing people, trying to create a powerful story. Very few journalists actually go out on to the field or

investigate stories. Instead, they usually regurgitate stories that were issued through large wire agencies or even through press releases.

A study was conducted by the University of Cardiff, which examined 2,207 stories that were published by well-known British media outlets that found that 60% of these stories were just a rehash of press releases, with barely any new information.[117] Only 12% were based on actual personal research.

The same goes for the new world of newspapers and even television. With the constant bombardment and updates via the Internet, journalists who are a part of national networks just don't have the time to provide in-depth investigative journalism. Many of these large networks cut costs by reducing the workforce, and as a result, the journalists that are left have to then shoulder the burden of their other work colleagues.

Journalists are writing up to ten stories a day, which means that on an average workday, they have less than one hour to write a story.[118] This leaves little room for journalists to work on pieces of substance or even do actual research with interviews, witnesses, visits, etc. In the past, newsrooms had relied on reporters who were all across the country and would investigate stories, but since many local newspapers are now owned by large corporations, many have laid off these regional journalists to cut corners. As a result, very few reporters are actually on ground, and journalists have to rely on wire agencies who aren't a reliable or objective source to gather information. Despite them not being a very reliable source, media outlets rely heavily on their accuracy. For example, as a part of BBC's internal guidelines, journalists need to have at least two sources for every story UNLESS their main source is the Press Association (PA), in which case they can run the story without any trouble.[119]

The problem with this is that wire agencies don't have the resources that are required to run and investigate certain stories. They are subjected to the same cutbacks that other media outlets are, which means even they don't have time to

fact check stories. So when we read something that is credited by Reuters or AP, their entire premise is also dependent on a handful of journalists who operate out of local offices throughout the world. And these journalists ALSO rely on press releases from organizations as well as the government; we will soon investigate the stake the government has in manipulating the news, especially in situations where they want to stay in power. A lot of the information that is published by these wire-agency journalists (especially in the morning) is a rehash before they reach out and confirm the source of information they are publishing.

And again, since media is now less a source of exchanging information and more of putting out there what sells, the stories are based on emotions. Anything clickable is good enough. The main goal of media companies is to attract as many readers as they can. This means informing people about important issues takes a step back, and instead sensationalized news is put out to get more traction.

For example, media companies could cover a plane crash for days but not report all the car crashes that took place the same day, which were also fatal. Another great clickbait is putting out stories about celebrities and their scandals. They then play on the emotions of the viewers/readers without actually conveying real information. This happened when Princess Diana passed away, and the TV played tear-jerking videos and covered the funeral, or when Prince Harry and Meghan Markle decided to move to Canada, or even when Brad Pitt and Angelina Jolie decided to split up. This is where all our attention goes—on a conversation about other people's lives not on things that impact us. For example, any news regarding exploited labor workers or health reforms gets buried amidst more popular and flashy stories.

Since we focus more on popular stories than on truth, sometimes journalists cover stories to keep the audience happy. This means that if audience opinion changes, the media changes its perspective too, which leaves very little room for authentic journalism.

You might believe that western journalists have more freedom of speech than other journalists around the globe, but even their freedom is limited, because they depend on giant conglomerates for their salaries. The companies don't want them writing things that could harm their profitability. As a result, news agencies try to portray both sides of the story so that they are not accused of being biased. As an example, if newspapers cover articles that show the dangers of smoking through reports by linking cigarettes and lung cancer, they compensate by quoting claims by the tobacco industry that vehemently denies this.[120] Newspapers also publish stories that are endorsed by government sources such as the army or the police. By citing official statements, the media agencies can avoid any potential lawsuits or avoid giving us the real scoop.

Given their limitations with the workforce and their dependency on certain conglomerates for their salaries, media agencies also shift their focus to covering stories that don't require as much work. In 2005, we had all heard of Hurricane Katrina, but how many of us heard of Hurricane Stanley?[121] In August, Katrina wreaked havoc in New Orleans, and just a few short months later in October, Stanley did the same in Guatemala. In the coverage that followed, UK papers referred to Katrina 3,105 times, whereas Stanley got merely 34 mentions. Again, accessibility took precedence over genuine reporting, and since many correspondents were in place providing reports or photos in New Orleans, it received more coverage than Stanley where there weren't as many journalists to provide information.

Not only do the media agencies over and under report certain incidents, they also create their own content. Interviews can be staged by companies to influence the media, and sometimes news events can be staged too. In 2003, George W. Bush announced the end of operations in Iraq. His advisers told him he'd be more convincing if he dressed in combat gear and staged a press conference aboard an aircraft carrier.[122] Just to advance his goals, Bush relied on a PR tactic to sway popular opinion.

I know it seems like the manipulation has started with the proliferation of news, but the seeds of propaganda and

manipulation exist way before that. Even in the early 19th century, as far back as 1835, there were claims that there was an alien civilization on the moon. This story established *The New York Sun* as a profitable and leading newspaper.[123] 19th-century newspapers laid the groundwork for yellow journalism; shocking headlines and outrageous articles were enough to lead people astray. The 20th and 21st century have just mastered the craft.

In the early 1900s while the British went on conquering different parts of the globe, their conquering efforts were written about as "adventurers" going on to "civilize" the world. Everyone who lived in England at the time was convinced that the British were off fighting for the greater good, and that belief was influenced by their news as well as the kind of books that were published at the time. It is only in recent years the British realized the atrocities they inflicted on the world.

Many empires have based their success on this type of propaganda, such as the almost-empire-in-the-making, how Hitler led Germany. During World War II, Hitler's regime furthered German publicity, which depicted the British and Allied armies as cowards and Russians as dehumanized people who killed with compulsion; this is why the Germans, too, were unaware of the extent of their atrocities, because of how they shaped the news. It is only post World War that Germans realized how they had been duped.

Despite the world wars and the possible end of the world, media did not learn its lesson, and during the Cold War, propaganda peaked. In the '60s and '70s, the CIA was very active in creating content that shaped public opinion. They planted 400 agents in every nation in the world at different media outlets who were either reporters or editors. Journalists were also recruited who were briefed about what they had to write. From the Cold War to the Vietnam War, to the civil war in Angola, everything was churned out to convince and manipulate.[124]

Let's take a look at the civil war in Angola in particular. The United States and Cuba were fighting two different sides.

Cuban troops supported the liberation of Angola from Portugal while the United States supported two rival groups, so to make sure that the public opinion was against Cuba, the CIA made stories about Cuban soldiers raping Angolan girls. The CIA still has a large role to play in handling media companies around the world.

Our handle on the present is far from the grips of reality, and in cases where it gets too hard to handle, we often fall back on conspiracy theories that are wild and implausible. We blame aliens, secret factories, successful entrepreneurs, but if we take a hard look at what's happening, we'll see that the truth is even more frightening. The media is controlled by a handful of agencies, so much so that a former CIA agent went as far as to say to *The New York Times* that the CIA controlled one major media outlet in every capital of the world (e.g., *Paris Match* in France, *Der Monat* in Germany, and *Encounter* in the United Kingdom).[125] Even magazines like *Time* aren't fully unbiased, as people who are affiliated with the agency are also involved in the magazine's daily decision making.

Bottom line—don't believe everything you hear.

Global giants like Facebook and Google have claimed to check fake news, but the issue will not disappear as quickly, because this is a way for writers to make money and influence others.[126] Even though Americans understand the issue around circulating fake news, many continue to circulate it. A research conducted by Pews Research Center in a 2016 survey went as far as to say that 23% of U.S. adults, unbeknownst to them, end up sharing fake news with their friends and others.[127]

The biggest issue with "modern-day fake news" is that it can spread much faster and influence people much more quickly than was ever possible historically. Modern-day fake news differs now for a variety of factors. False reporting or intentionally exaggerated news is a result of three main components: who is creating it, what they are spreading, and how they are spreading it.

Mainly, fake news is created by people with certain ideological interests who sway popular opinion. Now it's not

only the content that is changed but also the news source. Many of the videos that circulate during a calamity are regurgitated videos. An example of this is a video that was circulated about child abduction in India.[128] It turned out this was an edited video that caused people to attack innocents who were suspected of kidnapping. And the worst part is that the way social media presents news makes people more likely to fall for it as well. The social media platforms act as news aggregators (i.e., they are a place where different news stories are curated from different stories, disregarding quality, reliability, or even political ties of the source). If we don't know where the information is coming from, it's easy to be manipulated, because most of these sources aren't fact-checked (we've already seen the little time journalists have to do any piece justice).

Even the way we share information causes inadvertent endorsements of the material. If our friends and family share certain resources, we automatically assume the story to be credible. Especially when messages are shared through social media or WhatsApp, we have no real indication of the origin, and then social media platforms further boost certain articles based on their popularity. The popularity can be deduced by the number of likes, and more information is further spread.

So now that we know how rampant false information is, how can we protect ourselves (and our emotions) from it?

1. Be careful about where you get your news from.

   Facebook, Instagram, and Twitter are not news platforms. When you see an article online, ask yourself some important questions (e.g., where is this information coming from, who is sharing it, what is the background?).

2. Check the source of information.

   What is the actual post? Who has written it? Is he or she affiliated with a news company? Have you ever heard of this media organization?

3. Within news articles themselves, examine sources and the way they have been included.

The way sources are treated and referenced says a lot about authenticity. *The New York Times*, CNN, and azcentral all have certain ethical guidelines that they need to follow to assert their sources. Be wary of articles that have unattributed sources with no other confirmation. The most ideal kinds are when sources have been named or if names have been concealed to protect privacy.

4. Don't just focus on the headline.

Headlines are there to make us click on a link or buy a newspaper or tune in to something. Their purpose is to grab attention, so don't just base an opinion on 8-10 words; read the article.

5. Get your news from different sources.

If you read something and your first reaction to it is any kind of extreme emotion, then you have been triggered by something, and most likely that was the objective of the article. Many news items are designed to activate anger or fear in us. To safeguard yourself from such manipulation, look at a bunch of resources and see if you still feel as strongly about it later. Looking into opposing views will also help you understand your perspective better. You can only defend your position if you understand contradicting views.

6. Be cautious of native advertising, and check the contact information.

Native advertisements are designed to look like the rest of the page but are a ruse designed to display content in a certain manner. The purpose is to make links look legitimate to get more traffic onto their website. In such a case, be sure to check the "Contact Us" information as well. There should be at least one legitimate contact you can get in touch with.

7. Look at the advertisements displayed on the page.

If there are a plethora of pop-up ads or advertisements for items or services that don't seem to have much to do

with a story, that is a warning sign that the information may be bogus.

8. Use basic math to fact-check.

News items and political campaigns often use statistics that make incorrect claims, assuming that readers won't take the time out to read them. "Fermi estimates," or simple mathematical calculations, can help us spot the wrong information.

9. Watch out for language.

Fake stories are more likely to use non-technical, brief, and redundant language.

10. Be aware of the biases creators of fake news take advantage of:
    a. Confirmation Bias: We have a need to look at evidence that confirms our beliefs.
    b. Echo Chambers: Our beliefs are reinforced if the same kind of information is being regurgitated in our close friends and family circles.
    c. Filter Bubbles: These are website algorithms designed to present information that viewers believe they want to see.
    d. Repetition Theory: The more we encounter a certain story, the more likely we are to believe it to be true
    e. Information Overload: If we encounter more information than we can process, our ability to make correct decisions and judgements is hampered.
    f. Information Avoidance: We avoid information that makes us feel uncomfortable.
    g. Satisficing: When we find information that we find satisfactory, we don't look any further.[129]

By conducting these steps, we are doing at least our part in safeguarding ourselves from being swayed.

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CHAPTER 16:

Conclusion

To put it simply, rational thinking is merely balanced thinking. It is the antidote to our all-or-nothing thinking that limits us into believing that we are either good or bad, right or wrong, and there is nothing in between.

Rational thinking allows us to look beyond black and white. It acknowledges that life is lived in different shades, and there is a wide spectrum of beliefs that can exist within every single decision of our lives. It allows us to remove limitations from ourselves and acknowledge that life is not one or the other; it is, in fact, one AND the other. It grounds us to form an objective relationship with what is "real." When we have

extreme emotions or extreme beliefs, we form a fragile relationship with reality; through rational thinking, we can put everything we have ever believed to test.

Instead of believing anything and everything that causes us pain, we can question it instead of internalizing it. We need to approach life with vigor, ask questions, ask for evidence, look for inconsistencies, and expand our mind just by being more adaptive.

And when we are adaptive, we have the capacity for greater change. This possibility for change allows us to make choices that are better; it allows us to ask questions that can create a better future. Instead of yo-yoing from sadness to happiness, by thinking rationally, we have the room to create a journey. Our focus shifts to the process, not the destination.

The problem with rational thinking is that it requires effort and deliberation. The reason we have spent centuries relying on emotional thinking is because it is short-term, we can see the benefits immediately. That is why children prefer sugar to broccoli or why we take the first job we get instead of waiting for the right one. And the irrationality behind our decisions doesn't exhibit itself until much later in life. Think about how long it has taken us to understand basic elements of nutrition, and even then, our discussions are inconclusive and on-going. This is why irrationality is so widespread. Our social and economic environment encourage foolish choices, so in order for us to decide differently, we have to rise against the tide.

If you do decide, you'll find your perspective changing. You'll begin to acknowledge the inconsistencies with the information you receive, how news coverage focuses more on some information than the other, and how the diet pills that you bought have not made as much of a difference as you would have hoped. As your systems and ways of thinking collapse, you will feel alarmed. That is all but natural. Our genetic makeup, our entire lives have been designed to encourage this kind of impulsive thinking. The kind of thinking where we buy, hit send, click, and read not to learn but to prove a point. It is by overwhelming us that the system confuses us. But once your panic settles, you will be hit with a

clarity; while things may have been a certain way, they don't need to remain the same.

Change stems from a single source. It is born from an idea, and in this case, the idea is to be better, to be whole by embracing the emotional and the rational. It will allow you to mourn the loss of lives lost without assigning blame or to pick something off the shelf to eat not because you are feeling self-destructive, but because you want to.

The benefits will begin on a personal level. You will build a foundation of personal happiness, one that is not swayed by other people's wants or desires, but one that is built on values that are true to you. Rational thinking allows you to choose a course of action where you get things right for you (i.e., where your beliefs and choices are reflective of what goes on in your mind).

Once you experience your internal transformation, it will extend to your external encounters as well. Despite our limitations, we have made leaps and bounds in terms of discoveries, economic progress, and even in terms of creating community. Think of how much you would contribute by taking it to the next step, by creating a more sustainable approach to thinking and consequently living.

The main benefit of rational thinking is that it has the capacity to wake us up from the stupor we have been in. By looking at the world around us and questioning our place in it, we create room for joy and full experiences. We explore the possibilities of living a better life within this Earth as well as the boundless wonder that comes with exploring the universe.

Becoming aware of all the biases that we are capable of should not overwhelm you. Michelangelo was a famous Renaissance painter who was once asked the secret of his genius by the Pope.

The Pope had asked, "How have you created the statue of David, the masterpieces of all masterpieces?"[130] Michelangelo replied, "It's simple. I removed everything that is not David."

While we may not have clear-cut answers in terms of what makes us happy or successful, or how we should live our lives,

we can at least be aware of things that destroy us. Just that knowledge is critical. Knowing what we should avoid has great impact; we need to eliminate errors in our approach to thinking, and better thinking will evolve from it. Even religion covered this idea (i.e., we don't know what God is, but we can say what God is not). Knowing just that is enough to set us on the right path.

Just as flowers and animals have been shaped by evolution, so has thought. Back then, thinking was simple, technological and social progress was limited. But in the last ten thousand years or so, the world has evolved drastically. We see more in a fifteen-minute car ride than our ancestors would in their whole life. While their lives were based on activity, ours benefit from reflection.

There is place for both intuitive and rational, and to make those decisions simpler for you, set yourself some simple rules. When the stakes of your decision are high, choose rationality. Take out all the biases that you are victim of and slowly check them off. In other cases where your decisions won't lead to life altering results, rely on your intuitive thinking, the side that doesn't rack your brain.

I hope that the research and the studies provided within this book were illuminating. The crux of the matter is that our irrational behaviors are not random or inane—they are systematic and predictable. We often fall victim to the same kind of mistakes, and that is because of how our brains have been wired for generations. While it can be depressing to note that we all make irrational decisions in our personal, professional, and social lives, our mistakes are also indicative of how we can improve our decisions.

The reason the systems work against us is because we are just pieces of a larger puzzle; emotions, relativity, and social norms guide many of our behaviors and influence a lot of control over us. We cannot ignore their power. They do not make us weaker, they are a part of us. Our ability to understand why we make erroneous decisions can allow us to be more aware, force us to think differently, and help us overcome our inherent shortcomings.

When we move past our constraints, we can spearhead a new kind of freedom, a place from which new ideas, invention, and creativity can be borne. The reason we live in a world where we hear about torture, famine, and racism is because we are caught up in a cycle of the same patterns of thinking; history does not repeat, but it does rhyme. Our thinking shackles us to a predictable way of being, and none of us are optimized for the 21st century. We're scared of people who are different from us, we push them away. Corporations can push emotional buttons, which can manipulate us into doing all kinds of things, even if we know these things to be wrong. We live in a nuanced world with complex problems, and so we require complex solutions.

And adopting a more rational and critical approach to life is the first step. The same ways of thinking that cause us problems had once been what saved us. Hunters and foragers traveled in packs. They relied on a leader who told them what to do. By adopting the best of both worlds, you have the power in you to change course, to break away from the pattern, and to influence someone else to follow suit. By vocalizing the problem, you have a chance to find a listening ear, maybe someone else who is impressed enough to break free and adopt a critical approach too.

There are no guarantees and no right answers. Rational thinking requires work, effort, deliberation, everything our systems have been built to avoid.

But now that we're not living under the rock of ignorance, how can we do anything but try?

One last thing before you go – Can I ask you a favor? I need your help! If you like this book, could you please share your experience on Amazon and write an honest review? It will be just one minute for you (I will be happy even with one sentence!), but a GREAT help for me and definitely good Karma . Since I'm not a well-established author and I don't have powerful people and big publishing companies supporting me, I read every single review and jump around with joy like a little kid every time my readers comment on my books and give me their honest feedback! If I was able to inspire you in any way, please let me know! It will also help me get my books in front of more people looking for new ideas and useful knowledge.

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Thank you and good luck! I believe in you and I wish you all the best on your new journey!

Your friend,

Ian

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130 Dobelli, Rolf. *The art of thinking clearly*. Epilogue, p. 217.

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If you are interested in Self-Development, Psychology, Emotional Intelligence, Social Dynamics, Soft Skills, Spirituality and related topics, you might be interested in previewing or downloading my other books:

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A Practical Guide to Improving Your Social Intelligence, Presentation, Persuasion and Public Speaking

Do You Know How To Communicate With People Effectively,
Avoid Conflicts and Get What You Want From Life?

…It's not only about what you say, but also about WHEN, WHY and HOW you say it.

Do The Things You Usually Say Help You, Or Maybe Hold You Back?

Have you ever considered **how many times you intuitively felt that maybe you lost something important or crucial, simply because you unwittingly said or did something, which put somebody off?** Maybe it was a misfortunate word, bad formulation, inappropriate joke, forgotten name, huge misinterpretation, awkward conversation or a strange tone of your voice?

Maybe you assumed that you knew exactly what a particular concept meant for another person and you stopped asking questions?

Maybe you could not listen carefully or could not stay silent for a moment? **How many times have you wanted to achieve something, negotiate better terms, or ask for a promotion and failed miserably?**

It's time to put that to an end with the help of this book.

Lack of communication skills is exactly what ruins most peoples' lives.

If you don't know how to communicate properly, you are going to have problems both in your intimate and family relationships.

You are going to be ineffective in work and business situations. It's going to be troublesome managing employees or getting what you want from your boss or your clients on a daily basis. Overall, **effective communication is like an engine oil which makes your life run smoothly, getting you wherever you want to be.** There are very few areas in life in which you can succeed in the long run without this crucial skill.

What Will You Learn With This Book?

- What Are The **Most Common Communication Obstacles** Between People And How To Avoid Them
- How To Express Anger And Avoid Conflicts
- What Are **The Most 8 Important Questions You Should Ask Yourself** If You Want To Be An Effective Communicator?
- **5 Most Basic and Crucial** Conversational Fixes
- How To Deal With Difficult and Toxic People
- Phrases to **Purge from Your Dictionary** (And What to Substitute Them With)
- The Subtle Art of **Giving and Receiving Feedback**
- Rapport, the **Art of Excellent Communication**
- How to Use Metaphors to **Communicate Better** And **Connect With People**
- What Metaprograms and Meta Models Are and How Exactly To Make Use of Them To **Become A Polished Communicator**
- How To Read Faces and **How to Effectively Predict Future Behaviors**
- How to Finally Start **Remembering Names**

- How to Have a Great Public Presentation
- How To Create Your Own **Unique Personality** in Business (and Everyday Life)
- Effective Networking

Buy on Amazon:

https://tinyurl.com/IanCommSkillsKindle

The Science of Effective Communication:

Improve Your Social Skills and Small Talk, Develop Charisma and Learn How to Talk to Anyone

Discover the powerful way to transform your relationships with friends, loved ones, and even co-workers, with proven strategies that you can put to work immediately on improving the way you communicate with anyone in any environment.

From climbing the career ladder to making new friends, making the most of social situations, and even finding that special someone, communication is the powerful tool at your disposal to help you achieve the success you truly deserve.

In The Science of Effective Communication, you'll learn how to develop and polish that tool so that no matter who you are, where you go, or what you do, you'll make an impact on everyone you meet for all the right reasons.

Discover the Secrets Used By the World's Most Effective Communicators

We all know that one person who positively lights up any room they walk into, who seem to get on with everyone they meet and who lead a blessed life as a result.

Yet here's something you may not know:

Those people aren't blessed with a skill that is off-limits to the rest of us.

You too can learn the very same techniques used by everyone from Tony Robbins to Evan Carmichael to that one guy in your office who everyone loves and put them to work in getting what you want - without bulldozing over everyone in your path.

Step-by-Step Instructions to Supercharge Your Social Confidence

The Science of Effective Communication is a fascinating, practical guide to making communication your true super

power, packed with expert advice and easy-to-follow instructions on how to:

- Retrain your brain to develop powerful listening skills that will help you build better relationships with anyone and gain more value from your conversations.
- Make your voice more attractive to potential romantic partners.
- Mend broken relationships with family members, partners, and even work colleagues.
- Get your views heard by those in authority without being disrespectful.
- Thrive in any job interview and get that dream job.

Your Complete Manual for Building Better Relationships With Everyone You Meet

Bursting with actionable steps you can use IMMEDIATELY to transform the way you communicate, this compelling, highly effective book serves as your comprehensive guide to better communication, revealing exclusive tips to help you:

- Overcome 'Outsider Syndrome,' make friends, and flourish in any social situation
- Keep conversations flowing with anyone
- Make long-distance relationships not only work, but positively prosper
- Reap huge rewards from a digital detox

And much, much more.

Buy on Amazon:

http://getbook.at/EffectiveCommunication

The Science of Interpersonal Relations:

A Practical Guide to Building Healthy Relationships, Improving Your Soft Skills and Learning Effective Communication

From first dates and successful relationships to friends, colleagues, and new acquaintances, unlock the hidden secrets to successful communication with anyone and learn to flourish in any environment.

Guaranteed to change the way you think about relationships forever, The Science of Interpersonal Relations empowers you to identify those communication skills you need to work on and develop powerful techniques that will ensure your interpersonal relations thrive.

Your Complete Guide to Transforming Your Relationships

The Science of Interpersonal Relations is a book unlike any you've read before, not only in its approach to improving romantic relationships, but also on how to strengthen bonds and communicate better friends, family members, and even colleagues.

To really help you change your entire approach to communication, the book is split into two easy-to-read parts.

In part one, you'll change the way you think about the different relationships in your life and develop a whole new mindset that will lead you to healthy, positive, long-lasting relationships.

You'll discover:

- The real reason why so many relationships break down, and how to prevent yours from doing the same
- How to identify when you're being emotionally abused, and how to make it stop for good.
- Powerful solutions for dealing with negative people and protecting yourself against emotional vampires

- The secrets to successful assertiveness and the right way to say ‘no’ to anyone
- The links between personality styles and communication, and how to get the best out of any conversation with anyone.

In part two, you’ll learn the tools and techniques you can put into action RIGHT NOW to start transforming your interpersonal relations for the better, including:

- Proven strategies for setting boundaries without hurting the other person
- The simple way for to help you meet your partner’s real needs
- Effective techniques for identifying your partner’s need for validation and providing it

and much more.

Discover the Real Reason You Don’t Have the Relationship You Want - And What to Do About It

- Single and struggling to find that ‘perfect’ someone?
- In a relationship that you suspect might be in serious trouble?
- Dating someone you’re convinced is ‘The One’ but not sure how to take that relationship to the next level?

Then this is the one book you can’t live without.

Whatever situation you’re in, single, dating, or struggling to keep that long-term relationship alive, you’ll find simple-yet-effective instructions on how to create positive connections with the people in your life, including:

- How to determine what you really want in a relationship - and the red flags to watch out for that tell you someone really isn’t right for you.
- How to turn heated arguments into positive experiences that help you and your loved one become closer and happier as a couple.

- How to identify if you're in a codependent relationship - and what to do about it.
- How to have "The Talk" about the state of your relationship and approach the subject of turning casual dating into something more serious.

Buy on Amazon:

http://getbook.at/Relations

Self-Discipline:

Mental Toughness Mindset: Increase Your Grit and Focus to Become a Highly Productive (and Peaceful!) Person

This Mindset and Exercises Will Help You Build Everlasting Self-Discipline and Unbeatable Willpower

Imagine that you have this rare kind of power that enables you to maintain iron resolve, crystal clarity, and everyday focus to gradually realize all of your dreams by consistently ticking one goal after another off your to-do list.

Way too often, people and their minds don't really play in one team.

Wouldn't that be profoundly life-changing to utilize that power to make the best partners with your brain?

This rare kind of power is a mindset. The way you think, the way you perceive and handle both the world around you and your inner reality, will ultimately determine the quality of your life.

A single shift in your perception can trigger meaningful results.

Life can be tough. Whenever we turn, there are obstacles blocking our way. Some are caused by our environment, and some by ourselves. Yet, we all know people who are able to overcome them consistently, and, simply speaking, become successful. And stay there!

What really elevates a regular Joe or Jane to superhero status is the laser-sharp focus, perseverance, and the ability to keep on going when everyone else would have quit.

I have, for a long time, studied the lives of the most disciplined people on this planet. In this book, you are going to learn their secrets.

No matter if your goals are financial, sport, relationship, or habit-changing oriented, this book covers it all.

Today, I want to share with you the science-based insights and field-tested methods that have helped me, my friends, and my clients change their lives and become real-life go-getters.

Here are some of the things you will learn from this book:

- **What the "positive thinking trap" means,** and how exactly should you use the power of positivity to actually help yourself instead of holding yourself back?
- What truly makes us happy and how does that relate to success? Is it money? Social position? Friends, family? Health? **No. There's actually something bigger, deeper, and much more fundamental behind our happiness**. You will be surprised to find out what the factor that ultimately drives us and keeps us going is, and this discovery can greatly improve your life.
- **Why our Western perception of both happiness and success are fundamentally wrong**, and how those misperceptions can kill your chances of succeeding?
- **Why relying on willpower and motivation is a very bad idea, and what to hold on to instead?** This is as important as using only the best gasoline in a top-grade sports car. Fill its engine with a moped fuel and keep the engine oil level low, and it won't get far. Your mind is this sports car engine. I will show you where to get this quality fuel from.
- **You will learn what the common denominator of the most successful and disciplined people on this planet is** – Navy SEALS and other special forces, Shaolin monks, top performing CEOs and Athletes, they, in fact, have a lot in common. I studied their lives for a long time, and now, it's time to share this knowledge with you.
- Why your entire life can be viewed as a piece of training, and **what are the rules of this training?**
- What the XX-th century Russian Nobel-Prize winner and long-forgotten genius Japanese

psychotherapist **can teach you about the importance of your emotions and utilizing them correctly in your quest to becoming a self-disciplined and a peaceful person?**

- How modern science can help you **overcome temptation and empower your will,** and why following strict and inconvenient diets or regimens can actually help you achieve your goals in the end?
- How can you win by failing and **why giving up on some of your goals can actually be a good thing?**
- How do we often become **our own biggest enemies** in achieving our goals and how to finally change it?
- How to **maintain** your success once you achieve it?

Buy on Amazon:

http://tinyurl.com/IanMentalToughness

Emotional Intelligence Training:

A Practical Guide to Making Friends with Your Emotions and Raising Your EQ

Do you believe your life would be healthier, happier and even better, if you had more practical strategies to regulate your own emotions?

Most people agree with that.

Or, more importantly:

Do you believe you'd be healthier and happier if everyone who you live with had the strategies to regulate their emotions?

…Right?

The truth is not too many people actually realize what EQ is really all about and what causes its popularity to grow constantly.

Scientific research conducted by many American and European universities prove that the **"common" intelligence responses account for less than 20% of our life achievements and successes, while the other over 80% depends on emotional intelligence.** To put it roughly: **either you are emotionally intelligent, or you're doomed to mediocrity, at best.**

As opposed to the popular image, emotionally intelligent people are not the ones who react impulsively and spontaneously, or who act lively and fiery in all types of social environments.

Emotionally intelligent people are open to new experiences, can show feelings adequate to the situation, either good or bad, and find it easy to socialize with other people and establish new contacts. They handle stress well, say "no" easily, realistically assess the achievements of themselves or others and are not afraid of constructive criticism and taking calculated risks.

They are the people of success. Unfortunately, this perfect model of an emotionally intelligent person is extremely rare in our modern times.

Sadly, nowadays, **the amount of emotional problems in the world is increasing at an alarming rate.** We are getting richer, but less and less happy. Depression, suicide, relationship breakdowns, loneliness of choice, fear of closeness, addictions—this is clear evidence that we are getting increasingly worse when it comes to dealing with our emotions.

Emotional intelligence is a SKILL, and can be learned through constant practice and training, just like riding a bike or swimming!

This book is stuffed with lots of effective exercises, helpful info and practical ideas.

Every chapter covers different areas of emotional intelligence and shows you, **step by step,** what exactly you can do to **develop your EQ** and become the **better version of yourself.**

I will show you how freeing yourself from the domination of left-sided brain thinking can contribute to your inner transformation—**the emotional revolution that will help you redefine who you are and what you really want from life!**

In This Book I'll Show You:

- What Is Emotional Intelligence and What Does EQ Consist of?
- How to **Observe and Express** Your Emotions
- How to **Release Negative Emotions and Empower the Positive Ones**
- How to Deal with Your **Internal Dialogues**
- How to **Deal with the Past**
- **How to Forgive** Yourself and How to Forgive Others
- How to Free Yourself from **Other People's Opinions and Judgments**

- What Are “Submodalities” and How Exactly You Can Use Them to **Empower Yourself** and **Get Rid of Stress**
- The Nine Things You Need to **Stop Doing to Yourself**
- How to Examine Your Thoughts
- **Internal Conflicts** Troubleshooting Technique
- The Lost Art of Asking Yourself the Right Questions and **Discovering Your True Self!**
- How to Create Rich Visualizations
- LOTS of practical exercises from the mighty arsenal of psychology, family therapy, NLP etc.

And many, many more!

Buy on Amazon:

https://tinyurl.com/IanEQTrainingKindle

Accelerated Learning:

The Most Effective Techniques: How to Learn Fast, Improve Memory, Save Your Time and Be Successful

Unleash the awesome power of your brain to achieve your true potential, learn anything, and enjoy greater success than you ever thought possible.

Packed with proven methods that help you significantly improve your memory and develop simple-yet-powerful learning methods, Accelerated Learning: The Most Effective Techniques is the only brain training manual you›ll ever need to master new skills, become an expert in any subject, and achieve your goals, whatever they may be.

Easy Step-by-Step Instructions Anyone Can Use Immediately

- Student preparing for crucial exams?
- Parent looking to better understand, encourage, and support your child's learning?
- Career professional hoping to develop new skills to land that dream job?

Whoever you are and whatever your reason for wanting to improve your memory, Accelerated Learning: The Most Effective Techniques will show you exactly how to do it with simple, actionable tasks that you can use to help you:

- Destroy your misconceptions that learning is difficult - leaving you free to fairly pursue your biggest passions.
- Stop procrastinating forever, eliminate distractions entirely, and supercharge your focus, no matter what the task at hand.
- Cut the amount of time it takes you to study effectively and enjoy more time away from your textbooks.
- Give yourself the best chance of success by creating your own optimal learning environment.

Everything you'll learn in this book can be implemented immediately regardless of your academic background, age, or circumstances, so no matter who you are, you can start changing your life for the better RIGHT NOW.

Take control of your future with life-changing learning skills.

Self-doubt is often one of the biggest barriers people face in realizing their full potential and enjoying true success.

In Accelerated Learning: The Most Effective Techniques, you'll not only find out how to overcome that self-doubt, but also how to thrive in any learning environment with scientifically-proven tools and techniques.

You'll also discover:

- How to use an ancient Roman method for flawless memorization of long speeches and complex information
- The secret to never forgetting anyone's name ever again.
- The easy way to learn an entirely new language, no matter how complex.
- The reason why flashcards, mind maps, and mnemonic devices haven't worked for you in the past - and how to change that.
- The simple speed-reading techniques you can use to absorb information faster.
- How to cut the amount of time it takes you to study effectively and enjoy more time away from your textbooks.
- The truth about binaural beats and whether they can help you focus.
- How to effectively cram any exam (in case of emergencies!).

And much more!

Buy on Amazon:

http://getbook.at/AcceleratedLearning

The Science of Self Talk:

How to Increase Your Emotional Intelligence and Stop Getting in Your Own Way

We all speak to ourselves on a daily basis. Whether it's out loud or an internal (or infernal) commentary, we all practice self-talk and, how we speak to ourselves can have a significant effect on our emotions and subsequent actions.

Some people's self-talk is mostly about the future while, for others, it's an internal dialogue about the past. Some self-talk is positive and upbeat, while other self-talk is harsh, critical or defeatist.

Self-talk can focus on other people but, more often than not, it is about ourselves - and is often negative.

If you listen carefully, you'll notice that your inner conversation reflects thoughts and emotions. Self-talk isn't random. It exhibits patterns that repeat themselves. And everyone has their own characteristic self-talk that is uniquely theirs.

In The Science Of Self-Talk mindfulness expert, Ian Tuhovsky, explains how we can re-write the script when it comes to our internal communication. Through a series of simple exercises for use in daily life, you can understand your own self-talk in order to change the conversation.

Learn how you can listen to and understand your internal dialogue in order to change it.

Many of us practice negative self-talk by default - how many times have you called yourself an idiot or chastised yourself for not being good enough?

Negative self-talk is a harmful habit which can lead to anxiety, depression and helplessness and, yet, this is something that most of us do on a regular basis. For many people, this is learned behaviour whereby caution against boasting leads to self-criticism or self deprecation. For others, this is a natural

reflection of the self and one that can slowly corrode self esteem.

This unique book covers:

- Constructive self-talk and dysfunctional self-talk - and knowing the difference.
- The impact of negative self-talk
- Learned helplessness
- Positive self-talk - challenge or threat?
- The Pareto Principle which says that, for many events, roughly 80% of the effects come from 20% of the causes.
- Creating the right circumstances for motivation
- Getting to know yourself
- Loving yourself - emotional intelligence
- Turning down the volume on your self-talk

In the past, people who engaged in negative self-talk or self-criticism were often labelled ‘perfectionists’, insinuating that it’s actually a positive thing but it’s so much more damaging than that.

Learning to identify our negative self-talk behaviour is the first step toward freeing us from its grip. With the right tools, we can change our internal dialogue, opening ourselves up to new opportunities, increased self-esteem and confidence.

More than just a self-help manual, The Science of Self-Talk is a Positive Psychology Coaching Series which explains the roots of self-talk, or, intrapersonal communication. The book explains that these are the thoughts that we ‘hear’ with the auditory part of our brain and which add a kind of commentary to our daily life.

Self talk is a little like turning on the director’s commentary on a movie.

You can simply watch the movie or you can add in commentary about what’s happening in it - this is, in a nutshell, what most of us do in our daily lives.

The Science Of Self Talk can help you to re-write the script of your movie and improve the way that you - and others - see yourself.

Buy on Amazon:

mybook.to/IanSelfTalk

Mindfulness:

The Most Effective Techniques: Connect With Your Inner Self to Reach Your Goals Easily and Peacefully

Mindfulness is not about complicated and otherworldly woo-woo spiritual practices. It doesn't require you to be a part of any religion or a movement.

What mindfulness is about is living a good life (that's quite practical, right?), and this book is all about deepening your awareness, **getting to know yourself,** and developing attitudes and mental habits that will make you not only a successful and effective person in life, but a happy and wise one as well.

If you have ever wondered what the mysterious words "mindfulness" means and why would anyone bother, you have just found your (detailed) answer!

This book will provide you with actionable steps and valuable information, all in plain English, so all of your doubts will be soon gone.

In my experience, **nothing has proven as simple and yet effective and powerful as the daily practice of mindfulness.**

It has helped me become more decisive, disciplined, focused, calm, and just a happier person.

I can come as far as to say that mindfulness has transformed me into a success.

Now, it's your turn.

There's nothing to lose, and so much to win!

The payoff is nothing less than transforming your life into its true potential.

What you will learn from this book:

-What exactly does the word "mindfulness" mean, and why should it become an important word in your dictionary?

-How taking **as little as five minutes a day** to clear your mind might result in steering your life towards great success

and becoming a much more fulfilled person? …and **how the heck can you "clear your mind" exactly?**

-What are the **most interesting, effective, and not well-known mindfulness techniques for success** that I personally use to stay on the track and achieve my goals daily while feeling calm and relaxed?

-**Where to start** and how to slowly get into mindfulness to avoid unnecessary confusion?

-What are the **scientifically proven profits** of a daily mindfulness practice?

-**How to develop the so-called "Nonjudgmental Awareness"** to win with discouragement and negative thoughts, **stick to the practice** and keep becoming a more focused, calm, disciplined, and peaceful person on a daily basis?

-What are **the most common problems** experienced by practitioners of mindfulness and meditation, and how to overcome them?

-How to meditate and **just how easy** can it be?

-What are **the most common mistakes** people keep doing when trying to get into meditation and mindfulness? How to avoid them?

-**Real life tested steps** to apply mindfulness to everyday life to become happier and much more successful person?

-What is the relation between mindfulness and life success? How to use mindfulness to become much more effective in your life and achieve your goals much easier?

-**What to do in life** when just about everything seems to go wrong?

-How to become a **more patient and disciplined person?**

Stop existing and start living.

Start changing your life for the better today.

DOWNLOAD FOR FREE from Amazon Kindle Store:

myBook.to/IanMindfulnessGuide

Buddhism:

Beginner's Guide: Bring Peace and Happiness to Your Everyday Life

Buddhism is one of the most practical and simple belief systems on this planet, and it has greatly helped me on my way to become a better person in every aspect possible. In this book I will show you what happened and how it was.

No matter if you are totally green when it comes to Buddha's teachings or maybe you have already heard something about them—this book will help you systematize your knowledge and will inspire you to learn more and to take steps to make your life positively better!

I invite you to take this beautiful journey into the graceful and meaningful world of Buddhism with me today!

Buy on Amazon:

https://tinyurl.com/IanBuddhismGuide

About the Author

Author's Amazon profile, where you can find all of his books:

amazon.com/author/iantuhovsky

Author's blog: www.mindfulnessforsuccess.com

Instagram profile:
https://instagram.com/mindfulnessforsuccess

Hi! I'm Ian…

… and I am interested in life. I am in the study of having an awesome and passionate life, which I believe is within the reach of practically everyone. I'm not a mentor or a guru. I'm just a guy who always knew there was more than we are told. I managed to turn my life around from way below my expectations to a really satisfying one, and now I want to share this fascinating journey with you so that you can do it, too.

I was born and raised somewhere in Eastern Europe, where Polar Bears eat people on the streets, we munch on snow instead of ice cream and there's only vodka instead of tap water, but since I make a living out of several different businesses, I move to a new country every couple of months. I also work as an HR consultant for various European companies.

I love self-development, traveling, recording music and providing value by helping others. I passionately read and write about social psychology, sociology, NLP, meditation, mindfulness, eastern philosophy, emotional intelligence, time management, communication skills and all of the topics related to conscious self-development and being the most awesome version of yourself.

Breathe. Relax. Feel that you're alive and smile. And never hesitate to contact me!