

LUDVIG SUNSTRÖM



**BREAKING  
OUT OF  
HOMEOSTASIS**

**ACHIEVE MIND-BODY MASTERY AND  
CONTINUE EVOLVING WHEN OTHERS STAGNATE**

# **BREAKING OUT OF HOMEOSTASIS**

*Achieve Mind-Body Mastery And Continue  
Evolving When Others Stagnate*

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# What is Homeostasis And How Do You Break Out of it?

**Homeostasis** is the body's autopilot for survival. It is the brain and body's mechanism for staying the same and saving energy. It's also the oldest and most powerful biological force.

The brain did not evolve to think or change, but to maintain homeostasis.

Homeostasis no longer works as it should because our biology has not kept up with technology.

Most people never achieve their potential because they are trapped in homeostasis.

Homeostasis is caused by biology and reinforced by society.

You can **Break out of Homeostasis** by mastering the influences of biology and society.

The way to master these influences is the eightfold path:

1. Right Cognition
2. Right Habits
3. Right Discipline
4. Right Learning
5. Right Stimulation
6. Right Addictions
7. Right Reward System
8. Right Risk Taking

## About the Author

Ludvig Sunström is an entrepreneur and author. Together with hedge fund manager Mikael Syding, he hosts the popular business podcast “25 Minuter,” which has been ranked #1 on iTunes several times. His content has been read and listened to by millions of people.

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**7 Things This Book Will Help You Achieve: “This book is dangerous. It will make you think painful thoughts about things you could (and should) do differently. But it will also make you explore powerful new frontiers of the mind. So, if you can hang in there—and follow through on these ideas—you will be amply rewarded.”**

—**Mikael Syding**, *European Hedge Fund Manager of the Decade* “This book primes you for progress. It reminds us that conformity is regression.”

—**Martin Berkhan**, *Intermittent Fasting innovator* You will learn how to:

1. Remain adaptable in old age and continue evolving when others stagnate.
2. Get out of a depressing downward spiral and thrust yourself into a winner effect by removing bad habits and rewiring your brain’s reward system.
3. Double your willpower and curiosity by using your prefrontal cortex more.
4. Distinguish between when to trust your gut feeling and when not to.
5. Join the cognitive elite by developing your neocortex for higher order thinking.
6. Annihilate fear and unlock the genius of boldness by taming your amygdala.
7. Become a master of your craft by attaining expert pattern recognition.

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# **Foreword by Karl-Mikael Syding, The European Hedge Fund Manager Of The Decade**

## **Finally: A Resolution to the Age Old Debate on Choosing Happiness or Success**

I met Ludvig in 2014. I had worked in high finance as a sell-side analyst, buy-side analyst; and a hedge fund manager, managing director and partner, but I felt something was missing. I wanted to broaden my perspective and share my insights with others.

Before finishing that story, I want to tell you that this book deals with a super-important concept.

You must learn about *homeostasis*—and how to break out of it—because it's what determines how well you adapt to change. It will determine whether you can become future-proof in a world that's changing faster than ever. This book will give you the tools to stay young at heart and mind longer.

I'm often asked what my best advice would be for a young and ambitious person. Well, if you want to be productive and wealthy, yet happy and healthy, THIS is the book you should read; and the book I wish I had read many times over in high school and college.

I never really identified the underlying reasons for why I received a physics award from the King of Sweden. Or why I was poached from a small bank to head the IT-research team at Sweden's largest bank during the IT boom in the second half of the 1990s. Or how I became partner and Managing Director at arguably Europe's best performing hedge fund between 1999 and 2010. Ludvig, however, did connect the dots.

Chances are you're already well versed with Ludvig's work through his website. If not, prepare to be amazed. Familiar as I am with his ideas by now, I still underlined something on almost every page in this book.

I've listened to hundreds of hours of podcasts about the brain and body. I've read dozens and dozens of books about philosophy and psychology, and I have followed many blogs about self-improvement. I am not a novice in these areas.

followed many blogs about self-improvement. I am not a novice in these areas.

But this book is different. Sure, it *is* about those things, and Ludvig neatly synthesizes the big ideas from all those fields, but he also brings something new to the table: a powerful and practical framework that (almost) anyone can use to become smarter and stronger, regardless of age.

The question is: *Will you use it?*

\*

I was born in 1972. My generation had it easier in many ways than the Millennials. Attention disruptors like MTV, Internet, social media, and smart phones didn't exist in my world, and calling out of state was prohibitively expensive.

I was fortunate enough to be a loner and an avid reader (starting early as a bullied 4-year old outsider). I got a computer for my tenth birthday in January 1982. From that day onward, I spent all my waking time programming, reading computer magazines in English, and playing intricate text based games.

My being less socially inclined than most people thus proved a blessing in disguise, as it led me to spend hours upon hours in deep concentration and a state of flow, learning to decipher both English and coding at the same time, while my brain was still young and at its most malleable.

I had no idea of it at the time, but I was laying down a solid infrastructure in my brain; consisting of the habit of deep work and getting into flow as I was learning math, coding, logic, English, responsibility and discipline at the same time (if you've ever debugged a not-so-structured program you know what I mean).

Had I been born 20 years later, I'm sure I would have gotten lost among the siren calls from social media. I probably would have wasted away my life on Facebook, Twitter and YouTube.

Without the skills I acquired early in life—more or less by chance—I would have been left irrelevant in today's economic landscape. I would have been doomed to eking out an almost vegetative subsistence in routine jobs, with no future, and an inability to concentrate and learn fast enough to propel myself forward, like a Homeostasis Dweller.

Reading this book might just be the thing that gives you the tools to avoid such a

Reading this book might just be the thing that gives you the tools to avoid such a fate.

**This book deals with all the important skills any ambitious person needs to equip himself with to thrive in the modern world; a world for which humans are dangerously maladapted.**

We are constantly being manipulated; manipulated by clever marketers who specialize in hijacking our brains' reward system, manipulated by our own biases and psychological blind spots, and manipulated by short-term instincts, fears and drives that couldn't care less about our long term well-being, careers or network of friends.

I've often been content and complacent (in particular after a win), and prone to resting on my laurels. Had I read this book earlier and taken some of its most important concepts to heart (like *The 4 Pillars of Wakefulness*) I could have directed my natural drive, focus and energy in a better way; to optimize my learning, avoid stagnating, and break through plateaus in different areas of my life with more consistency.

Now, after reading *BOOH*, I make sure to regularly expose myself to novelty, variation and learning (to stimulate my prefrontal cortex). I also have a clearer mental model for how I can improve myself physically, psychologically and mentally over the coming years.

**Here are but a few of the questions that will be answered when you read BOOH:**

- whether to follow your passion or the money when choosing careers
- how to curate your network of friends and business acquaintances
- how to learn things deeper and faster
- how to focus better
- how to stay ahead of the pack (and differentiate)

**And here are some of my favorite passages from the book:**

- Movement Makes You Smarter: 14 Strategies
- The 4 Pillars of Wakefulness,
- and, if you're looking to improve your networking skills (or your pick-up game for that matter) read: Throw Off the Chains of Amygdala Slavery

This book is dangerous. It will make you think painful thoughts about things you could (and should) do differently. But it will also make you explore powerful

could (and should) do differently. But it will also make you explore powerful new frontiers of the mind. So, if you can hang in there—and follow through on these ideas—you will be amply rewarded.

Ludvig read something like 200 books in research for *BOOH*, and it shows. There are literally HUNDREDS of practical tips in it. I don't expect anybody to consistently follow them all.

I do, however, advocate that you re-read the book every few years to implement a handful of them each time, to make sure they stick with you as life-long habits.

Ludvig is living proof of his own theories. He used to be a lethargic and sugar-addicted gamer, but has—step-by-step—evolved into a picture of health and strength (physically as well as cognitively) by using the ideas from *Breaking out of Homeostasis*.

Before you do anything else, I suggest you start by reading through the 13 Top Takeaways.

*Think about it.* Don't just process the information. Does it feel hard and difficult? Good. That's because you're on the right way and in the process of Breaking out of Homeostasis.

With your momentum thus commenced, get on with the book and prepare to become a cognitively enhanced human. I already am.

Karl-Mikael “Sprezza” Syding  
Former partner at Futuris, The European Hedge Fund Of The Decade  
Author of “50 Lessons I Keep Forgetting”  
[Mikaelsyding.com](http://Mikaelsyding.com)

## The Top 13 Takeaways

1. You're biologically programmed to seek quick rewards, take shortcuts to save energy and avoid thinking, and not do painful or scary things.
2. **The older you get the harder it becomes to change. After age 30, things become harder.**
3. The brain didn't evolve for thinking. Its main purpose is to maintain homeostasis, have good emotions, help you fit in, and keep you from changing things in your life.
4. You can't trust your instincts in many situations because your biology is mismatched for much of the stimuli in the modern world.
5. Intuition is only possible when you have achieved *expert pattern recognition* on a subject, or when you have deliberately conditioned a particular response. When you haven't, it's probably not intuition, but a *homeostatic reaction*.
6. **Start with the assumption that you *don't know* what's best for you.** For example, you'd be happier if you had more novelty, variation, and negative feedback in your life, but chances are you don't, because homeostasis resists it.
7. Most of your fears, beliefs, and perceived limitations are self-imposed. They can be practiced away; only most people aren't committed enough to do it.
8. The gaining of willpower, concentration, and decisiveness is like a mental muscle, but society isn't conducive to fostering these traits. You need your own practices.
9. **Motivation and human behavior is at least 80% feedback loops.** Psychological, emotional, and habitual feedback loops. If you can understand these feedback loops—and get into good ones—you will have your homeostasis working *for* you, like passive interest.

10. Every day is an opportunity to enter a new feedback loop.
11. The most important rule for behavioral change is: *what you reward you reinforce*.
12. Right action is an illusion; winners learn to cope competently with stress and uncertainty. When confused, use **Ludvig's Razor**: "Which is the more homeostasis-friendly alternative?" and then don't do that one thing.
13. It's time to BOOH whenever logic dictates it. **Your job in life is always to find the path of most growth**, and then subduing your homeostasis to get on-board with that.

## **Book Summary**

First there were genes. Then the genes created tiny bodies. To ensure the survival of the body, *homeostasis* was created.

Homeostasis is the “operating system” of all living things. It is a feedback system with three attributes: to save energy, avoid pain, and seek pleasure.

Of these attributes, the most important is the first. The body cannot function without energy, and food was scarce. Therefore, it was vital to economize energy expenditure. This became the foundation from which all the rest of our instincts were built upon.

### **Making a Living is Expensive Business**

In nature, ecosystems rarely have more than four or five levels. This is because there is a 90% reduction in productive energy between each trophic level. So, between level 1 and 4 (from plants to Homo Sapiens), only something like 0,01% of the total energy remains in edible form.

This type of energetic scarcity is what our biology is adapted to. This is why our caveman ancestors had to walk several miles each day just to find enough food to get by.

In the last 200 years, we have outsmarted evolution. Thanks to supermarkets, refrigerators, cars, public transportation, computers and knowledge work, we move less and eat more.

On average, hunter-gatherers were able to use a maximum of 4000 calories of energy per day. We now use roughly 228,000 calories per day. That’s a 57-fold increase.

Most of that extra energy goes into technology that we don’t think much about—like electricity, ovens, and washing machines—but some of it also goes into our food. For most of our history, BMI (Body Mass Index) remained steadily around 18,5. This meant you were skinny. The average now ranges between 23-30. Fat is the new normal.

**The Difference Between You and a Caveman**

## The Difference Between You and a Caveman

The genetic difference between the two of you is minimal. You have the same brain and body; the same hormonal system, and the same primal yearnings. But the *context* in which you make a living is dramatically different.

*A caveman could trust his instincts and didn't have to think much*—because homeostasis was reasonably well-adjusted to the environment he lived in.

*You cannot trust your instincts and you have to think a lot*—because homeostasis is now mismatched to the modern world.

## Don't Worry, Be Hedonist

If you go by instinct and don't think much, guess what will happen to you? *Nothing*. Because we have social safety nets and human rights and all those things...

But I can tell you this much: You won't become healthy, wealthy, or successful.

Most people (regardless of talent and opportunity) don't do extraordinary things. This is because they won't do unconventional things. Why is that? They're trapped in homeostasis.

The modern world is counterintuitive. It's never been easier to become (financially) successful and live a life on your own terms. But it's also never been psychologically harder to do so. It reminds me of a section from Frederick Douglas' book *The Life of a Slave*, in which he describes coming back to the plantation after having lived comfortably in the city for years:

I suffered more anxiety than most of my fellow-slaves. **I had known what it was to be kindly treated; they had known nothing of the kind. They had seen little or nothing of the world.** They were in very deed men and women of sorrow, and acquainted with grief. Their backs had been made familiar with the bloody lash, so that they had become callous; mine was yet tender; for while at Baltimore I got few whippings, and few slaves could boast of a kinder master and mistress than myself.

You might think it's ridiculous to compare the brutality and unfairness of slavery to the comfort of modern life. You might be right.

Slaves didn't have access to virtually unlimited stores of food. Nor did they have free access to all the world's information. They didn't even have phones.

Life in 2017 is physically easy. You *can* become a master—but it's



psychologically and mentally difficult. This places a premium on mind-body mastery.

## **Breaking out of Homeostasis**

You are reading this book because you want to become a Homeostasis Breaker.

What does that mean, you wonder?

These are the assertions of a Homeostasis Breaker:

*If the human body is a system adapted for a set type of calories, stimulation and information, then that system is now imbalanced.*

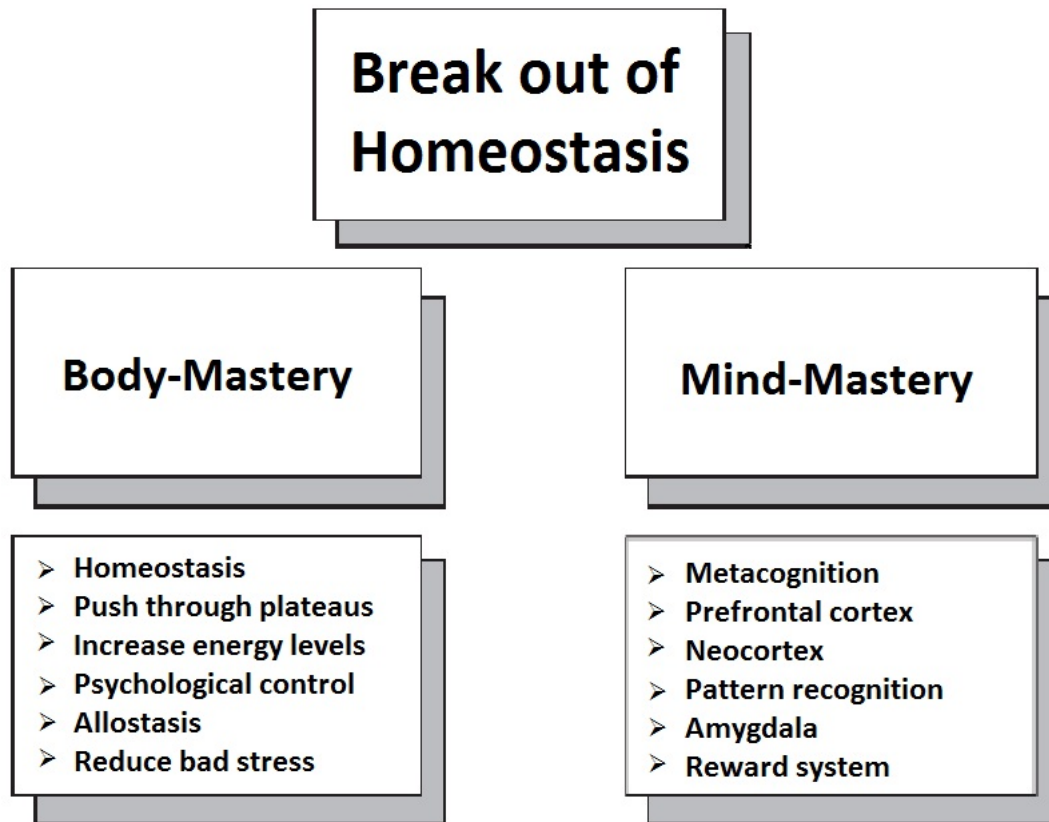
*We don't know what's good for us anymore. We don't know what makes us happy. We don't know what's healthy. We don't even know what's most fun to do. Everything we do, we tend to do too much of.*

*We cannot trust our instincts anymore. There are too many alternatives. We have to see where homeostasis tricks us and put in place better responses (thought habits, rules of thumb, emotional responses, addictions, and conditioned reflexes).*

This is the level of skepticism required to become a Homeostasis Breaker.

Can you handle it?

The philosophy of Breaking out of Homeostasis can be broken down like this:



## The 10 Practices of Homeostasis Breakers:

1. **Homeostasis.** Homeostasis Breakers know that to change something in their lives, they must first overcome their homeostasis and its initial resistance.
2. **Pain tolerance and plateaus.** Homeostasis Breakers don't seek easy answers to complex questions; they willingly embrace the grey zone of life. They don't believe in magic pill solutions. They believe in raising their pain tolerance and pushing through the plateau.
3. **Breaking out of Homeostasis.** Homeostasis Breakers are always on the lookout for new ways that will help them exert more energy and increase mental resourcefulness.
4. **Allostasis.** Homeostasis Breakers understand their limitations and know that the brain and body can only adapt to so many things at once. By avoiding chronic stress and minimizing unnecessary stress, they are able to take on bigger challenges than normal people.

5. **Metacognition.** Homeostasis Breakers take up metacognitive practices to improve their self-awareness and they do not trust their first instinct in situations where evolutionary mismatches, cognitive biases, or coping mechanisms are involved.
6. **Prefrontal cortex.** For Homeostasis Breakers the prefrontal cortex is the closest thing to a sacred object. They use it as much as they can every day by maintaining a rigorous upkeep of *the Four Pillars of Wakefulness* (novelty, variation, goal-orientation, and randomness).
7. **Neocortex.** Homeostasis Breakers develop their own process for improving cognition and higher order thinking. Above all: They try to think MORE. They don't use technology as a mental crutch and they are skeptical towards horoscopes, limiting labels and comforting beliefs — all of which are homeostasis-friendly alternatives.
8. **Pattern recognition.** Homeostasis Breakers know that the most important factor of success in any area of life is *expert pattern recognition*. They also know that this doesn't come about fast or easy, and that most people remain as despondent dilettantes. Therefore, they focus their inputs for information so that they can become innovators and masters.
9. **Amygdala.** For Homeostasis Breakers, the amygdala is the parking brake of life. They see the world as more psychological than logical, and regard a hyperactive amygdala as a serious handicap for success. They do socially uncomfortable things on purpose—as a practice—so that they will not crumble under pressure in life-or-death negotiations.
10. **Reward system.** Homeostasis Breakers build positive habits and choose to become addicted to stimuli that help them reach their goals. They get into a winner effect—and artfully sustain it. Then they avoid raising their stimulatory threshold unnecessarily, knowing that it influences their baseline level of motivation and concentration.

\*

Before you do anything else, be sure to take the test in the next chapter. It will help you diagnose where to start (and reveal whether you are a Homeostasis Dweller or a Homeostasis Breaker).

# Take the Test

We are going to have a little assessment now.

This will be an illuminating experience for you, so long as you are honest and do not cheat yourself (through projection and self-flattery).

For your convenience, I have arranged the questions in a random order so that it will be difficult to guess the “right” answer.

Before going any further, it’s important that you first grab a pen and paper or open up a text file on your computer so that you can record your answers.

Do that now.

One more thing before you start: try to answer the questions as fast as possible.

*Max 10 minutes.*

Now begin:

## **1. Can you defecate while sitting in squat position?**

- a. Yes.
- b. No.

## **2. How often are you bored? (Depression does not count)**

- a. Most of the time when I'm not with friends, on social media, watching TV, or playing games.
- b. Not much. I always have things to study, do, and goals to work towards.
- c. Only at work.

**3. How would you describe your role models?**

- a. I don't know.
- b. Pioneers, historic figures, and daring relatives.
- c. Celebrities and actors mainly.

**4. How much do you move each day?**

- a. To the bus/subway, to work, and back home.
- b. I go on multiple walks interspersed throughout the day.
- c. Barely at all. I work from home, sitting down by the computer most of the day.
- d. I ride the bike to and from work.

**5. What do you do for a living?**

- a. Researcher in a field I'm interested in.
- b. Entrepreneur, free agent, or consultant.
- c. Studying or employed.
- d. Unemployed.

**6. How much time do you spend each day watching TV, social media, or keeping up with the news?**

- a. I don't.
- b. 1-2 hours.
- c. 2-5 hours.

d. Often more than 5 hours [it's part of my job].

**7. How many books did you read in the last 6 months?**

a. I don't read.

b. More than 20.

c. Somewhere between 1-10.

d. I don't know, I mostly listen to podcasts and learn in other ways.

**8. How often are you hungry?**

a. Not at all, I never have been.

b. Only after my workouts.

c. Many times per day.

**9. Pick up your smartphone and look at it. How many screens do you have?**

a. 1-3 screens.

b. More than 3 screens.

c. I don't have a smartphone

**10. Could you go without food for an entire day or two if you wanted to?**

a. Yes to both.

b. No to both.

c. Yes to one day, but not two.

**11. Do you have bad habits you've been trying to fix for a long time?**

- a. Nothing too bad.
- b. Many. I know I should do something, but I don't know where to start.
- c. A few, but I'm working on it.

**12. If someone ran their hand over your belly, would they say that it's...**

- a. a six-pack?
- b. Flat?
- c. Chubby and protruding?
- d. Like the Michelin Man?

**13. Can you learn on your own through observation and self-reflection?**

- a. Probably about the same as most people.
- b. Yes, definitely better than others.
- c. No. I learn when I'm being told by others or through trial and error.

**14. Can you pick up a book, skim it for a minute, and find helpful information in it?**

- a. Yes.
- b. I've never tried.
- c. No.

**15. How often do you get sick?**

- a. Often, and I recover slowly.
- b. About normal, I think (6x/year).
- c. Almost never (max 2x/year).

**16. What is your opinion about *thinking*:**

- a. I don't know.
- b. Bothersome and boring.
- c. It determines the quality of my work, therefore I look for ways to improve it.
- d. I find it difficult, but I'd like to improve my thinking if I knew how.

**17. Can you, during your best part of the day, work for at least 3 hours straight without interruption?**

- a. Yes, that sounds about right.
- b. Easily. Usually a lot more.
- c. No, but it would be nice.

**18. Can you speak your mind in front of a group of people?**

- a. I can do it, but only if it's important to me.
- b. No, I've always been afraid to and it's debilitating to my career and social life.
- c. Yeah, no problem.

**19. Do you enjoy making decisions?**



- a. No. I often delay making decisions or leave it to someone else.
- b. Yes. I practice it in different ways.
- c. No, but I do it anyway and try to improve.

**20. How do you think other people would describe your lifestyle and ambitions?**

- a. Probably as weird.
- b. Relatively normal, I suppose.
- c. I don't know.

\*

## Find Out Your Score

Now look at the answers you recorded and see what they add up to.

**Question 1:** Most people cannot defecate while sitting in squat position, but it's what our ancestors did. If you cannot, it's a sign that you've developed unhealthy toilet habits. This can result in hemorrhoids later in life. More on this in the chapter 5, about evolutionary mismatches.

- a. +10
- b. 0

**Question 2:** If you're often bored, chances are high you've got a dopamine addiction. Read the final chapter on how to rewire your brain's reward system.

- a. -10
- b. +10
- c. 0

**Question 3:** If your role models are actors and celebrities it's probably a sign that you're too immersed in pop culture and mainstream media.

- a. 0
- b. +5
- c. -5

**Question 4:** Most people don't move enough and should build in more movement and physical activity into their daily lives. Check out chapter 3 for actionable tips on how to do this.

- a. 0
- b. +5
- c. -5
- d. +5

**Question 5:** The harder and more interesting your job is, the more likely you are to Break out of Homeostasis and become better at using your brain.

- a. +5
- b. +5
- c. 0
- d. -5

**Question 6:** Keeping up with the news, watching TV, and being on social media is bad for the brain and will make you mentally lazy.

- a. +10
- b. 0
- c. -5
- d. 0

**Question 7:** Reading books is good for the brain. Most people don't read enough.

- a. -5
- b. +10
- c. +5
- d. +5

**Question 8:** Being hungry more than 1-2 times per day is a sign of hormonal dysfunction, it means homeostasis is tricking you into eating more than necessary. (Pro athletes are excepted.)

- a. 0
- b. +5
- c. -5

**Question 9:** More than 3 screens on your phone means you need to prioritize better.

- a. +5
- b. -5
- c. +5

**Question 10:** Everyone (who does not have diabetes) can go without eating for a day and nothing bad will happen. If you can't, it only means your willpower is weak.

- a. +10
- b. 0
- c. +5

**Question 11:** Letting bad habits pile up is a sign of psychological ignorance. Read the last chapter about rewiring your brain's reward system on how to remove bad habits.

- a. +5
- b. -5
- c. 0

**Question 12:** Ideally, you want to become “ripped” (high % of muscle mass and body fat under 10%) before age 30. Once you attain it, it’s easy to maintain due to higher metabolism.

- a. +10
- b. +5
- c. -5
- d. -10

**Question 13:** It’s important that you can learn on your own by analysis and self-reflection because then you will always have material to study, and you’ll keep learning all throughout life.

- a. 0
- b. +5
- c. 0

**Question 14:** If you can’t find helpful information in a book or a text fast, it means you’re bad at processing information and/or you don’t have strong enough goals to act as mental filters.

- a. +5
- b. 0
- c. -5

**Question 15:** Becoming sick often means your health is bad. This is probably related to not moving enough, having an unhealthy diet, and a poor digestion. If recovery is slow, it may be due to chronic stress. Read chapter 4 to get lots of tips on fixing these and other health factors.

- a. -5
- b. 0
- c. +5

**Question 16:** Becoming an accurate thinker is the best indicator of your future economic value.

- a. -5
- b. -5
- c. +10
- d. +5

**Question 17:** Everyone should be able to focus for 3 hours during their best part of the day.

- a. +5

- b. +10
- c. 0

**Question 18:** If you can't speak up in front of a group it's probably because you have a hyperactive amygdala. You can practice it away by doing certain social experiments. Read chapter 10.

- a. 0
- b. -5
- c. +5

**Question 19:** Decision-taking is the most energetically expensive and psychologically difficult mental process. The more you learn to use your prefrontal cortex, the easier it gets.

- a. -5
- b. +5
- c. 0

**Question 20:** Following conventional thinking and fitting in with the crowd is the homeostasis-friendly approach to life. It's psychologically easier and requires less mental effort.

- a. +10
- b. 0
- c. 0

## More than 120 points

You are a Homeostasis Breaker. Your life quality and health should be great already (you are at least exceptionally well-adjusted to modern society), but you can learn a few things by reading the book. At minimum, you should find new principles and methods that you can use to experiment with for changing different aspects of your life.<sup>1</sup>

## Between 65-120 Points

You're better than average. You can easily improve using the advice in the book. You can become a Homeostasis Breaker within 6-18 months.

## Below 65 points

You are a Homeostasis Dweller. You are most likely a loser. You might fit in with your friends but if you keep going like you're doing now you're not going

with your friends, but if you keep going like you're doing now, you're not going to become happy, healthy, or wealthy over the long-term. You're headed for mediocrity at best, and terminal illness at worst. I feel for you; but at the same time I don't. I can no longer identify. It's all on you now... this is a difficult period... The advice in this book will change your life if you execute on even 10% of it.

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[1.](#) Martin Berkhan got 135 points on this. So it's probably reasonably accurate.

# **The Multi-Tier Strategy**

The key to continued evolution and innovation is to Break out of Homeostasis.

You don't get to the next level by doing more of the same thing.

It is only by interrupting your current feedback loop and entering a new one that you will have new, mind-altering, and paradigm-shifting ideas.

## **Getting Stuck in Feedback Loops for Far too Long**

Why don't people act in accordance with their better judgment more often? The short answer is: cognitive limitations to rationality, where discomfort of Breaking out of Homeostasis is always #1.

This lies at the root of why we make dumb, self-serving decisions as individuals and it explains most shortcomings in business and politics, made by humans collectively.

There is a very strong human tendency to get stuck in a rut; both in thinking and behavior. We always take things too far without noticing. It is only by disrupting our current feedback loop that we notice it. The key is to do it more often.

Sustained success in every area of life has to do with being adaptable. You need to acquire the ability to force yourself out of those ruts you've put yourself into; preferably before you are forced to do so by external circumstances. The extent to which you're able to do this has to do with:

1. Your ability to reflect on your thoughts and behavior objectively (your metacognition).
2. Your ability to Break out of Homeostasis (having a repertoire of proven methods).

This book will give you all the tools you need.

## **The Two Guidelines for When You Need to Break out of Homeostasis in a Big Way**

There are certain moments where you will predictably get stuck in feedback loops for far too long and perhaps waste YEARS of your life by dwelling in homeostasis. To avoid this, you must be prepared to do something extreme and unconventional when that time comes.

Here are some examples:

- From high school to university or getting a job.
- Starting a completely new job.
- A big promotion (junior to manager).
- From employee to free agent.
- Free agent to entrepreneur.
- Running a business doing 4-figures, to 5-figures, to 6-figures, and so on...
- Entrepreneur to investor.
- From business to politics.
- From bachelor to relationship.
- From relationship to marriage.
- Starting a family.
- “Retiring”.<sup>2</sup>

As a general principle, it’s time to Break out of Homeostasis in a big way when *you reach a point in your life where what worked to get you to where you are won't get you to the next level.*

As a corollary to this principle, it’s also time to Break out of Homeostasis in a big way when *logic dictates it.* Your job in life is always to find the most important option to invest your time into, and then subduing your homeostasis to get on-board with that. You have to be the boss of your brain.

Find the course of action with the highest expected value and then commit to a course of action that supports it. *This* is the dictum for right action.

When you switch your #1 priority, your current physiological state typically will not be conducive to reaching the desired outcome. My favorite example of this is when you’re shifting from research to execution.

This is when you have to switch from the **creative** process (ideation, reflection, strategizing) into the **practical** process where you're executing on the strategy you thought up.

This is something every successful person learns to do — especially great



This is something every successful person learns to do—especially great generals.

## **Shifting Between the Creative Process and the Practical Process:**

Meet Carl. By most people's standards, Carl is an ambitious individual; someone who, just recently, by age 28, managed to get out of the corporate grind and strike out on his own.

He built up a small consultancy business that now sells automated solutions over the Internet. This provides him with a steady stream of recurring cash flow every month.

Because of this, Carl is no longer plagued by immediate financial concerns, and many of his peers now consider him a fortunate fellow. But Carl is not content, he wants bigger things. And now he's struggling with a new kind of dilemma: *figuring out how to get to the next level, in life and business.*

It was relatively easy for Carl to get to this point because the blueprint had been laid out for him by others, and he was always good at taking directions. Plus he'd been thinking about it for years.

Now it's different: He's reached a point where entrepreneurial books, business blogs, and even some of his more financially successful friends can no longer give him directions. For the first time in years, Carl's confused about what to do next.

After some time of serious reflection, Carl decides to spend a couple of months traveling—hoping that a change of environment, with new people and novel associations, will help him go into a new feedback loop, free up his thinking, and enable him to invent a creative solution in going forward with his life and business.

Fast forward to several months later: it turns out Carl was right. He now has a new plan—but, the change in lifestyle *also* changed Carl's homeostasis.

After being hard at work—in a *practical process*—for several years straight, Carl abruptly broke into a vagabond lifestyle and spent months—in a *creative process*—like a romantic artist.

This produced a new dilemma. Here's how Carl describes the current predicament that he's gotten himself into:

I'm facing some type of weird cognitive dissonance: I finally came up with a strategy for taking my business to the next level, engulfing what I'm currently doing into a bigger vision over the next few years. But at the same time, I find myself not wanting to get back to work on the business anymore, even though *that was the whole point* of everything I've been doing for the past couple of months! Maybe I should travel a few more months before I decide? I'm not sure.

Maybe I've changed as a person and it's no longer in my nature to continue along the same path as before?

### **THE LOGIC FROM A HOMEOSTASIS STANDPOINT:**

1) Carl put in several months of traveling, changing his lifestyle and going into a totally different daily routine and feedback loop of stimuli. His brain's reward system is no longer addicted to working hard, building, and making progress with business.

2) Carl has a new homeostasis—and it wants to stay alive. The logic of Carl's previous goal—and the new solution—dictates that it must die. Carl should however expect to find any number of reasonable-sounding rationalizations to keep traveling.

3) There is no one right answer. But if Carl knew about the existence of homeostasis, and adjusted for its expected reaction, he might be more skeptical to his inclination to continue traveling.

So: Has Carl undergone a fundamental change in character, or is it just a compelling narrative he's telling himself to convince himself of the righteousness of his current behavior? Which is the more homeostasis-friendly alternative?

### **The Multi-Tier Strategy: Life's Hardest Task**

If you've set your mind to doing something unorthodox or extraordinary, as it appears Carl has, then you're going to have to do a lot of your own thinking. Following a manual or copying someone else only takes you so far.

*The Multi-Tier Strategy* is the term I use to describe the long-term process someone like Carl is engaging in. It entails shifting back and forth—over time—between the creative process and the practical process.

Reaching the next level requires a balancing-act between metacognition and discipline.

For an entrepreneur it might mean going back and forth between working on the

business and in the business; for a statesman it might mean wrestling with a policy problem and coming up with a workable solution for implementation, and for a scientist or an inventor it might mean engaging in the processes that allow for an intuitive, original insight to occur, and then formulating it in a simple way that others can understand and use.

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[2.](#) Homeostasis Breakers never retire. They find another avenue of mastery.

PART I

**Body-Mastery**

## CHAPTER 1

# **Homeostasis, Homeostasis Dwellers, and Homeostasis Breakers**

There are three types of people: Homeostasis Breakers, Homeostasis Dwellers, and those who don't know the difference.

# Homeostasis Dwellers vs Homeostasis Breakers Who is the Homeostasis Dweller?

It's that lazy, indulgent idiot that refuses to take responsibility at your work.

It's the person in front of you in the queue at the grocery store, devouring the dramatic headlines of the gossip magazines like a hungry hyena.

It's the person who sits at home watching TV, and looking at other people on social media all day, instead of living their own life.

It's the person who hasn't changed and improved over the last 5 years.

It's the person next to you on the flight reading the airline paper (looking at all the ads without understanding they are ads) while you are thinking about things to improve.

*It's the person whose life is defined by their unwillingness to think and exert effort.*

It used to be me.

## Two Different World Views

**HB:** Want to wake up.

**HD:** Want to sleep.

**HB:** Want to think and question.

**HD:** Want to indulge and feel good.

**HB:** Want to lose themselves in their work.

**HD:** Don't want to work at all.

**HB:** Want to learn new things and explore.

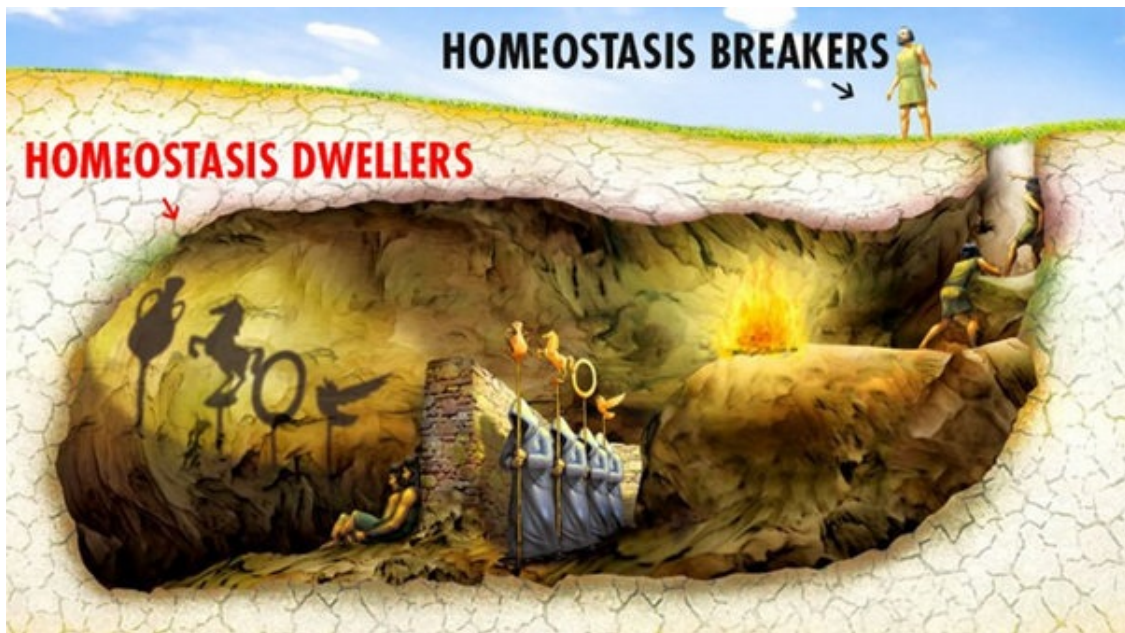
**HD:** Want to be effortlessly entertained.

**HB:** Want to change and improve.

**HD:** Want to avoid pain and discomfort.

**HB:** Want to challenge and eliminate fear.

**HD:** Want to avoid fear.



You can always expect Homeostasis Dwellers to take the easy way out. They talk about changing their lives, but they never do it, because it's hard.

A Homeostasis Dweller will quit the second something feels hard, boring, or painful.

**Understanding Homeostasis Dwellers** Homeostasis Dwellers say one thing and mean another.

Homeostasis Dweller Says:	Translation:
You only live once! :-D	I have no goals.
Maybe later?	Screw you, I'm too lazy.
[Talking about sport or news]	I have no <i>real</i> interests.
I'll try to _____.	I won't accept responsibility for it.
9x9!? [Pulls up calculator]	I use technology to avoid thinking.
It was on the first page on Google!	I trust the first thing I'm told, see or hear.

Homeostasis Dwellers are proud of being ignorant, lazy, or self-indulgent. Sometimes all three. They often enjoy flaunting this fact.

For example, they might brag about their parasitic behavior to a friend or write to their peers on an Internet forum: *"I just had the best day ever.... Check this out, I pulled only 1 hour of work while playing games on Facebook the rest of the workday—and my stupid boss has no idea! [3 cool smileys]"*.



# 7 Common Signs of a Homeostasis Dweller

1. Gets upset when unexpected and unpredictable things happen.
2. Has had the same routine for years without questioning or changing it.
3. Easily offended, refuses to admit error, and blames others for failures.
4. Is addicted to drama, voyeurism and pop culture, but shies away from thinking on their own.
5. Likes listening to mainstream music<sup>3</sup> on the radio (perhaps too lazy to compile a list of his own?) and doesn't mind commercials (probably due to lack of alternative cost).
6. Watches TV, plays video games, or inhabits fictitious realms where it is possible to live vicariously and get lots of emotional stimulation in a short time with minimal effort.
7. Often proclaims that “someday I will...”, “I should...”, or “I wish I could...” (exercise, eat better, get in shape, read a book, start a business). But it never happens.

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<sup>3</sup>. Homeostasis Dwellers especially enjoy songs about the *basic human needs*: love, revenge, being the coolest person on the dance floor, getting drunk and high, relaxing in luxurious ways, or having sex and being promiscuous.

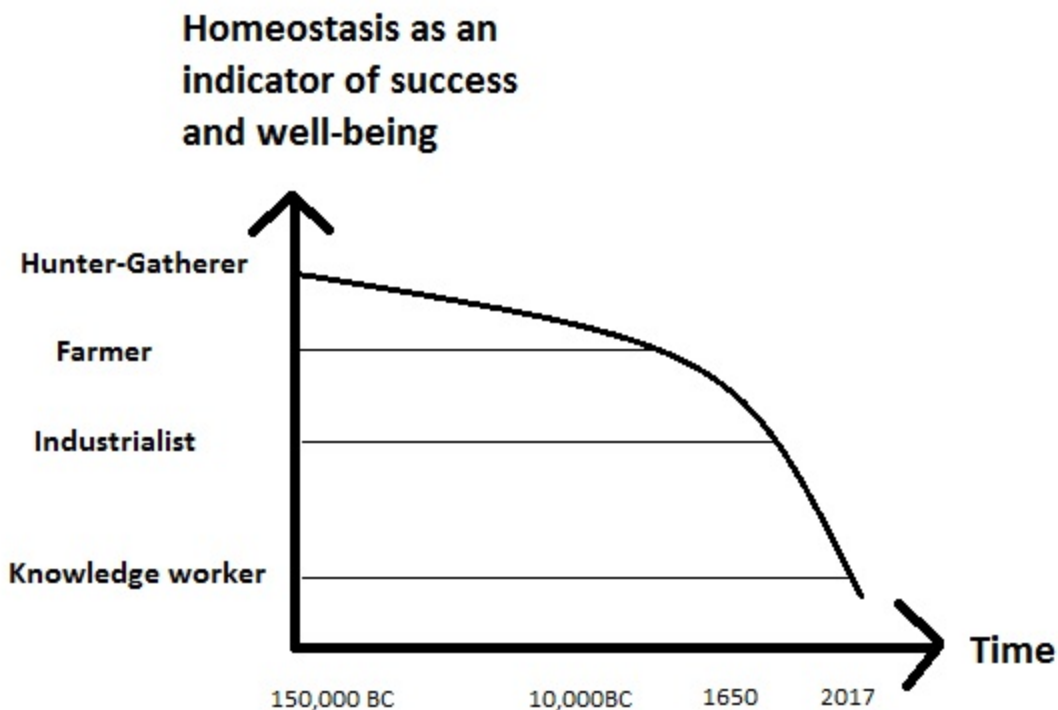
# You Can't Trust Homeostasis

Life is too easy.

The average person now faces fewer challenges than previous generations and there is less negative feedback built into our daily lives. The modern world allows us the luxury of excessive comfort and social insulation. As a result, we dwell in homeostasis and only do the bare minimum.

Hunter-gatherers could trust their instincts and biological responses because they were adapted to the environment they lived in. They could rely on homeostasis, because it had become fine-tuned over hundreds of thousands of years for the situations they faced.

We cannot rely on homeostasis to the same extent, because the world is now a very different place while homeostasis is basically the same.



*[The more technologically advanced society becomes, the less you can trust your instincts as a guide for what to do if you want to be healthy, happy and successful.]*

When hunter-gatherers got hungry it was an accurate indicator that they were running out of energy and needed to eat. When an office worker gets hungry, all it means is that their hormones have become accustomed to a certain pattern of eating, and homeostasis wants to maintain it.

We can't say if this is "good" or "bad", but what we *can* say, is that homeostasis is no longer as accurate a guide for survival, success, and happiness. It's more of an outdated autopilot than it is a guide for right action.

Cavemen could rely on instincts, but you and me, we need to think and make judgments.

Homeostasis is now a horrible guide for how you should live your life. It tricks you many times every day. Advertising, food engineering, social media, technological gadgets, video games, TV, and many other standard elements of modern life are all made with the intent to appeal to your primitive programming.

## 5 Areas Where Homeostasis Tricks You and Ruins Your Health

These are areas of "excessive comfort", where there's a lack of variation, stress, or physical exertion:

1. **Sedentary lifestyle and office work:** leading to less energy expenditure, poor posture, more monotony, and worse health.
2. **Habitual multi-tasking:** Resulting in lower attention span and poor recovery from stress.
3. **Over-stimulation** from excessive use of Internet, TV, social media, video games, and other forms of mindless entertainment that require a minimum of energy and active participation.
4. **Over-reliance on routine and predictability:** Leads to habituation, irrationally high risk-aversion, and a lower adaptability to change.
5. **Excessive indulgence of processed foods, snacks, sugar and drug use:** Leads to raised stimulatory threshold, addiction, lower discipline, and gut problems.

It's like a slippery slope: Trusting homeostasis in many situations of modern life will weaken you by tiny, imperceptible increments for each day. It's not

dangerous at first, but it can easily go too far.

This is how my childhood was secretly ruined.

Somewhere along the lines I, or rather—my, gut—was tricked into eating the wrong foods. It was no one's fault, but it went on for years... and I had many problems. Asthma, diarrhea, headaches, nosebleeds, poor concentration.

I went to the doctor probably ten times from age 13-15 (this is a lot in Sweden) and I never had any relief. I felt cheated and always felt deprived of true potential. I was always in the top 10% of the martial arts I was practicing, despite my breathing poorly.

Take it from me: If you blindly follow your instincts, you may suffer health problems and ailments such as:

- Obesity,
- diabetes,
- metabolic syndrome,
- hypertension,
- osteoporosis,
- irritable bowel syndrome,
- kidney stones,
- allergies, asthma, and more...

The main cause of these ailments is some combination of bad diet, sitting down too much, not exercising, and not being exposed to other kinds of stress (including change of diet).

These are things you can easily rectify—so why not do it?

# Victims of Homeostasis

## My Friend's Mom Has a Brain Tumor But Won't Change Her Diet

The following is a true story from one of my best friends. With his permission, I have copy pasted what he wrote to me on the messaging application Whatsapp (and redacted his real name).

FRIEND:

It's kinda sad

My mom has some brain tumor and her boyfriend has heart problems

My mom had 2 brain surgeries and might have a 3<sup>rd</sup>. She can't hold a full time job for years now and has joint pain, herniated discs and low energy levels.

Her boyfriend had multiple strokes already and can barely walk. He just rests in bed all day.

I told my mom to relax, stop nagging, clean up her diet, take omega 3 and reduce salt intake. She won't listen

FRIEND:

Her diet is high in salt, sugar and fat but then she will have gluten free bread and cake to make up for it?!

Seeing this makes me fucking angry man.

I can't believe she won't take positive action for her health when she's at a high risk of dying

FRIEND:

I even wrote a customized diet plan for both of them last Christmas but they never followed it because it doesn't contain all the unhealthy food they like.

## “My Heart is Telling me No!”

Have you ever said this or heard someone else say it? I have, many times. It's one of the most common rationalizations used for avoiding doing what's difficult or scary, even when that something is the right thing to do

There are many situations in life where you can't trust your emotions and reflexes. If you go through life only doing what “feels right”, your body may trick you to death.

# **My Dark Prediction of the Future**

Over the next 10-25 years mankind will be easily divided into two types of people: *Homeostasis Dwellers* and *Homeostasis Breakers*.

We're already seeing this division today, and it's always existed throughout history, but the difference will become more obvious in the future, as the minimum standard of comfort rises and instant gratification becomes (even) more abundant.

I imagine it will be like the Indian Caste System, but with one defining difference: being a Homeostasis Dweller is a self-imposed physiological state of being, whereas being born in a lower caste is a random event you have no control over.

We'll have the vast majority of the population (say 95-99 %) living in perpetual comfort, slaves to instant gratification; without discipline, coherent attention span, and autonomy of mind.

Then we'll have a small number of the population (say 1-5 %) who learn to use their brain, think for themselves, direct their attention and delay gratification while working towards their goals.

Homeostasis Dwellers are passive spectators and herd animals, who go wherever the rainbow shines brightest and they are promised the most candy. Homeostasis Breakers are the ones who are responsible for changing the status quo:

- In business through innovation and entrepreneurship.
- In statesmanship by modernizing the political system for the 21<sup>st</sup> century.
- In science by coming up with paradigm-shifting ideas, or synthesizing existing ones.

## **What Am I Basing This On?**

Here are some big indicative trends:

- It is expected that roughly 50% of existing jobs (globally) will be gone

by 2032—displaced by automation, robotics, and other technology.

- Currently, about 40% of jobs in the western world are based on knowledge work. Our brains didn't evolve for this, and most people don't practice improving their thinking.
- Economic inequality increases at an accelerating rate. In 1987 there were 140 billionaires; in 2017 there are 2043 billionaires (with a 13% increase in 2016 alone).
- More people now die from obesity and luxury diseases than starvation. Out of the world population, 2,1 billion are overweight while 850 million suffer from malnutrition.
- The average person wastes more than 40 days per year watching TV—and probably *a lot* more on smartphones, social media, video games, gambling, and similar things.
- People with sitting jobs have 2x as many cardiovascular diseases as those with mobile jobs. (Our ancestors used to walk **9-15** km/day, now the average person walks 0,5km.)
- The average person eats at least **20x** more sugar than cavemen did. (Hunter-gatherers ate max 6 pounds per year; the average person in the U.S eats **80-117** pounds of sugar per year.)

These are indications of how technology is changing the world while our default biological programming remains roughly the same. This makes us more and more **MISMATCHED** for a “normal” life.

Most people probably will not have the knowledge or discipline to do what's in their best interest.

# The Science of Homeostasis

Why doesn't the fat guy lose weight?

Why do many people become dumber with age?

Why does the drunk keep drinking far beyond what's reasonable?

Why do many charismatic and smart people lose their "touch" after becoming rich?

Why do most people fail to make productive use of the Internet?

The answer to all of the above: **Homeostasis**.

In biology class, you learn that homeostasis is the state by which biological organisms regulate their internal systems to achieve a state of balance and maintain health. This is true, but homeostasis is also much, much broader than that.

In the same way that gravity brings you back down to the ground after you jump, so does homeostasis act on your brain and body on a neurobiochemical level when you do something new. This is why change is hard. Your brain wants to stay the same, your cells want to stay the same, and your hormones want to stay the same.

You can visualize homeostasis as an elastic rope tied around your body. If you then decide to run straight forward in one direction, it will eventually pull you back. But if you know the tricks, you can stretch it further and you can even break it for a while.



## The Path of Least Effort

Newton's First Law states that "an object at rest stays at rest and an object in motion stays in motion with the same speed and in the same direction unless acted upon by an unbalanced force".

Homeostasis is like that too. If you had to take a bet what someone will do next, the safest bet is *always* that they'll go along with their homeostasis. It's the path of least effort.

Homeostasis is the reason why:

- We like to prolong our emotional state.
- We don't want to get up in the morning (or rise after sitting down for a long time).
- We seek quick fixes and want to avoid pain.

**What Happens in Your Body When Homeostasis is About to be Broken** Receptor cells want to return to their previous 'steady' state of being. This triggers a dose of peptides (emotional chemicals) which sends a message through the peripheral nerves to the spinal cord and then to the brain. This happens almost instantly.

The message sent to your brain is, "*something's wrong here—there's a chemical imbalance taking place!*" The brain then acts like a lazy employee, obeying the order while using minimum energy.

Your *hypothalamus*—which is like a thermometer that registers changes inside the body—will notice that there is a neurobiochemical discrepancy, and will prepare to change its production of peptides to restore homeostasis.

This means to Break out of Homeostasis. Take a person who's addicted to cigarettes and cannot smoke during one of their usual times, or someone who eats 6 meals per day and has to skip one of those meals. Those are interruptions to their hormonal pattern.

The person could obviously go without that extra meal or cigarette, and it would

even be a *good* thing, but their homeostasis doesn't want to be broken!

## How Homeostasis Maintains Biological Value

Neuroscientist Antonio Damasio says that homeostasis protects biological value by maintaining the existing cellular structure; causing your current neural pathways, fat cells, muscle tissue, and hormonal levels to stay the same. Here are three examples of what this means in real life:

- **Obesity:** The more fat cells you have in your body, the harder it becomes to lose weight. This is because the hormone *leptin*, which is produced by fat cells, becomes abundant. When your body produces too much leptin you feel hungry even though you have already eaten enough. The rest is a homeostatic response.
- **Muscle growth and breakdown:** The body wants to stay the same. Muscle cells don't want to be broken down because it takes energy from other bodily functions. This is why weak-willed people don't make much progress in bodybuilding or athletic pursuits, they can't push through that initial pain (which is a homeostatic response).
- **Concentration and attention span:** Many people can't sit in solitude and *think*, or simply *feel*, for 10-15 minutes at a stretch because their brains are not used to it. Their stimulatory threshold is too high, and sitting still causes them to go through minor withdrawal. The resulting boredom and irritation is then a homeostatic response of the brain wanting to maintain the feedback loop of stimulation.

# Chapter Summary:

Break out of homeostasis, or be broken down by homeostasis.

If you don't make up your mind and take charge of your life, homeostasis will lead you down the path of least effort. You will then be the servant of an outdated biological program.

It's a matter of energy conservation. An object in motion stays in motion, even if it's the wrong direction.

Homeostasis' only concern is to maintain the different feedback loops going on in the brain and body. This includes obesity, addiction, and a low concentration span.

Whenever you want to make any significant change, homeostasis will put up massive resistance to get you to stop. This often manifests itself in sudden boredom, physical discomfort, cognitive dissonance, or some compelling excuse not to do the thing. That one thing that's going to *change your life*.

# Chapter Summary:

- Homeostasis is the ancient biological force that causes us to conserve energy, resist change and seek pleasure. It is the reason we want to prolong our emotional state (and why we don't want to get up in the morning).
- Whenever you're doing something new, your physiology will respond to it as if it were dangerous. Hence, the resistance to doing new, unproven things.
- Most people in modern society have become *too* comfortable, living in a near-constant state of homeostasis. And, they don't know it.
- The easier the world becomes and the more technology we use, the more Homeostasis Dwellers there will be.

## CHAPTER 2

# **Pushing Through the Plateau, The 3 Types of Pain-Tolerance, and Building Character by Becoming Comfortable with the Uncomfortable**

The reason most people fail (at anything and everything) is because they quit as soon as it feels uncomfortable. Winners push past that.

## The Cold-Hand Experiment

When I talk about *plateaus* in this book, I don't mean it in the sense that you're stagnating in the learning process. I mean it in a physiological and hormonal sense; like when your body starts protesting, your emotional state turns to shit, and your motivation suddenly disappears.

You have *pushed through a plateau* when your homeostasis changes beyond a critical point and becomes self-sustaining (like when you reach steady state while running or swimming, or an auto-catalysis reaction in chemistry).

Plateaus can be observed in many areas of life if you know about their existence, but it seems most people don't know about them.

### **Famous Cold-Hand Study Shows That Even Some of the World's Best Psychology Researchers Don't Understand Plateaus**

There have been many experiments done by cognitive researchers on the theme of pain, pleasure and decision-making. One famous study was done by Daniel Kahneman, who made two groups of people put their hands into a bucket of cold water for a 60-second respectively a 90-second immersion.

Afterward, when asked which of the two variations they'd prefer to repeat, almost 80% of the respondents said they'd rather do the longer, 90-second one again. The researchers were baffled like buffalos: why would people choose *more pain over less pain*?

Kahneman writes: "The cold-hand study showed that we cannot fully trust our preferences to reflect our interests." This he is right in.

He then explains the results by pointing to the *peak-end rule* (which says that we best remember the last thing we experience) and says that people preferred the longer version because it ended less painfully. This he is *also* right in.

But then his lack of understanding shows itself...

## What Kahneman Missed

His conclusion is that the subjects "thereby [are] declaring themselves willing to suffer 30 seconds of needless pain."

This is only true on paper. In reality there is no pain because the body pushes through a plateau where the pain goes away. Much like a runner who wants to quit for the first 10 minutes, and then suddenly goes into steady state.

Again: The reason it was less perceived pain for the “90-second people” is because they *pushed through a physiological plateau*.

This is a point where the body *adapts* to the new experience (the discomfort and slight pain of cold, in this case) and not only stops resisting, but **accepts** the sensation and—in some cases—might even begin to enjoy it. (I enjoy cold showers, but not the first 15 seconds.)

In the 60-second version there was more experienced (remembered) homeostatic resistance and no deliverance, but in the 90-second version, ***the plateau was pushed through*** and homeostasis adapted itself to the temperature change. *That’s* why the respondents remembered it as ending on a more positive note.

This explains why some people become addicted to working out, while many people hate running and going to the gym. Some push through the plateau and experience the endorphin high, while others don’t (and *only* remember the physical discomfort).

As a corollary to this fact, it is a great irony that most people—who are led almost completely by their homeostasis—think they’re doing themselves a favor by avoiding all pain, confusion and discomfort without discrimination. They don’t know there’s a reward waiting behind the plateau.

## Here’s what you will learn in this chapter:

- Socrates’ secret.
- The 3 types of pain-tolerance and how to develop them to build character.
- What plateaus are and how to push through them.



- Recommended activities you can use to practice pushing through the plateau.

## The 3 Types of Pain Tolerance

What do Houdini, Bruce Lee, Michael Jordan, Navy SEALs, and Yogis have in common?

They have attained a high level of *pain tolerance*. They know how to boss around their bodies to perform superhuman feats. Unlike most people, their bodies are not going to cause an uproar and try to quit on them the second they do something challenging.

**Pain tolerance** plays a large role in activities such as meditating, concentrating, working hard, fasting, running, exercising, or taking cold showers.

These activities are often boring, painful or uncomfortable at first, but once you force yourself through the plateau, you're rewarded with a euphoric high of some sort. The more you do it, the better your discipline becomes, and the easier it gets.

It's hardest at first, and if you quit early—as an unconscious reaction to the temporary discomfort of homeostatic resistance—like most people do, it will be harder for you to do it the next time.

*To achieve anything great you're really battling your own lazy biology and it's a matter of who gets the last word in.*

Homeostasis is trying to get you to quit on your goals, not to take any risks, trying to make you slack off from work, all so that it doesn't have to change. What about the future? Forget the future. Homeostasis is only concerned with the temporary state-change of this moment.

The thing is: *Homeostasis will adapt itself if it must.*

**But you won't change if your mind succeeds in tricking you** that it's not necessary to do the thing now because “you already know it” or “you're too tired now” or “it hurts so it must be dangerous” or “your heart is telling you No” or some other weak-willed rationalization.

This is what separates the best from the rest...

## **Step 1: Acquire Pain Tolerance**

Have you ever tried slapping yourself across the face? Do it now as an experiment—see how it feels. Then pull out a nose-hair, it will hurt a little and make you teary-eyed and sneeze.

A lot of people have low pain tolerance these days. They're easily offended, fragile as a vase. Instead of doing work, they curl up in a ball and congregate in groups that provide a supporting rationale for their weaknesses and vices.

You know who had high pain tolerance? Socrates.

As a soldier, Socrates walked barefoot in snow like it was nothing. He could go days without eating and was renowned by other soldiers for his discipline. He never tried to impress, but still we know his name.

Later, when he got obsessed with philosophy, rather than sit in the comfort of his home and think himself intellectually superior, he would walk up to the smartest person he could find in the Agora and challenge their best ideas in discussion. Always the warrior/experimenter. No ego.

Because of this Socrates was respected by all. Despite being very ugly, he was thought charismatic and attracted a devoted following of intelligent and like-minded people (like his pupil Plato).

Once Socrates had decided to do something, nothing could change his mind. When he was sentenced to death (by poisoning), he faced it without fear (even though he had the option of escaping).

On the day he died, he calmly recounted his remaining obligations to friends, so that they be set right. His last words were: "Crito, we owe a rooster to Asclepius. Don't forget to pay the debt."

## **The Best People Are Not Squeamish**

There are different reasons for quitting on what you want to do. There can be rational reasons for quitting, but most of the time it has to do with being unable to push through some plateau.

Most people quit because they can't sustain concentration and cope with prolonged boredom, slow progress, or solitude. Some people quit because they

crumble under pressure and anxiety. Others yet fail to do what it takes because it takes a lot of effort or because it hurts.

These plateaus correspond to three types of pain tolerance:

1. *Physical pain tolerance* (weaklings).
2. *Mental pain tolerance* (indecisive people).
3. *Psychological pain tolerance* (neurotic people).

And here's another way of looking at it:

Physical = Can you do another rep in the gym?

Mental = Can you force yourself to read 5 more pages after losing concentration?

Psychological = Can you follow through on your goals and do what you said you'd do?

## **PTTP: Pushing Through the Plateau**

When you push through a plateau, your body becomes temporarily adjusted to the activity. It now takes less effort and energy for your homeostasis to continue with what you're doing than it does for it to change back to its original state.

It's an energy-type thing. As Newton said, "objects that stay in motion..."

This phenomenon applies to many other areas of life. You've probably experienced it some time when you didn't want to work, but you did it anyway, and then the boredom and psychological resistance went away. You pushed through a plateau—and your homeostasis adapted.

You may have experienced the plateaus of one or many of the following activities:

<b>Activity</b>	<b>Plateau</b>
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## Pushed Past Plateau

Fasting	Hormonal hunger	Hunger stops > natural high
Exercise	Pain barrier	Steady state > endorphin high
Working, reading, or thinking	Boredom	Flow state
Meditation	Mental resistance	Calm and clear-headed
Cold showers or hot sauna	Temperature adjustment	Feeling energized
Socializing	Stifled and anxious	Friendly and charismatic
Social isolation	Lonely	At peace
Exploration	Lazy	Adventurous
Polyphasic sleeping	Extreme fatigue	Body adapts to sleeping phase

### The Surest Recipe for Failure? Being Ignorant of Plateaus

When I was younger I struggled a lot with consistency. Though I was good at many things (video games, martial arts, music, etc) I had little discipline and I didn't commit to anything.

Because I didn't know about homeostasis and the nature of *plateaus*, I'd quit the moment I lost motivation. I was a weakling who would give up at the slightest hint of boredom, discomfort, pain, or cognitive dissonance.

That didn't get me anywhere.

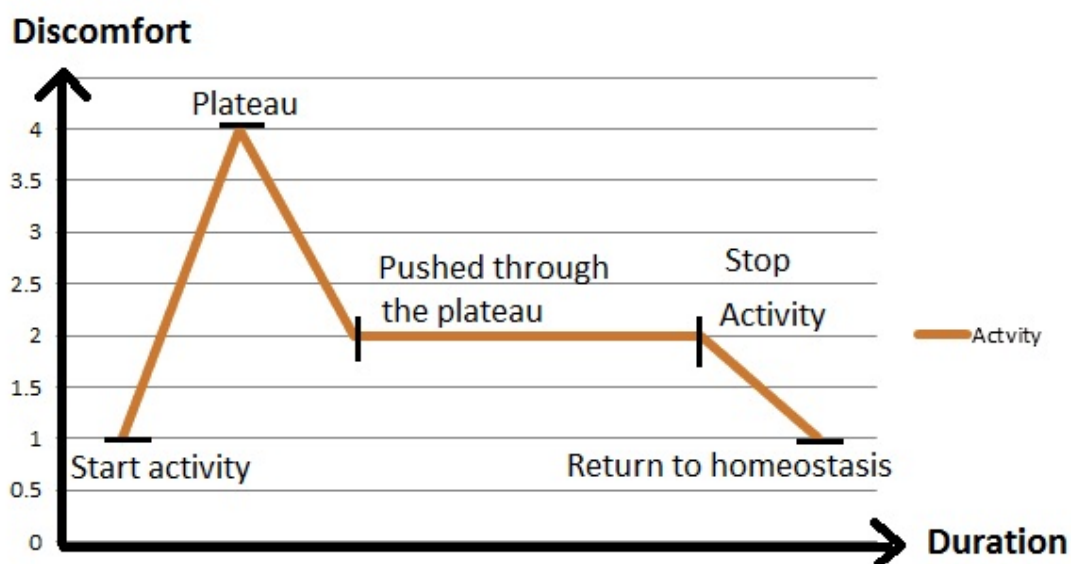
When I learned that almost everything in life is a plateau, I stopped quitting and

started building more consistency into my life by practicing to *push through the plateau* in different ways. By doing this I rewired my brain's reward system (which you can read about in the last chapter of the book).

## How to Spot a Plateau

Plateaus begin where your current homeostasis ends. When people talk about "stepping outside your comfort zone," they're typically referring to encountering a plateau of some kind.

Here is the pattern that most plateaus follow:



Most people don't know about the nature of plateaus, so they quit at the first sign of discomfort, thinking it will go on forever. The more they do it, the harder it becomes to push through plateaus in other areas of their life.

This knowledge changed my life. It helped me build confidence by pushing through physical plateaus by running and lifting, pushing through psychological plateaus by conquering hunger through fasting, and overcoming my difficult candida-based sugar addiction. And meditation and reading and working. It's incredible how much you can power through if you just keep going.

Always when I'm doing something new, different, or scary, and I feel a sense of internal resistance, I ask myself: "*Is this a plateau?*" It often is.

## Why Plateaus Exist



The brain is always mapping the outside world and creating different replicas inside of itself. Everything that happens to you every day leaves an imprint on the brain, even if only temporarily.

As a result, your brain puts up a “limit” in everything that you do based on what you have done before. You could picture it as drawing a physical map and stepping into the uncharted unknown.

When you get close to stepping over that limit—like when you’re about to have a new experience or you break a record—your homeostasis starts to get really defensive. This is typically followed by a plateau, where the brain and body will just sort of give up on you.

If you can find a way to endure a little longer—and *push through the plateau*—you will extend your previous homeostatic set point. It’s almost like an electron making a quantum leap, jumping up another energy level.

Your brain then redraws (expands) the “map”, the body stops pestering you to quit, and the discomfort goes away. Then you will often have a peak experience.

## **There Are No Limits; Only Plateaus**

There’s a story of when Bruce Lee went running with his student, screenwriter Stirling Silliphant. Here’s how Silliphant remembers it:

Bruce had me up to three miles a day, really at a good pace. We’d run the three miles in twenty-one or twenty-two minutes. Just under eight minutes a mile.

So this morning he said to me “We’re going to go five.” I said, “Bruce, I can’t go five. I’m a helluva lot older than you are, and I can’t do five.” He said, “When we get to three, we’ll shift gears and it’s only two more and you’ll do it.” I said “Okay, hell, I’ll go for it.”

So we get to three, we go into the fourth mile and I’m okay for three or four minutes, and then I really begin to give out. I’m tired, my heart’s pounding, I can’t go any more and so I say to him, “Bruce if I run any more,” –and we’re still running–“if I run any more I’m liable to have a heart attack and die.”

He said, “**Then die.**”

It made me so mad that I went the full five miles.

Afterward I went to the shower and then I wanted to talk to him about it. I said, you know, “Why did you say that?” He said, “Because you might as well be dead. Seriously, if you always put limits on what you can do, physical or anything else, it’ll spread over into the rest of your life. It’ll spread into your work, into your morality, into your entire being. There are no limits. There are plateaus, but you must not stay there, you must go beyond them. If it kills you, it kills you. A man must constantly exceed his level.”

you, it kills you. A man must constantly exceed his level.

## 2 Plateaus Everyone Should Practice

“Only sleep and sex make me conscious that I am mortal.”  
— Alexander the Great

Running and fasting are two excellent ways to familiarize your physiology with *pushing through the plateau*. Not necessarily because they are the best ones, but because they both follow a predictable process where you can notice your homeostasis throwing a fit at the same moment each time.

### 1) The Plateau of Running

Humans evolved to travel long distances by foot, and we can run far at a low energetic expense to our bodies. Our ancestors did what was known as *persistence hunting*; where they chased an animal for hours, until the animal eventually collapsed from heat stroke. Then it got clobbered.

The average hunter-gatherer walked or ran between 5-9 miles per day. The average person now moves somewhere between 0,5-1,5 mile per day.

Our bodies are physically capable of running quite far, but because most of us lead sedentary lifestyles, we become fatigued quickly. This is *not* because we're running out of energy; it's because our homeostasis doesn't want to be broken.

We may *feel* like we can't continue after having run for 1-2 miles, 1-2 blocks, or 1-2 steps further, but this sensation is 90% a *psychological* response; not a sign of physical exertion. Only a very old, injured, fat, or unhealthy person would become exhausted from running one mile.

Someone who is not used to running is unable to distinguish between the psychological response of homeostasis acting up, and genuine fatigue resulting from physical factors!

If you can force yourself to endure this temporary discomfort, you will enter a steady state where your breathing eases up, your body stops hurting, and your focus returns. You are now able to run quite far; the most likely thing to stop you is that your feet or knees start hurting from running a longer distance.

Each time you push through that plateau, you're conditioning your body in a good way, and you're showing your brain and body who's boss.

This is one of the reasons athletes tend to be successful in business: they've conditioned themselves to endure the plateaus—and not to quit as soon as things become a little uncomfortable.

## 2) The Plateau of Fasting

Snakes can go weeks without food. Lions typically eat only once every couple of days. Hunter-gatherers preferred to eat on a daily basis, but often could not, and it wasn't that unusual for them to go two or three days without food.

Today, most people eat several times per day, often indulging in snacks between their regular meals. When this happens often enough, it creates a baseline *hormonal rhythm*, which soon becomes maintained and protected by homeostasis.

There are three main hormones that are instrumental in creating the sensation of hunger and maintaining a consistent caloric intake in the human body:

1. **Insulin:** Causes rapid hunger spikes and is triggered by blood sugar levels (if you eat sugar, you will feel hungrier than if you don't).
2. **Ghrelin:** Measures how much food you have in your stomach (decides when you are 'full' versus 'starving').
3. **Leptin:** Maintains body weight by measuring your long-term caloric intake. (Yo-yo dieting fails because the person's leptin levels remain the same, causing them artificial hunger and tricking them into going back to eating more, and regaining the weight.)

The Greek philosopher Heraclitus said that the best renounce all for one goal, while most men stuff themselves like cattle. I wonder what he would have said about people's eating habits, were he alive today.

When you eat multiple times per day your hunger hormones become messed up and you get a mismatched homeostasis. This is the case for many people (perhaps 50% of the population).

They are slaves to *hormonal hunger*, which is equivalent to the psychological fatigue you encounter while running. It feels dangerous, but it's harmless.

**If you can endure this artificial hormonal hunger for a few hours your hormonal levels will normalize and the hunger goes away.**

After you push through the hunger plateau, you can go quite long without having to eat anything; typically around 16-48 hours before experiencing another plateau of hormonal hunger and becoming tired or irritated again.

If you've never done this, give it a try today. You will at worst have a steadier mood and concentration than you normally do, and at best you will have a peak experience.

**Two rules of engagement:**

1. Go for a full 24 hours (since your last meal).
2. You can drink water, coffee, and tea (not juice).

For most people, this type of intermittent fasting is a natural and healthy way of eating, as opposed to training your hormonal system into eating multiple meals every day and supplementing it with sugary snacks. The less you spike your insulin levels, the better it is for your health.

# Chapter Takeaways:

The single most important thing to know about plateaus and homeostasis is that:

**Most homeostatic resistance is temporary.  
Keep pushing until you adapt and it goes  
away.**

The difference between people who succeed in life and those who don't, is that the former recognize this homeostatic resistance for what it is: *a temporary plateau to be pushed through*, and nothing more.

The best keep evolving.

When they encounter a plateau, they acknowledge its presence, but they don't believe that it's a permanent fixture of objective reality. It's probably just their physiology that particular day.

Pain, fear and discomfort are temporary—endure the plateau and they go away. Pushing through plateaus is the best way to build your confidence.

# Chapter Summary:

- Whenever you're doing something new, different, or scary, and you feel a sense of internal resistance, ask yourself: "*Is this a plateau?*"
- To improve at nearly anything in life, you have to push through a corresponding plateau; be it mental, psychological, or physiological. The first step is knowing that just about everything is a plateau and that:
  - It's going to feel uncomfortable at first due to homeostasis.
  - This is not bad in any way, it's just a necessary part of the biological process.
  - It will go away. Therefore, it's not acceptable to quit for irrational reasons.
- Many plateaus are of a hormonal, physiological or neurochemical nature; corresponding to your hormonal levels being altered, your muscles being broken down, your fat cells being destroyed, or your neural pathways being rewired.
- **To become better at pushing through the plateau, raise your pain tolerance;** physically, mentally, and psychologically. Three great activities to practice for pushing through the plateau are running, meditating, and fasting. They all have predictable plateaus.

## CHAPTER 3

# **Breaking out of Homeostasis: How to Improve Mental Focus and Activate the Brain and Body**

The three best practices are: Identifying your biological prime time, fasting, and finding ways to build in extra movement into your daily routine.



## **The Main Motivators to Action and Innovation**

*“I wish there was a war!”* wrote 14 year old Alexander Hamilton. He was bored with being a poor shipping clerk, and felt like he would languish away in anonymity by remaining in the West Indies.

Hamilton got his wish alright—and it made him prodigiously productive.

A few years later he had emigrated to the United States during the Revolutionary War, where he managed to position himself perfectly, serving as the unofficial Chief of Staff for George Washington. Hamilton then did the work of multiple men while studying how to invent a new form of government in his free time.

What can we learn from this? That being depended on by others and feeling needed can matter a great deal when it comes to bolstering mental resourcefulness. Having set commitments, obligations, or following a schedule are other ways to be more productive.

Many old people suffer senescence or die when there’s nothing for them to do anymore. Purpose matters greatly. I suspect that a fair number of people start a family to lift themselves out of lethargy, forcing them to tighten up their boundaries and prioritize their time better.

Most big innovations and inventions have come during times of war, or in preparation for it. There are many examples of this—such as computers, microprocessors, rockets, and the Internet.

This might partly be explained by the fact that more money is spent on research and development during war than during times of peace (as it’s easier to rationalize the expenditure when national security is on the line), but I believe a more likely reason is that the powerful psychological forces of war unlock lots of human potential that would otherwise be lost to homeostasis.

Every war inspires acts of bravery and every shipwreck produces a hero. Would Alan Turing have thought up the machine for cracking the codes of the Enigma machine if it weren’t for the war against Germany?

It’s harder to remain in a state of consistent high mental resourcefulness during

dull times of peace and monotony, especially when it seems like every smart idea has been thought up and every great invention has already been invented. And no one is holding a gun to your head.

How can you become a pioneer these days?

It starts with how you live.

What can you do to emulate some of the psychological effects of a war, without being in one?

Maybe start a company. Quit your job. Sell your home. Burn your bridges. Learn to *Break out of Homeostasis* more consistently! This allows you to use your brain and body to a higher degree.

The fewer external motivators there are to spur you to action, the more you must rely on discipline, positive habits, and drawing on a repertoire of methods for exerting effort and activating the brain.

In this chapter you'll learn about how to do this. These tips will have a big and immediate impact on raising your energy levels if you're not already doing them.

### **A quick glance at what you'll learn in this chapter:**

- What it means to *activate the brain* and how to do this.
- Why “*I’m not in the mood*” is usually a bad excuse for not doing something. And how you can change your mood and motivation fast.
- Why eating tends to dull the mind and why you should practice some method of fasting every once in awhile.
- 20+ simple ways to exert more energy and trick your brain into becoming more resourceful.
- Several reliable psychological methods for increasing your output.

# What You Need to Know About Activating the Brain

If you don't know how to activate your brain and get into flow, you are like a Formula One driver who never goes faster than 30 MPH.

Flow happens when you focus on your work for long enough that distractions go away.

Flow happens because of triggering the *brain's spreading activation* mechanism.

When that happens, it causes your associative learning and pattern recognition to EXPLODE in a chain-reaction type way. It usually comes after pushing through a mental plateau.

## What You Need to Know About Activating the Brain

There are three terms from neuroscience that you need to understand: *Action potential*, *spreading activation*, and the *bidirectional communication* between brain and body.

Do you know what the difference is between ideas and thoughts, or between sensations and emotions? It's their *duration*.

Ideas and sensations are near-instant and pass quickly, while thoughts and emotions remain long enough to enter our conscious mind, and can be sustained for hours or days. The difference in duration is explained by a phenomenon called *action potential*.

When your neurons or muscle cells become sufficiently excited—like if you're having a new experience or Breaking out of Homeostasis in some way—they are said to *cross an action potential*.

This makes the neurons carry on the transmission of a mixture of neurotransmitters or hormones. The sustained electrochemical signal results in a lasting thought pattern or emotional state.

The process by which muscle cells or neurons cross the action potential and spread the impulse to connecting cells is called *spreading activation*.

Spreading activation is like the chain reaction of a nuclear explosion. It creates a positive (self-sustaining) feedback loop that keeps going for some time. This is why you often have many good ideas in a row, but then it stops, and homeostasis is restored.

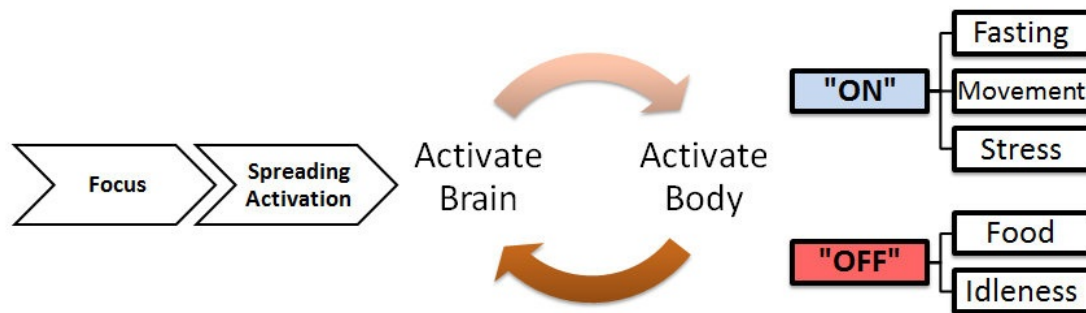
The nature of action potential and the spreading activation is binary: it either happens or it doesn't. This is called the *all-or-none principle*.

## Motivation is Misunderstood

Most people who think they have a problem with motivation don't. Their problem is not that they lack motivation—it's that they don't understand physiology and psychology!

These people think that “motivation” is something that you either have, or you don't. This is wrong. Motivation (and concentration) requires that you have a consistent routine for *activating* the brain and the body.

It doesn't matter which of the two you activate first, because, through *bidirectional communication*, you will influence the other part as well.



## Your Nervous System has 2 States of Being: ON / OFF

From the perspective of the body's *autonomic nervous system*—there are two states of being: It's either “ON” or it's “OFF”.

ON = Activating the brain or body, concentrating, and Breaking out of Homeostasis.

OFF = Resting, recovering, dwelling in homeostasis.

When your body is “ON” you are using the *sympathetic* nervous system, whose purpose is to energize and take action.

When your body is “OFF” you're using the *parasympathetic* nervous system, whose purpose is to rest and conserve energy.

**You can only activate one of these systems at a time.**

This is why pushing through the plateau is tricky. The body doesn't want to

change physiological states and exert more energy.

When you start eating, it stimulates the parasympathetic nervous system and puts your body in a state of “rest-and-digest”.

When you consume stimulants—like coffee—it raises activity in the sympathetic nervous system, and so does fasting and movement.

## **The Bidirectional Communication Between Brain and Body**

The brain and body are constantly communicating and influencing each other. This is referred to as *bidirectional communication*, and it happens mainly through the Vagus nerve.

If you're in a bad mood, you tend to think negative and depressive thoughts. And vice versa: if you're in an energetic and positive mood, you tend to have good ideas and think positive thoughts.

It doesn't much matter whether you start the day by activating your brain or your body; because, due to the *bidirectional communication*, the end result is the same: both are likely to become activated.

Once you've activated brain or body, through the mechanism of *spreading activation*, you will tend to 'stay activated'. This is why it's a good idea to have a morning routine that allows you to build up positive momentum as you start the day.

In summary: Both your mood and your thoughts influence each other, but they are not equal in strength. Thinking carries maybe 20% of the weight while emotion carries the remaining 80%.

People who preach about “the power of positive self-talk” are always exaggerating. This is either because they are misinformed or because they have a financial incentive.

## Movement Makes You Smarter: 14 Strategies

Continuous motion is the key to innovation.

Hannibal Barca was known to move around constantly, and he would often stand on one leg while he was reading, Julius Caesar was almost always found on the move, and Napoleon Bonaparte would walk in circles and kick at the logs in the fireplace of his office during government meetings.

Claude Shannon, one of the early computer innovators, would move up and down the long corridors of Bell Labs while juggling balls, sometimes while he was riding a unicycle! Steve Jobs used to walk the streets of Palo Alto for hours, often in a fasted state, and he was known to fidget and change his seating frequently during meetings. Whenever Ted Turner had to make an important business decision, he would drive to his ranch and take long solitary walks in nature, sometimes playing with his pet bears<sup>4</sup>.

Why did these smart guys move so much? Were they just hyperactive? Maybe.

Were they born with higher energy levels than normal people? Perhaps.

Was it that their continuous motion helped *keep* them in motion? Definitely.

We'll never know the exact cause and effect, but it's clear that they learned early in life that if they moved around a lot, it helped them think more clearly, make better decisions, and remain energized longer. So they made a habit out of being in continuous motion.

You should follow their example, because scientists have found that BDNF (protein associated with brain health) is increased through movement and physical exercise. Diet helps too, but continuous motion is the key.

When we walk, run or exercise, it makes us think better and learn faster.

# 14 Strategies For Staying Active Throughout the Day

“I am up and about when I am ill, and in the most appalling weather. I am on horseback when other men would be flat out on their beds, complaining. We are made for action, and activity is the sovereign remedy for all physical ills.”

—Frederick the Great

Do the following until they become an automatic part of your daily routine. It will make it easy for you to “hit your quota” of movement, leading to huge health benefits as you get older.

1. **Take deep breaths:** Breathe slowly and into your stomach. It’s easy to forget.
2. **Posture:** Keep your back straight and maintain good posture (poor posture leads to lower energy levels and worse mental focus). Check your chair: Does it cater to bad posture?
3. **Stand up:** Stand up instead of sitting down when possible. Maybe get a standing desk.
4. **Buy a set of dumbbells or roman rings:** Keep a dumbbell or some other physical equipment by your desk to lift wherever you feel like you’re becoming restless or losing focus.
5. **Buy a small trampoline.** To jump on.
6. **Don’t take the elevator:** Take the stairs instead.
7. **Switch seating:** Frequently change how you are sitting down so that you do not dose off.
8. **Flex your muscles:** Flex different muscles in your body every few minutes while sitting.
9. **Power pose:** Stand up tall and put your arms in a V-sign while flexing



your back—like you do when you’re yawning and stretching upward. (Studies indicate that power posing can produce a slight increase in energy levels, confidence, and testosterone.)

10. **Shake the body:** Jump around, shake loose, relax, and regain focus.
11. **Stretch:** Especially mobility stretching is good (as a preventive measure against poor posture in old age). We should all be able to sit in squat position, like Asian people do.
12. **Do it yourself:** Do you really need a power can opener? Or a remote control? (You shouldn’t even own a TV in the first place!)
13. **Move more:** Or get a bike. Don’t use public transportation unless necessary. If you have a step counter on your cell phone, set your daily goal between 5000-10000 steps/day.
14. **Walk more:** Do walking meetings. If you must drive, park further away from your home and office, so that you have to walk (and make a rule to walk that distance with good posture). The same applies to public transportation—get off one stop earlier to walk more.

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[4.](#) You can find this on YouTube by searching for “Ted Turner + bear”. You can also find a video of Claude Shannon juggling.

## **BPT: The #1 Productivity Trick**

There's a certain time each day that you're in your best—most creative and productive—physiological state, and your brain becomes activated without much effort required on your part.

This is your *biological prime time*.

This is when you go for the jugular and tackle the most imperative task of the day.

If you're not already organizing your work schedule and daily routine in accordance with your biological prime time, then *it's THE #1 PRODUCTIVITY TRICK you can ever learn!*

There are three main things that are useful to know in relation to your biological prime time.

### **1) Know What Time it is**

My BPT tends to be in the morning up to around noon, this is when I try to do my most important task of the day. I find it hard to do creative work or anything that requires synthesis outside of my BPT. I try to avoid distractions during this period.

When is your BPT? If you don't know, you should take notes every day for a week to gauge your energy levels and mental focus to see if you can find any consistent patterns. If your sleep and meal timing is inconsistent, it will be trickier to identify when your BPT is.

And here's a little piece of bonus advice: If you have to give an important pitch or presentation and you can choose the time, try to do it early in the morning. This automatically improves the chances that people pay attention and have a positive response.

### **2) Don't Drink Coffee the Wrong Way**

For years, I was drinking coffee the wrong way. I did not know that the body's

cortisol (stress) levels are naturally elevated for the first 1-4 hours upon waking up, making the effect of coffee marginal.

The best time to drink coffee (if you rise at 8) is around 10-12. Learning to drink coffee the right way minimizes the risk that you become addicted to caffeine, which goes a long way to help you retain a positive daily routine (not pushing your circadian rhythm forward).

If you are addicted to coffee, try not to have the first cup of the day within 30 minutes of waking up.

### **3) Plan Your Day Based on BPT**

The way to do it is by knowing what the #1 task of the day is and disciplining yourself to spend all your biological prime time working on it. Here's an example:

#### **Warm-up (0,5-3 hours)**

*This is where you first activate your brain and body.*

- Reading and writing.
- Going for a walk/run.
- Lifting weights/stretching.
  - Meditating.
- Doing minor errands.
- Talking to people.

#### **Priority #1-3 (4-8 hours)**

*This is where you start working on the most important 1-3 things for the day, at which point you should be highly focused from the 'warm-up' period.*

- Working on your #1 goal.

#### **Uncreative/wind-down (1-4 hours)**

*This is where you do tasks that don't require creativity, sustained focus, or deep thinking.*

- Responding to emails.
- Transcribing notes.
  - Cleaning.
- Buying groceries.
  - Reading.
- Eating and relaxing.
- Planning the next day.
  - Sleep routine.

The beauty of this system is that you can easily pile up lists of tasks for each of these three categories, making it easier to plan your days and schedule activities.

# Fasting: A Great Habit for Activating the Brain and Body

When Benjamin Franklin was sixteen years old, he left his job and home to try his luck in Philadelphia.

On his way to Philadelphia he scheduled to eat only once every two or three days.

This was no big deal to him or anyone else at the time, because fasting was normal back then, but today it would be seen as extraordinary.

Some 100 years later, Napoleon wrote about the Prince of Spain that, “he is indifferent to everything; very materialistic, *eats four times a day*, and hasn’t got a single idea in his head.” A Prince who eats four times per day, how indulgent!

We now live in a world where most people cannot go more than 3 hours without a snack. Food companies have fooled them into thinking they’ll starve if they don’t eat all the time.

There are numerous health benefits and zero drawbacks to practicing some version of fasting (unless you have a blood sugar disorder). It’s just a little psychologically uncomfortable at first (which is good for discipline and pushing through the plateau anyway).

I started doing intermittent fasting when I was 20, and I’ve never looked back. As soon as my hormonal levels had adjusted to it—which took around 3 weeks—I immediately became *at least* 25% more productive<sup>5</sup> thanks to having more consistent energy levels and better concentration. And all I did was to skip breakfast in favor of eating a bigger lunch!

Fasting is also a good way to *activate your brain and body* because:

- **BOOH:** If you’re not used to doing it, it will Break you out of Homeostasis.
- **When you eat, your body has to digest the food and this is energy-demanding.** It puts you in homeostasis and makes you docile, like a

grazing cow. Fasting, on the other hand, makes you more energetic and mentally resourceful, because it tricks your body into thinking “I need to get my act together and focus or I won’t find any food!”

- **Ghrelin spikes.** When you don’t eat for a certain period of time (the exact time is different for everyone—for me it’s 21 hours) the hunger hormone *ghrelin* spikes. This produces a slight sensation of hunger and also provides dopamine to the prefrontal cortex of the brain, resulting in a natural high that feels euphoric. This makes you more decisive and helps you concentrate better.

Note: It bears repeating that hunger hormones like insulin, leptin, and ghrelin can make you feel hungry and moody *even when you don’t need to eat* from an energy-perspective (it’s just your hormonal homeostasis that wants to be the same). Hormonal hunger can be uncomfortable, but it isn’t dangerous.

Remember: The more you give into it, the stronger it gets. If you defy it enough times, it will stop. I have been doing fasting for over 5 years, and I’m almost never hungry except after a workout.

## 6 Benefits of (Intermittent) Fasting

1. **More energy:** Fasting switches on your sympathetic nervous system, activating the brain and body. This typically raises your energy levels.
2. **Mental focus:** Fasting temporarily increases dopamine (the reward neurotransmitter) in the prefrontal cortex. This makes you more focused and curious.
3. **Wakefulness:** Longer periods of fasting (like a 2-day fast) can increase norepinephrine (adrenaline) levels. This makes you more alert and you will generally need less sleep (e.g: 5 hours compared to 8 hours).
4. **Health:** Fasting improves the immune system and reduces the risk of cancer slightly. By eating fewer times you are avoiding unnecessary spikes to your insulin levels, which has a significant positive impact on your health over the long-term.
5. **Stomach health:** Most people constantly have food being digested in their stomach, never giving it any off-time for recovery. If you are suffering from IBS or some form of stomach disease, fasting can make a

huge difference. 2-Day fasts helped me cure my candida infection.

6. **Time and money.** If you only eat 1-3 times per day, you will save a lot of time that would otherwise be spent preparing meals, doing dishes, and eating. You will also end up eating less calories (and crap foods) compared to if you're eating many meals (where your hunger gets artificially increased by raising your insulin levels). I never went over my budget as a student.

## **The Three Most Common Ways to Practice Fasting**

I recommend you start practicing one of these types of fasting, depending on your personal preferences. I have done all three many times (and generally drift between them).

- I. *16-hour fast and 8 hour feeding gap every day of the week.*  
Just skip breakfast. It takes a couple of days to adapt to.
- II. *24 hours once or twice per week.*  
This may be the best one from a BOOH perspective (to practice pushing through the plateau).
- III. *40-48 hours once per week or every two weeks.*  
A 2-day fast. To make it easier you can drink tea and coffee. You can also drink water mixed with 5 grams of L-glutamine (which is absorbed in the small intestine and therefore avoids breaking the fast) every few hours.

Note: Once your body is adapted to fasting, it's easy to transition between different methods and lengths of time, but before your hormones have adapted you should stick to one method.

## **Why Are Not More People Fasting, if it's Superior from a Health Perspective?**

Because most people don't know it. And because there's a huge financial incentive for the food and medical industries to keep it that way. And also because most people don't know that the hormonal plateau is only temporary, until your body adapts.

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[5.](#) It was probably more than 25%. Perhaps up to 40%, due to the fact that eating breakfast was (1) taking time out of my BPT and (2) reducing its potency.



# Two Psychological Methods for Increasing Your Output

"Do not sleep under a roof. Carry no money or food. Go alone to places frightening to the common brand of men. Become a criminal of purpose. Be put in jail, and extricate yourself by your own wisdom."

— **Miyamoto Musashi**

Life is too easy.

When was the last time you were in a do-or-die situation? When did you last put yourself under serious pressure, where you had to sink or swim?

## Method #1: Put Pressure On Yourself

When you cannot afford to lose, you will win.

Deliberately put yourself in situations where you have no other alternative but to become more resourceful in order to succeed. Especially make use of this when you believe that there is no other way you can Break out of Homeostasis, but your goals necessitate it.

Here's how you can practice doing this in smaller scale:

- Lift a little more than you think you can in the gym. Don't ask for assistance or use those squat rack things on the side. It won't kill you.
- Run or bike to new places where you get lost. It forces you to focus on finding your way back, thereby breaking routine thinking and using your brain more.
- Take on more work than you think you can manage. It will force you to drop inconsequential B.S and tighten up your schedule. And then, if you keep upping the work load, it will force you to become better at prioritizing your time and not choosing stupid assignments in the future.
- Make public commitments and set deadlines. Monday morning is a good time to commit to, because that allows you to have the weekend to think and work on the problem.

- Act *before* you feel like you're ready. Trust that you will adapt to the situation and find the solution.

## **Method #2: The Champion Factor—Always Go 5 More Minutes!**

“I don’t start counting until it hurts.”

—Muhammad Ali

When you’re feeling lethargic and you want to watch TV, this is just your homeostasis acting up and trying to trick you into taking the path of least effort.

Usually, when you start feeling fatigued—or bored—it’s *not* that you’ve run out of energy; it’s that you’re on the verge of a minor plateau.

Whenever this happens—in the gym, while at work, or when you are studying—and you suddenly want to quit, force yourself to continue for five more minutes. *Then* see if you still want to quit.

Five minutes is usually enough time for your body to adapt and change its state. You will then feel a sense of accomplishment and pride for exceeding your expectations.

Each time you go 5 more minutes and push through the plateau, you will be rewarded in full compensation, making it that much easier the next time. Soon you will build up a consistent streak of victories and become a top performer.

Like Henry Ford said, “There is no man who cannot do more than he thinks he can.” We have a reserve tank of energetic reservoirs, only most people never tap into it.

Form the mental habit of not letting the brain dictate reality to you in negative, uncomfortable, painful, or boring situations.

# Chapter Takeaways:

The pessimist philosopher Arthur Schopenhauer said that a person should swallow a frog first thing in the morning. Because then the rest of the day could only get better.

I've never swallowed a frog, but I have started eating raw lemons first thing in the morning. If you can begin the day by activating the brain and body, or Breaking out of Homeostasis in some way, you'll usually get into a new head space and have a fun and creative day.

*SO MUCH* of the modern world centers around minimizing effort, eliminating discomfort and maintaining homeostasis. Everything from the foods we eat, the activities we do, to the sedentary lifestyles we lead. Consider escalators for example: without them, supermalls wouldn't have become popular.

We don't need to be encouraged to be lazy and indulgent; homeostasis takes care of that all by itself.

When so many of the natural incentives for expending effort have been removed from our lives, it's easy to dwindle in idleness and fall into bad habits, unless you have the discipline to enforce a positive daily routine, where you're consistently activating the brain and body.

## Key points from this chapter:

- You want to push through some type of plateau early in the day to gain momentum. An object in motion stays in motion.
- **There's a time period each day when your energy levels and concentration are at a peak.** *Biological Prime Time (BPT)*. Identify this time and structure the rest of the day around it. Do the most important task (like working on long-term projects) here.
- Your body's nervous system is either "ON" or it's "OFF". It's up to you to lead a lifestyle where you activate the brain and body as much as

possible. Start by moving more, eating less frequently, and exercising some type of fasting on a regular basis.

- Once you've activated the brain or the body, it will often stay activated through the *spreading activation*. Your thoughts and emotions correspond to each other via *bidirectional communication*. The fastest way to change your thinking is by changing your mood, and **the fastest way to change your mood is through physical activity, not thinking.**
- Sometimes you can't trust yourself to take action, because homeostasis is so strong. In those situations, try committing to do something publicly. Or use another trick to increase mental resourcefulness, like Musashi.

## BOOH Practice

There are many ways to activate the brain and body—all you need is to find a few you can use consistently.

Pick 3 of these exercises right now. Write them down on a note and commit to doing them first thing tomorrow morning, regardless of how you feel.

And remember: Sometimes the only reason to Break out of Homeostasis is that you don't feel like it.

### Simple Methods for Activating the Brain and Body

- **Drink raw eggs.** Not for the health benefits; just to experience how it feels. If you've never done it, it's sure to break you out of homeostasis. And don't worry about Salmonella infections, they are extremely rare. (Maybe you'd get one if you drank 10 raw eggs per day for 10 years.)
- **Eat raw lemons.** Or something similarly sour, like two mouthfuls of apple vinegar. I recommend doing this in the afternoon when energy levels dip. It might be better for your teeth enamel to mix it with water or put it in your food.
- **Eat something spicy.** Like fresh jalapeño.
- **"5 More Minutes!"**. Whenever you want to quit (particularly while working on a task or during exercise), just do it for five more minutes to show your brain who's boss.
- **Take cold showers.** Good for Breaking out of Homeostasis (changing temperatures) and developing pain tolerance (if you take very cold water on your head).
- **Sit in the sauna or steaming room.** There's some scientific evidence to indicate that both of these activities are good for the immune system and for testosterone. Bonus: Put your back against the wall and feel the burn.

Practice doing this each time until it's easy.

- **Incorporate some method of fasting.** The three most popular ways are:

1. (16/8) Intermittent fasting every day. Just skip breakfast and you've got it.
2. Eating once per day every day. (Many do the 24h fast once per week only, but if you're already used to 16/8, it's not hard to switch to 24h every day.)
3. 2-day fast. Fast for 40-48 hours once every week, biweekly, or per month. This is a little harder, but better for stomach health and pushing through the plateau. It also gives more of a natural "high", and you can get by on less sleep.

- **14 Ways to Stay Active Throughout the Day:**

1. Breathe better. Remind yourself to take deep breaths into the abdomen.
2. Keep upright posture. Consider walking on an incline treadmill in the morning.
3. Stand up: Stand up instead of sitting down when possible.
4. Buy a set of dumbbells.
5. Buy a small trampoline and jump on it.
6. Don't take the elevator. Take the stairs instead.
7. Switch seating position.
8. Flex your muscles every now and then.
9. Power pose.
10. Shake the body: Jump around shake loose, relax, and regain focus.
11. Do mobility stretching (look it up if you don't know how).

12. Don't use lazy-ass devices when you can do it yourself in seconds.
13. Walk more.
14. Park further away from home/office.

- **13 Ways to End Idleness and Raise Mental Resourcefulness**

1. Set goals and think about them obsessively until they become etched in your mind.
2. Seek out role models, mentors, or people you admire and try to impress them.
3. Start an activity and then just continue as long as you can.
4. Write lists and fill them out (this is an example of #3).
5. Do things you are good at and enjoy doing.
6. Make up your mind to be the best at something.
7. Make a bet, make a public commitment, or spend money before you do a thing.
8. Use stimulants (after biologic prime time, but without ruining sleep).
9. Cooperate with one or many friends.
10. Compete versus enemies and rivals (if you don't have any, find them).
11. Cultivate a monomaniacal internal dialogue and tell yourself you are the best when you work hard and that you are a worthless wimp who deserves to lose at life when you are lazy and don't do what you should do.
12. Make yourself angry. Find reasons to work harder. Show those bastards who disrespected you in fourth grade how great you are now.
13. Think about how attractive you will be to members of the

opposite sex.

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But, what happens if you expend TOO MUCH energy, and you push yourself too hard, for too long?

Will you burn out or will your body adapt to it? Read on to find out the answer in the next chapter.



## CHAPTER 4

# **Allostasis: The Stretch Zone of Adaptability**

The more you can eliminate unnecessary stress and avoid becoming chronically stressed, the more adaptable you will be to change.

# Polyphasic Sleeping: Perhaps The Most Brutal Plateau I've Experienced

Is there a limit to how much you can adapt to at any one time? Yes there is. What happens if you exert yourself above that? Nothing to your benefit.

Like that time when I did polyphasic sleeping and tried lifting heavy weights in the gym...

[3 years ago]

*Damnit!* I had overslept—again.

I was pissed off. “Do I really need this much sleep?” I wondered. What if I could do away with it, or train myself to get by on less sleep somehow? Definitely worth a try.

That led me to polyphasic sleeping, which is when you train your body for a different sleeping schedule than the typical 8 hours per night.

I had long known about polyphasic sleeping by reference (I'd come across it whilst reading about Buckminster Fuller<sup>6</sup>), but I hadn't researched it further or given it a try, because it's not something you do lightly.

You see, it's not like a hobby you do once a week; polyphasic sleeping requires TOTAL commitment for a couple of weeks—and it's not easy to do unless you control your own schedule (or have a holiday).

Fortunately, I now had some time on my hands.

I started researching on Google and ended up reading about 20 articles and a full book on the subject. I learned that the best polyphasic sleeping schedule for me—and for most people—is called *Everyman3*.

It consists of 3 hours of sleep (2 REM cycles) and three naps of about 20 minutes (1 REM cycle) interspersed throughout the day, with about four hours of waking time in between.

**Here's the schedule I came up with:**

- 2-5 AM = my 3 hours of “core sleep”
- 9:30-9:50 = my first 20 min nap
- 13:30-13:50 = my second 20 min nap
- 17:30-17:50 = my third 20 min nap

This meant I would GAIN an extra 4 HOURS of waking time each day!!

**Given the standard 16-hours of waking time per day, here's what it adds up to:**

- 28 extra hours per *week* = 1,75 days
- 112 extra hours per *month* = 7 days
- 1344 extra hours per *year* = 84 days

Conclusion: *You would gain close to three extra months per year<sup>7</sup>!*

And if you kept up the Everyman3 schedule for 20 years you would get *5 extra years* of life.

Sounds cool, right? I thought so.

But it comes with a price: *the adaptation phase*. The adaptation phase is a long and particularly brutal plateau of sleep deprivation. It lasts about one week for most people, and then the second week it's supposed to go away slowly. The more sleep deprived you are, the faster you will adapt.

It was very hard for me not to fall asleep. During the first three days I suffered extreme mood swings; feeling anxious, tired and depressed.

**Here are some of the key things I did to keep myself up and awake:**

- Taking cold showers.
- Eating ice cubes.
- Slapping myself and pulling hairs from my arms.

- Taking at least two long walks per day: at 14:00 and at 21:00.
- Moving around a lot in general and avoiding sitting down.
- Flexing my muscles a lot.
- Listening to upbeat music.
- Doing many chores.

Another thing I did which helped me not to give up and go to sleep when I was super-tired and just wanted to "lie down for a while," was to remind myself of the benefits:

*I'm trading at most a week or two, for 84 extra days. That's a gain of 600-1200 % over a year!*

## **I Wanted to Be an Innovator**

After roughly two and a half weeks (a longer adaptation phase than most people) I had completely adapted to sleeping 4 hours per day.

When I did my initial research, I had been unable to find *any* documented polyphasic sleeper who went to the gym and lifted heavy weights. This bothered me. At most, these people only did light cardio, like playing Frisbee, golf, or going for a jog.

But since I like to experiment—and, quite frankly, wanted to be the first person to do this—I went ahead with my plans anyway. That turned out to be a mistake.

Despite having adapted to the sleep schedule and done it for more than a month, I was completely unable to go to the gym on four hours of sleep. Not even close. My body needed more rest.

After learning this I decided to quit the polyphasic sleeping. Life is too boring without physical exercise. And, while I was able to get by on a 4 hours of sleep per day, *my creativity and curiosity plummeted*. So it was neither fun or productive.

However, one valuable thing I got out of it, was the ability to take short restorative naps. I had never been able to do that before. It's a neat ability to have (it comes in handy if you know in advance that you're not going to get 6-8

hours of proper sleep during a night). The ability to take naps is also a good way to tap into the subconscious and have more ideas.

Unlike Buckminster Fuller, I don't have the genetics to do polyphasic sleeping properly. I'm of the wrong "chronotype". I'm not a "short sleeper". I don't have the mutant DEC2 Gene. (Depending on whichever terminology you prefer to use.)

I need 6-8 hours of monophasic sleep. Maybe you don't. If you're one of the few people who normally gets by on 3-6 hours of sleep, then you should give polyphasic sleeping a serious try. It might give you all the benefits and few or none of the drawbacks. Just don't expect to be able to go to the gym.

## Allostasis Determines Adaptability

When it comes to change and adapting to stressful circumstances, like the adaptation phase of polyphasic sleep, what determines how well you can do it? It's something called *allostasis*.

Allostasis is the Goldilocks zone where your body is at its most adaptable; your body is not in homeostasis, but you're not taking on so much stress that you collapse or burn out. Like I did when I tried lifting weights on 4 hours of sleep.

It's difficult to measure and define good health, but the ability to maintain allostasis is probably one of the best ways for doing it.

That's what this chapter will be about; how you can reduce (unnecessary) stress, manage stress more intelligently, become physically healthier, and stay in allostasis for longer periods of time. This will give you an edge over most other people.

### In this chapter you'll learn:

- What *allostasis* is, why some people are more tolerant to stress than others, and what causes burnout (versus what doesn't).
- The easy approach to improving your health (energy levels and vitality over the long-term).
- Why a stress-free life isn't what you want and how to return with renewed vigor from work.
- How common elements of modern life can create a dangerous downward spiral of chronic stress, unless you guard against it! (At least 30% of people are unknowing sufferers.)

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[6.](#) For more than 2 years Fuller slept only 120 minutes per day (30 min x 4). He would travel to different countries each week and kept a bunch of different watches on his arm—one for each time zone. Quite a quirky guy.

[7.](#) Obviously, I was not taking the concept of *biological prime time* into consideration when I thought this.

## Allostasis, Allostatic Overload, and Allostatic Gauge

When we're discussing allostasis (pronounced "ah-lo-stasis"), it becomes important to understand the physiological definition of *stress*.

In normal conversation, "stress" is a word with negative connotations. It's thought to be an emotional state which we're either in or not, and the notion is that being in this state is a bad thing which we don't want.

This is not how the word is used in physiology. In physiology, *stress* is what happens to your body when coping with new challenges and sudden dangers. Stress is not seen as a bad thing in physiology, only as an adaptive or maladaptive process.

Upon becoming stressed, the brain then sends a signal to the adrenal glands (which are located on top of your kidneys) to create *cortisol*, the "stress hormone". This instantly activates both brain and body, drawing on fast energy from your body's glucose reserves to fight or run. For better or worse, this breaks your homeostasis.

Allostasis is the "in-between" process of transitioning between these physiological states. If the transition is smooth and adaptive, allostasis is good. If it's slow and maladaptive, it's bad.

## **Allostatic Load**

It feels great to Break out of Homeostasis and activate the brain and body, but your body cannot maintain allostasis and stay “ON” forever, because it’s too physiologically demanding.

This physiological cost is termed “allostatic load”, and it’s the reason you can’t Break out of Homeostasis all the time. Allostatic load can be seen as the built-up pressure your body accumulates while being out of homeostasis. It’s the wear and tear of repeated stress in a short period of time.

As long as the stressor is mild, temporary, or gradually increased (like when pushing through a plateau) allostatic load is manageable through your reserves of energy, hormones, and neurotransmitters. This type of stress is healthy and adaptive—and it’s how you improve at life, by upping the ante.

The problem is when you become stressed by (1) too much at once, (2) in new ways you haven’t yet built up resistance towards, (3) for too long, and (4) without adequate recovery. This is why you can’t stay in a state of euphoria or deep concentration forever, even if you were to use drugs like MDMA, cocaine and amphetamine. It would deplete your reserves.

This also explains why it can be hard (and possibly stupid) to Break out of Homeostasis on days when you’re feeling off, and suspect you may be in the risk of becoming sick.

## **The Top 6 Factors for Maintaining Allostasis**

Your ability to maintain allostasis and deal with stressors depends largely on the following factors, arranged in order of urgency:

1. The quality of your breathing. (Breathe deeply into the abdomen; not the chest.)
2. The quantity and quality of your sleep over the past few days.
3. Restoration and intermittent recovery from short breaks.
4. Your diet. (Frequency, portion size, and nutrition quality.)
5. The general fitness of your brain and body (your baseline of hormonal



levels, neurotransmitters and the amount of muscle you have).

6. Your homeostasis (the degree to which you have adapted to the stressor in question).

## **Allostatic Overload**

Allostatic overload is the point where Breaking out of Homeostasis stops being a healthy thing and your body's ability to maintain allostasis stops. This is when you've taken on more stress than your body can effectively cope with.

Hell Week—the famous trial period for Navy SEALs—is a specifically designed process for finding individuals with extreme tolerance to stress, and who do not easily incur allostatic overload.

Extreme cases of repeated or sustained allostatic overload can give weird results.

When U.S Senator and Presidential Nominee John McCain was in his early thirties he was taken as a prisoner of war by the Vietnamese. He was then subjected to physical torture for more than two years, and his hair turned snowy white. And, in one of the psychologist Ivan Pavlov's lesser known experiments, he tortured dogs (by repeatedly subjecting them to near-drowning experiences) causing them to lose their memory<sup>8</sup>.

## The Allostatic Gauge

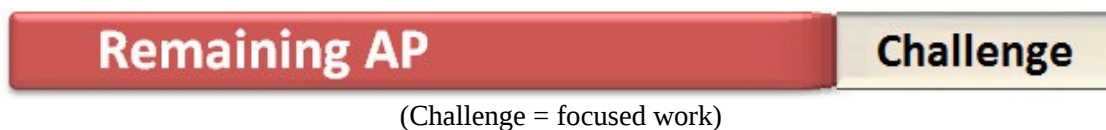
The easiest way to think about allostasis and allostatic overload is to picture it as a gauge, like the health bar in a video game. Where the “AP” stands for *allostasis points*.

This gauge corresponds to your ability for maintaining allostasis. Running out of AP means going back to homeostasis and/or inducing allostatic overload.

Here’s what the allostatic gauge looks like for the average person.



And here’s what you would like yours to look like:



The allostatic gauge shows that we can only adapt to so much stress at any one time; so we’ve got to be mindful of at least three things:

1. What challenges we take on (and that they’re worth being stressed about).
2. That we don’t take on too many things at once—for too long—and overextend ourselves.
3. That we avoid chronic stressors.

Small things add up, and if we are constantly worrying or incurring other sources of unnecessary stress, it’s going to deplete our allostatic gauge.

The goal is to become better at maintaining allostasis, and the way you do it is a 3-part process: First, you want to become fitter and healthier. Second, you want to overcome challenges and Break out of Homeostasis regularly. Third, you want to eliminate unnecessary stress.

**The first two things expand your gauge over the long-term, while the third is about being more economic in your use of physiological resources.**

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[8.](#) Similar things have been tried on humans, but we don't work the same way. It's not possible to "wipe someone's memory", like in the movies.

## Two Cases of Extreme Exertion by Strong Soldiers

War produces extreme results in many ways, but one thing that I find interesting, is that relatively few soldiers “burn out” in the same way modern office workers do.

Another thing that I find interesting is that PTSD (Post traumatic Stress Syndrome) doesn’t seem to have affected a lot of soldiers before the last 100 years or so.

If this is correct, then my guess is that it’s because life was a lot harder (by default) in those days (so the body built up a stronger stress-tolerance) and also that they were able to suffer it in a more stoic manner because they were confined to a geographic location, with fewer irrelevant people to compare themselves to, as opposed to now, with social media.

These days, the *contrast* between the comfort of normal life and the carnage of war is much higher, and it might break down many people.

Let’s look at two case studies of soldiers who endured extreme stress. The first case illustrates just how durable the human body can be when given temporary respite in between challenges; the second one shows how damaging sustained allostatic overload can be.

### **Enduring Hell: How Jakob Walter Made it Through the March on Moscow**

Read Jakob Walter's *Diary of a Napoleonic Foot Soldier*. It’s an incredible first-hand account from one of the few people who survived the March on Moscow (out of roughly 650,000 soldiers starting the march, only about 100,000 returned alive).

Jakob survived by sucking the blood of horses, going without food for days at a time (sometimes more than a week), sleeping on top of dead corpses to keep warm in freezing weather; all while being infested by lice and suffering from chronic diarrhea with only brief remissions.

He took part in many battles. He says you were so full of adrenaline and

excitement that you forgot all your other troubles except for staying alive and avoiding cannon balls.

Before one particular battle, Jakob had got a box of half-cooked rotten kale. When the battle started he accidentally dropped it right where the fighting took place. When he noticed this, he ran back and retrieved it—completely disregarding the gunshots fired all around. He says combat was not an issue compared to hunger:

The moment a horse fell down and did not immediately get up from the ground, it was quickly pierced by numerous swords and eaten alive... I cut off intestines from cows, warmed it in the flames, and then ate it from my sword.

The time in between the battles was the hard part. Jakob's horse was stolen four times and he was beat down and robbed several times.

One freezing winter night in Russia he was robbed of all clothes except his underwear. Fortunately, he received assistance just in time... but his body was so frozen that he had become paralyzed and could not put on the clothes he was given (his rescuers had to do it for him).

During another robbery, his arm was broken by a ruffian, and it wasn't until a few months later that he had it looked at and put on bandages.

In the end, Jakob managed to make it back to friendly territory and get taken into an army hospital. He was suffering from a heavy fever and bleeding profusely from his nose. After resting for several weeks, and correcting his broken arm, his health was miraculously restored.

## **Richard Baird-Smith Survives the Siege of Delhi, but...**

Colonel Baird-Smith was appointed chief engineer during the East India Company's siege of Delhi. After the successful siege, which took six weeks, he wrote a long letter to his wife describing the events that had transpired. Here's an excerpt where he goes into the damage done to his health—and his total disregard thereof:

An attack of camp-scurvy had filled my mouth with sores, shaken every joint in my body, and covered me all over with sores and livid spots so that I was marvelously unlovely to look upon. A smart knock on the ankle-joint from the splinter of a shell that burst in my face, in itself a mere bagatelle of a wound, had been of necessity neglected under the pressing and incessant calls upon me, and had grown worse and worse til the whole foot below the ankle became a black mass and seemed to threaten mortification. I insisted, however, on being allowed to use it till the place [Delhi] was taken. mortification or no: and though the pain was

...moved to see it all the place [being] was taken; mortification of me; and though the pain was sometimes horrible, I carried my point and kept up to the last.

On the day after the assault I had an unlucky fall on some bad ground, and it was an open question for a day or two whether I hadn't broken my arm at the elbow. Fortunately, it turned out to be only a severe sprain, but I am still conscious of the wrench it gave me. To crown the whole pleasant catalogue, I was worn to a shadow by constant diarrhea, and consumed as much opium as would have done credit to my father-in-law [Thomas De Quincey—author of: *Confessions of an Opium-Eater*]...

We were sadly scourged by the cholera... and after it was done, came the collapse.

Don't be horrified when I tell you that for the whole of the actual siege, and in truth for some little time before, I almost lived on brandy. Appetite for food I had none, but I forced myself to eat just sufficient to sustain life, and I had an incessant craving for brandy as the strongest stimulant I could get.

The excitement of the work was so great that no lesser one seemed to have any chance against it, and I certainly never found my intellect clearer or my nerves stronger in my life. It was only my wretched body that was weak, and the moment the real work was done by our becoming complete masters of Delhi, I broke down without delay and discovered that if I wished to live I must continue no longer the system that had kept me up until the crisis was passed. With it passed away as if in a moment all desire to stimulate, and a perfect loathing of my late staff of life took possession of me.

Like Jakob Walter, Baird-Smith experienced the extreme psychological stimulation of war, breaking him out of homeostasis and alleviating him of his physical sufferings. But he was out of homeostasis for too long without respite, due to his excessive drug use.

Without the drugs, his body would have stopped him, but now he incurred a sustained allostatic overload—and while he could keep it up for a while—he collapsed the moment things quieted down.

Baird-Smith never recovered fully from the combinatorial damage done by the injuries, stress, and long-term over-stimulation. Four years later, he died from chronic ailments that were first sustained during the siege

# How to Minimize and Eliminate Unnecessary Stress

You want a stress-free life? Think again.

Many people want to live on the beach and sip on Pina Coladas all day long. “I’ll have no stress whatsoever,” they think. “I’ll have the good life and all that”. Except it’s not the good life. You’d get bored fast from dwelling in homeostasis.

What you *really* want, is a life of CHOSEN challenges and MANAGEABLE stress levels.

You need some stress to remain sane and strong.

Stress is the negative feedback that interrupts the otherwise self-perpetuating positive feedback loop of homeostasis. Without it, you turn into a deluded and self-serving weakling, like all those idiots who do nothing but sit around all day in their comfortable corner of the Internet, feeling important about themselves without accomplishing anything.



## Necessary vs Unnecessary Stress

There's good stress and there's bad stress. You want your body to become stressed—and release plenty of cortisol and adrenaline—when you're exercising or escaping from someone who's trying to harm you, but you don't want this to happen when you come home from work, when someone says something mean to you on the Internet, or when you're going on a date.

And, you don't want your stress response to be prolonged. You want it to end promptly after the threat or physiologically-demanding situation is over.

If you're often stressed for no good reason, it means that your perception of threats is off-mark, and that you need to learn how to better control your relaxation response. The best ways I've found to improve these things are breathing exercises, meditation, and Stoic thought practices.

## How to Master Breathing Exercises and Meditation

Meditation and breathing exercises help you calm your body on command by manipulating the *vagus nerve*. When you know how to do this, it gives you an “OFF-button” that you can use at will, and it also helps you improve your concentration. The simplest way to start is by doing the breathing exercise *box breathing*, coined by Navy SEAL Mark Divine. It works like this:

1. You *inhale* for four seconds.
2. You *hold your breath* for four seconds.
3. You *exhale* for four seconds.
4. You *wait* for four seconds before repeating step #1.

You can start with three times per day: in the morning before starting the day, in the afternoon when energy levels are low, and at night before bed to relax yourself. Do it for just a few minutes to feel better.

After you can do this, start practicing meditation by sitting still for 10-15 minutes doing nothing but concentrating on your body, your thoughts, or your breathing. Meditation is often overcomplicated by people, and there are many “styles”, but that's all B.S.

There's only one way to meditate and it's called concentration. The reason people overcomplicate it, is because it's hard to do at first when your brain is weak, but it's the same thing as going to the gym. You just do it.

If you struggle with shallow breathing, another thing you can do is to *breathe through a straw*. This is an exercise used by special forces and divers to improve diaphragm (deep) breathing. Here's how you do it:

- Lay flat on your back.
- Put a straw in your mouth.
- Pinch your nose (or use a clamp) so you cannot breathe through it.
- Breathe in and out as normally as possible through the straw for a few minutes.

Do this once per day until breathing deeply, far down into your abdomen, becomes natural. (Even if you already do that, you might want to give it a try just for the challenge.)

## **How to Practice Stoicism and Control Your Thoughts**

Stoicism is a pragmatic philosophy. Marcus Aurelius summed it up as following, “you have power over your mind—not outside events. Realize this, and you will find strength.”

Make it a habit to ask yourself: “Is this something I can control or not?” This trains you to stop thinking about the things you have no business worrying about. You can then choose to think about something more productive and fun.

Write down your worries or perceived problems and ask, “can I influence the outcome of this event?” If you cannot, then stop worrying. Here's how you can do it:

- First: Try to will it away with conscious effort.
- Then remind yourself that worrying doesn't have a helpful effect on the outcome. You might tell yourself, “I am doing myself a disservice right now by worrying when I know it won't help.”
- Write out your problem and why it is making you feel worried.

- Ask: “is this really a problem, or am I just making it one?”
- If it *is* a problem, break it into pieces and come up with a plan for getting it handled. That will usually do the trick. Most worries come from confusion and inaction.

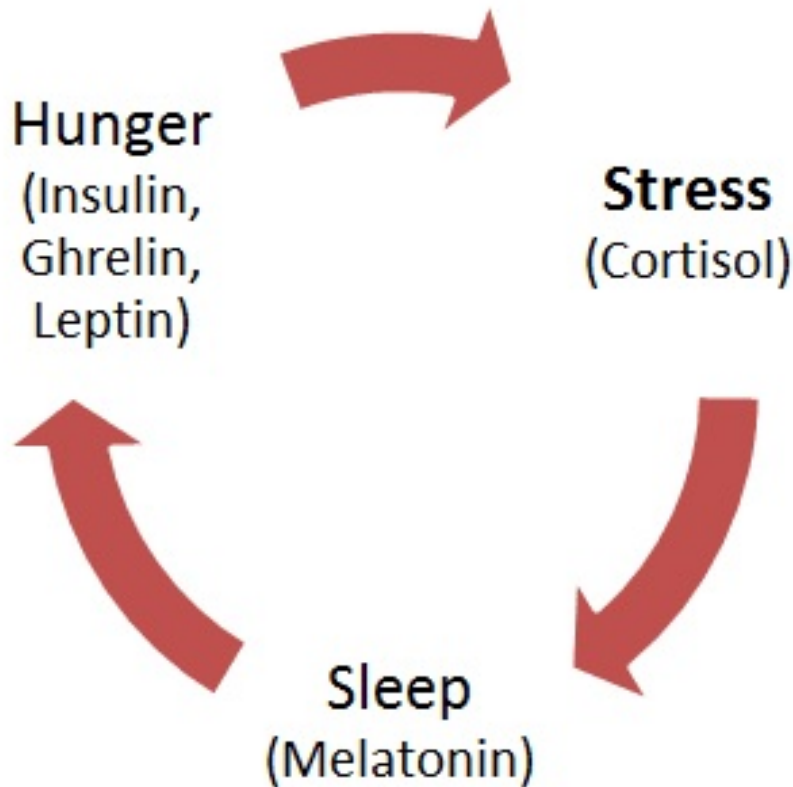
Some other core parts from Stoic philosophy include acknowledging that life *is* unfair and not getting hung up on mistakes or feeling sorry for yourself in any way. Also, to avoid envy, eliminate complaining, and choosing to re-frame troublesome situations as opportunities for building character and gaining the respect of your contemporaries.

And remember: You will die.

## **The Nasty Downward Spiral Causing Chronic Stress That You Must Avoid**

Chronic stress is the worst kind of stress because it keeps the allostatic gauge in a permanently lowered state. Many people are unknowingly suffering from a—sometimes quite serious—type of chronic stress that is the result of a common hormonal downward spiral having to do with *stress, sleep, and fake hunger*.

With time, this downward spiral gets internalized by homeostasis and becomes worse and worse, until you find yourself *fat, tired, and angry*. And, at that point—especially if it’s later than your 40s—it becomes harder to fix. Prevention is the best solution.



It starts with sleeping poorly, which increases your cortisol levels the day after. This makes you tired and impairs your decision-making. Cravings for sugar, junk food, and stimulants also go up. So you're more likely to indulge and put on weight. Putting on weight then increases your leptin levels, which makes you continue eating more, despite not needing the extra energy.

This is usually accompanied by getting into the bad habit of using stimulants as a crutch to get up in the morning and to sustain energy levels throughout the day. This easily leads to overuse and addiction. The big problem with this, is that stimulants have an antagonistic effect on *melatonin* production, and leads to *even* worse sleep! And so it goes...

**(1) Bad Sleep >> (2) Higher Cortisol Levels >> (3) Lower Impulse Control, Tired and Hungry >> (4) Eat Sugar and Consume Stimulants for Fast Energy and Focus >> (5) Become Fatter and More Stressed >> ... Bad Sleep [AGAIN]...**



This is a *really* nasty downward spiral, resulting in bad health and chronic stress. It may also ruin your digestion. Probably 15-30% of the population are in it to some extent. I was in it for a few months when I was 21, and had not yet discovered my candida infection.

**IMPORTANT:**

If you're in this downward spiral, or believe you're close to getting stuck in it, **STOP READING** and **DO SOMETHING** about it, before it's too late!

# 5 Ways to Expand the Allostatic Gauge

Let's go over the top five ways to become healthier and better at maintaining allostasis:

## 1) Breaking Out of Homeostasis

It does not produce fast effects, but over the long-term it makes you much more healthy, intelligent and adaptable to change, as it's the process of improving and evolving.

## 2) Getting Good Sleep

Sleep is the most important factor of your health (if it's not already good). If you don't get enough high quality sleep, you don't function properly. Most people need about 7-8 hours of sleep. Here are the main tips for improving the quality of your sleep:

- Exercise regularly, go on walks, and work hard during the day so you are tired.
- Create a consistent sleeping routine and stick to it.
- Avoid stimulants several hours before bed time.
- Avoid LED screens and artificial lights (e.g phones and computers) 1h before bed time.
- Stretch or relax just before bed.
- Get fresh air in your bed room.
- Make sure the room is relatively dark. Preferably no light at all.

Also: If you take melatonin (or stronger sleeping pills) only do this for a couple of days in a row, as a way to get back into your regular sleeping routine. Don't get hooked.

### 3) Improving Your Digestion

Voltaire said that no dyspeptic can ever have a sane outlook on life, and I think he was right.

You will probably never end up with as bad digestion as I had during my candida overgrowth, but chances are that your digestion is far from perfect. This is normal, given the modern diet. But just because it's normal doesn't mean it's healthy. It can lead to huge problems—because 50-60% of the immune system comes from the gut! And as much as 95% of serotonin (the happy-mood chemical) production happens there. Most of our dopamine production also happens there.

There are different types of stomach problems. For example, a friend of mine has the exact opposite stomach problems that I had. He's been constipated all his life. His stomach is probably too basic, while mine was too acidic. I'm going to assume you have normal—but far from *great*—digestion. Here are some of the top general tips for improved gut health.

**Avoid, minimize, or eliminate the following things from your diet:**

- Sugars, artificial sweeteners, and high fructose corn syrup.
- Trans-fats and MSG (mono-sodium glutamate).
- Artificial coloring agents and preservatives (anything in a plastic box).
- Milk—especially if you live in the U.S where cows are pumped full of steroids and weird growth hormones to be pregnant all year around.
- Dough, flour, and cheap gluten-based carbohydrates.

**And here are some of the most nutritious, fundamental foods you want to eat regularly:**

- Eggs (a natural protein that has all amino acids).
- Broccoli and cauliflower (have lots of glutathione, the body's main antioxidant).
- Spinach (lots of vitamin A and K, and good for your skin).
- Oregano (an antioxidant, 4x as powerful as blueberries).

- Coconut oil (non hydrogenated). Healthy fat and good for stomach lining.

Fasting or eating less often is also good, to provide time for your stomach lining to recover (if it suffers from inflammation). And you should exercise regularly if you don't already.

#### 4) Balancing Your Omega-6/Omega-3 Ratio

When you have too many omega-6 fatty acids in your body and not enough omega-3 ones, it can prevent your cell membranes from communicating with each other optimally. Instead, they clog up and you become inflamed. In a few cases, this can cause chronic stress (and even when it doesn't *cause* it, it will still give you a sluggish stress response, which hinders your rapid recovery).

Optimally, you want to have a ratio of around 2:1 between omega-6 and omega-3. This means you have twice the amount of omega-6 to omega-3 in your body. Guess what ratios most people have?

—Between 10:1 and 40:1!

(Indians and Thai people are among the worst at this. Japanese are among the best.)

**Do the following things to reach a healthy 2:1 balance between your omega-6/omega-3 levels:**

- Follow the food advice from before (regarding digestion).
- Stop eating processed foods that contain high levels of omega-6. (Notable examples include: vegetable oils and meat from animals in concentrated animal farming operations.)
- Eat more fish or start consuming a high-grade omega-3 supplement daily. Liquid form fish oil<sup>9</sup> is better than capsules (because capsules allow supplement companies to disguise poor quality).

#### 5) Taking Short, Restorative Breaks

It's possible to remain in a state of allostasis and remain highly concentrated or increase the duration of good emotions for long periods of time if you use drugs



and/or stack many different tricks for activating the brain and body.<sup>10</sup> But if you do it too often, it will leave you drained and depleted.

A more healthy approach is to do highly concentrated work for periods of 30-120 minutes, followed by a short, restorative break intended for mental recovery. This break should typically be between 5-15 minutes long. It can be spent in meditation, taking a walk, or lying down and focusing on your body and your breathing. This can be done multiple times throughout the day (it's generally more effective than 8 hours of not-so-productive work in one stretch).

Thomas Edison would take several short naps each day—and it allowed him to get by on less than six hours of sleep. Winston Churchill divided the day in two by taking a 90-minute nap after lunch. Einstein and Salvador Dali would sit up on a chair with a key in their hand, so that when they fell asleep and dropped the key, they would be woken up and return to work with renewed vigor.

Experiment for yourself until you discover the ebb and flow between engaged work and relaxation. Second to finding your biological prime time, this might be the next most important “productivity trick”.

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[9.](#) If you live in Europe, check out the company ArcticMed. It sells excellent liquid fish oil and fatty acid profile tests. I use it myself.

[10.](#) To name a few: Fasting, flexing your body, standing up, moving, exercising, talking to strangers, learning something new, inducing variation into an activity, or setting a strict deadline.

# Chapter Takeaways:

Allostasis is a simple concept with serious consequences. You can only adapt to so much at any one time; the body can only endure so much stress and the brain can only meaningfully learn so much at any one time. It is possible to go beyond that, even for long stretches of time, but it's bad for your health. Don't die like Col. Baird-Smith.

You can adapt to a lot of things if you do it in a smart and sustainable way over time, by building up your stress-tolerance while avoiding unnecessary stress. John D. Rockefeller said that, "It is remarkable how much we all could do if we avoid hustling, and go along at an even pace and keep from attempting too much [at once]."

The trick is to find the sweet spot of exertion and expand the "allostatic gauge" a little bit at a time by:

1. Getting in good physical shape early in life.
2. Finding a diet that suits your stomach.
3. Maintaining proper sleep hygiene.
4. Learning proper breathing, practicing meditation so that you control the vagus nerve and relaxation response, and taking a more stoic approach to life by identifying and eliminating harmful thoughts that give rise to unnecessary stress.

You want your "allostatic gauge" to be at least 70% full—so that you can use all that for taking on important challenges (while having that 30% extra space as a margin of safety for dealing with urgent deadlines or crises).

Most people are only at 30-50%—and keep in mind that their entire gauge is often smaller—due to improper diet, dwelling in homeostasis, being incompetent about stress management, and suffering from unwanted chronic stressors.

## Top Takeaways from this Chapter:

- **The 6 main factors that determine allostasis** (improve any one for improved health and higher adaptability to stress):
  1. Breathing.
  2. Sleep.
  3. Intermittent recovery.
  4. Diet.
  5. Body fitness and brain chemistry.
  6. Your current homeostatic set point in some area.
- Learn to breathe properly. It makes a big difference. Try box breathing right for a minute if you haven't done it before, and if you have straws in your house you could try breathing through it for one minute.
- Allostatic overload is when you're taking on more stress than you can handle. Sustained allostatic overload results in "burnout" and requires longer recovery.
- The 3-part game plan for increasing allostasis and becoming a top-performer:
- Improve health (like your diet, digestion, and Omega-6/3 ratio). And exercise.
- Eliminate unnecessary stress and think of how to prevent it in the future.
- Break out of homeostasis in different ways regularly.
- You don't want a stress-free life; you want a life with chosen challenges and manageable stress levels. Without sufficient negative feedback, human beings dwell in homeostasis too much.
- Consider what your allostatic gauge looks like every now and then. How much of it is taken up by worrying about things you cannot control, bad

sleep, or bad diet? It's not reasonable to expect yourself to perform optimally when the gauge is drained.

- **Avoid the negative hormonal feedback loop that comes from bad sleep, chronic stress, and eating junk food (due to lower willpower). It will make you fat, tired, and angry.**
  - Once you're in it, it will become self-sustaining and get harder to reverse. You'll become short-sighted and make bad decisions that further the feedback loop.
  - The solution is to identify the early signs of this downward spiral (like: shallow breathing, poor sleep, stress not going away by itself, slipping into bad habits) and to take decisive action to reverse it before it grows in power.

# **Allostasis Practice**

## **Stress-Management for Top Performers**

First realize that some stress is a necessary evil for the greater good. Accept stress when:

- It's by your own doing (not from some external factor).
- It's clearly worth it (high upside).
- It's adaptive—and will make you stronger.
- It doesn't ruin your health or happiness.

## **Best Practices for Reducing Unnecessary Stress**

- Don't check your email inbox (or social media) when you're not in the mood to act on it, like when you need to relax. Any email or notification will linger in your head and—since you're not acting on it—will increase your worries, making you neither productive or relaxed.
- Write out what's worrying you. Putting it on paper will typically remove the resistance.
- Mock your worries. Look at your behavior from someone else's perspective; they would probably think you're overreacting, and remember: nothing is ever as important as it seems to you in this moment, while you're focusing on it.
- Also remember: All you have to do in life is to die. Everything else is optional.
- Think of how much worse it could be and re-frame this as a positive learning experience. What doesn't kill you makes you stronger.
- Now take a few minutes to feel grateful about something in your life.

You probably knew this already, but a reminder is often helpful.

## **Preventing Chronic Stress: 8 Restoration Tips to Reverse the Feedback Loop**

When stress doesn't stop promptly, it's no longer adaptive.

When the stress continues in a self-sustaining feedback loop, it risks becoming chronic. The most common symptom of this is when your breathing becomes shallow and you feel like you have to struggle to breathe into your stomach. Or if you start experiencing acute anxiety without knowing why. Your best course of action is to try to reverse the loop before it gains strength.

### **Here are some practical tips you can use:**

- Tense your whole body (from bottom to top) for 10 seconds. Then do it again.
- Take 20 deep breaths (use box breathing).
- Chug a big bottle of water. It will “shock” your body into calming down.
- Take a long walk (or do some other form of cardio).
- Talk it out with a friend + laugh (for oxytocin).
- Get a massage or have sex (for oxytocin).
- Exercise, yoga, stretching (for endorphins).
- Take a 3-day break from stimulants, alcohol and all other drug use.

If you find other simple tricks that make you relaxed, you could make a short “emergency list” like this, and use it the next time you feel stressed and it doesn't go away by itself.

### **Take Your Pulse [weekly/biweekly]**

Buy a blood pressure monitor (I have one from the brand Omron, it cost me around \$100) and use it once per week (I do it as part of my Sunday routine). Consider using it at different times to see if your results fluctuate naturally.

It's hard to say what results are optimal, but here are the stats you do NOT want to show consistently:

- +120 Systolic pressure (top number),
- +80 Diastolic pressure.

- +100 Resting heart rate (bottom number if your device shows all three).

### **Do Health Tests [1-4x/year]**

Other than blood pressure, here are more metrics you can use as an indicator to prevent chronic stress:

- Cortisol levels (can vary a lot, so don't be too alarmed if it's high the first time).
- Omega-6/3 ratio. (Good stats = 2:1)
- Vitamin B (B-12, B-2, B-5, B-6). (Should not be a problem if you have a healthy diet.)
- Relaxation minerals (magnesium, zinc, chromium).
- Calcium and choline may also be worth checking, if possible.

If you want a list of these items to follow-up on (along with every other resource recommendation I make in the book), you can go to [www.BOOHBook.com](http://www.BOOHBook.com).

There you will find a bonus called BOOH Follow-Up Resources that can be downloaded for free. It has more than 30 low-effort, high-impact resources that you can easily execute on in a day.

PART II

**Mind-Mastery**



## CHAPTER 5

# **Metacognition: The Key for Unlocking the Gap Between Stimulus and Response**

We all have a strong tendency to get stuck in feedback loops. If we do it long enough, the feedback loop becomes perpetuated by homeostasis. People who can detect this before it happens—and prevent it—have an advantage.

## "You + Homeostasis"

When I was 21 I discovered I had a massive candida infection in my gut.

When you get an overgrowth of candida, it's said to come in three degrees of severity: mild, medium, and severe. If you get to "severe", a permanent recovery could be impossible and you may be forced to live with many unpleasant handicaps.

I was between medium and severe; so I was fortunate.

Those who have had candida know that it's difficult to get rid of. I had to change many things in my life. I went through months of trial and error, experimenting with different diets and supplements just to find something that worked<sup>11</sup>. Then I had to stick to a rigorous diet that excluded processed foods, carbohydrates, sugar and alcohol for about one year.

Before discovering I had candida, I was clueless as to why it was that as soon as I started eating anything with carbs or sugar in it, it was nearly impossible for me to stop eating until I'd lapsed into a coma-like state. I would then suddenly lose all my energy, and be forced to lie down and just *dwell* for an hour or two, barely able to formulate thoughts.

I felt like the real-life version of Dr Jekyll and Mr Hyde, as I alternated between my normal self and a state of reckless impulsivity accompanied by strong euphoria. I could unpredictably change between these two "personalities" in a matter of minutes if I saw junk food.

One time I ate 12 cupcakes (they were given away for free) in under 30 minutes during a class at university. I must have looked like a total slob, because a female friend who was sitting next to me asked, "What the heck are you doing?" and I said I didn't know. It was the truth.

The big turning point for me was *the discovery of homeostasis*, and learning that candida is a parasite with the power to manipulate its host's hormonal system. So, when I felt the euphoria and lost self-control, that was the candida tricking me into doing its bidding by flooding my system with dopamine and other pleasure-hormones.

When I learned this, it completely changed my perspective and I realized that *it was me against the candida*. Two organisms struggling for control over the same body.

I started asking myself: “*Is this something I want to do, or is it just the candida in me that wants it?*” and it was this thought-habit (along with the gravity of the situation) that helped me stick to the boring diet long enough to get better and kill off the candida.

You probably don’t have an evil yeast striving to create a dictatorship inside of your gut, like I did. But guess what? Homeostasis is manipulating you in a similar way, only less extreme.

You should stop thinking of yourself as a singular, self-willed entity, and start thinking of yourself as “**you + homeostasis**”, where homeostasis is generally stronger than you are.

In order to overpower it, you have to persistently push through to get what you want, until the balance of power slowly tips into your favor.

This is the starting point for developing high-level metacognitive abilities and listening in on the bidirectional communication between brain and body.

### **In this chapter you will learn:**

- What *metacognition* is and how it leads to self-knowledge.
- The difference between intuition and homeostatic reactions.
- How the 3 evil minions of homeostasis—*cognitive biases, coping mechanisms, and evolutionary mismatches*—stop most people from making fast progress in life.
- Why you must develop a ruthless sense of self-honesty and not lie to yourself or rationalize bad behavior.
- Einstein's secret for becoming smarter.

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[11.](#) Here’s a summary of the winning combination I came up with to cure myself:

- Cutting out all sugar.
- Keeping carb intake (including alcohol consumption) to a minimum. (The main exceptions were spinach and broccoli.)
- Fasting a minimum of 16 hours per day and 40-50 hours (2-day fast) once per week.
- Drinking water with L-glutamine to make the long fasts easier and gut health.
- Eating non-hydrogenated coconut fat or MCT oil before and during meals.
- Eating lots of oregano and other potent antioxidant spices to kill off bad stomach bacteria.

## **Metacognition is The Vigilant Sentry Against Homeostasis**

Before founding Amazon, Jeff Bezos worked at the tech-investment company D.E Shaw. There, barely 30 years old, he was described by one of his co-workers as "the most introspective person I ever met".

Whenever he had a new idea, Bezos would record his thoughts and experiences into a special tape recorder that he carried with him at all times.

Everyone who has a smart phone now carries with them a high quality tape recorder/journal. But most people will not go through the hassle to use it. Is this because:

- a. They never have ideas and cool thoughts?
- b. They have bad habits?
- c. They don't have the metacognition to tell the difference?
- d. All of the above?

### **The Nosebleeder Who Refused My Advice**

One time I went to a 7-Eleven store to buy some small item (I forget what it was), and I noticed that the young man behind the register had a *huge* wad of paper stuck up his nose.

I asked him if he was OK, and he responded—with a voice dripping of self-pity—that "he suffered from thin blood vessels".

I mentioned that I used to have long nosebleeds several times a week when I was younger, but that it stopped when I improved my sleep ritual and started eating broccoli and spinach on a daily basis, in addition to supplementing with zinc and magnesium.

The guy flinched several centimeters backwards and said, as if on autopilot, "that wouldn't work for me, and I don't eat vegetables."

Realizing the battle was over, I just nodded, paid for my stuff, and walked out the store. He had answered his own problem, but he didn't have the

metacognitive awareness to notice it.

## Thinking About Thinking

I was recently reading an online article a friend had sent me. It was about how top athletes had made most of their money (from endorsement and clothing lines) and what the main culprits for losing money were (divorces and failed investments).

In the sidebar of the website, I saw a link to another article titled “Top 5 Best Snooker Players Known For Their Style and Tactics”. (Snooker = billiards.)

I didn’t click the link, but it made me laugh out loud.

“Why do I find that funny?” I wondered, and I realized that the reason it made me laugh was because I don’t consider Snooker a game that has any charisma or flair to it. Rather the opposite.

Sure, it’s associated with womanizers in bars and such, but professional pool players? No way. It seems sterile—just get the ball into the damn hole. Then again, I suppose you could make that argument for any sport? I just don’t know anything about Snooker.

—*This type of reasoning is an example of a metacognitive process. You can’t do it without being able to trace your thinking backwards, and having some understanding of how one thought leads to the next and ends in a conclusion.*

If you have high metacognition you are good at “catching yourself in the act” of conditioned responses. You are also likely to be good at “deprogramming” yourself from unconsciously held notions, like incorrect stereotypes.

The more you exercise your metacognition, the more aware of homeostasis you become. You will gradually increase the time between a stimulus, and your response to that stimulus.

Eventually this time gap becomes long enough for you to be able to catch yourself in the act of unconscious reaction. This makes it easier for you to avoid harmful unconscious behavior and to direct your thought process better.

**Almost Every Successful Person Has Highly Evolved Metacognitive Abilities...**

We all have a strong tendency to get stuck in feedback loops. If we do it long enough, the feedback loop becomes perpetuated by our homeostasis. People who can detect this before it happens (and prevent it) have an advantage in just about every area of life.

Having high-level metacognition allows you to learn by observation instead of only being able to learn through feedback from external forces.

In other words: *Metacognition makes you more likely to Break out of Homeostasis without receiving input from your environment.*

This doesn't mean people with high metacognition can sit alone in a cave and emerge enlightened and wise, it just means they're less dependent on other people to tell them what they're doing wrong, because they tend to notice it on their own. They're not the type to wait for the yearly review before making improvements at work.

One crucial aspect of metacognition is the ability to think while *also* being able to observe your thoughts objectively; to reflect on your own behavior, while avoiding becoming emotionally identified with it, and letting it cloud your judgment.

## **You Get What You Put Up With**

This is the iron rule of life. But it doesn't just apply to what you put up with from other people. It also applies to your relationship with homeostasis. The better you are at not fooling yourself with stupid excuses, the faster you progress.

"I did enough today..."

"I tried, but the system..."

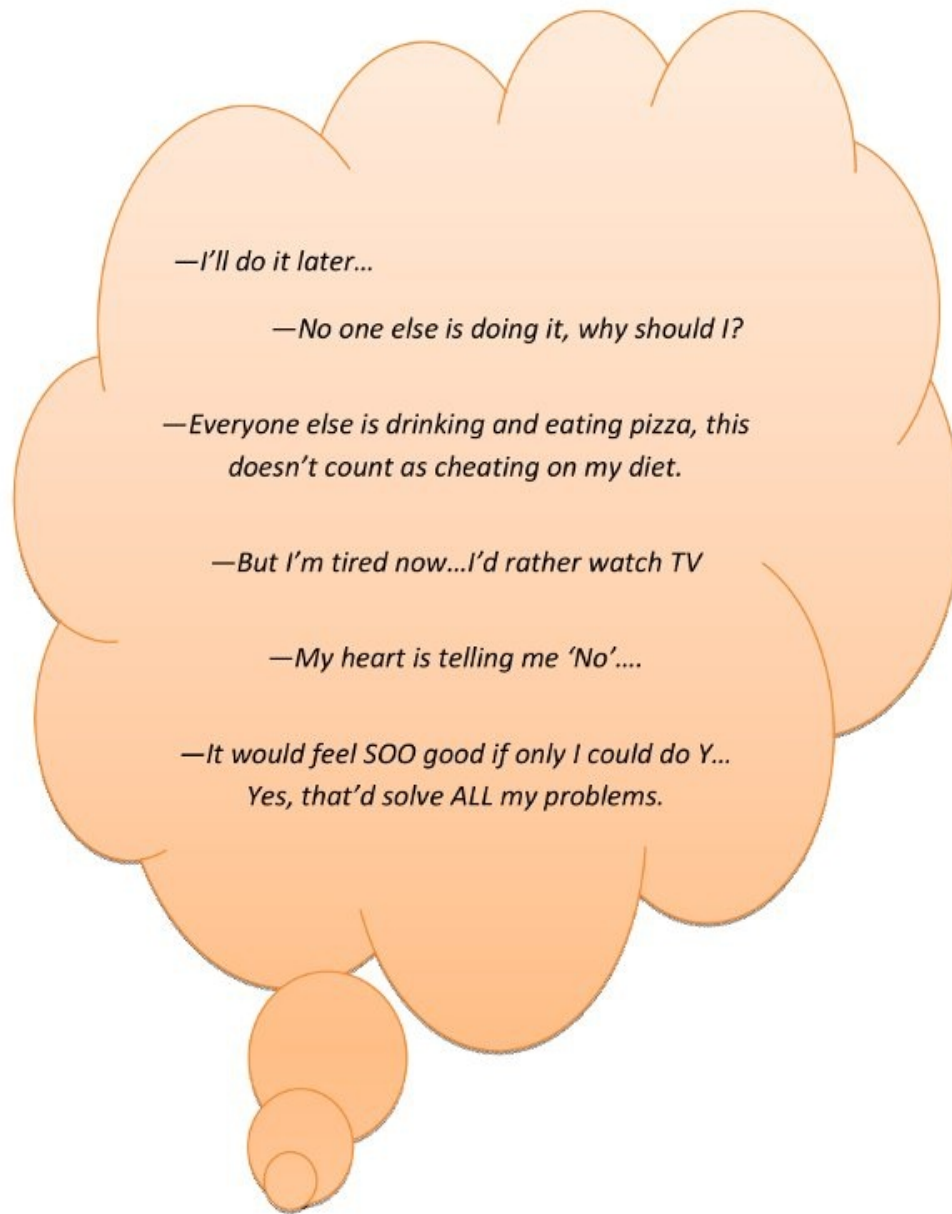
"My genetics..."

"I'm being discriminated..."

—Oh, shut up already, homeostasis!

Here are some of the most common ways that homeostasis will enter your mind and manipulate you into doing its bidding:





—I'll do it later...

—No one else is doing it, why should I?

—Everyone else is drinking and eating pizza, this doesn't count as cheating on my diet.

—But I'm tired now...I'd rather watch TV

—My heart is telling me 'No'....

—It would feel SOO good if only I could do Y...  
Yes, that'd solve ALL my problems.

A rule of thumb to remember: *The better you get, the better the rationalizations become.*

Smart people can come up with very sophisticated rationalizations, capable of tricking both themselves and others. This happens when homeostasis finds it *less* energetically expensive to conjure up compelling narratives, than it does to think up reasons *not* to have to change<sup>12</sup>.

This happened to the statistical mastermind Ronald Fisher (1890-1962) when he refused to believe that smoking caused cancer. Instead he came up with a bunch

of alternative theories to explain what might be happening. Meanwhile, he had been smoking a pipe for decades and was employed as a consultant for the tobacco industry.

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[12.](#) You can see this phenomenon in every area of life that's not homeostasis-friendly. It's probably the most common problem for (otherwise very smart) people when it comes to doing things like exercising, eating healthy, meditating, or doing the most important task of the day.

Martin Berkhan, the man who put intermittent fasting on the map, coined the phrase *Fuckarounditis* to explain this phenomenon. In his article on the topic, he wrote: "If anything has surprised me so far in my work, it's the complete disassociation between IQ and 'exercise intelligence' (essentially common sense and knowledge in regards to training fundamentals)."

# The 6 Most Common Mistakes for Low Metacognition

Metacognition is not a trait that comes naturally to most people.

This should come as no surprise. Our Paleolithic ancestors had better things to do than to sit on a rock, with their hand on their chin thinking and analyzing their internal dialog.

To improve your metacognition you must first make self-reflection a habit. The easiest way to do this is by considering when you naturally become introspective, and think of ways to expand upon that.

Some additional tips that have worked well for me are: journaling, going on mindful walks, and setting aside some type of routine time for introspection (my Daily Lessons).

But even so, there are common mistakes people make that keep their metacognition at a low level:

1. They've associated introspection and deep thinking with pain and boredom, at which point their homeostasis erroneously guides them away from it!
2. They are routinely tricked by cognitive dissonance and yield to rationalizations.
3. They engage in too much multitasking. This keeps them in the mental shallows, never reaching the sort of quality concentration required to engage in deep introspection.
4. They snack too often and eat too much sugar.
5. They don't spend enough time alone, away from interruptions.
6. They don't move enough, they don't meditate, and they don't know how to tap into their subconscious by some consistent practice of writing or other hobby.

## The 3 Evil Minions of Homeostasis

The word *intuition* implicates a correct assessment of some situation and one's response to it. Gut feelings are not always correct; they are wrong when you've been improperly conditioned for some behavior or situation.

A *homeostatic reaction* is when your gut feeling is wrong and leads you astray; it's when the body's instinctive resistance to change tries to hijack your thought process. To identify when this happens, metacognition is required.

**Intuition is only possible when:**

1. You have achieved *expert pattern recognition* on a subject (read Ch 9).
2. You have deliberately conditioned yourself for a proper and healthy response (read Ch 11).

For now, it is important that you gain the *mismatch-mindset*, so that you can identify situations where your biological responses are likely to trick you. This is relatively easy to do (a lot easier than acquiring intuition), but still goes a long way in helping you avoid common errors to health and cognition.

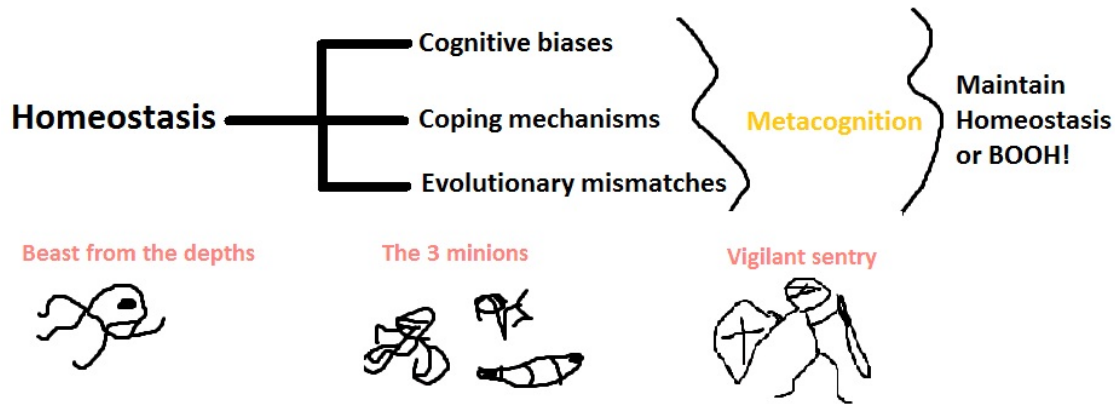
## The 3 Evil Minions of Homeostasis

I want to walk you through what I consider to be three of the most practical takeaways from the intersection of evolutionary science and psychology.

*Coping mechanisms, evolutionary mismatches, and cognitive biases.*

They are the 3 main minions of the beast that is homeostasis. The role of metacognition is to act as a vigilant sentry who protects you from their frequent and never-ending attacks. They're trying to trick you into staying the same and be self-indulgent.

Learn this, and learn it well. You'll leap ahead of all those lazy lounge-lizards like it's nothing.



These three are interconnected and work together in ways that are not yet clear by science.

There will be piles of money to be collected for the person who can organize their interaction in a workable way. Here's how I would explain each one of them individually:

- *Coping mechanisms* explain how we're inclined to cope with different types of stressful situations, resulting in knee-jerk responses to return to homeostasis.
- *Evolutionary mismatches* are ways in which modern society is unnatural to our biology. Whenever there's a mismatch situation, you cannot trust your thoughts or feelings.
- *Cognitive biases* are mental shortcuts we take to avoid thinking and save energy.

These are instinctive responses, but with practice, we can change or re-orient them (from bad to good). It all starts with having the metacognition to "catch yourself in the act".

## Minion 1: Cognitive Biases

The most important thing to know about cognitive biases is that they're subordinate to homeostasis, and that there are a few of them that are easy to predict and guard against. These are *post-rationalizations*, *cognitive dissonance*, and what I call *noble indulgences*.

These biases are not bad by default; when you're in a great mood or after you have Broken out of Homeostasis in some way, they'll often pop up in your internal dialog and convince you to keep going in that direction until you run out of energy and return to homeostasis. BUT...

... given the fact that our dominant state of being is to dwell in homeostasis, these biases are usually used *against us* by our brain to keep us in homeostasis and prevent us from changing what we think, feel, and do. So it's mostly bad news.

### I) Rationalizations and Post-Rationalizations

Most people use their limited intellect mainly to support their own prejudices. They conjure up well-sounding rationalizations to avoid having to think more.

Rationalizations and post-rationalizations are of the same nature; the reason I distinguish between them is that rationalizations are usually used to convince ourselves *not* to do something (because it requires effort, is scary, or violates homeostasis in some way) whereas post-rationalizations happen afterward, to help convince us we didn't waste precious energy acting for nothing.

We all have a splendid gift in rationalizing anything that we're doing as the smartest, best, most correct and moral thing. Especially when the activity has to do with something that:

1. Has become part of our homeostasis and thus sustains itself. Like an emotional feedback loop, a mental association, or a long-held perception.
2. Has to do with our salary, social status, or self-esteem.
3. We've done for a long time and put plenty of time, money, or emotion

into.

Even when it is totally obvious we made a dumb move, we often succeed in tricking ourselves otherwise to preserve self-esteem. For example:

**Reality:** Burt was asked by an exceptionally attractive woman if he wanted to dance with her. The request surprised Burt so much that he found himself unable to answer and the woman—receiving no prompt reply—asked another guy instead, who immediately said Yes.

**Burt's brain:** *What just happened? Did I not want to dance with her? Yes, that's what happened. That woman is probably a prostitute anyway. And if there's anything a guy like me doesn't do, it's dancing with prostitutes.*

## II) Cognitive Dissonance >> Self-Deception > Return to Homeostasis

It has been said that the mark of an educated mind is the ability to entertain two contrary thoughts without accepting either one as true or false.

When a person gets into a situation where some information runs counter to his own beliefs, he sustains a psychological stress known as *cognitive dissonance*. The brain doesn't like uncertainty and will want to relieve of it. This is what produces the need for rationalizations and easy answers.

The best example of cognitive dissonance is the notion of “Right Action”. For over 2000 years—and today still—people have been trying to provide a definitive answer to the moral question “what is the right course of action?”

It's a fool's quest, trying to provide a simple answer to a highly complex question. But the demand is there, so they will keep on trying. People very badly want cookie-cutter answers; especially when it's something difficult, like the meaning of life and what they should be doing. Or investing money.

Just because an answer does not exist does not stop people from wanting one, and it certainly does not stop “experts” from selling it.

Homeostasis Dwellers are seeking a magic pill, hoping it will immunize them from experiencing cognitive dissonance. Unfortunately, absolute certainty does not exist. The rational solution is to RAISE your psychological pain-tolerance, accept that you might be doing things wrong, and be willing to change your

mind when presented with a superior way.

### III) Noble Indulgences

A *noble indulgence* is a particularly compelling narrative used to rationalize a primitive drive or self-serving behavior under the guise of a much nobler intention.

You can think of noble indulgences like an UPGRADE to a normal rationalization in the sense that it lets you do away with the shame or guilt for even having the urge in the first place!

Everyone wants to hear good news about their bad habits. Most people don't want to *do*, *try*, or *think*. What they really want is for some authoritative figure to tell them it's better not to try—at all.

Most people's quest for personal improvement, philosophy, and spirituality is nothing but one long, unconscious act of drifting from one noble indulgence to the next.

Noble indulgences are the most effective marketing message you can use if you are selling a habit-forming or hedonistic product. Coca Cola knows this well. Let's look at some of their most popular slogans during the last 100 years:

Drink Coca-Cola and enjoy it  
The pause that refreshes  
Thirst asks nothing more  
Coca-Cola has the taste thirst goes for  
What you want is a Coke  
The sign of good taste  
Coca-Cola refreshes you best  
Can't beat the feeling!  
Enjoy!

Now, let's contrast that with another company you might have heard about. McDonald's. McDonald's most popular slogan has been re-used at least three times:

-1971 : *You deserve a break today*  
-1981: *You deserve a break today*  
-1995: *Have you had your break yet?*



Are we starting to see a pattern?

Popular Science headlines such as “Sex is Great for the Brain—Scientist Explains Why!” is another example (but if that were true, prostitutes would be pioneers). Also: The idea that chocolate is healthy or that drinking wine every day increases Resveratrol and will help you live longer.

Yeah, sure: Raw cocoa is quite healthy, and yes, Resveratrol is perhaps a miracle substance, but are ANY of us in the danger zone of NOT eating enough chocolate or drinking enough wine?

And who needs to be motivated to have sex?

A noble indulgence lets you both have the cake and eat it. You can indulge in hedonism while rationalizing it as cool and important. YOLO.

You can see this a lot in diets and exercise fads. *Oh, you don't want to give up eating bacon and pancakes?* We'll make a special diet for you. *What's that, you also don't want to do deadlifts and squats?* We'll make a special training program for you... these “diets” and “programs” are far from optimal, but they become popular because they are psychologically appealing.

Here are some other noble indulgences you may recognize:

- Cult leader Osho's dictum that spiritual enlightenment was possible by having lots of sex.
- The free-market and gamblers motto—as echoed by Gordon Gekko—that “greed is good”.
- Most yogurts, granola bars, lite sodas, cereal, and juices are falsely advertised as healthy while containing mostly sugar, allowing consumers to *feel* healthy while being slobs.

These are all things we're biologically programmed to enjoy. No more explanation is necessary.

## Minion 2: Coping Mechanisms

A *coping mechanism* is a hardwired emotional response that we're inclined to use when we become stressed, as a way to get back into homeostasis and feel better.

The best example of coping mechanisms might be mainstream music. Study any Top 10 list for non-ambient music and you will find that all the songs are about some basic emotion. Like a girl overcoming heartbreak, a guy losing his job and feeling insecure, or the importance of buying drinks and getting wild on the dance floor; all commonly recurring situations where there's stress and change involved.

In Japan, where it is frowned upon to display your emotions openly during the work-day, they have special Cry Movies. It's not considered weird for Japanese businesspeople ("salarymen") to go by themselves to watch a Cry Movie. It's a cultural coping mechanism to make up for holding in their emotions.

Another cultural coping mechanism (that's the same in almost every country) is that intra-communication among people in the same profession is more common for jobs that are stressful, require high emotional or intellectual commitment, and does not offer clear off-times. Like the military, fire fighters, police, doctors, chefs, finance people, and IT-entrepreneurs. These people are more likely to go out drinking to "blow off steam" than groups of people in normal professions.

## Understanding Coping Mechanisms

We all employ coping mechanisms without having to try. It's a hardwired response. But depending on how aware we are of it, and how we channel it, it can be either positive or negative. Writing songs is clearly a healthier creative outlet than doing drugs is.

While this is self-evident, it's important to train yourself to pay more attention to it, because it happens without needing to think or decide anything. If you don't learn to recognize it, you'll opt for the path of least effort, and this is often a *bad* coping mechanism.

### Good Coping Mechanisms:

- Using humor in tough times to re-frame the situation.
- Accepting the mistake as a sunk cost and engaging in analysis to *prevent* future problems.
- Asking why, weighing pros and cons, and prioritizing.
- Talking about the issue with someone else—especially if that someone else is the cause of the stress—instead of keeping it inside and brooding.

To some extent, these are basically the types of behaviors and character traits we expect from a competent and confident adult.

### Bad Coping Mechanisms:

- Instinctively avoiding discomfort. Common avoidance strategies include: excessive sleeping, escapism through TV and video games, or picking fights with strangers.
- Refusing to assume responsibility or accountability for one's actions or life situation.
- Giving up immediately upon failure, and resorting to self-pity.
- Consuming sugar, junk food, and drugs as a way to avoid boredom or bad emotions.

These bad coping mechanisms are what we typically see in children and

Homeostasis Dwellers.

You have to remind yourself to cope with the hardship in a productive way, even when you feel like taking the easy way out. Under no circumstances do you want to devolve into a downward spiral and have it permanently sustained by your homeostasis. We've all met these people—who are hung up on the past and feel sorry for themselves.

## Why Escapism Increases

In modern society, often the stress, pain or discomfort that we experience is *psychological* and we cannot easily escape or do away with the situation that is causing it (without changing jobs, changing our character, or Breaking out of Homeostasis in some big way). The path of least effort is therefore escapism.

We all indulge in escapism from time to time, but Homeostasis Dwellers do it a lot longer and more often. And most of them don't consider it weak and maladaptive.

Escapism is a bad coping mechanism for two obvious reasons:

1. It lowers discipline.
2. You're giving into homeostasis and making it stronger.

## The Bottom Line:

Human beings are coping creatures.

We adapt to our circumstances *by any means*—even if those means are bad. Then we post-rationalize it. Homeostasis Dwellers do this all the time: they get trapped in a feedback loop of fuck-ups, and then they wonder why they never get anywhere.

## Illustrated: The 5-Step Process of Good Coping vs Bad Coping

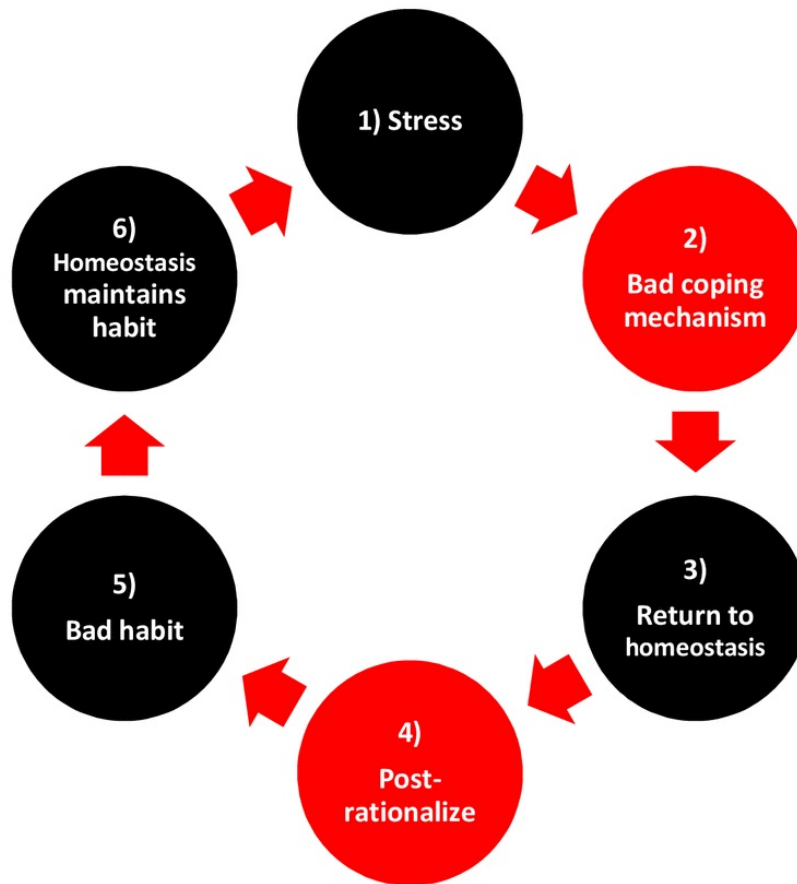
One bad decision easily leads to another. The process looks like this:

1. We become stressed or overly emotional.
2. We seek to reduce the stress by using some coping mechanism and return to homeostasis. Depending on how good our metacognition and habits are, we will either use a good or a bad coping mechanism.
3. After having done something, we tend to rationalize our actions. Without metacognition, we deceive ourselves into repeating thoughts and actions that don't serve us.
4. Over time, as we continue doing this, we form habits and mindsets.

5. That habit or mindset is then maintained by homeostasis.

***The Homeostasis Dweller's Bad Coping Process:***

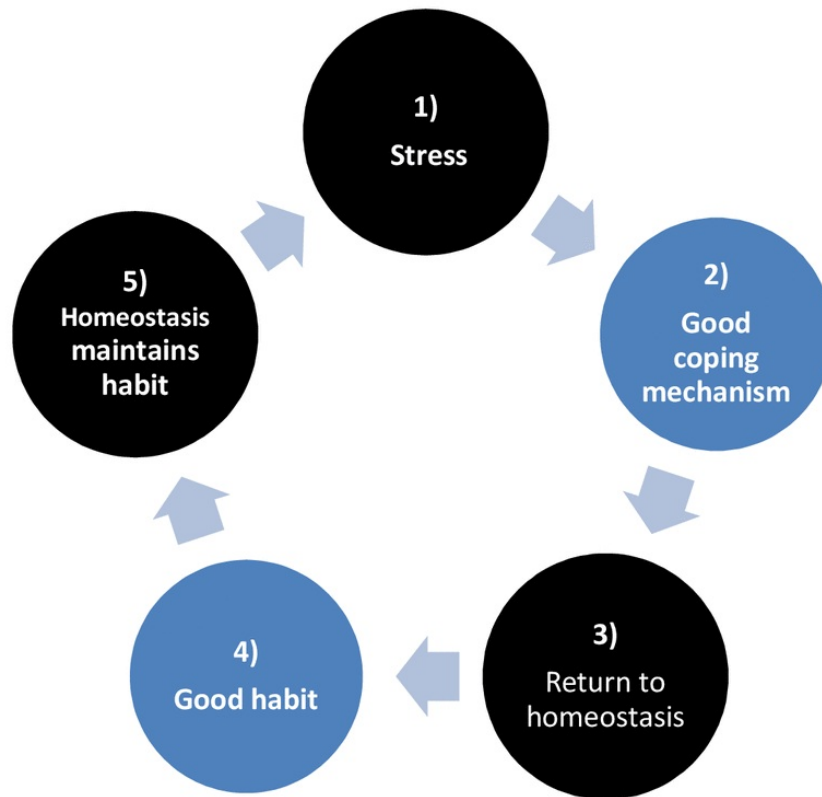
Notice how a lack of metacognition leads the Homeostasis Dweller to shoot himself in the foot over and over and over.



*The Homeostasis Dweller traps himself in this destructive feedback loop, unconsciously perpetuating his bad behavior by living in reaction to stress and emotion, piling up bad habit after bad habit (resulting in a smaller allostatic gauge).*

***The Homeostasis Breaker's Good Coping Process:***

See how metacognition helps the Homeostasis Breaker cope with stress in a more rational way:



*[Metacognition helps the Homeostasis Breaker use good coping mechanisms and avoid self-deception, thereby putting him in a virtuous, upward spiral like a true winner.]*

Watch out: It's when you're stressed, depressed, lonely, or under-slept that you're extra likely to resort to bad coping mechanisms and start a dangerous downward spiral. This is when you need to strain your brain for metacognition the most. A good acronym for helping you remember this is: **HALTED!**

HUNGRY  
ANGRY  
LONELY  
TIRED  
EMOTIONAL  
DRUGS

### **3 Better Ways to Cope with Change:**

You want to be intelligent about how you cope with stress, sadness, low energy, mood swings, and when your body wants to restore homeostasis to feel better—by any means.

Here are 3 ways to replace bad coping mechanisms with better ones:

1. Reflect on how you deal with stress, pain or conflict in different situations.
2. Start doing meditation. It improves your ability to remain focused and be aware of your behavior.
3. Make a deliberate effort to avoid bad coping mechanisms by writing a short list of instances when you are most likely to resort to them, to prepare yourself mentally. The next time you're about to resort to a bad coping mechanism, stop for a moment and delay your response by 5 minutes just to see how it feels.

[Next up: Minion #3.]

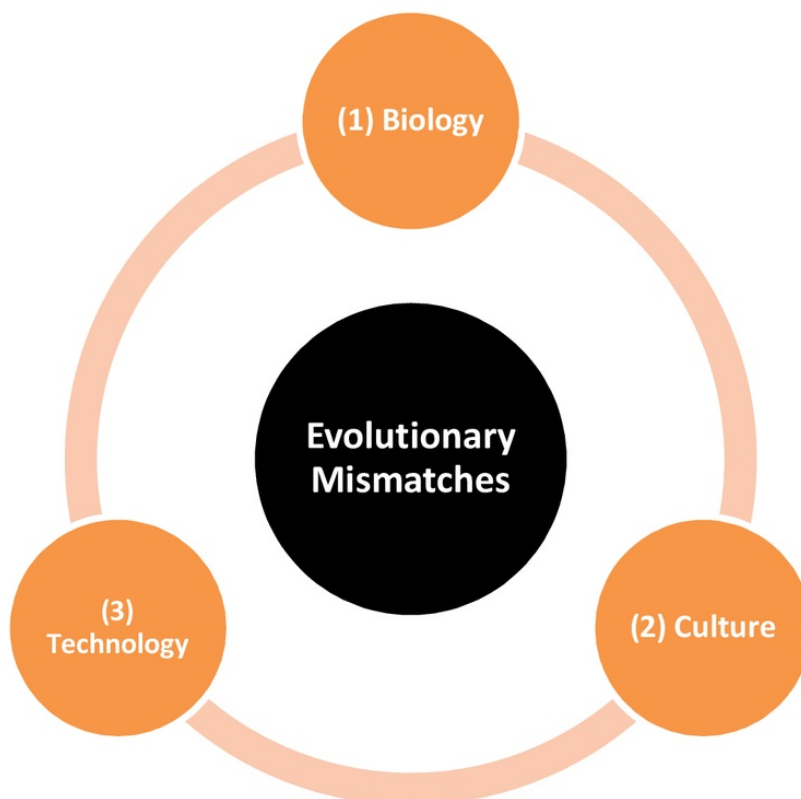


## Minion 3: Evolutionary Mismatches

The invention of *culture* is probably the singular characteristic that sets humans apart from other animals the most. Good cultures encourage learning, science, and *technology*.

But technology is a double-edged sword. It has developed faster than we've been able to deal with. The world has changed so fast over the last 200 years that our living conditions are now very different from those our biology evolved for.

Culture influences technology, and technology drives culture. Culture and technology, in turn, have a huge impact on human biology (the brain and body). This creates *evolutionary mismatches*.



Evolutionary mismatches arise when our biological traits suddenly become maladaptive given the culture or environment of modern society.

Mismatch situations are when our standard biological responses lead us astray and end up harming us instead of helping us. We cannot trust ourselves here. In the words of überscientist E.O Wilson: “We are a badly adapted species right now.”

Consider the Internet: Here we have this most marvelous technological tool—which we can all use to learn almost anything and build interesting online businesses—and what is it mainly used for? Porn, entertainment, and social media. People don’t know what’s good for them.

Imagine what a modern-day Aristotle, Ben Franklin, or Napoleon would do if they had the Internet.

Do you remember that hormonal downward spiral I showed you before, in the allostasis chapter? The one consisting of stress, sleep, and hunger. That’s an evolutionary mismatch too.

**Some of the biggest and most common mismatches include:**

- The overconsumption of salt, sugar, fat and processed foods
- Social media and caring about the lives of people we don’t know
- Television, computer, and smartphone use for instant gratification
- Information overload
- Porn addiction
- Buying on credit and hoarding useless items
- Gambling and speculative bubbles
- Idleness and sedentary lifestyle

These are all things our biology has evolved to find *intrinsically rewarding* (because it was helpful to the survival of our cavemen ancestors) but now they lead to poor health, lack of financial success, and the destruction of the brain.

There are many other mismatches which aren’t as easy to identify or judge as “bad” for our survival and success; like the way we instinctively swing a golf club, and how this swing yields a weaker drive than what we can achieve using a trained golf-grip.

Another tricky—but significant—mismatch is that it's becoming increasingly easy to *fake the outward signs of success and a life well-lived*. (Great for leeching losers, bad for societal morale.)

If you stroll through a busy street in any major metropolis you'd think everyone you see is rich, happy and involved in meaningful affairs, judging by how fast they're walking and how well-dressed they are.

This assumption is probably incorrect, and you know this to be true, but it still creates a misconception that is likely to make you feel worse about your own life and achievements.

## **Bonus: How to be The Best at Going to the Toilet**

Another way that modern society is mismatched to our biology is our toilet habits.

We often have to “hold back” when we feel the need to go. This is not optimal, we're supposed to go as soon as we feel the need.

The worst problem is specific to western society. Homo Sapiens evolved to sit down in squat position while defecating; not to sit on a toilet seat raised far above the ground, which is bad for us in two ways:

1. **Since the seat is elevated**, the center of gravity will be on the anal-and pelvic sections, putting an excess of external pressure on those areas. You don't need this—in the same way that you don't need a calculator to tell you what 10 x 10 equals.
2. **There is less *natural* pressure**, which makes you push harder, using your abdominal-and anal muscles. Especially if you are constipated a lot. After years of doing this, you will acquire incorrect and unhealthy physiological responses (AKA: bad toilet habits). You don't want this—in the same way that you don't want to flinch backward or close your eyes when someone is trying to hit you.

This is not a big deal when you're young, but statistics show that almost 50% of people will have hemorrhoid problems sometime in their life. Typically after age 40. Probably earlier too if you are a hard worker in a stressful environment (Napoleon probably lost at Waterloo due to suffering from prolapsed hemorrhoids, making him unable to sit on a horse and lead his men, or think

properly).

If hemorrhoids can defeat the greatest man in history, maybe you should research it.

You can significantly reduce the risks for hemorrhoids by training your mobility—stretch every day until you are comfortable sitting in proper squat position—and by placing a small stool (not the dirty sort) to stand on in front of your toilet. This removes the bad effects of the elevation.

## Identifying Mismatch Madness and Darwinian Death Traps

The average person's life is one mishmash of mismatches, a walking-talking Darwinian deathtrap who stuffs himself with chips, soda, and other snacks more than six times per day, while being logged onto Facebook and scrolling infinity feeds on the Internet. Somewhere in between, there's supposed to be work done also, from what I hear.

The easiest way to identify an evolutionary mismatch is by looking at how the 'natural' environment, that the trait corresponds to, has changed. Mismatches are generally caused by three things:

1. *Too much stimuli* → Sugar, porn.
2. *Not enough stimuli* → Loneliness, lack of variation in city life.
3. *Or too new stimuli* (not yet adapted to) → Processed foods, information overload.

You need to have the foresight to identify different evolutionary mismatches and then structure your lifestyle to overcome them. Your health, happiness, and financial success depend on it.

Here we can see how some of the most basic elements of our life have changed through history:

	<b>Hunter-gatherer</b>
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<b>Feudalism</b>	<b>Industrialism</b>
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<b>Now</b>				
<b>Physical activity</b>	High, but mixed with lots of relaxation	Intolerably high from toiling and not resting enough	High for blue-collar, medium for white-collar	Low from computer work and too much inactivity/relaxation

<b>Sexual activity</b>	Scarcity of sexual partners in tribe	Relative scarcity and monogamism by religion	From scarcity (in villages) to decadence (in city life)	Over-abundance of potential sexual partners & dating apps
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<b>Sugar</b>	1-6 pounds/year	1-10 pounds/year	10-80 pounds/year	80-152 pounds/year
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<b>Sources of stimulation</b>	Challenges built into external environment	Fewer. Probably stuck on a farm most of your life	Books, movies, theatre, drugs becoming more common	TV, smart phones, Social media, video games, porn, gambling, etc
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<b>BMI and Obesity</b>	ca 18,5 Skinny/fit Fat reserves were useful then	18-20 Skinny/normal Only the rich could be fat then	18-22 Obesity was uncommon	23-30 Obesity common 30% of population overweight now
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<b>Posture</b>	Good and nimble	Bad. Hunched over a plow too much	Decent	Bad. Hunched over a desk too much
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<b>Common causes of death</b>	Starvation, killed by predator, or ostracized by tribe	Childbirth or childhood, various diseases, and war	Same as during feudalism, only less so	Obesity, drug abuse, suicide, and age-related disease
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—Pay particular attention to sugar, sex, and BMI.

## **A Final Word on Mismatches: Economy.**

One of the biggest mismatches is the way we do business in the capitalist system. To be more specific: *the knowledge economy*, where so much hinges on the quality of our thinking and our ability to manipulate information and synthesize different ideas.

These are very abstract processes, and evolution did a poor job teaching the brain to deal with abstractions; the brain is much better at maintaining homeostasis. So, it's no wonder most people are bad at making money when:

1. they don't know they are mismatched for it,
2. they don't consider *thinking* a practice to improve upon,
3. they don't have a specific method for improvement, and
4. they haven't gone through any longer "adaptation period" to become correctly adjusted for the paradigm we're currently living through.

# Chapter Takeaways:

“Know thyself” said the Oracle of Delphi. Here’s how I see it:

Self-knowledge = time x metacognition

*Bad coping mechanisms, cognitive biases, and evolutionary mismatches*; these make up the three evil minions of homeostasis. You can never know 100% you’re right, but you can be sure these 3 are wrong.

The most devious cognitive bias is *noble indulgences*. What is there to be proud about for indulging in primitive drives? These are not things to be praised or encouraged; that should be reserved for things that are hard to do because they don’t come naturally to us. Like developing your ability to think on a high level and engaging in self-sacrificing behavior in pursuit of a greater goal.

# Chapter Recap:

- Metacognition is the ability to shift your focus and disengage from your immediate thought pattern or emotional state. It is the foundation of self-reflection.
- **Most successful people have a high metacognitive ability, allowing them to learn new things and adapt to change without having to make unnecessary mistakes.** Metacognition makes you more likely to Break out of Homeostasis without receiving input from your environment.
- The 6 most common mistakes people who have low metacognition make:
  1. They have a negative association attached to it.
  2. They're not able to endure cognitive dissonance.
  3. They're too "busy" multitasking, eating or stimulating themselves to look within.
  4. They don't have enough alone-time.
  5. They don't have a consistent method for activating the subconscious.
  6. They don't move enough.
- By practicing metacognition you widen the gap between stimulus and response.
- **Metacognition should act as a vigilant sentry to ward off as many as possible of the never-ending attacks inflicted upon us by the three minions of homeostasis:**

1. *Cognitive biases*: The invention of compelling excuses, clever rationalizations, and noble indulgences used to deceive ourselves into maintaining homeostasis without feeling guilty for it.
  2. *Bad coping mechanisms*: Quick fixes to minimize stress and discomfort and restore homeostasis, at the expense of our long-term well-being.
  3. *Evolutionary mismatches*: Situations where the stimuli of the modern world is very different from the environment our brain and body evolved for.
- When we become stressed and/or uncertain, we use coping mechanisms to restore homeostasis. Depending on circumstances, it's good or bad.
  - Self-deception happens because it saves you energy and helps to avoid pain or discomfort.
  - The main difference between Homeostasis Dwellers and Homeostasis Breakers when it comes to metacognition is that HDs react instantly and unconsciously to stress and cognitive dissonance, using bad coping mechanisms to restore homeostasis as fast as they can. As a result they get stuck in downward spirals, adopt bad habits, and are slow to diagnose what's happening and changing their behavior.
  - **Many of our thought patterns are undignified and a total waste of time.** Especially when we are rationalizing things that we're biologically programmed to do, or that's conducive to our current homeostasis. These things need no explanation. Ask yourself:
    - Is this something that's totally different from what I currently believe?
    - Is it part of the human fundamental needs, like a biological drive?
    - Is this something I've already done or somehow committed myself to?

# Metacognition Practice "The strong man is the one who is able to intercept at will the communication between the senses and the mind."

—Napoleon

High-level metacognitive ability allows a person to “zig-zag” between emotions, thoughts, and one’s reactions of the two; jumping back and forth between feeling and analyzing, experiencing and conceptualizing.

Most people can’t do either, some can do one of them, only a few can do both.

Here’s a set of exercises to improve your metacognition over the long-term:

- **Form the habit of introspection.** Take up some activity which is conducive to self-reflection, such as: journaling, creative writing, commonplacing, meditating, or having philosophic discussions with smart people.
- Don’t make important decisions when you are **HALTED!**
  - Hungry.
  - Angry.
  - Lonely.
  - Tired.
  - Emotional.
  - Under the influence of drugs.
- **Take a few deep breaths:** This is an easy way to delay or avoid an unconscious response to a stressful situation (which is otherwise likely to result in a bad coping mechanism). Learn to pause and reflect when you are uncomfortable or emotional.
- **Read biographies.** It helps you get an insight into some successful



person's thought process.

- **Study your ideological opponents.** Two reasons why: Notice which parts you disagree most vehemently with (gauge your emotional response) and, if you can analyze someone else's thought process, you're closer to analyzing your own.
- **There are times each day when your metacognition is most clear.** And it's not necessarily your biological prime time. Figure out when it is and engage in some reflective practice during this time. Even if only for 15 minutes. Consider creating a template.
- **Reflect on mistakes.** When you do stupid things or mess up, write down an explanation for why you did it. Find the root cause of the mistake by asking "why" until you get to the bottom.
- **Disassociate from your identity.** Don't think of yourself as "I". Think of yourself instead as [name]. This may help you see beyond certain biases and consider your thoughts and behaviors more objectively.
  - Consider having a devil on one shoulder and an angel on the other, both engaged in a shouting match to influence your behavior. The devil wants to keep you in homeostasis, the angel wants you to delve deeper into the dark unknown and do what's best over the long-term, regardless of short-term discomfort.
- **Be brutally honest.** You may act wrongly, but you should never try to deceive yourself by rationalizing the situation. When you make mistakes, admit it to yourself immediately—and don't do it again. Do not allow excuses, for they may become a habit. The sooner an error is corrected, the less painful it is in the long run.
- **Analyze your emotions.** When you feel especially *good* (happy, energetic, motivated) or *bad* (depressed, sad, confused) ask yourself why. What did you do? How did it make you feel? Can you find a recurring pattern leading up to this? Or is it random?
  - It really pays to identify your emotional rhythm and then matching it to specific activities that are conducive to that particular state of mind.

- **Think the opposite:** Put yourself in the position of your adversaries and look for ways to ruin your plans, like a chess player turning the board around to see things from the opponent's perspective.
- **Mental control.** Sit down in solitude and learn to feel your body. Then, when you are aware of your emotional state and thoughts, ask yourself:  
*Is this a feeling or thought I would like to have?*

*Is this feeling or thought beneficial to me?*

# Ludvig Recommends

“He who wonders discovers that this in itself is a wonder.”  
—M.C Escher

## The 1-Day Metacognition Challenge:

Pick a day for the upcoming week where your one big goal is to focus on your metacognition. Just observe yourself all day long to see how it feels. Pay attention to your thoughts, behavior, and how you respond to things (phone calls, emails, personal greetings) as you go about your day as you normally would. Notice how many things you normally pay no attention to at all, like:

- How you go to the toilet.
- Your method of shaving / getting prepared in the morning.
- How you dry yourself with a towel.
- Your posture while waiting in line.
- How you feel the urge to sit at the same seat in the bus or subway or meeting.
- Your first response to being greeted by friends or coworkers.
- Your mood and energy level—and how it shifts over the day.
- How you hold a pen, type on the keyboard or text with your phone.  
(Observe the hard-wired motoric motions of your fingers.)

It’s probably instinctive, and the same every time.

**Ask *why* as much as possible.**

It’s the best way to become smart and gain more self-knowledge.

One of the best things Einstein said was: “Don’t think about why you question, simply don’t stop questioning... Curiosity has its own reason.” Most people are doing the opposite; unconsciously striving to think less and ask fewer questions.

No wonder they are bored.

**Ludvig's Razor and other homeostasis-related questions:** *Which is the more homeostasis-friendly alternative? Don't do it. It's a trap!*

Other good homeostasis-based questions worth asking regularly:

- *Is this emotional response appropriate to the situation?*
- *Is my current behavior aimed at minimizing energy expenditure? [Sitting in a chair.]*
- *Is this activity I'm about to undertake going to help me Break me out of Homeostasis, or will it cause me to dwell deeper?*
- *Did this thought or urge I'm having right now spring up as a defense mechanism of homeostasis trying to prevent change? Is it a noble indulgence?*

**Bonus:**

Consider getting an appointment to try a sensory deprivation tank or a floatation tank. This can be a good start to motivate you to continue with these practices, and—if nothing else—it will be a new experience. If it is your first time, only do one session (30-45 minutes).

## CHAPTER 6

# **An Overview of the Human Brain**

The biggest takeaways from neuroscience: The more you know the more you learn, the brain isn't made for thinking, and everything you do has an impact on the brain.

Note:

You can skip (or just skim through) this introductory section about the brain ***IF*** you already know the fundamentals of neuroscience, the learning process, and how it ties in with homeostasis.

However: In the following sections (about the prefrontal cortex, the neocortex, pattern recognition, the amygdala, and the brain's reward system) I will be assuming that you understand these things.

The upcoming sections will be focused on the practical implications (and what you can do to use your brain more and better) based on the information in this introduction.

### **What you'll learn in this chapter:**

- 7 fundamental facts from neuroscience about the human brain.
- 4 myths about the human brain.
- How habits are formed, and +10 actionable tips on deliberate practice.
- Why it's all about gaining momentum when it comes to the learning process.

## **7 Fundamentals Facts from Neuroscience about the Human Brain**

1. The brain didn't evolve to think.
2. You don't get smarter than necessary.
3. The four main factors that influence us.
4. The process by which the brain builds itself
5. Why change is so hard for the brain
6. Why we have big brains
7. Male vs female brains

### **1) The Brain Did Not Evolve for Accurate Thinking**

The human brain has developed the ability to *think*, but its original purpose was not to think; that was just to make sure that you could live long enough to procreate and carry on the genetic code. The brain evolved to help you survive, not to thrive.

Homeostasis existed before the development of the brain and humans are not—primarily—thinking animals. Feelings and emotions supersede and control the thought process, and it takes life-long practice to become an accurate thinker.

### **2) You Don't Become Smarter (More Mentally Resourceful) Than You Need to Be**

The human brain is an energetically expensive organ, consuming about 20-25% of the energy budget by default, anything above that will only be used to the extent that it is needed. For example:

1. If your brain sees an opportunity to get away with being 'intellectually lazy', by minimizing thinking and decision-making, it will do so. (Unless you have the metacognition to catch it in the act and the willpower to

force it back on track.)

2. It's unlikely that you will engage in deep thinking without having a reason for it. Like: a goal in mind, a problem to solve, some pain to avoid, a pleasurable reward to seek, or out of interest and curiosity.

As a rule of thumb: You will be about as stupid as you *can* be—to the extent that you're able to live comfortably, receive validation from others, and be somewhat attractive to the opposite sex.

### **3) There Are Four Main Factors That Influence Human Beings**

Humans are *bio-neural-cultural creatures*. This means our main influences are:

1. Our biology (the genetic and prehistoric perspective).
2. The existing structure of our brain (and our ability to change it through learning).
3. Our environment and how we adapt to it via specific activities and use of technology.
4. The culture we're part of (religion, ideology, and deeply ingrained views).

### **3b) A Further Explanation on Environmental, Cultural, and Technological Adaptations**

Culture could be said to be everything humans do that other animals don't do. Culture has an impact on the wiring of the human brain. For this reason, the brain of a hunter-gatherer who lived 150,000 years ago would look slightly different from the brain of a person today.

In recent times—the last few hundred years or so—humans have adapted to living and working in different 'unusual' environments. For example:

- London cab drivers have been found to develop a bigger neocortex than the average person, due to memorizing so many different locations and streets.
- Young children belonging to the Sea Gypsies in the Burmese archipelago of Thailand are able to constrict their lenses by 22 % more than European



children. This allows them to see more clearly underwater.

- Seasoned meditators have significantly “stronger” (more active) insulas and prefrontal cortices than the average person does, because they regularly practice focusing their intent.

#### **4) How the Brain “Builds Itself”**

The theory of *Hebbian wiring* states that "neurons that fire together wire together." Neural pathways that are repeatedly used grow in strength while those not used eventually go away. This is how habits, mindsets and addictions are built—or lost—over time.

#### **5) Why Change is Hard for the Brain**

The brain constantly “recreates” the outside world and its perception of the body by constructing internal representations called *interoceptive maps*. Eventually, the brain has etched into itself a corresponding neural representation of every commonly-occurring thing or experience in our lives.

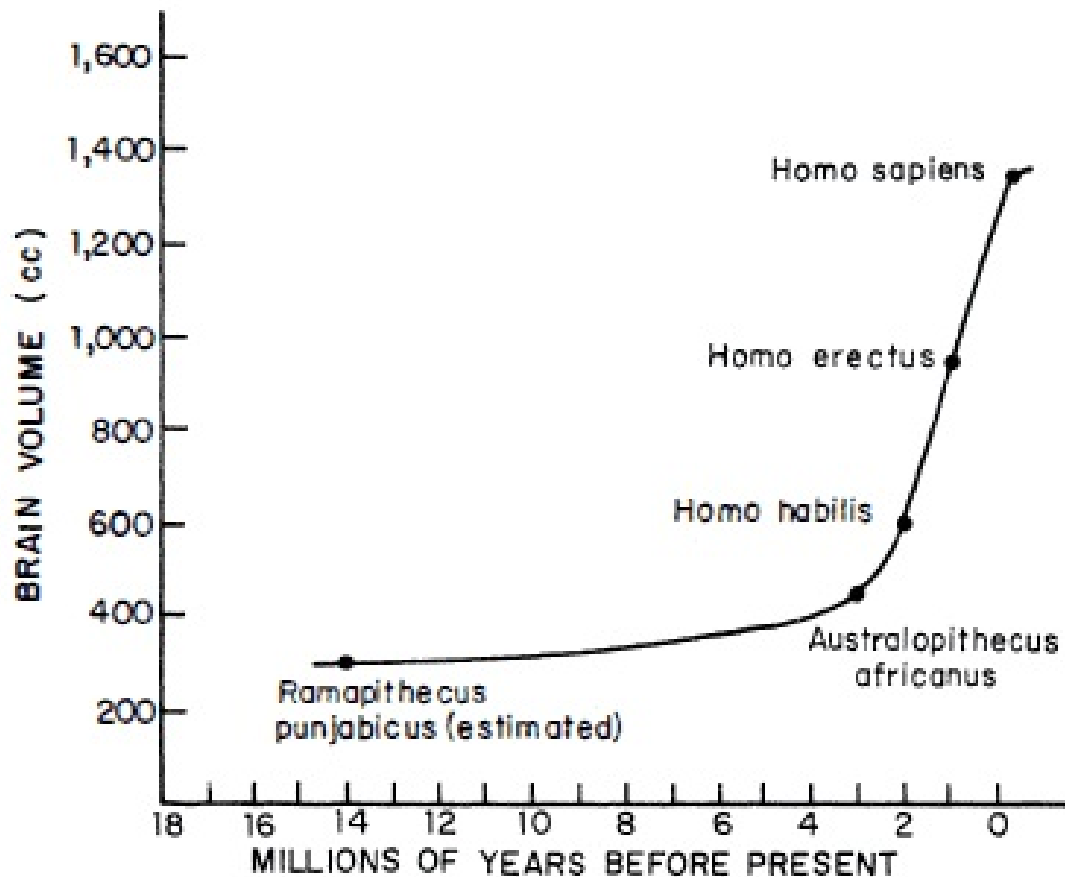
When you make any significant change in your life, you are “overwriting” this existing representation and discontinuing a neurobiochemical circuit that has been a “part of you” up until now, fueled by emotion and memory.

The stronger that circuit is, the more its violation will trigger homeostasis’ autopilot defense system and give rise to stress and discomfort. This is why it can be hard to get rid of nostalgia, bad habits, or to break up with someone you’ve been together with for a long time. And it’s also why you need to master psychological methods for Breaking out of Homeostasis (Ch 11).

#### **6) How Humans Developed Larger Brains Than Other Primates**

Humans share about 98 % of their genetic code with chimpanzees, yet the brain of a chimpanzee is only roughly 1/3 of the size of the human brain. The Human Genome Project uncovered that it is a particular gene that makes it so that humans started developing more neurons in the neocortex, leading to us having significantly larger and more complex brains than other primates.

This makes you wonder what might be possible when science enables us to genetically alter the brain.



Increase in brain size during human evolution. In the history of life, no other organ has grown faster!

[Credit: Chart by E.O Wilson.]

## 7) How Female and Male Brains Differ

One notable difference is that the *X chromosome* (which males have only one of and females have two of) contains a large portion of genes that are involved in brain development.

According to Larry Cahill, PhD, UC-Irvine professor of neurobiology and behavior, men and women have brains with anatomically different neural structures. This is because each gender has its own *sex-steroid hormones*: estrogens and progesterone for women, and testosterone and androgens for men. These then impact brain development and activation.

On average: Women are more emotional, more socially attuned, have better communication skills, and are more likely to experience anxiety due to having a higher degree of activation in the amygdala section of the brain. Men are more spatially-oriented, logical, and competitive.

# 4 Popular Myths about the Brain

Here are four things you may have heard or read about the brain that are not true.

## 1) The Localizationalist Theory

The *localizationalist* theory builds on the outdated science of *phrenology*, which believed that each part of the brain is devoted entirely to a set of unique functions.

This is not how the brain works. Rather, many different parts of the brain work in unison when it comes to processing different types of information and stimuli. The brain is a *very* complex system.

For simplicity's sake, the localizationist assumption is often used when discussing the brain, and—partly—that's what I'm going to do in the coming chapters too. It's easier to learn that way.

Going further: When it comes to measuring the difference in “brain potential” between successful people and Homeostasis Dwellers, would we find any difference?

Yes, there would be clear differences in brain activation, and it would be interesting, but it wouldn't translate to anything qualitative in terms of real-life implications. One reason for this is because...

## 2) The Brain is Not Like a Computer

It's a nice analogy, but there are many differences. For a long time, many people believed that short-term memory was like RAM memory and that the mind was like software whereas the brain was the hardware. These are popular ideas in personal development literature. Unfortunately, they are false.

The brain doesn't work in a linear  $1+1=2$  fashion, instead it might better be described as some form of highly *complex self-organizing system*, that takes in information and spits out something different. The brain consists of many higher

order hierarchies, like successful synergy effects in business:  $2 + 2 = 7$

### **3) The “Right-Brain vs Left-Brain” Model is Mostly Irrelevant**

The theory of right-brained vs left-brained people states that the former group of people are *creative* while the latter are *logical*. This is not true. It's just another box-like, horoscope categorization.

This framework might be helpful for job interviews or personality tests, but it holds little practical use for personal development and success.

### **4) “You’re Only Using 10% of Your Brain’s True Potential”**

This is another myth. It was probably invented to sell those magic pills from the movie *Limitless*.

The important falsity to uncover here is that the word "potential" is being misused as an umbrella term for the assumption that it's even remotely possible to remain in an optimal state of brain activation forever. E.G: having a high blood flow to the prefrontal cortex and a cocktail of positive neurotransmitters (dopamine, serotonin, oxytocin, and so on).

(You might wanna re-read that.)

Anyway, it's like the “quest for enlightenment”. It's the same fallacy.

When you are experiencing the thrilling state of having BROKEN OUT OF HOMEOSTASIS you are somewhere close to this optimal state. But you cannot remain there forever, because your body is limited in its production of positive hormones and neurotransmitters, and you can only adapt to so much stress at a time.

That being said, it is *not* a myth that most people don't use their brains even nearly as much as they could, if they were given a mental exercise regimen to follow. That's why the rest of the book will be about that.

# Learning About Learning: Mnemonic Mastery and Deliberate Practice

Practice makes ~~perfect~~ permanent.  
—So try not to learn the wrong way.

## How We Learn (inside the brain)

Learning means either creating *new* neural pathways (which is challenging) or *rewiring* existing neural pathways (which is easier). The latter corresponds to association and repetition.

The easiest way to learn a new thing is by associating it to what we already know and finding a similarity. This creates connections between existing neural pathways and the new one being constructed. For example...

It's much easier for you to learn how brain activity works by picturing it as water flowing through a river than it is for you to read about all the different parts of the brain, and how they interact with each other in complicated ways. The first explanation you already have an *association* for; the other one is slower and more mentally taxing.

*Repetition*, on the other hand, is how we memorize most things. And it takes time.

In every learning experience we go through a process of trial and error, during which we adjust to feedback, and gradually improve our efforts. While this goes on, the brain rewires the neural pathways which correspond to the activity, until we stop facing recurring problems.

The more we practice something—the more we repeat information—the stronger the neural pathway becomes. This is because it becomes wrapped in *myelin*.

## Myelin: The Stuff Habits Are Made of

The human brain is best at certain activities while it's still young. Especially highly creative activities like music, mathematics, or physics. Why? Bullet point

#3 below.

Myelin is an *insulator* which wraps around your neural pathways. It speeds up the transmission of electrical signals in the brain. The more myelin you have around a neural pathway, the “stronger” it becomes, as a result of making the electrical impulse faster.

How do you grow myelin? Through repetition, preferably via *deliberate practice*. The most useful things to know about myelin are that:

- **An ounce of practice is better than a pound of theory.** Myelin doesn’t grow by thought, but via real-life exercise of trial and error.
- **Myelin doesn’t unwrap itself.** Myelin builds around a neural pathway easily, but is hard to remove. This is one reason habits are tough to break.
- **Myelin decreases with age by about 10% per decade.** But this still leaves ample amounts of “myelin supply” to master new areas of life even in old age. (Decreased brain plasticity and a stricter homeostasis are worse deterrents to learning for older people to worry about.)

The existence of myelin also helps explain why some people are physically stronger than others, even if they were to have identical bodies with the same amount of muscle mass. If one person has practiced a certain motion—like doing a deadlift or learning how to throw someone—he will have built up myelin around a neural pathway which corresponds to that specific movement, and this will send the electrical signal faster and more accurately.

## **To Learn a Lot, Master *One* Thing at a Time**

John Locke wrote an instructional essay on how to raise a child successfully. In it, he strongly recommended against trying to teach the child too many positive habits at once. That was good advice because when it comes to behavioral change, you want to focus on one thing at a time.

Mastering any new area of life requires learning a bunch of habits and clever rules of thumb. You're not going to be able to do this if you take a shotgun approach. The better way is to spend a few months or years at each major area separately [health, finance, relationships—in that order].

## **Deliberate Practice: The Path to Mastery**

As I wrote the other day in an email to my friend: “It’s hard to keep quiet and apply yourself at your craft these days.” And she agreed.

Most people in modern society can’t concentrate for more than a few minutes at a time. They’re fascinated by masters for the same reason that they like diamonds—because they’re rare.

Movies like *a Beautiful Mind*, *Karate Kid*, or *Jiro: Dreams of Sushi* all became popular because they successfully depicted the path to mastery, showing different masters’ passion for their crafts.

Important advice: When it comes to mastering your craft, don’t look for quick fixes. Instead, stay focused on the small incremental improvement each day. Perfect your process!

Mastery requires spending hours upon hours in deep concentration, practicing some minor aspect of one’s skill set, repeating the fundamentals. This is *deliberate practice*.

## **The 8 Best Ways to Use Deliberate Practice**

Inspiration is for amateurs and hobbyists. Professionals practice regardless of mood—and they also have a consistent process for improving at their craft.

Here’s a collection of some of the best tips for speeding up the learning process and practicing what you do in a more productive way:

1. **The more senses and emotions involved, the better you learn.** Pictures are better than words, associations are better than complicated information, and the more emotion involved the higher the chances of memory formation.
2. **When you make a mistake, pay extra attention.** Sit down and reflect on what made you fail and what you will do differently next time.
3. **Create a game.** If you make the practice into a game, some sort of challenge, it becomes more fun. If you have a friend or fellow competitor, you can challenge each other.
4. **When something becomes easy, move on.** Stay out of your comfort zone. Often it is a good idea to Break out of Homeostasis for no other reason than to challenge yourself.

5. **Visualize before execution.** Before doing a thing, see yourself doing it in your mind's eye. This prepares you, mentally, for the actual execution.
6. **Have good posture and don't sit still for too long.** Straighten up, mate! At least flex your abs or something, because otherwise your body's parasympathetic nervous system will activate by default, and you'll become sluggish.
7. **Do summaries.** Summarize what you have learned. For example, when having read a book, at the end of the day, or doing a quick 30-second summary after having listened to a speech. It doesn't need to be more than 1-3 top takeaways.
8. **Create a test or a metric—and track progress.** Are there any qualitative components of the skill you're doing that can be measured and tested over time? If so, do that and track your progress. Fast feedback is the best motivator.



# The Law of Compounded Learning

Richard Hamming was an award-winning mathematician whose work and innovations had far-reaching impact on a diverse range of fields, such as telecommunications and computer science. He was a smart man who devoted his life to thinking and problem-solving.

In 1995, Hamming gave a speech called *You and Your Research*. It's excellent and I recommend you to watch it on YouTube. Here's an excerpt from it:

Now for the matter of drive. You observe that most great scientists have tremendous drive. I worked for ten years with John Tukey at Bell Labs. He had tremendous drive.

One day about three or four years after I joined, I discovered that John Tukey was slightly younger than I was! John was a genius and I clearly was not. Well, I went storming into Bode's office and said, "How can anybody my age know as much as John Tukey does?" He leaned back in his chair, put his hands behind his head, grinned slightly, and said, "You would be surprised Hamming, how much you would know if you worked as hard as he did that many years."

I simply slunk out of the office!

What Bode was saying was this: "Knowledge and productivity are like compound interest." Given two people of approximately the same ability and one person who works ten percent more than the other, the latter will more than twice outproduce the former. **The more you know, the more you learn;** the more you learn, the more you can do; the more you can do, the more the opportunity—it is very much like compound interest.

**I don't want to give you a rate, but it is a very high rate.** Given two people with exactly the same ability, the one person who manages day in and day out to get in one more hour of thinking will be tremendously more productive over a lifetime.

I took Bode's remark to heart; I spent a good deal more of my time for some years trying to work a bit harder and I found, in fact, I could get more work done. I don't like to say it in front of my wife, but I did sort of neglect her sometimes; I needed to study. **You have to neglect things if you intend to get what you want done.** There's no question about this.

Thus, the importance of learning how to learn early in life, and using this meta-skill to formulate a philosophical framework of big ideas and mental models. One reason for the compound effect of knowledge is that *association* carries the most weight when it comes to taking in and making sense of new information.

At age 20, I was totally ignorant. At 26, I can go into almost any book store, speed-read the books to gain an overview of the content, and—within 60

seconds—I can decide whether to discard or buy a book (based on whether I know the information inside).

Do you know why I can do that? Because I took Hamming's advice very, very seriously. The more associations you can get early on, the faster and more easily you can learn new things later in life.

This process is analogous to a moving object that just keeps gaining more and more momentum.

## **How to Gain Maximum Mental Momentum**

There are two things you must do:

1. **Learn the big ideas and overarching principles of various disciplines** (like physics, chemistry, statistics, evolution, biology, economics, psychology, neuroscience, etc).
2. **Collect examples which support the ideas and principles** (such as quotes or real-life examples. The study of history is particularly useful for this practice).

The first is a process of learning and *creating* the neural pathways, the second is a matter of sustained deliberate practice for the application of those ideas, in order to reinforce them with myelin so that they come to mind quickly.

Look extra carefully in the neocortex chapter for more principles on how to amplify this.

# Chapter Takeaways:

“The greatest thing we can produce is character. Everything else can be taken from us, but not our character.”

—Henry Ford

In the coming chapters you will learn about the following parts of the human brain: the prefrontal cortex (PFC), the neocortex, the reticular activating system (RAS), the amygdala and the brain's reward system.

Out of these five, the amygdala is the most primitive, and therefore least under your control. This means you must put in more effort to ‘tame’ it, by becoming less reactive to its retarding influence over your life.

You don't need to memorize how these parts of the brain work, but you should know what cognitive functions they are associated with in daily life:

- **PFC** = concentration, mental focus, introspection, behavioral modification, motivation, willpower and discipline and decision-making.
- **Neocortex** = the analyzing part of your brain that enforces duality and distinctions (mental models).
- **RAS & pattern recognition** = how you filter and interpret information, determining what you pay attention to.
- **Amygdala** = emotions, empathy, reactivity to threat, fight-or-flight response, adrenaline, freezing and panicking.
- **Brain's reward system** = determines what you're motivated to do by default. It keeps you in place through your addictions, causing you to repeat or stop behavior depending on emotional feedback.

## A Brief Summary of the Overview Information about the Human Brain:

- The human brain did not evolve to think accurately. It evolved to reach

quick decisions and carry on the genes.

- The 4 main factors that influence human beings are:
  1. Our *biology*.
  2. The structure of our *brain*.
  3. Our *environment* and how we adapt to it via activities, tools, and technology.
  4. The *culture* we're part of and our ingrained, ideological beliefs.
- The human brain is not like a computer. It's a myth that we use 10% of our "brain potential".
- Learning happens mainly through association and repetition.
- The more you practice and repeat a task or a thought process, the more myelin gets wrapped around the neural pathway, and the better your brain becomes at performing that function.
- The more knowledge and associations you accumulate early in life, the more and faster you will learn later. It works like compound interest.

## CHAPTER 7

# **The Prefrontal Cortex: How to Increase Concentration, Willpower, and Decisiveness**

There are 4 main ways to stay mentally engaged: novelty, variation, randomness, and goal-orientation. Maximize for these parameters, and you'll keep learning all throughout life and continue to improve even in old age.

# You Think You're Thinking, But You're Just Processing

"Ordinarily, men exercise their memory much more than their judgment."  
—Napoleon

In the 1950s, a young Italian named Tony emigrated to the United States. In the naturalization court he was asked all the usual questions. Before being made a citizen the judge asked Tony one last question "How many stars are in the Flag?"

It took Tony 15 seconds to respond, "Ninety-six, your Honor." A flag hung on the wall of the court room. The judge pointed to it and said, "Tony, can't you count?" Tony said, "Yes, your Honor... but have you looked at **both** sides of the flag?"

Tony passed the test and was made a citizen of the United States. The judge realized he had not asked the question "how many states are in the Union?", but how many stars were *on* the Flag, and Tony had actually looked!

## The Main Difference Between Leaders and Followers

Have you noticed that most people in the city look at stop signs to signal when they can or cannot walk? I've paid attention to this for years, and here's what I've found: most people will stop regardless of whether there is oncoming traffic or not.

Those people are not acting, they're *reacting*. They're waiting for permission from some external stimuli to move instead of using their own judgment to look and see if there's traffic coming or not.

For years, I have cultivated small ways to exercise my PFC throughout the day, like when I'm confronted with a stoplight. I don't stop by habit, like most people do. I only stop if I see a moving vehicle.

It seems like a small thing, and it *is*—in itself—but when you stack it up with 10+ similar habits, it makes a big difference over time.

Often when I am walking, and I cross a stoplight, I'll pass a crowd of

Homeostasis Dwellers who are waiting. When they see that I'm crossing the street and I'm not getting run over, they follow.

By the way, this is a common sign of low prefrontal cortex activation: to have low situational awareness and being unable or unwilling to think on your feet. Most people are just going on autopilot.

Followers don't use their PFC. They don't want to have to think, analyze, or make decisions. That's for leaders to do. Steel magnate Andrew Carnegie wrote that:

The man who cannot control—or will not—control himself can never control others. There are no exceptions to this rule. One gains self-discipline through his own efforts or he does not acquire it at all.

## **Don't Fool Yourself into Thinking That You're Thinking More Than You Are!**

When you're consciously experiencing, thinking, analyzing, reflecting or strategizing, you are using the prefrontal cortex. When this is not the case—which is most of the time—you are merely processing information and repeating existing thought patterns.

Most of the time, you're "recycling" thoughts, imprints, and experiences that your brain has harvested recently. This is not necessarily a bad thing, but you need to know it, because it's easy to fool yourself about how much you *actually* make use of the prefrontal cortex. Most people believe they think all the time, when the opposite is true. They also believe they're rational.

## **When Does the PFC Activate?**

Most people do less than 30 minutes of deep thinking or PFC-activation per day. Without salient external feedback (like a deadline, a threat, or a clear goal to reach) they are unlikely to activate it.

If we go by instinct and homeostasis, we'll only use the PFC to a bare minimum. Here are the three most ordinary examples of when you're **not** using the PFC:

1. When you're remembering things and retrieving that information.
2. When you're engaging in familiar and/or habitual behavior.

3. When you're failing to control your reaction in response to something that happens to you.

The prefrontal cortex can be activated through goal-setting, novelty, variation, and meditation or mental rehearsal.

**Goal-setting, planning and concentration:**

- Setting goals
- Planning ahead
- Engaging in deliberate practice
- Working on today's top priority

**Novelty:**

- Having new experiences
- Learning new things
- Meeting new people
- Exploring new environments

**Variation:**

- Changing aspects during deliberate practice
- Varying recurring elements of your daily routine
- Avoiding repeated exposure to repetitive stimuli

**Meditation or mental rehearsal:**

- Seeing what you will do before you do it
- Concentrating on some specific thing
- Consciously shifting your attention from your body to your mind, or vice versa

*The prefrontal cortex is VITAL to Breaking out of Homeostasis. Insofar as homeostasis being the worst irredeemable bottleneck of human nature, the PFC*



is the #1 element under our control to improve upon. If “Free Will” existed, it would be situated in the PFC.

## **An Overview of This Chapter:**

First I’ll explain some of the main functions of the prefrontal cortex (PFC) and how it translates into your life and daily routine.

Then I’ll show you how modern society disincentivizes use of the PFC and will turn you into Homeostasis-Dwelling zombie, unless you take preventive measures.

Finally, you’ll learn a bunch of ways to practice your PFC, and become a much more disciplined and decisive person; someone with impeccable judgment.

## **You’ll also learn:**

- Why the PFC plays a crucial role in discipline, willpower, and choice; and how the PFC lets you tune out noise and focus your concentration.
- Why modern society is bad to the PFC, and thus to self-control.
- The reason most people want to buy stuff, party, and do drugs.
- Why the Spartans probably were happier than most people today are.
- How to stay motivated for long periods of time and not get bored and dull-minded.
- Why everyone loves traveling and why it’s good for your brain.
- The 4 Pillars of Wakefulness—and how to keep habituation at bay [extremely important].

## 7 Symptoms of Having a “Weak” Prefrontal Cortex

People who do not regularly use their prefrontal cortex display the following symptoms:

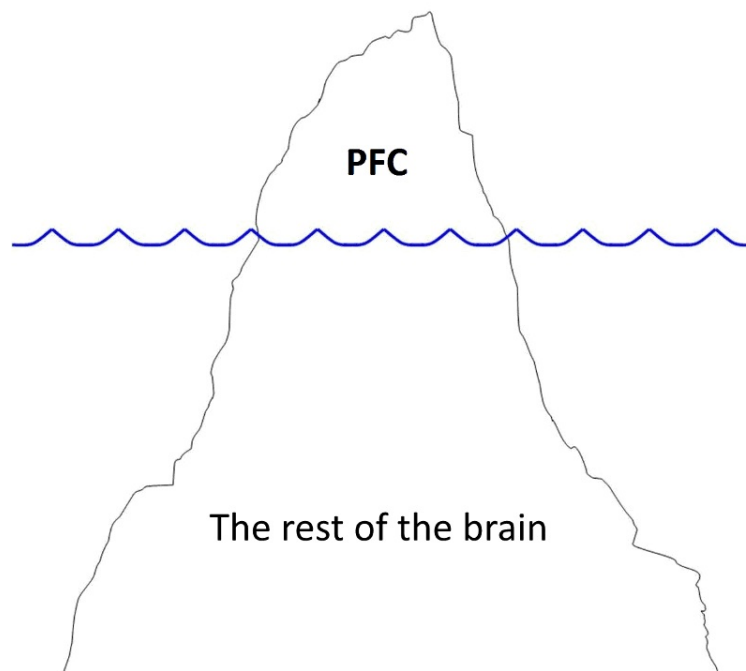
1. A craving for safety, comfort, and routine behavior.
2. Often feeling uninspired and lethargic.
3. Reduced ability to create a sense of meaning and give purpose to their lives.
4. A lack of motivation, discipline, and an inability to follow through on goals.
5. Strong aversion to sustained concentration and deep focus.
6. Failure to learn from mistakes; inability to assimilate information and apply it to their life.
7. Shying away from self-reflection, analysis, and future planing.

Because of these things, people with lowly functioning PFCs—*most people in the modern world*—are constantly looking for “cheap thrills” like new movies, video games, social media notifications, party trips, drugs and junk food—in an effort to keep their brains engaged and refueled with **dopamine**; to provide a momentary escape from their homeostatic autopilot.

They are trying their hardest to keep dissatisfaction and anxiety at bay. But it only works temporarily, and it comes at a cost to their well-being (by resorting to bad coping mechanisms). To solve the problem at its root, and return to a healthier state of being, they must learn to exercise the PFC on their own command.

## The 8 Main Functions of the PFC

The psychologist Sigmund Freud likened human consciousness to an iceberg; most of it submerged and subconscious, with only a little part—the tip— visible and tangible.



The tip of the iceberg corresponds to our frontal lobe. It's what allows us to act intentionally, as opposed to mindless insects, doomed to perpetual slavery under our genetic programming.

Humans have PFCs that are about 6% larger than a chimpanzee. While size is not necessarily indicative of quality, our use of the PFC is significantly more advanced than other primates when it comes to coordinating the rest of the brain.

To put the PFC in context with the other parts of the brain, it is often said that the PFC acts as the conductor of an orchestra, the general of an army, or the CEO of a corporation. It holds the executive part—setting the strategy and deciding where attention should or shouldn't be focused.

You're only able to keep **5-9** things in your head at any one time, whereas your "subconscious" can store and retrieve HUGE amounts of information. The PFC

is mainly intended for *learning new things and exercising judgment*; not for the task of processing information.

## **The 8 Main Functions of the PFC Are:**

1. **Learning.** If you blow on a spider, sitting in its web, it will typically require 3-5 repetitions of the stimuli until the spider learns that something is ‘wrong’ and reacts to being blown at. If you hit most humans even once, they will learn to adjust their behavior, courtesy of the PFC.
2. **Curiosity and interest.** When the prefrontal cortex is not activated, and you fall into routine behavior, you become bored. The reason people who have ADHD are “hyperactive” is because their PFC is wired differently from most people and their baseline need for novelty and stimulation is much stronger.
3. **Initiative.** People who frequently use their PFC take more initiative. They don’t look to others for how to act, preferring to rely on their own situation-specific judgment.
4. **Decision-making and leadership.** Those with active PFCs are comfortable evaluating alternatives and making decisions, whereas people who don’t use their PFCs prefer the more homeostasis-friendly alternative of having someone else decide for them.
5. **Delayed gratification and discipline.** A ‘strong’ prefrontal cortex allows a person to pursue goal-oriented behavior and forgo instant gratification in preference of long-term rewards.
6. **Sustained focus.** The prefrontal cortex plays a crucial part in allowing you to concentrate *on command*. Those who can focus consistently on a task for a long time are able to do so because they’ve cultivated their PFC.
7. **Visualization and mental rehearsal.** The reason many famous rappers are delusionally confident is that they sit around all day long imagining how cool their lives are and writing clever rhymes about it.
8. **Planning.** People who use the PFC do not shy away from planning, thinking ahead, or setting goals—whereas many people actively

procrastinate this.

# Why You Must Practice the PFC as Early in Life as You Can!

There is some dispute in the scientific community whether PFC-activity gets reduced after age 30.

Believers reference studies about brain development, with emphasis on how the prefrontal cortex becomes evolutionarily mature (having gone through its primary stages of synaptic pruning) during the teens to late twenties.

Disbelievers reference studies about environmental adaptations and brain plasticity remaining even in old age.

From what I gather, there is something of a majority on the "PFC deterioration" side of the fence. Meaning, that it's easier to learn new things, remain interested and mentally engaged, and to change aspects of your personality before age 30.

But all of that is IRRELEVANT because:

## They're Both Missing the Bigger Picture!

Due to lack of academic synthesis, neither side is considering three other—far more relevant—factors that interplay with each other:

1. The fact that homeostasis grows in power with age.
2. The more we know—or think we know—the harder it becomes to unlearn that knowledge due to *confirmation bias*.
3. The more experience we have in a field, the harder it becomes to experience novelty or surprise from randomness in that area. And, keep in mind, most ambitious people are now becoming specialists.

In other words, it becomes harder (by default) to rely on external forces for activating the prefrontal cortex the older you get. Because of that, you need be strategic about using it more.

—Preferably as early in life as possible.

Otherwise, you may turn into one of those decrepit, old people whose eyes are hollow and lifeless.

# The Secret to Unlimited Motivation: The 4 Pillars of Wakefulness

Caesar Augustus became the mightiest man in the world when he was just 19 years old, after gaining control of the Roman Republic. When he died at the age of 77, he had remained in power for 58 consecutive years!

When he began his life's work, Rome was on the verge of collapsing after more than 25 years of internal strife between different warring factions. There was a cultural decay in morality and a deep-seated corruption in Rome's institutions. But Augustus' iron clutch and steady rule allowed for peace and prosperity to arise again. This introduced the beginning of what we now call Pax Romana.

It's an understatement to say that Augustus was a hard-working man. A question worth asking is: *how did he work so hard for so long without losing interest, getting bored, or burning out?*

As the main representative of Rome, Augustus had to attend many dinners, social gatherings, ceremonies, and parties. This got boring fast. Whenever possible and appropriate, he would introduce rogue elements. No one expected it. One time he arranged a party where all the Greeks had to wear formal Roman costumes and speak Latin, while the Romans had to dress and speak Greek.

He would also do giveaways of secret prizes, or conduct auctions of weird and exotic hand-picked items during his parties. People would place bids while seeing only the back of a painting. Sometimes it was an expensive piece of art and other times it was just a funny picture painted by Augustus. The items ranged from valuable treasures to ordinary kitchen items. Everyone thought it was a hoot.

Another time he wrote out a bunch of (rather poor) poetry and quoted it to his servants and counselors, asking if they knew which famous poet had written such splendid verses. When they admitted they did not know, Augustus feigned outrage and mocked their artistic ignorance. Then he threw them in on the joke.

Augustus's playful methods may seem childish—and they are—but they are also scientifically accurate ways to activate the PFC, in terms of *the four pillars of*



*wakefulness.*

## The Four Pillars of Wakefulness

“When I'm bored, my sense of values goes to sleep. But it's not dead, only asleep. A crisis can wake it up and make the world seem infinitely important and interesting. But what I need to learn is the trick of shaking them awake myself.”

—Colin Wilson

When you meet older people—over the age of 50—the first thing you notice is their level of energetic vitality; are they wakefully alive and mentally engaged, or are they subdued and passive? The biological tendency is toward the latter, and the extent to which a person is able to prevent this decay has to do with consistent upkeep of *the four pillars of wakefulness*.

The four pillars are *novelty*, *variation*, *randomness*, and *goal-orientation*. They are the main controllable forces which stimulate dopamine-release and keep your PFC activated. They allow you to sustain a state of wakeful concentration throughout the day.

1. **Novelty:** Being exposed to new stimuli (people, environments, etc) or learning new things.
2. **Variation:** Varying, changing, mixing, or shocking your routine behavior in some way.
3. **Randomness:** Everything that manages to break the expectations of the neocortex's predictive ability. Like humor. Or the unlikely outcome in a presidential election.
4. **Goal-orientation:** Adjusting your behavior and delaying gratification in pursuit of a chosen outcome that is experienced as rewarding or meaningful.

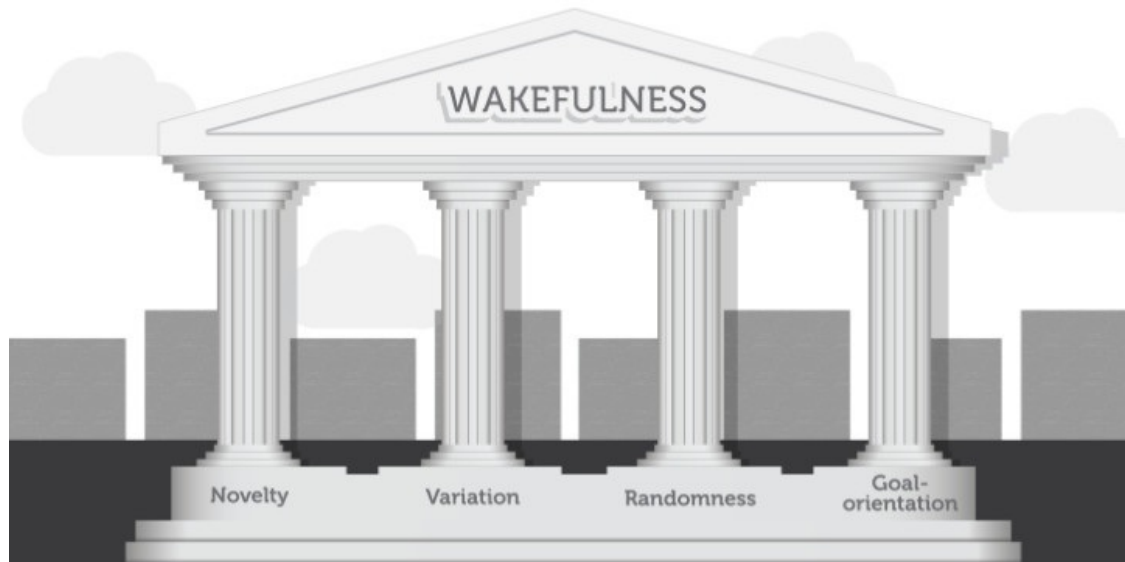
Do they intersect with each other? They do, but they are still distinct:

*Novelty* = new thought, experience or sensation

*Variation* = same things you usually do, but in a different way

*Randomness* = you didn't expect it

*Goal-orientation* = you get asked out, but you say “No way, Jose, I gotta finish my to-do list for the day.”



*[Your wakefulness and mental engagement can be likened to a temple held up by four pillars. If you do not tend to the upkeep of the pillars consistently, they will weaken and the temple will fall apart.]*

Let's look at how these four pillars act as strong motivators for different situations in ordinary life.

## **1. Novelty: Why Kids Are the Pickiest of All Consumers**

Guess which is the most fast-changing industry when it comes to product innovation? It's not computers and microprocessors. It's the *toy* business!

Children get bored quickly. They are picky consumers who don't put up with the same toys for long. For toy manufacturers to adjust to this, and keep up the production cycle, toys generally come without a return policy.

The reason children want new toys all the time is because their PFC is only in a rudimentary stage of development, with novelty being the main stimulatory force. When they get older, other functions—like decision-making and concentration—improve, and they become less reliant on *just* novelty.

## **2. Variation: How Christopher Nolan Got Famous Actors to Star in His Movies When he Was Still a Nobody**

Christopher Nolan is a successful director who knows a lot about making popular movies. For instance: He knows that movies are an economic gamble and that getting a famous cast is the #1 factor in determining box office figures. So he makes sure to get A-list actors to star in his movies: Al Pacino in

*Insomnia*, Leonardo DiCaprio in *Inception*, Christian Bale in *Batman*. The list goes on.

The question is: How did Nolan attract actors of that caliber when he wasn't famous? He did it by targeting soon-to-be stereotyped actors and offering them a welcome variation in their work. (And probably also without them having to compromise their position by stepping down in pay-grade.)

Those actors were BORED, but they rationalized their boredom as a necessary evil in order to maintain their esteemed careers. When they laid eyes on Nolan's script, they thought, "Oh, this is a chance for me to remain as a lead, but try out something new and exciting, and keep from being typecasted!"

### **3. Randomness: Why We Don't Want to Know What's Going to Happen**

While we're on the subject of movies, I should tell you that there's a western film from the 90s called *The Quick and the Dead*. It features Russell Crowe, Sharon Stone, Gene Hackman, and a young Leonardo DiCaprio in the lead parts.

The movie has a simple plot: You have a bunch of shady characters who've traveled to a western saloon town to take part in a dueling competition. Whoever draws their gun the fastest and shoots the other duelist wins the bout. Hence, the name of the movie.

What makes this movie stand out is its characteristic "bell-scenes", which take place before each duel. And there are many duels, probably around 20. Now, it's not that the bell is interesting in itself, but that its ringing sound becomes associated with the anticipation of not knowing what will happen next. *Every time the bell rings you wonder who's going to die.*

This type of randomness can be addictive. This is why Homeostasis Dwellers are drawn to slot machines, video games, gambling sites, online news feeds, and speculation in the financial markets.

It's also why people like to watch sports—especially fast-paced sports like basketball, fighting, and race sports—where it's hard to predict what's going to happen next. The revenues of Formula One went down like crazy during the period of 2002-2003 because the viewers (correctly) expected Michael Schumacher to win every time, and stopped watching.

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## 4. Goal-Orientation: Why the Spartans Were Happier Than Many People Today Are

In many religions, there is a strong tradition of asceticism. Non-thinking followers are led to believe that abstaining from their desires will lead to them becoming more “holy”, which in turn will lead to something good. But they’re mistaking the cause for the effect.

It’s not that abstention and asceticism by default lead to a happy and meaningful life; it’s that having strong goals and convictions **allow for** these things to become meaningful. This is because delayed gratification in pursuit of a goal stimulates dopamine to the PFC.

So when people today look at the Spartans (who were known for their extreme discipline and asceticism), and think, “oh, poor things, to be forced to live like that!” they’ve got it all wrong; the Spartans had a strong culture, a simple hierarchy, and clear convictions. The more likely scenario is that they derived a great sense of meaning and purpose from their ascetic practices.

Also: When we think about the Egyptians—and what an achievement the Pyramids are—we should think one step further, and ask ourselves how they were able to construct a society where the belief in an afterlife was perceived as so meaningful that they willingly suffered the opportunity cost of having tens of thousands of slaves working on something non-productive for hundreds of years.

## What The Four Pillars of Wakefulness Mean for How You Should Live Your Life

- **Novelty:** Is most easily available when you’re young, but it’s available later too for anyone who has at least a modest interest in learning, traveling, and experimenting.
- **Variation:** Is the easiest of the four pillars to tend to, because not only is it wholly under your own control, but it’s also the one that you’re least likely to engage in by default.
- **Randomness:** Becomes less available the older you grow, provided that you’re getting wiser with age.<sup>13</sup> Either way, randomness is hard to control.
- **Goal-orientation:** Remains at about the same level of control all

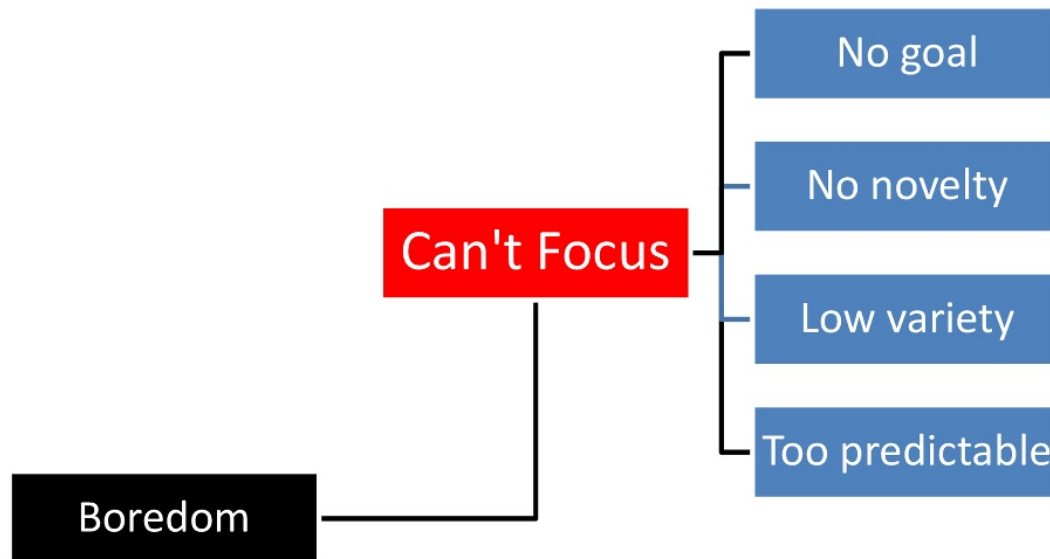
throughout life, theoretically. But, in practice, it's easier (for most people) to come up with meaningful goals while they're young and haven't achieved much<sup>14</sup> yet.

**Important Practical Tip:**

*Make a list with these four columns and add items to it continually over time.*

## Nothing is Inherently Boring

Boredom is a physiological state that comes from a deficit production of positive neurotransmitters and hormones. Often, this is the result of being unable to concentrate. This, in turn, usually stems from lacking a goal or not exposing yourself to enough novelty or variation.



It's all about what goes on in your head, whether the PFC becomes activated or not. This is the top principle for long-term upkeep of your motivation and concentration.

So, what do you think happens when you're not tending to the four pillars of wakefulness? The temple falls down and you become *habituated*. And not even the most famous rock stars can endure that. More on that in the next chapter.

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[13.](#) For the last thousand years, *randomness* has not been one of the main forces of the PFC, but in our age it's changing. This is a good thing for brain activation. For example, to a venture capitalist or someone in a new industry, randomness is likely to be a strong force of PFC activation.

[14.](#) Failure to come up with new, meaningful goals to replace old, fulfilled goals can be fatal for highly ambitious people. As was the case for Ed Turner, Ted

Turner's father, who achieved his goals of becoming a millionaire and owning his own boat, and then got depressed, started doing drugs, and finally shot himself.



## Habituation: Why Familiarity Breeds Contempt

I believe countries like Sweden and Canada—which have four seasons—have a slight advantage over mono or duo-climate countries in the current economy (where creativity is so important). The reason for this is the variation of environmental stimuli it provides to a majority of people who are otherwise relatively *habituated*.

Habituation is when your brain and body get subjected to some stimuli—some information, emotion, or experience—too often without any meaningful effect. This makes your brain stop paying attention to the thing, and the PFC is no longer involved in processing it.

*The subtle art of avoiding habituation, via steady upkeep of the four pillars of wakefulness, is one of the most important aspects in determining a person's chances for long-term success.*

## The Monotony of City Life

Have you ever felt bored out of your mind, like you just wanted to run away somewhere? This is perfectly normal. But that doesn't make it healthy—living in many cities will do that to you.

When all you see is similar-looking concrete buildings, it's easy to become habituated to your environment and experience boredom or anxiety. The need for change—for *novelty* and *variation*—is natural. Our brains evolved for living in nature, which is a non-monotonous environment.

If you read books, listen to music, look at art, or in other ways study the general cultural heritage of the western world during the 18<sup>th</sup> and 19<sup>th</sup> century, you'll notice that a big part of it had to do with making sense of the new industrial world (which people had not yet adapted to).

The role of art and culture was that of a huge *coping mechanism* to help people adapt to living in the city, working in factories, and giving up their lives to a corporate career. This was in stark contrast to being the town grocer or living off the land like a farmer.

Today we think it's normal to live in large cities and all that stuff. But it's been 200 years!

Here's a question for you: What might current art and culture be a coping mechanism for?

In many former third-world countries (like Singapore and China) where economic prosperity has grown rapidly over the last 50 years, people have been forced to adapt to city life *much* more suddenly. And guess what? Many people resisted it vehemently.

In Singapore, they had to install special “traps” inside apartment elevators to stop former farmers from urinating inside. It took 10+ years to assimilate those people to living like “normal” people.

And it has been said that many Mexicans still throw (dirty) toilet paper on the floor.

## Technology Gives Us More Time, But Can We Use it Intelligently?

intensity.

You look at your smartphone and swipe across it with the flick of your finger, without so much as a thought given to what technology makes this interface possible in the first place.

We no longer need to go down to the river to wash our clothes, we can use a washing machine. Nor do we have to leave our clothes out in the wind to dry all day long, we can use a drying machine. These days, we can take the car to a food store, eat out, or order online and stay home.

The chores that used to take us hours to do, maybe even days, can now be done in 15 minutes or an hour. Or they can be outsourced to someone else. On one hand, this is great, because who wants to do chores all day, right? On the other hand, it used to provide some welcome *variation* in our lives, making for a less monotonous existence. It also kept us more physically active.

We now have more time to focus our attention and specialize than ever before. This is great in theory, but in practice most people cannot handle having so much leisure<sup>15</sup>. It habituates them. Instead of channeling that free time into the mastery of some meaningful pursuit, they drift into homeostasis and look for easy ways to kill time or instigate drama.

The result is that *habituation produces even more habituation*. We dwell deeper into homeostasis, becoming increasingly unconscious in our daily thoughts and actions. To prevent this destructive and entropic process metacognition and a keen intent.

## **Even Rock Stars Become Bored and Habituated, And That's Why Gene Simmons Started Photographing Naked Women**

A common denominator you'll find in all top performers is that they do whatever it takes to stay mentally engaged and remain interested in their craft. They're constantly on the lookout for tricks they can use to sustain their motivation over the long-term and stave off habituation.

During Kiss's initial success between 1973-1978, the band members worked all day every day. They were either busy promoting their CDs, or they were out on hectic tours. To keep performing at an elite level and not get burnt out from the hard work, they had to find new ways of amusing themselves. For example, Gene Simmons (the lead singer) took up "photography".

That is, he made a ritual practice out of taking pictures of naked groupies. This ended up becoming an album with thousands of pictures. Years later, on Oprah's TV show, Gene was asked about his "portfolio" and explained:

When you're on a tour for 10 months a year, and we've been at this for 14 years or whatever, you have to have ways of releasing tension—and that's not a joke. There have been a lot of casualties out there, drugs, booze, whatever. We've survived, I have at least, and *you have to do something to keep your mind busy*. And I took up photography as a hobby.

The other band members had less constructive "hobbies". Like archery, orgies, destroying stuff, stealing small things in hotels as a sport, and pulling intricate pranks on people.

## Why Traveling is Popular

The philosopher Jean Baudrillard said that travel was once a means of being elsewhere, or of being nowhere. Today it is the only way we have to feel like we're being somewhere.

Traveling is the easiest way to activate the PFC. That's why it's popular, and likely to grow in popularity for as long as the average person's life becomes increasingly monotonous. If I had more money and knew more about the tourism business, I would probably invest.

When you travel you see new different environments that don't correspond to your existing associations. This forces you to think for yourself, make on-the-spot decisions, and play around with currency figures as you do back-of-the-envelope estimations. You're also meeting new people, eating new and varied foods, plus you're likely to walk more than normally.

All of these things are conducive to PFC activation.

## How to Travel the Wrong Way

Since traveling is the easiest and most effortless way to activate the PFC and snap yourself out of habituation, it makes sense that you'd want to travel all the time, right? That's probably what New Zealander John Bougen thought when he decided to visit 191 countries in 167 days.

Are you impressed? Maybe a little envious? Well, you shouldn't be, because if you're visiting more than one country per day, it means you're spending most of your time either in the airport waiting for your flight, or up in the sky flying. And those activities tend to be monotonous.

So, if John Bougen's grand plan was to activate the PFC, he failed. Instead, he probably got bored to death with his constant flying—like the main character in the movie *Fight Club*.

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[15.](#) How much leisure can the average person handle? The answer depends largely on prefrontal cortex activation. When Henry Ford “invented” the 5-day work week, the extra day came to good use (and not just for the economy), but

somewhere along the line—probably during the late 80s or mid 90s—life became too easy and monotonous.

## The Will to Mastery: Do You Have it?

Focus, because all success starts with cultivating the ability to focus like a laser beam.

The swordsman fences and runs, the martial artist kicks and punches, and the artist draws every day. So, why doesn't the professional thinker—the *knowledge worker*—practice different ways of thinking? Is he being lazy and negligent? Does he lack a will to mastery?

Do you know who has great concentration? Surgeons. A surgeon who can't stay focused on the job might kill his patient.

Snipers must also have great concentration—for the opposite reasons. A sniper who gets distracted and loses focus might miss the mark and cause the death of his teammates.

Neither the surgeon or the sniper can afford to fail, so they must learn to concentrate while remaining still for long stretches of time.

The “best” sniper or surgeon is not the one who's the most precise or efficient, but the one who fails the least. That goes for investors too. Are other professions so different?

The best people in almost every area of life are not necessarily the ones with the most natural talent, but typically the people who were able to sustain a consistent streak of positive results over a long time. Again, this has to do with avoiding habituation and:

1. Setting clear goals and being able to remain focused for a long time.
2. Remaining interested and curious about the work.
3. Finding new ways to maintain or increase motivation, like Augustus.

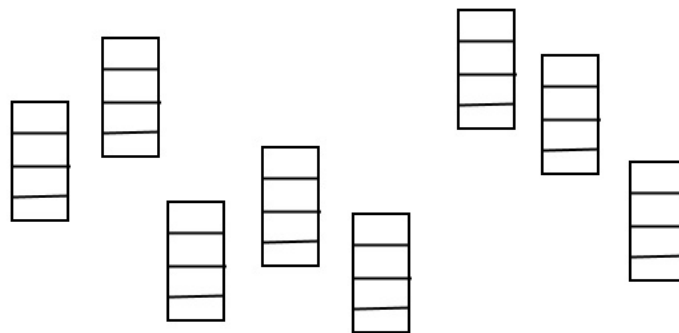
It is *extremely* important that you approach concentration as a mental practice that you're cultivating over time. I couldn't concentrate properly until I was 19 years old. Now, at age 26, I can easily meditate for 20 minutes.

The extent to which you're able to remain in a state of deep focus is individual. This period generally ranges between 30-120 minutes, but it also depends on:

- Whether you're in your biological prime time.
- Your emotional state and overall reserves.
- How much you practice your concentration in general.

## **What Happens in the Brain When You Are Deeply Focused**

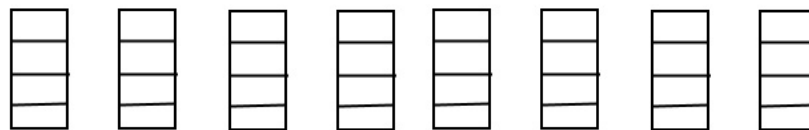
Normally, when we're not doing or thinking about anything in particular and our concentration is low, we drift slowly and randomly from one "image" to another. When we're in a state of deep focused concentration, these images align neatly, and we transition between them swiftly, barely even noticing the jump from one image to the next, like walking through train cars.



**Unfocused mind**

Vs

**Focused mind**



Neuroscientist Antonio Damasio explains how the brain's computational power becomes diminished by multi-tasking:

“The image-processing brain space... needs to be shared by conscious reflection processes and direct perception; it is hardly up to the task of handling both without favoring one or the other “



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It comes back to the idea of triggering the spreading activation and reaching a state of flow. Unless you're in your biologic prime time, you're probably going to have to mentally warm up to the task before getting into a flow.

Here is some advice I have found to be useful for doing concentrated work:

- Warming up my brain by reading, working out, or meditating *before* doing the most important task of the day (unless I wake up feeling pumped up for action).
- Breaking up the work into segments, so that I can focus on completing each segment one at a time and avoid distracting myself with other steps.
- Blocking my time in 2-8 hours of uninterrupted work (no Internet or phone notifications).

## **3 Helpful Practices for Improved Concentration:**

1. If you have a TV, throw it out.
2. Strive for a minimum of 1,5 hours of concentrated work, no distractions. Then go for 3 hours. Then go up to 4.5 hours.
3. Input deprivation week: Go one week without using technology.

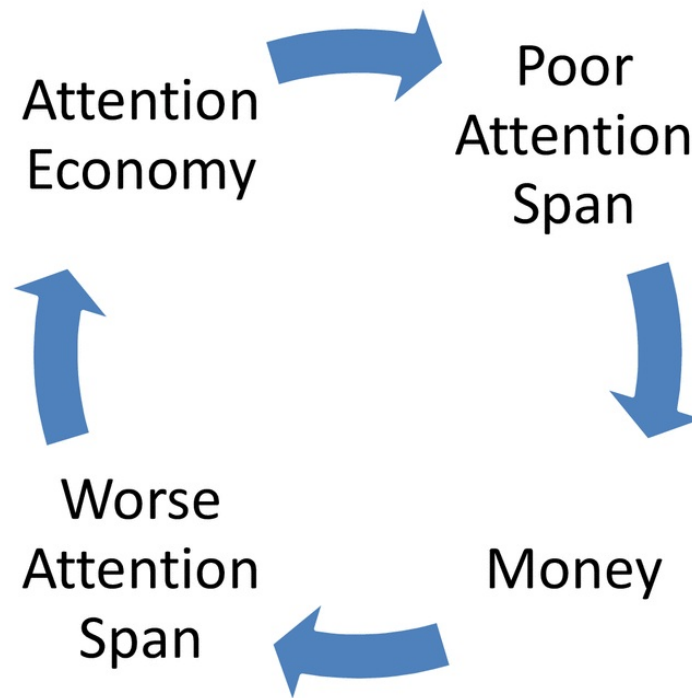
If you have the will to mastery, don't ruin it. Focus.

### **Inoculate Yourself Against the Dangers of the Attention Economy**

What happens when powerful financial forces fight for consumers' attention—and who wins? The few winners make a lot of money and the losers—the unknowing Homeostasis Dwellers—end up with bad brains and worse concentration.

Since people have the attention span of an ant, most content creators (bloggers, YouTubers, social media companies, mainstream media) will do whatever gets the most attention. This is how they get paid.

The attention economy creates a vicious spiral where—in any type of mainstream environment—it becomes necessary to dumb things down further and further:



The interesting question is: *How much more dumbed down can popular culture become?*

When will it stop? Will it stop? Will the psychological impetus of *variation* and contrast provide a sufficiently powerful effect on popular culture to make a difference?

Have we reached some kind of threshold—with TV series and famous YouTubers changing the frame every 2-7 seconds and screaming randomly—or will we be down to 1-second frames in another 20 years? Maybe there will be Virtual Reality technology where you can change the world you're in every few seconds for maximum novelty, like zapping between channels on the TV.

## **Mental Rehearsal: A Proven Method for Improving Your Mind**

We are using the PFC when we fantasize and create a *vision* of the future, and then try to reach it. This allows us to take control over the process and *choose* how we respond to things (as opposed to letting life happen to us).

Studies using brain scans have found that seasoned meditators have a significantly higher mental activity in their insulas and prefrontal cortices than average people. This is believed to be the reason why they're harder to distract and less likely to be bothered by random things. It would at least explain why they find it easy to be happy.

One of the best ways for practicing the PFC is to make some form of meditation or *mental rehearsal* a part of your daily routine.

## **Mental Magic: How To Walk Around the World When You're in Prison**

Albert Speer was considered the most able administrator of the Nazi regime. He is particularly acknowledged for his genius in management and logistics, which allowed him (alone) to do the work of several ministers (better than they did separately).

Following the Nuremberg Trials, Speer was one of the few Nazi leaders not sentenced to death. Instead, he received 20 years imprisonment.

During his years inside of Spandau prison, he read over 5,000 books and occupied himself with numerous projects, such as writing manuscripts for several books and cultivating a large garden for the other prisoners to work in.

The most interesting project he undertook was his *World-Walk*, which began 1954 and took roughly 12 years of daily work to complete. It stands as a testament to the power of human imagination. In Speer's own words:

I had worked it out – if I did thirty circuits of the path I had laid out in the garden, that would be seven kilometers a day. I asked [Rudolf] Hess, who sat and watched me, if he would mark down each time I passed him, so that I wouldn't lose count. He had a marvelous idea. He gave me this message and said, "Don't there is one problem and many more to the other problem at each time."

me thirty peas and said, "Put these in one pocket and move one to the other pocket each time around. That will do it."

Speer then tracked his daily progress with the pea strategy. To map the distance traveled, and chart his journey around the world, he used maps and marked the path with a ruler. He started his walk from Berlin to Heidelberg.

It didn't take him long to realize how much fun he was having, so he just kept going.

He doubled down on the project, livening up the walks with imaginative exercises and studying extensive bibliography—guide books, tourist leaflets, and art magazines—to enrich the experience in his mind's eye:

It was a more imaginative goal... so I kept on going, across the mountains to Italy, and finally decided to see how far I could get. After preparing for the walks by studying maps, travelogues and art history books, I focused imaginatively on the differences in the landscapes, the rivers, flowers, plants, trees and rocks. In the cities I came through, I thought of the churches, museums, great buildings and works of art.

Twelve years later, in 1966, Speer ended his World Walk; not because he was done, but because he was released from Spandau. He had walked 31,936 kilometers.

## **Mental Rehearsal is Why Rappers Are Delusionally Confident**

Think about it: Rappers sit around all day long thinking up clever rhymes and pictorial descriptions about how cool they are and why they're going to succeed.

Rick Ross is fat. Lil Wayne looks and sounds weird. Eminem grew up on welfare and was bullied throughout his childhood. Then they wrote thousands of rhymes about how cool they were and what they wanted to do, and then they did what they said they'd do—with the greatest of ease.

Mental rehearsal is proven to make a *huge* difference in the performance among top athletes. A famous study in neuroscience from 1992 showed a 22% increase in muscle strength from the isolated act of having respondents *imagining* themselves lifting weights for 15 minutes every day during a couple of weeks.

When I read about this years ago, I started doing it immediately. And I honestly think it's the most important part of my physical exercise routine. When I forget to do it, I always perform worse and I don't achieve the same quality of bodily awareness during my workouts.

When you engage in mental rehearsal you are priming your mind for some event or activity. This causes two important things to happen later, when you are in the “physical reality” you’ve been rehearsing for:

1. Since you’ve already mentally prepared yourself for the scenario, your pattern recognition “knows” what to look for, and filters out most of the other (irrelevant) information. This, in turn, allows you to;
2. Stay fully concentrated on micromanaging your overall response to the situation and the execution of the specific activity.

Mental rehearsal makes you calm and decisive in situations where efficiency matters. That’s why it’s particularly important for athletes. But it’s also important for generals or business managers who have to be prepared for the worst.

## **This is Why Philopoemen Never Lost a Battle!**

One of the greatest generals of Ancient Greece was Philopoemen. He led the Achaean army on eight separate occasions, assuming the leading position of Strategos.

One of Philopoemen's most positive qualities as a leader was his incessant mental rehearsal. Even in peacetime, he would walk the local lands with his entourage of friends and servants, repeatedly asking:

If the enemy were over there on that hill, and we were down here with our army, who would be in the better position? How can we attack them without breaking ranks? If they retreat, how can we go after them?

Because of this obsessive habit, Philopoemen was always ready to lead. There was no scenario in war that he wasn’t already prepared for. He had a contingency for everything. Since his men knew this, they trusted his judgment fully in the heat of battle.

Taking after Philopoemen, Napoleon said that:

A commander in chief ought to say to himself several times a day: If the enemy should appear on my front, on my right, on my left, what would I do? And if the question finds him uncertain, he is not well-placed, he is not as he should be, and he should remedy it.

Whether it's war, business, or some other craft—to become truly great at *anything*—you must make mental rehearsal a seamless routine of your life, so

that it becomes as natural as breathing.

Learn to visualize your wanted outcome in even small matters, and it will soon seem to others like you have exceptional prescience.

## **Mental Rehearsal is Not Equally Useful For All Areas of Life**

Mental rehearsal works, but—like any tool—it has its limitations.

Mental rehearsal extra useful for physical performance where the “mind-over-matter” aspect plays the largest part in success. But it’s less useful—or at least harder to apply—for more abstract and complex things, where your personal performance during a short time doesn’t have as much of an impact on the outcome.

Some people don’t understand this, like true believers of the Law of Attraction. Those people believe that the laws of physics are arbitrary, and that they can circumvent cause and effect by praying to the universe and imagining positive things.

Many athletes, music artists, top salesmen and other elite incentive performers sometimes wedge themselves slowly into that category as well. This is not weird, given that they’ve often accomplished unlikely successes as a result of their highly developed ability for visualization and mental rehearsal.

The problem is when they think its application is universally transferable—and applies with equal usefulness to all areas of life—like Steve Jobs trying to treat his pancreatic cancer by meditating a lot.

The success-psychologist Abraham Maslow had an apt saying for these instances: "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."

<b>Example</b>	<b>Works</b>
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**Does not work**

Physical activity	Yes	
Sales	Yes	
What you will do tomorrow	Yes	
Social encounters	Yes	
Law of attraction		No
Complex systems		No

# Chapter Takeaways:

Use it or lose it.



PFC ON	Signs of not using PFC
<ul style="list-style-type: none"><li>• Novelty, variation, randomness and goal-orientation</li><li>• Delayed gratification</li><li>• Concentrating</li><li>• Decision-making</li><li>• Weighing alternatives</li><li>• Taking initiative</li><li>• Mental rehearsal</li></ul>	<ul style="list-style-type: none"><li>• Mentally lazy</li><li>• Slow learner</li><li>• Can't concentrate</li><li>• Multitasks a lot</li><li>• Bad at planning ahead</li><li>• Reactive to the crowd</li><li>• Can't stick to goals (inconsistent)</li><li>• Self-indulgent and slothlike</li><li>• Doesn't like to decide</li></ul>

# Chapter Takeaways:

- **A lot of the time you may believe you're thinking, but you're really not.** You're just "recycling" thought patterns or processing existing information. You're not using the PFC in routine behavior, in familiar surroundings, and when you're remembering things. When you do things the same way you're likely to use the same mental associations over and over.
- You're activating the PFC when you're learning new things, taking initiative, making decisions, prioritizing one action over another or delaying immediate gratification in favor of a longer-term goal.
- If it weren't for the PFC, humans wouldn't be able to resist their biological urges. We'd just dwell in homeostasis indefinitely.
- The 4 Pillars of Wakefulness are: *Novelty, Variation, Randomness, and Goal-setting*. **The subtle art of avoiding habituation, via steady upkeep of the 4 Pillars of Wakefulness, is one of the most important aspects in determining a person's chances for long-term success.**
  - Variation is the easiest pillar to start with.
  - Those who don't have goals (and therefore don't gain dopamine through deferred gratification) are at the mercy of their immediate surroundings and feel the need to seek out pleasure constantly.
- Familiarity really does breed contempt, and boredom. When you're exposed to the same type of stimuli—information and environment—you become habituated to it and, your PFC no longer registers it. **We are mismatched for the increasing level of monotony in modern society (compared to living in a more naturally diverse environment), making it hard for many people to stay mentally engaged on a daily basis.**
  - Sometimes the only value of reading a new book or going

someplace new is to "re-learn" what we knew already. The most important ideas in life are so pervasive that we forget them and need to some refreshment.

- The best people in every area of life tend to be those who have a highly developed concentration, can do work for long periods of uninterrupted focus, and are able to stave off habituation to stay motivated over the long-term.
- Traveling may be the easiest way to activate the prefrontal cortex and best way to get novelty and variation. But don't make the same mistake as John Bougen.

## PFC Practice

Improve your life over the long-term by expanding the mental bottleneck that is the PFC. Wake up with the intention of learning something new and accomplishing one thing that takes you closer to your goal.

Eventually you wake up to realize that you've streamlined your life and that you're better than most other people, since they're not using the PFC nearly as much as they could or should.

Pick 3 things in the following lists that you will put to use in your own life immediately.

### Goal-oriented Behavior & Prioritizing:

- **Goal-setting and Planning:** Set goals that are (just slightly) beyond your reach, so that you have something to look forward to and be motivated about. Choose a time range that's motivating. I suggest daily to-do items, weekly goals, and quarterly goals.
- Measure and track results. What gets measured gets managed. It improves consistency.
- Prioritize: *What's the #1 most important thing I must do today, this week, this month?* Ask yourself often: *How does this relate to the goal?*
- **Do visualization and mental rehearsal.** See yourself doing the thing before you do it. Before going to bed at night, play the next day through your head. See yourself starting the day doing the things on your to-do list and completing the #1 objective of the day. This doesn't need to take more than a minute or so.
- **Lock in 3 thoughts:** When you go for a walk or a run to clear your mind, be receptive to interesting thoughts and good ideas. Once you have gathered 3 of them, "lock them in" and force other thoughts out of your head by repeating those 3 things over and over until you get home, or

you're in a position to write them down. [Note: this is useful while you are taking a break from an intense work session of uninterrupted focus.]

## **Delayed Gratification & Discipline:**

- Make lasting decisions—which you follow through on no matter what.
- Practice a new habit. (Once the habit is complete the PFC is no longer involved.)
- Resist instant gratification and temptation in general.
- Do what you said you'd do.
- **If-Then:** Decide in beforehand, this makes it much easier to stick to your decision. For example, “If I am asked by Joe if I want another drink, then I will say no.” This is good mental rehearsal, studies have shown it increases success rate of 20% in delaying gratification!
  - (A simple daily to-do list or a shopping list fulfills the same purpose.)

## **Concentration & Deep Focus:**

- Single-task and work for long stretches of time without interruptions.
- Avoid multitasking. Turn off phone notification and never use social media during work.
- Read books, essays and long-form text.
- Physical exercise is good for the brain and helps improve concentration.
- **Do some form of meditation regularly.**

## **Decisiveness & Initiative:**

- **5-second rule:** Make up your mind fast for unimportant decisions.
- Use Henry Flagler's maxim: Do unto others as they would do unto you—but do it first!
- Don't ask unnecessary questions. Experiment for yourself or Google it first.
- Volunteer to do thing, to gain the habit of taking initiative.

## **The 4 Pillars of Wakefulness (and avoiding habituation)**

Only boring people get bored. They are boring because they lack the imagination and willpower to create interesting goals and maintain the *4 Pillars of Wakefulness*. Here are a bunch of things you can do to get started:

- Essential entrepreneur tip: Get a laptop cooler to incentivize yourself to work from other places than your desk. And to change your posture.
- **Explore new places or schedule small trips.** Go to new city areas. (Easier to do if you do it together with a friend and both of you take turns.)
- Get lost on purpose.
- **Write down daily lessons every day.**
- Do things that break your daily routine or habits.
- Try new things and meet new people.
- Write a list of everything you eat regularly, then eat a new dish each day the next week.
- **If you're a regular coffee drinker, try consuming a caffeine pill instead** (it will have a different effect and it will be a good way to reduce caffeine intake, if you currently drink more than 2 cups/day).
- If you're right-handed, write using your left hand for one day to see how

it feels.

- Eat food with chopsticks instead of fork and knife.
- Turn off the automatic word composer on your cell phone if you're used to it.
- **Listen to new music a lot.** Find new play-lists. As of writing this, the app "8 Tracks" is good, because it maximizes randomness.
- Rearrange your room/apartment/office space every now and then.
  - If you're the boss, switch meeting location and seating positions occasionally. Put an empty box on the table and don't say why it's empty when someone looks inside and wonders. Smile enigmatically.

If you can afford it, hire someone to make sure you're doing consistent upkeep of the 4 Pillars.

### **16 examples of things you can do differently for variation:**

1. Change the direction or position of your bed.
2. Change or re-orient your work environment (how it looks and switching between isolated work as well as open-landscape work).
3. Comb your hair the other way.
4. Try a new haircut.
5. Wear something different (try wearing a full suit if you usually dress casual).
6. Start the day with a walk/run/gym/meditation if you are not used to it.
7. Violate your habits every once in awhile on purpose to avoid becoming too rigid.
8. Wear two different types of shoes.



9. Write an email backwards. Starting with the P.S.
10. Try doing hard things as if they were easy and easy things as if they were hard.
11. ~~Drive on the wrong side of the road.~~
12. Go one day without caffeine.
13. Sleep on the kitchen floor.
14. Turn off the A/C for a day if you live in a hot country.
15. Lose a game on purpose by passing up a good move.
16. Instead of using a computer mouse, use the notepad for a few hours.
17. Wear colorful clothing.

# Ludvig Recommends

Here are five of my favorite PFC-practices. Though they are simple, they carry a LOT of weight.

## **1) Avoid doing the same routine tasks twice in a row:**

I have a rule that I never sit in the same place twice. I have another rule that I always try to walk or commute to some location in a different way each time. I never want to do routine tasks exactly the same. This adds up a lot over time, stimulating creativity and new thoughts; whereas if I do it the same way, I find myself “recycling” thoughts and location-specific mental associations.

## **2) Don't abuse your best music:**

If you want to preserve the dopamine-stimulating high of a new great song, don't listen to it on repeat. If you do, it will remove the cool effect, and it will be like every other song.

I've used this principle to boost my motivation for years, and apart from being enjoyable, it has also helped improve my workouts (by not abusing my play list outside the gym). Most of my records have been made while listening to some song that I thought was really good.

A bonus tip if you have a large play list: switch between "repeat" and "shuffle" on your music player every month at the computer and workout/work MP3.

## **3) Rebuild your phone for improved focus:**

If you own a smartphone, you should do the following things to minimize unnecessary distractions on a daily basis:

- Remove notification sounds.
- Remove permission for notification updates for all but important apps.
- *You should have no more than 3 different desktop “screens”.*
- Only put practical tools on the first screens. No games or distractions

allowed.

- Put all applications of a similar type inside of a folder. (E.g: “Finance folder”)
- Put social media on the last page, in of a folder to make it bothersome to access.

Another approach is to make your applications accessible only through search. [on iPhones].

#### **4) Rearrange your office or home:**

Do it every few months for variation. If you’re not good at this sort of thing, ask a female friend. Or hire an interior decorator from Fiverr or eLance (cost: \$50-\$100).

#### **\* 5) Figure out your minimum viable dosage for novelty [per time interval]: \***

This one is the hardest to do, but also the most powerful, because once you have an idea of it you have a sustainable formula you can replicate over and over to remain motivated over the long-term.

For example:

- *Daily basis*: Reading 1h, meditating 15 min, going to gym/jogging/a long walk.
- *One week’s*: Explore a new place, meet someone new, and make progress toward main goal.
- *One month’s work*: Go on a trip somewhere with friends.
- *Per quarter*: \_\_\_\_\_.

What might this look like for you?

Don’t just process the information.

Take at least a few minutes to really think about it.

## CHAPTER 8

# **The Neocortex: How to Practice Higher Order Thinking and Join the Cognitive Elite**

Most people only think about what's going on now. Smart and successful people think ahead—far into the future—and in reverse.

**The Truth About Intelligence Intelligence, as I define it, is about being adaptable. This requires good judgment and the ability to make correct decisions. This, in turn, is largely based on your ability to reason and analyze, as supported by the interpretative and predictive abilities of the neocortex.**

In order to take in a lot of information and deal with it productively (and not suffer information overload), you need to:

1. Have clear goals and a strong desire to accomplish them.
2. Build a cognitive framework of ideas and mental models for putting the information into a coherent context, and understand how it fits together.
3. Make use of information systems (like a commonplace system with categories and lists).

In this chapter you will learn how to become a first-rate thinker.

**More specifically:**

- Why thinking is some of the hardest work there is.
- How to practice higher-order thinking and join the cognitive elite.
- How to practice strategic use of technology and avoid becoming a computerized savage.
- Why billionaires and elite thinkers like Felix Dennis, Ted Turner, Warren Buffett and Charlie Munger insist on living without computers.
- The 3 enemies of thought (and how to avoid them to become a more accurate thinker).

# What the Neocortex is and What it Does

## What is the Neocortex?

The neocortex is, well, *most* of the human brain. Our brains are 80-90% neocortex.

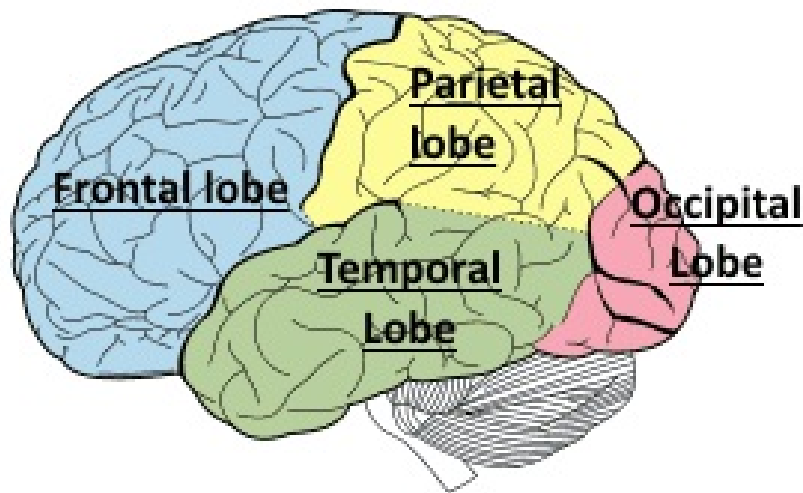
How did we wind up with such a large neocortex? We Homo Sapiens share something like 98% of our DNA with chimpanzees. So we have a lot in common. But don't mistake quantity for quality; that remaining 2% genetic difference has to do with really important stuff—like *neuronal growth* in the neocortex and prefrontal cortex, allowing for higher levels of cognition.

Other animals are also able to see objects, make sense of the environment, and interact socially with each other in different ways. But—except for a few primates—they can't make advanced tools, engage in complex communication (like irony and sarcasm), invent multiple languages, create art, or develop philosophies.

These are higher-level cognitive functions stemming from the human neocortex. Imagine what we might be able to do if it developed further.

The neocortex is divided into four lobes:

1. *The frontal lobe and the prefrontal cortex;*
2. The parietal lobe;
3. The occipital lobe,
4. The temporal lobe.



## **How the Neocortex Made Us the Apex Predator**

Before developing a superior neocortex, our ancient ancestors were—at best—marginally more powerful than other species. Then, when the neocortex became more highly evolved, we had four major advantages:

1. It kept us alive and safe by helping us imagine what could happen in the future, allowing us to avoid fatal mistakes; like stepping off a cliff or stealing the tribe leader's woman.
2. It made us become better at cooperating, hunting, and living in larger communities.
3. It helped us make plans and cope better with the uncertain environment.
4. It allowed us to learn second-hand, through storytelling and reading, instead of having to learn everything first-hand through trial and error.

## **The Neocortex is Responsible for Higher Cognitive Functions**

The neocortex is what allows you to take in complex new information and make sense of it. Its job is comparing things, categorizing them, and analyzing the implications. This is the reason you can make predictions and educated guesses based on your accumulated knowledge.

The main higher cognitive functions include:

- Language.

- Planning and deducing.
- Reasoning and sense-making.
- Improved learning and storing of information.
- Remembering the information, putting it into a new context, and using it.
- Analyzing, interpreting and reflecting.

The neocortex is the brain's ever-curious explorer, always itching for a new intellectual challenge. Without its synergistic function, you would not be able to “learn” or appreciate the concept of art—music, paintings, literature, poems, etc—and interpret its meaning in your own way.

The neocortex is also the basis of ego; it is why we have invented property rights, whereas other animals roam around and don’t have a concept for “ownership” outside of their immediate territory.

## **The Neocortex Craves and Creates Mental Order**

The neocortex is why we automatically stereotype, categorize, and subdivide things into hierarchies. We can’t help doing this. The reason we do it is because it saves us the energy of having to “re-think” it again.

The difference between Homeostasis Dwellers and Homeostasis Breakers is that the latter understand this, and try to learn useful mental models to better categorize or make sense of information. Homeostasis Dwellers don’t; they are but a collection of erroneous stereotypes they picked up early in life and have failed ever since to revise.

For example: In the New-Age Movement, they believe the goal of life is to become “enlightened” so that you can “end the illusion of duality and separation”. Or something like that.

Unfortunately, this is impossible—unless you do psychedelic drugs or suffer lasting brain damage—because the perception of separation is an inherent function of the neocortex.

## **The Neocortex Wants the Truth, But it Isn’t That Picky...**

The sense-making part of the neocortex helps us organize incoherent



information, but it's also why we're prone to attribute things we can't understand or logically explain as being the act of some higher force. Like magic, paranormal phenomena, god, and superstitions.

The neocortex craves answers, even when they mean nothing. This puts us at ease and maintains mental homeostasis. Homeostasis Dwellers don't care about the quality of the answer, as long as it makes them feel better temporarily.

## **What Distinguishes One Person From Another?**

A good answer might be your *values*, *beliefs*, and *ideas*—and these are stored in the neocortex hierarchically, with values being hardest to change.

# Why Thinking is Hard Work

Aristotle believed that what made man uniquely different from other animals was our ability to be rational and develop new ideas. That turned out to be a good guess.

Thanks to the neocortex we can exercise long-term thinking, order information into categories, and analyze the implications. We can conceive of intricate plans, weigh pros against cons, predict trends, and consider alternative scenarios of reality.

Those things sound good on paper, but in real life there are two strong biological disincentives against deep, reflective thinking: (1) it takes a lot of time and energy to do, and (2) it can change the structure of the brain. Homeostasis resists both.

Therefore, Homeostasis Dwellers will only think deeply when there's a REALLY good reason for it, like if they're encountering a serious problem. Otherwise, they'll continue their state of mental stagnation.

## Study Reveals People Don't Like Thinking—And Some Even Prefer Electric Shocks!

"All men's miseries derive from not being able to sit in a quiet room alone."  
—Blaise Pascal

Do you like to think? If so, you may be part of the minority.

In 2014, the University of Virginia wrapped up one of the largest studies ever done on the subject of thinking, with 11 variations and over 800 participants.

The study was done as follows: Participants were asked to take part in “thinking periods” of 6 minutes respectively 15 minutes inside of an empty room. They were not allowed to bring their phones, computers, books, or other material that could distract them from their thinking.

The majority of participants reported that they didn't enjoy these “thinking periods” and struggled to concentrate. In one of the 11 variations of the study,

the researchers gave participants a mild shock of static electricity. Then they asked if—supposing they were given \$5—they would be willing to spend some of that money to avoid receiving another electric shock? All participants answered that, “Yes”, they would.

But the results indicate otherwise: 12 out of 18 men and 6 out of 24 women decided to shock themselves four times or more, showing that they preferred mild electrical shocks over the option of doing nothing and being alone with their thoughts.

Timothy Wilson, the social psychologist who was leading the study said, “I think they just wanted to shock themselves out of boredom.”

## The 3 Enemies of Thought

Older people can think just as much and with the same kind of diversity as young people do. Unfortunately, this is rarely the case because most of them don't *need* to.

They did their thinking while they were young and confused; forming the foundation of their beliefs, worldview, and most-used thought patterns.

After laying down that initial foundation, the brain can then work by automation to a higher degree, recycling those hard-won cognitive processes over and over. After this point has been reached, there's a sharp point of diminishing returns—from an evolutionary perspective—in continuing to do constructive work on your cognitive foundation, and changing how you think.

It's like riding a bike: After you first learn how it's done, you discard the training wheels and no longer think about improving your bike riding skills.

Or learning a language: Once you know the word for something and you're able to make yourself understood, you're not too picky with nuance and you're probably not going to bother learning three synonyms for that word.

For the neocortex, once you have a mental model that allows you to make sense of what's going on and cope with a situation, you're not going to be inclined to learn other ideas that could *also* help you interpret what's going on.

So: Once you lose that initial boost in brain activation associated with being young, and once you're able to make sufficient sense of the world to make a comfortable living and be accepted into society, you're not going to think as much as before, UNLESS you take preventive measures against it; like knowing the main mental pitfalls to avoid and adopting positive thought habits.

## Enemies of Thought

The most common pitfalls are: watching TV and suffering social media addiction, followed by habitual snacking and having a sedentary lifestyle. Assuming you've corrected those errors, there are 3 enemies of thought you must overcome:

1. *Comforting beliefs.*
2. *Emotional commitments, ideology, and confirmation bias.*
3. *Mindless use of technology.*

### Thought Enemy #1: Comforting Beliefs to Avoid Thinking

*Comforting beliefs* are particular rationalizations we've repeated enough times to make them a habitual mode of consolation. They could be classified as bad coping mechanisms.

Comforting beliefs are formed because they are convenient to us. They *can* be helpful if they allow us to cope with stress and sublimate our energy into a goal.

For example, if you want to be financially independent at a young age, it would be helpful to work as much as possible and not go out partying as much as many people do. To avoid that temptation, you might convince yourself that everyone who goes out is an idiot not worth knowing anyway. Then you'd feel less bad for not meeting them.

For the most part, however, comforting beliefs are negative, springing up as an unconscious response to spare us pain the temporary pain of thinking about our troublesome circumstances.

If I am feeling trapped and unhappy about my life, what would be easier for me to do?

- a. to dwell on the pain, think about what's causing it, and come up with some constructive action I can take to change my circumstances.
- b. to blame it on some bad guy and invent a reason not to have to think about it.

Now apply Ludvig's Razor: *Which alternative is more homeostasis-friendly?*

People who have a low mental pain-tolerance tend to be riddled with comforting beliefs. It's like they're walking around with padding all over their brain. They're so fragile that you have to watch your every word around them or you might hurt them.

Here are 4 common comforting beliefs to watch out for:

**1) "That [insert solution] wouldn't work for me, because I'm [insert special excuse]."**

Why does the obese guy refuse fitness advice from his ripped friend? Because he "knows it wouldn't work" for him. How does he know? Because he's "big-boned".

Why did that nose-bleeding clerk at 7-Eleven instinctively refuse my advice on sleep, vegetables, and relaxation minerals? Because he had "thin blood vessels".

Homeostasis Dwellers are prone to categorize themselves in any way at their disposal so that they can rationalize not having to change their thought or behavior:

- "Oh no, I can't do that, I'm the wrong money-archetype".
- "That advice only applies to Leos and Zodiacs, but I'm a Capricorn".
- "I'm the wrong body type for that."

The evolutionary irony is that the neocortex evolved to help us think and solve problems, but these people are having it used against them by conjuring up self-serving beliefs so that they can dispense with thinking altogether.

**2) That [bad thing] wouldn't happen to me, because [I'm exempt from that category].**

This assumption allows you not to have to spend energy thinking about contingency plans.

Imagine if the CEO of a big corporation thought like that. Why, he'd never keep any cash reserves around, and he'd be totally unprepared for the eventual disaster.

Most people think they are safe from car accidents because they're such good drivers. 90% of people assume they have above average driving skills.

The way to counter this comforting belief is to worry about what might go wrong. But it's a good form of worrying that results in more success and a better developed neocortex.

### **3) *"This time is different, [magic event] will happen!"***

What do Marxists, "spiritual" people, doomsday cultists, and Homeostasis Dwellers have in common? They believe that a special event, happening on some undisclosed future date, will transform their lives overnight without any effort required on their part.

Marxists believed in a workers' paradise. "Spiritual" people believe in instant enlightenment. Doomsday cultists believe the world will fall apart, and they'll be the only ones prepared for it. Homeostasis Dwellers believe they can change their lives and fulfill their childhood dreams, without having to BOOH and change their physiology first.

### **4) *"I would be more successful if only I weren't being kept down by [insert scapegoat]!"***

Homeostasis Dwellers have a hate-love relationship with bad guys. They hate them for not giving them a fair opportunity to succeed, but they secretly love them for providing a seemingly valid reason for them not to have to work at improving themselves.

When the time comes to stick to that New Year's resolution or to make a list of action points for reaching your goal, and you're finding it difficult to get yourself to follow through, try telling yourself: "I can't do it, the Illuminati reptilians are keeping me down!"

## **Thought Enemy #2: Emotional Commitments, Ideology, and Confirmation Bias**

*Confirmation bias* is the umbrella term used for describing how the brain screens out information that doesn't fit our concept of the world.

This helps us preserve homeostasis by saving us the effort of having to rewire the brain's neural structure and change our current beliefs for a set of different

ones.

Confirmation bias is the reason why you can have two people with diametrically opposite beliefs on a topic put forward their most clever arguments in discussion, and still learn nothing from each other, both dismissing the other as an idiot.

It's also the reason you can have an event, a video or a story on the Internet, and see people reacting to it in completely different ways, each interpreting it in a manner that corresponds to—and upholds—their existing belief structure. Watch for it, it's predictable.

Even the most highly educated and intelligent people do it. It's got nothing to do with logic, this is programmed into the brain, and if you don't have the metacognition to catch yourself in the act, and the mental pain-tolerance to resist it, then you will also succumb.

The worst kind of confirmation bias comes from your emotions and beliefs. Add the two together and you get ideology.

An emotion is a neurochemical reaction, and a belief corresponds to an often-used neural pathway in your brain. Both are instinctively upheld by homeostasis. This makes it hard for you to think and analyze in different ways that contradict your beliefs or emotional state.

Finally, **Thought Enemy #3** is how we're mismatched for technology-use.

To Be Continued in the next chapter.



## Scourge of the Machines

Ernest Rutherford, dubbed The Father of Nuclear Physics, was once visited by a group of scientists in his minimal laboratory at Cambridge.

They asked him how the heck he could make miracles of the mind appear in such a small space, using only these “lowly lab-tools”. Rutherford explained to them: “Yes, It’s true, we don’t have much money, so we have to *think*.”

We could all learn from Rutherford’s example. Bigger, better gadgets are worthless unless used by worthy minds.

A lot of people are using technology in unintelligent ways, at the expense of their cognition. The damage happens in a slow and gradual manner that’s not easily noticed. Most people don’t even know that their behavior is harmful.

Let’s get some perspective on this problem.

### The Impact of Information Technology On Society

Nikola Tesla predicted the Internet in 1927, calling it “a huge brain”. He also predicted cellular phones, prophesying that future man would be able to carry one in his vest pocket. Now we’ve got those things.

Mainstream media—radio, TV, the Internet, and social media—is indeed like a huge brain. Although this “brain” is huge, it’s not sophisticated. In order for this “brain” to grow large it has had to include as many people as possible, by dumbing things down so that even the slowest kid in class can keep up.

Ideas in mainstream media are manufactured, mass-produced, and packaged—like the processing of food—in such a way that they will require the least amount of mental energy to understand. No independent thinking is required on your part. Just sit back and consume.

The educator Mortimer J. Adler explained how convenient this is in social situations:

[The viewer] inserts a packaged opinion into his mind, somewhat like inserting a cassette into a cassette player. He then pushes a button and “plays back” the opinion whenever it seems appropriate to do so. He has performed a respectable, if not a sophisticated, intellectual act.

appropriate to do so. He has performed acceptably [in social life] without having had to think.

## Sad Statistics About Television

Everyone knows watching TV isn't the most productive thing to do, but most people don't understand just how bad watching TV *really* is...

In 2012, it was found by the Bureau of Labor Statistics that the average American over fifteen years old spent 2,8 hours per day just watching TV.

Over a week this adds up to nearly 20 hours, over a month it becomes 80 hours, and over a year it equates to **960** hours of wasted time. That's *40 days less out of the year!* Just from watching a box with moving pictures that does nothing to advance your goals!!

And we all know people who watch much more than 2,8 hours of TV per day.

## Surprise Surprise: Rich People Watch Less TV

One of the biggest documented differences between rich people and poor people is that the rich watch less TV and spend more time educating themselves, both formally and through self-studies, such as by purchasing books or attending seminars on how to learn useful skills.

Psychologist Mihaly Csikszentmihalyi found that people who watch TV had fewer *flow experiences* than people who read regularly. This is not the least surprising because reading requires you to focus your mind, whereas television tends to be purely passive consumption.

Studies show that children who watch TV every day from an early age grow up having shorter attention spans. Psychologist Joel T. Nigg believes the difference is about 10% worse. I think it's a lot worse. Another psychologist, Jane Healy, wrote a book called *Endangered Minds* about how children's' attention spans get demolished by watching TV.

Healy found that when the first generation of children who grew up watching TV entered college, the professors were suddenly forced to make their courses simpler *every* year to accommodate the new students, who had grown used to slogans, sound-bites, and other types of prepackaged opinions.

This generation also had significantly worse vocabulary and mastery of language than previous ones. I know my generation is less eloquent than our parents'

generation. They had words for more things. We just say “cool”, “like”, or “yeah so...”

## **The Sordid Truth About Television**

*TV pacifies people.* And that's not a shock statement, it's a proven fact.

In the 90s, when the cable industry was at the peak of its growth and had spread to most of the U.S population, the industry pondered its next move. What could they do to sustain this awesome growth? They decided to create a new product that would be like a primitive version of today's Internet, using the cable network.

They combined regular cable, email, and a new type of interactive TV shows. John Malone was one of the key figures in this. The big idea hinged on being able to turn the viewer from that of a passive spectator into an active participant. But it didn't work, and they lost BILLIONS!

The reason it flopped was because the consumers, though they had expressed much initial enthusiasm for the idea in polls and focus groups, felt it required too much effort. Observing what had happened for the networks, Steve Jobs (who had considered entering the industry), commented:

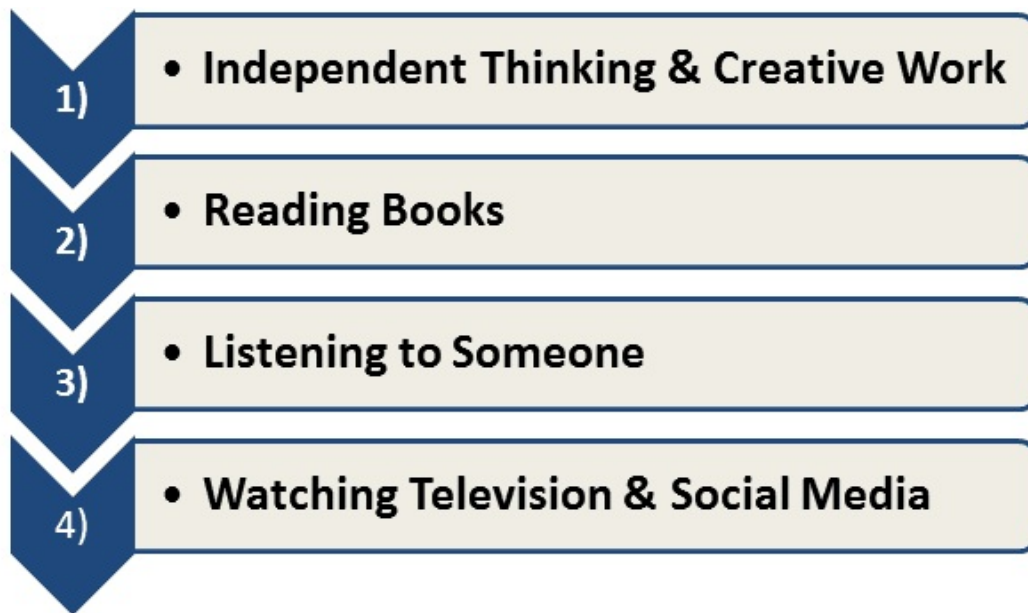
When you're young, you look at television and think, *there's a conspiracy, the networks have conspired to dumb us down!* But when you get a little older, you realize that's not true. The networks are in business to give people *exactly* what they want. That's a far more depressing thought.

TV and social media *could* be better—but it is unlikely to happen on a wider scale.

The money in media is not in producing high quality intellectual content, but in making emotional and entertaining content for the average person who watches TV or logs onto social media to “shut off” their brain, or as a coping mechanism for dealing with boredom and dissatisfaction.

## **A Hierarchical Process of Mental Effort**

There are four ways for a person to process information and learn: To reflect on a topic or do focused work on a task, to read books, to listen to someone else, or to watch a screen with moving images.



TV and social media are passive mediums that require a minimum of mental effort.

If you want to become more intelligent you need to minimize or eliminate browsing social media and watching television.

Think of it this way: Everyone wants to get rich but some people gamble and watch TV shows about magic pills and ab-machines, while others do the work and strive for mastery in their craft.

Have you ever watched multiple episodes of a TV show in a row? I have. How much did you remember? For me, it was like one loooong daze.

Then you remember all the things you were distracted from, while learning nothing of use. You were never *engaged*.

## **How Your Use of Technology Affects Your Brain**

All successful technology expands or improves on some capacity inherent to the human condition. The written word stores our thinking. The radio transmits our words over long distances. And so on.

The short-term effect of this is minimal, we get all the benefits without suffering any downside. But the long-term effect is that *using technology comes at the expense of diminishing or replacing our innate capacity to produce that specific stimuli internally*.

Sometimes this trade-off is worth it; other times, as with watching TV,

mindlessly browsing the Internet, and using social media, the negatives clearly outweigh the benefits.

The problem is that most people don't understand what they're doing to their brains. It's like sugar, every person who reads up on it minimizes or eliminates their intake.

The problem with technology is that people have a tendency to stop using common sense and strategic decision-making when they get their hands on fancy technology. This is an evolutionary mismatch, so don't automatically trust your first response, like the following people do:

- Morons driving off the road, looking at their GPS
- Office workers avoiding real work by constantly scanning their email
- Women incapable of concentrating long enough to hold eye contact because they're addicted to looking at their phone (where other men are writing things more entertaining than your conversation)

These are maladapted people, but they probably did not start out that way. Their corruption happened in a slow, gradual manner.

## **Technology Never Will Be a Substitute for Thinking**

Warren Buffett and Charlie Munger are some of the most broad-thinking people in the business world and neither of them use computers or smartphones.

This is a conscious choice on their part. Buffett has even said that "I insist on a lot of time being spent, almost every day, to just sit and think. That is very uncommon in American business." If you are an executive, you're paid to think. If you're not doing that, you're not doing your job.

Even in technological industries, the top people avoid over-reliance on technology. They are well aware of the dumbing-down effect it has on the ability to do deep, analytic thinking.

Steve Jobs would take long walks and meditate every day. Larry Ellison, founder of the software company Oracle, also does meditation and spends a lot of time on reflective practices. In the television industry, when Ted Turner built CNN to become one of the top networks, he never watched TV except when he wanted to give feedback on the content of the network. Same with John Malone (who

explicitly forbade some of his executives from having TVs in their offices).

## **How to Use Technology More Strategically**

The purpose of technology is to free up extra time that you can spend doing something more important, like *thinking*.

Technology is great—as a tool—when it is used in the context of a goal.

Excel is great for models, statistics, accounting and tracking, but not for making reliable financial projections (which a lot of people use it for). Social media is great if it makes you money, gives you access to useful information and helps you network with cool people, but not if it ruins your ability to concentrate. The Internet is great for finding relevant information needed to reach your goals, but not for telling you what your goals or values should be.

When you're using technology and it's not giving you more time, you are using it the wrong way.

At the end of the day, the person who is well-versed in strategy, mental models, and creative thinking (using just pen and paper) will be the one hiring the excel specialists, accounting program people, and email productivity experts.

## **Rules of Engagement:**

If you care about becoming smarter, then I suggest you create some rules of engagement when it comes to using technology.

You may consider these five:

1. When you are curious, don't look stuff up on the Internet immediately. Make a guess first. Then wait 30-60 seconds while querying your subconscious. (You'll be surprised at how much you know, and how close your guesses may come to the correct answer.)
2. DON'T START YOUR DAY BY LOOKING AT EMAIL OR SOCIAL MEDIA. This is the best way to put yourself in reactive mode and kill creative thought.
3. Do not get in front of the computer (even if it's work) without having written a to-do list or at least having told yourself the top one thing you will do during this session.



4. Keep your phone on silent and only check it 1-6 times per day at set intervals.
5. If you're hardcore (or just very very busy) don't have Internet at home.

And consider this question: What would Napoleon do if he had email?<sup>16</sup>

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16. He was known to leave physical letters unopened for 2-3 weeks on purpose.

# Higher Order Thinking: Your Ticket to the Cognitive Elite

If being manipulated by horoscopes, fortune-telling, cold-reading, conspiracy theories, and comforting beliefs constitute the most primitive aspects of the neocortex's craving for truth (and are sure-shot symptoms of being a Homeostasis Dweller), what would be the opposite?

—*Higher order thinking.*

Higher order thinking is the most intellectually sophisticated form of using the neocortex's predictive abilities. Those who wish to become elite thinkers must master it.

The difference between normal thinking and higher order thinking is TREMENDOUS. It's like in the movie *Batman Begins*, when the ninja master Raz Al Ghul tells a young (but clearly talented) Bruce Wayne, "You knew how to fight 6 men, we can teach you how to engage 600."

## Rockefeller the Clairvoyant?

"Rockefeller always sees a little further than the rest of us—and *then* he sees around the corner." So said John Archbold, #3 at Standard Oil.

When John D. Rockefeller was brought to court—as a witness in an anti-trust case concerning Standard Oil—he was questioned by Samuel Untermeyer, who was one of the best-paid prosecutors at the time.

Untermeyer said Rockefeller had the ablest mind he had ever encountered on the witness stand, describing him as a man with a sixth sense for avoiding legal traps:

He could always read my mind and guess what the next six or seven questions were going to be... I would start with questions to lay the foundation for questions far into the future. But I would always see a peculiar light in his eyes, which showed me that he divined my intention. I have never known a witness who equaled [John D. Rockefeller] in this clairvoyant power.

Was John D. Rockefeller a clairvoyant—someone who could see into the future? No, he was just a smart person who had developed a world-class ability for

thinking in higher orders.

## **How to Hone the Predictive Abilities of the Neocortex**

We all have this basic predictive ability, but most people don't spend much time cultivating it. To do so is to engage in higher order thinking.

*Someone who's good at higher order thinking can:*

1. Reduce complex information by using appropriate mental models.
2. Think backwards and forwards several steps to anticipate outcomes or reverse-engineer other ideas.
3. Combine different ideas into a synthesis.
4. See the big picture and think from a system's standpoint.

Higher order thinking is the ability to take a combination of related ideas or components (that interact together) and imagine what the result would be if you did X or Y.

## **Successful People Are Good at Higher Order Thinking**

Most people are looking for a silver bullet—some secret trick that always works—and that's why they're not successful.

Business guru Bruce Henderson, who founded Boston Consulting Group, used to say that “while most people understand first-order effects, few deal well with second-and third-order effects. Unfortunately, virtually everything interesting in business lies in fourth-order effects and beyond.”

The economist John Kenneth Galbraith said something similar: “There is nothing reliable to be learned about making money. If there were, study would be intense and everyone with a positive IQ would be rich.”

Between each level of thinking (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup> order) there's a whole *magnitude* of difference; like earthquakes on the Richter scale. Most people stay on level 1 and 2.

Successful people are generally good at thinking backwards and forwards about complex problems. This leads them down a different line of reasoning compared

to the average person, who thinks in a simple and linear manner, only considering the first-order interactions between things. For example:

#### ENVY:

- First-order thinker: Wow, this person's life is so much better and cooler than mine because they did \_\_\_\_\_ and \_\_\_\_\_. I wish I could be him/her.
- Higher order thinker: Would I be willing to change places with this person, or is it just this *one* aspect of their life that appeals to me?

#### CHOOSING A BOOK:

- First-order thinker: This book is probably one of the best. Look, it says "Bestseller".
- Higher order thinker: Are the masses likely to be a good judge of quality in this case?

#### STOCK MARKET:

- First-order thinker: The economy looks great now so I'm gonna put my money in stocks.
- Higher order thinker: Says who? Based on what criteria? Compared to what?

#### ENTREPRENEURSHIP:

- First-order thinker: I will start a hair and beauty salon because it's my passion.
- Higher order thinker: I like these things, but there is low demand and high competition, so I'll do something else where my chances are better.

#### CAREER:

- First-order thinker: I like the product/service of this company so I'm gonna get a job there.
- Higher order thinker: This is a top-3 company inside a fast-growing and future-proof industry that I'm interested in, and it will also give me an

opportunity to develop a set of transferable skills, so I'm gonna get a job there.

#### MANAGEMENT:

- First-order thinker: It's important we treat everybody the same so that no one feels bad.
- Higher order thinker: Will we remain in business if we reward our salespeople the same as our janitors?

#### ENVY AGAIN:

- First-order thinker: Wow, this person has so much money and is famous. I want that too!
- Higher order thinker: At what cost?

### **Think Different—and Better!**

When Napoleon arrived in Italy to take command of the Italian Army, he found it in terrible condition. He wrote that “distress has led to insubordination, and without discipline, victory is out of the question.” To whip them back in shape, do you know what the first thing he did was? He got them shoes. Then he got them paid. Only after he had done that did he start drilling them. Then they conquered Italy.

While most other basketball coaches started their players off with generic activities like shooting hoops or getting straight into practice, John Wooden would start by teaching his players how to put on socks and tie their shoes properly. First he was laughed at, then he was imitated.

Why the socks first? Because if they didn't get that right it would lead to unnecessary foot sores and injuries, which would result in the players being benched for no good reason, which would give the team worse morale, and low morale would lead to fewer victories.

(In case you're not familiar with Wooden, his team won 7 straight NCAA national championships and 88 consecutive games.)

Many times in business it's the internal culture of a company that gives it its sustainable competitive advantage, especially for technology companies. But

what makes for a good company culture? Most people think it's generic attributes like "humility", "frugality", "togetherness", or "simplicity".

Successful businesspeople know that it's different in every industry and that it's the primary job of the entrepreneur to grow the culture from within, starting with the screening of candidates, to the workplace environment, to the incentive systems inside the company, and so on.

## **Why Many People Believe That Rich People Are Evil**

Let's say there's a debate about "how to stop poverty". Then most people will opt for a simple answer based on their own prejudices, such as: higher taxes, lower taxes, gender equality, forced donations or over-promotion of specific demographic groups.<sup>17</sup>

The higher order thinker asks, *"If we do this, then what will happen? And then what?"* trying to trace the cascade effect or feedback loop it creates. Or he goes at it in reverse: *"What got us this problem in the first place? ABCD. What generates ABCD and how can we solve it at the root?"*

This type of reasoning generally winds up with an answer that's VERY different from what you get from a shallow assessment, and often it might be a politically incorrect answer that risks offending a large group of the population.

Since the media has a financial incentive to sell the juiciest story with the widest popular appeal, they will pick out that one little part of the rich and successful person's answer which could be interpreted as provocative, and make that the headline.

Then hordes of Homeostasis Dwellers will eat it up for one or many reasons—like boredom and the need for drama, ideological commitment bias based on political opinion, or the comforting belief that all people who made lots of money exploited others—all of which satisfy their homeostasis.

Few of them will delay the act of passing immediate judgment and think for themselves one or multiple steps further, to get a sense of the bigger picture. Because that requires mental effort.

The cognitive elite are rational and pragmatic. The majority of people are naive, living in a cushy, feel-good consensus reality held together by comforting beliefs.

The cognitive elite are passionate about finding the truth, unveiling the underlying realities of the situation, and having a constructive discussion based on correct premises. The majority of people think this is boring, and prefer entertaining sound-bites and dramatic spectacles.

## **Be Like Buffett: Think At Least One Step Further**

Warren Buffett acquired the Washington Post in the 70s. Then he attended meetings together with management on strategy and financial decisions.

In one of these meetings, Jeffrey Epstein, a young MBA who had been hired to find lucrative fields of investments, reported his findings on consumption spending for the media and entertainment industry. His figures for home entertainment was \$5 billion.

“That \$5 billion is a pretty interesting number,” said Buffett. “That means if there are 20 million teenagers in the United States they are spending \$20 every month on video.”

Epstein hadn’t thought of that. He had just gotten his numbers from an industry survey, or perhaps on the Internet, without thinking ahead or questioning the validity of those numbers or what they were based on.<sup>18</sup> Needless to say, the Washington Post did not make any investments into media entertainment.

Now, notice the ease with which Buffett was able to conceptualize a big financial number into concrete terms. Then take into account that he did that split-second calculation in his head. I struggle to do both of those things, and therefore I must come up with thought exercises and practice them diligently until it becomes natural.

## 2 Hidden Benefits of Higher Order Thinking

When you become better at thinking ahead and using different metaphors and models to analyze things, it gives you two distinct advantages over most people:

1. Your modus operandi is harder to figure out (like Rockefeller).
2. And it becomes harder for others to copy what you're doing.

This is because most people only ever read into your immediate actions and their results, whereas the underlying analysis is much harder to figure out. This makes the methods of your success a secret to most of the world.

Higher order thinking has an ENORMOUS width of application. It's a simple principle, but it has an endless range of permutations. It's easier to learn by story and practical examples, that's why the next chapter has 7 real-life examples of higher order thinking.

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[17.](#) Like forcing more women on boards. Or giving jobs and better migration opportunities to people if they're of a certain race, even if their level of education and job qualifications are worse than other candidates. What happened to considering alternative cost?

[18.](#) The figure was based on shipment to stores, which vastly over represented the actual purchases being made. Atari, which was one of the biggest companies in media shipping at the time, made the same mistake as Epstein; *looking at the most easily available information*. This made them lose many millions of dollars.



# 7 HOT Examples

Let's look at seven different examples of higher order thinking:

1. Voting rights.
2. The 9-5 rat-race.
3. Why the Chinese are the best gamblers.
4. Why it sucked to live during the agricultural revolution.
5. Power laws and compounding.
6. Credit cycles and wealth effects.
7. How one person's thinking changed the outcome of a war.

See how many of these you had already thought about spontaneously.

## **HOT Example #1: What if Voting Rights Were Restricted Globally Right Now?**

(1) Assume voting age is raised to 30 in all countries around the world. This might make it slightly harder for populists to win dumb votes. So the first-order consequence would probably be good. And then what?

(2) And then young people across the world—connected through the Internet and social media—would feel shut out and act rebelliously. They might unite in hacker groups, flash mobs, and such, causing a ruckus. And their youthful anger probably would cause them to go way too far in their actions. It would spell problem for governance and business.

(3) And even if there were some sort of peaceful resolution that satisfied both parties, those ideological groups and resistance movements would still live on. We'd all be worse off than if nothing had happened in the first place.

## **HOT Example #2: How to (Not) Get Stuck in The 9-5 Rat-Race**

### **HOT Example #2: How to (Not) Get Stuck in the 9-5 Rat Race**

Almost everyone I know who's financially independent did it in their own way. They devised their own strategy, followed it with patient rigor, and when opportunity presented itself they took a risk by pouncing on it.

Some were luckier than others, but in the end they were all mentally prepared for it. Now consider most people. What do they do?

- (1) They do the safe thing because “everyone else does it”.
- (2) They get in debt to get an education, even if it's worthless (in terms of getting a job).
- (3) They get a job they don't necessarily want, or one that isn't beneficial over the long-term, because they desperately need the income *right now!*
- (4) They get further in debt to buy a car to get to work.
- (5) They get further in debt to live somewhere trendy and hip.
- (6) Eventually—if they work hard—their income increases, but they also increase their spending habits, taking on expensive hobbies and vacation plans to put up with the (otherwise) monotonous life they've created for themselves (failing to maintain upkeep of *the 4 Pillars of Wakefulness*).

Given these circumstances, it's hard for most people (regardless of talent) to get out of debt before age 35. They pay a steep price for the temporary psychological comfort that comes from fitting in.

### **HOT Example #3: Casino King Reveals the Real Reason Chinese Spend So Much Money Gambling**

Steve Wynn is one of the top moguls in Vegas and Macau. He got his start by taking over the Golden Nugget in Atlantic City (which was the smallest venue in town by far) and within a few years he had made it the most profitable place out of the whole bunch.

For the last 20 years Wynn has broken the record—time and again—for building the biggest and most profitable casino resorts. Like the Mirage, the Encore, the Wynn, and more.

In doing this, he has created a new niche and many have tried to emulate him.

Most of the emulators have failed, but some have succeeded (mainly those who focus on getting rich Chinese gamblers to their resorts).

The thing is: It's not that the Chinese per se are the best clientele to have. That's first-order thinking. Rather, it's the cultural context by which many Chinese people have grown up in. *There are more first-generation fortunes in China than in any other country.*

There's a strong correlation between new-rich people and increased consumer spending. It produces an interesting psychological effect. Wynn puts it this way:

Hell, I made this money myself—and I'll spend it as I damn well please!! These people have a TREMENDOUS pent-up desire to see the things they've heard about and dreamt about all their lives... and now they have the money to do it.

This is not a new phenomenon in history. You can see the same pattern with the generations that entered the job market and made careers during the golden era of 1950 and going forward (when the U.S stock market went up for 34 years in a row.)

So, if the Wynn-emulators were a little smarter, they wouldn't just focus on the Chinese. They would focus broadly on countries with a high per capita of first-generation fortunes.

### **HOT Example #4: Why The Agricultural Revolution Probably Sucked to Live Through**

The agricultural period is not the success we often think it was. While the agricultural revolution led to a more reliable source of energy, it also led to a worse quality of life for most people. Here's why:

- (1) People stop living as nomadic tribes of hunter-gatherers, instead choosing the "safe thing" of settling down on a piece of land to cultivate the earth, with a predictable food source.
- (2) The combination of staying at the same location and having a reliable source of food leads to having more children.
- (3) More children means more mouths to feed, means having to work harder. (Defeating the purpose of the initial decision to settle down.)
- (4) Working harder leads to higher efficiency through specialization and

innovations (like better farming techniques). This leads to excess production of grains. Temporary victory.

(5) To store the excess of grains, farmers learn to build granaries and mills. Extra work.

(6) The granaries and mills invite thieves, bandits, and greedy tyrants. Back to ground zero!

And along that way it goes, until trading outposts and walled cities are created and expanded into feudal empires for thousands of years. Then we get the industrial revolution and capitalism.

We can be happy our ancestors did it, but imagine how ridiculously monotonous and harsh it must have been! For hundreds of years, the work was so hard and the food so scarce that many of the farmer's children died before adulthood.

## **HOT Example #5: Power Laws and Compounding: Easy to Understand, Hard to Grasp**

Everyone who knows anything about finance knows that compound interest is the 8<sup>th</sup> wonder of the world. And yet, few people—even among those who know it—make even the slightest concerted effort to profit from it.

You're a smart person, so I'm sure you know basic math. And you can probably calculate 10 to the power of 8. But can you visualize that number in your head in any meaningful way? Probably not.

The human brain is not good with big numbers. We can calculate them, but we're not good at making sense of them in concrete ways that motivates us to action.

Our intellect developed primarily to deal with static relations. As for our ability to conceptualize abstractions and then to visualize them as processes moving forward over time, that is something our brain physiology is less well adapted for doing. But we *can* do it with practice.

You can practice this by learning to relate large numbers to real-life examples, conceptualizing progress through graphs and pictures, and converting abstract mental models into concrete questions. This is what people in high finance do.

For example: Assuming you start out with an investment of \$100,000 and let it

compound under different rates of interest over time, here's what you would *gain* on that initial sum:

	4%	8%	12%	16%
10 years	\$48,024	\$115,892	\$210,584	\$341,143
20 years	\$119,111	\$366,094	\$864,627	\$1,846,060
30 years	\$224,337	\$906,260	\$2,895,970	\$8,484,940

How likely are you to find an investment that's going to give consistent returns of 16% for 30 years straight? Not very. But that's not the point.

The point is that this mental process doesn't come about naturally to most people's brains, so you have to pound it in over the years as a mental practice.

**Pro-tip:** Take a picture or a screenshot of this compound table, print it, and put it up on your fridge.

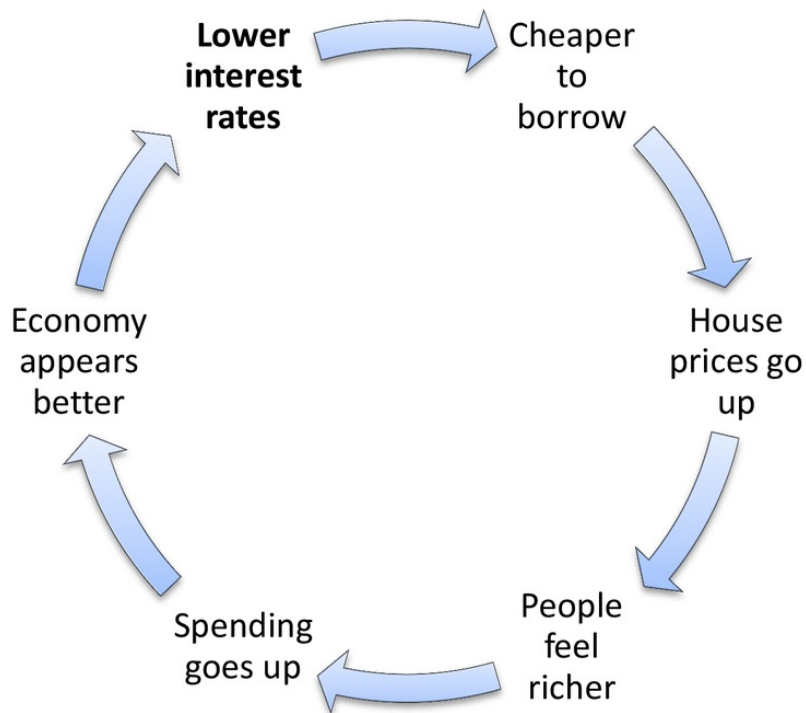
## **HOT Example #6: Credit Cycles and the Wealth Effect**

The *wealth effect* is an economic term used to describe how spending changes with perceived wealth. "Perceived" being the key word, because when people feel rich and optimistic they spend more than when they feel poor and depressed about the future.

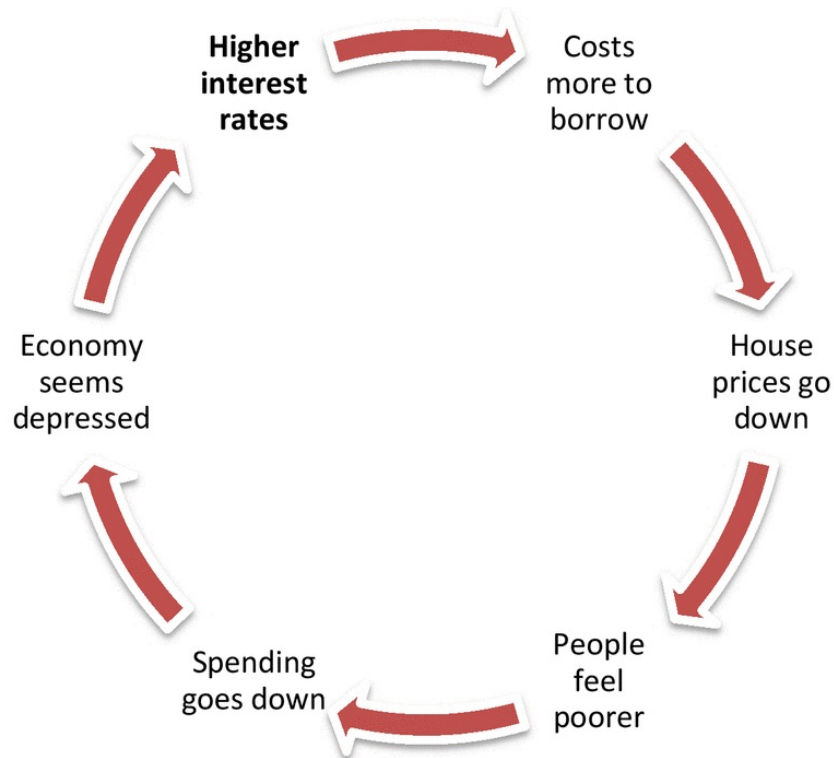
The best example of the wealth effect is in housing values.

For most people, their house or apartment is their most valuable asset. So, when housing prices go up, they feel richer. As a result, average spending goes up, GDP figures go up, and then the economy looks bigger and feels stronger.

Housing values are mainly driven by *interest rates*. When interest rates go down—and money becomes cheaper to borrow—house price go UP because then people take more and bigger loans. This is known as the *credit cycle*:



And up and up the economy goes—*until it doesn't*. Like, for example, when debtors start defaulting on their loans, starting a chain reaction in the opposite direction. That's what happened in 2008, with the American Housing Crisis. And then the credit cycle goes in reverse:



Most people, who are not too good at higher order thinking, and have no particular interest in economic matters, will just listen to what they are told on the news and pay attention only to the most shallow effects of what's going on in the credit cycle.

This is why we hear most people saying that "the economy is great!" or "the economy is bad!", whereas economically successful people generally have a much more nuanced and stand-offish view about what's going on in the economy.

### **HOT Example #7: How a Smart Young Man's Thinking Changed the Direction of the American Revolutionary War**

Alexander Hamilton served as a military aide and Chief of Staff to General George Washington. Even though Hamilton was only in his early twenties, he was held in high regard by most who met him, due to his impressive intellect. Major William Pierce of Georgia said of Hamilton, "There is no skimming over the surface of a subject with him. He must sink to the bottom to see what foundation it rests on."

In 1778, the English Army replaced General William Howe with the lazy Sir Henry Clinton as the leading commander of their occupant forces. Shortly thereafter, American spies stationed in New York discovered that Clinton took long naps at the same time every day, inside a small pavilion on his garden that overlooked the Hudson River.

When briefed about this secret information, the rash U.S Major Henry Lee suggested to Washington that they kidnap Clinton immediately! But Hamilton vetoed the plan. He explained that, “if Clinton were taken prisoner, it would be *our* misfortune, since the British government could not possibly find another commander so incompetent to send in his place.”



# Chapter Takeaways:

“...there are 4-5 % super-rational, disciplined people, and the rest of them are sort of like faith healers or shamans.”

—Charlie Munger

This is not a book about career, business, or making money, but I do have some advice on that subject. Since there is no future for manual labor, you will need to learn how to think properly if you want to become successful. 50% of current jobs are expected to be replaced by automation by 2032.

I like to look at cognitive development from an economic standpoint: *You are your own most valuable asset*, and the best way to boost the growth rate of that asset is by acquiring the right thought habits and learning new mental models.

This ensures that you keep getting smarter later in life, while most other people either stagnate or slow down in their cognitive development. You might even learn at a *faster* rate, because the more you learn, the more you know. And the more you know, the more you learn.

Once you have some different mental concepts in your head, you will start seeing the similarities between different areas of life, and this feeds into itself to produce a type of compounded learning.

By doing that you will soon be in the minority, part of that 5% cognitive elite who view thinking as a life-long practice (and don't prefer shocking themselves to kill time).

## Brief Summary of the Chapter:

- The neocortex helps us make sense of the world and understand abstract concepts.
- Thanks to the neocortex, we are able to be rational and analyze things logically. But those are only *secondary* functions, the maintenance of homeostasis is primary. So, beware of having your neocortex used against you—like with comforting beliefs and self-serving

categorization.

- Most people continue to make use of the same cognitive foundation they formed while young, and tend not to expand upon it, or revise its structure. To develop the neocortex you should learn different mental models and new ideas; these act as cognitive filters you can use to perceive reality from alternate viewpoints. The more mental constructs you have and the better you learn to combine them, the more fluent your thinking becomes, and the less likely it is that your thinking stagnates as you grow older.
- The hierarchy for cognitive effort is divided in four parts.
  1. Independent thinking (E.g: creative, reflective, strategic thinking and writing).
  2. Reading.
  3. Listening.
  4. Viewing.
- To avoid becoming a mental mediocrity, you should adopt positive thought habits while young, and avoid the three enemies of accurate thinking:
  1. Mindless use of technology leads to lazy and sloppy thought habits.
  2. Ideology, emotional beliefs, and confirmation bias make you close-minded.
  3. Comforting beliefs act as excuses and deterrents to keep you from thinking more.
- Ideology and emotional beliefs are maintained by homeostasis the strongest, explaining why it's harder to be skeptic and open-minded than it is to be a fundamentalist.

## Neocortex Practice

There is a definite process for becoming a better and more accurate thinker, and you're about to learn it. It's not a quick fix, but you have the rest of your life to do it, so why not?

In summary: You want to replace viewing with reading or listening; you want to devote some period each day to structured thinking; you want to adopt various positive thought habits while avoiding the bad mental habits; you want to learn as many (relevant) mental models as you can and practice higher order thinking, and you want to expand your vocabulary as well as take up some routine form of writing.

As with the other Practice Sections, your mission is to pick out a few things that you can do right now to get started, and return to the rest later.

### **How to Max Out Your Neocortex's Potential by Mastering Mental Models**

The perception that "life is like a journey" is an example of how a metaphor can change the perspective of your thinking. We all have these metaphors; many are woven into our culture. Compare modern western culture with the nature-bound traditions of the old Indians, and you'll see a totally different set of conceptual metaphors forming a different system of values.

The most useful mental models tend to be underlying rules of thumb or scientific ideas for how different areas of reality work. Like physics, economics, psychology, *etc.* This book probably has like 30 of them.

Each mental model is like one building block; the more of them you have, the more you can rely on your associative thinking to be accurate and valuable.

Here's the process for doing it:

#### **1) Learn fundamental principles from different scientific fields or industries**

Three excellent books for this purpose are: *Seeking Wisdom*, *the Personal MBA*, and *Thinking Fast and Slow*. Also check out the following resources online:

- Cognitive biases + logical fallacies
- Most common business models
- Google for “mental models”

After skimming through those, you will have a good lay of the land, but it won't translate into much productive use—or profit—until you know some important ones by heart. This requires proper study habits and patience.

## **2) Pounding big ideas into your head.**

Delve into different areas of life and study history to expose yourself to a maximum variety of mental models in different settings. This will give you a diverse range of associations (“hook points”) and you will eventually reach a stage of unconscious competence.

The best books for this purpose are biographies of successful people, historical books, and high quality fiction. You're not reading these books for entertainment primarily (although it can certainly be fun), you're doing it for repetition and to focus your pattern recognition on finding different examples, applications, and associations of the selected mental models.

## **3) Organize it for use.**

Make checklists, best practices, and other ways for organizing and applying the models to achieve a higher level of thinking devoted to a particular activity. Like in your job, for business decisions, or when doing analysis and problem-solving. I recommend keeping a (digital) commonplace for this purpose.

A commonplace is an organization system for self-education, personal development, and every other significant area of your life. You can either learn how to make one of these yourself, or you can get all my best tips for doing it at: [www.theultimatecommonplacesystem.com](http://www.theultimatecommonplacesystem.com).

## More Info on Studying History

There are two pragmatic reasons to study history: to pound in mental models and to widen the perspective of your thinking outside of the biases inherent to your culture, generation, and location.

Studying history isn't the same as reading other types of books; history for history's sake isn't useful. So, even if you didn't like history in school, don't worry, you're not going to study it in the same way (no need to memorize useless dates, etc).

Studying history doesn't come naturally to most people. Ironically, if there is one thing that we can learn from history, it is that most people *don't* learn from history.

Here are some good rules of thumb to keep in mind:

- History doesn't repeat itself, but sometimes the same trends re-emerge.
- History is often written by winners—who pay scribes to write about them favorably.
- History is never exact; it teaches by analogy, example and macro patterns.
- Hindsight bias and other forms of oversimplification are common, so beware of that and realize that the first, popular and easy explanation is rarely correct. You should consciously adjust for this by overweighting the impact of randomness (chance and luck).

## Negative Thought Habits to Avoid like a Deadly Red-Speckled Octopus

Knowing what to avoid is easier than knowing what to do. As long as you stay away from these bad thought habits, you'll be smarter than most people, regardless of your inherent intelligence.

- **Minimize mindless use of technology.** Don't use new technology without having a clear goal in mind. Absolutely do not become addicted to your smartphone, and switch off notifications and vibrations unless

crucial. Before searching for the answer to a question on the Internet or using a calculator, first guess at the answer.

- **Beware of ideology, religion, and over-strong emotional beliefs.**  
Because they will make you close-minded by resisting or blocking out opposing ideas which threaten their existence. Once established, these beliefs are hard to remove due to powerful protection from homeostasis. The people who need this advice the most will reject it.
- **Beware of staying in the same industry or area of expertise too long.**  
One of the most common mistakes made by people who have a talent for thinking is to stay unnecessarily long inside the field they got their start in. Why is it bad? Because thought patterns in most industries tend to stagnate. A few years of experience in one field is all you need (from a standpoint of optimal cognitive development). Once you gain a sense of familiarity and start noticing thought leaders rallying around a few big ideas (only they're using different buzzwords to disguise it as a "new thing"), it's a definite sign that it's time to move on (unless you're the one introducing new ideas).
- **Beware of confirmation bias and other types of intellectual lock-in:**
  1. Identify and reconcile disconfirming evidence; do not ignore it. Don't be afraid to change your mind. Be like Marcus Aurelius: happy when another man proves you wrong, as it presents an opportunity to improve and become a better person.
  2. Make an effort to surround yourself with people of different beliefs and values than yourself to avoid "yes-men". The opposite of this is to insulate yourself in a small clique of ideologically similar people; like a special-interest Internet forum.
  3. Avoid labeling yourself unless necessary. Labels and titles carry with them a commitment similar to emotional beliefs and ideology.
  4. Consistently work at raising your mental pain-tolerance to the point where you can read or discuss any topic rationally and impartially with anyone.

**Positive Mental Habits to Adopt in Order to Think More:**

- **Apply Ludvig's Razor to comforting beliefs.** Which is the more homeostasis-friendly alternative: that you're being kept down by bad guys, or that you're lazy? That things are different this time, or that you just don't want to think more about alternative scenarios? That you're the wrong money archetype, or that you don't want to think about the complexities of the market you're in?
- **Replace mind-numbing entertainment with reading.** First eliminate TV from your life. Then minimize social media, non-goal oriented Internet video-watching, and using your smartphone, while maximizing time spent reading educational books or listening to podcasts that stretch your mind.
- **Arrange for periods of solitude where you philosophize and think.**
  - Become an attentive observer of the things happening around you.
  - Formulate hypotheses for why these things happen.
  - Reflect on the successes and failures of popular phenomena. Like why businesses/religions/politicians/great men of history succeed or fail.
- **Ask more questions** to yourself and to the people you meet. Contrary to what you might think, people will not think you're being a bothersome retard; actually, they'll probably like you more for it. Here are some good questions:
  - "Why?"
  - "And then what?"
  - "What if?"
  - "What would be another example of\_\_\_\_\_?"
- **There is value in bewilderment and problem-solving.** Confusion motivates you to think. So does getting into trouble. Stay with the cognitive dissonance and discipline yourself not to seek easy answers just to feel better. Always find or create intellectual challenges to solve.

**Reading and Writing—as a Mental Practice•**

## READING AND WRITING—as a MENTAL FACILITY.

Some best practices for reading more effectively:

- **Read new things and challenge your beliefs:** Do not stick to just one type of books or genre. Be omnivorous and eclectic in your reading. Read the books of people who have different opinions than yourself.
- **Learn new words, idioms and expressions.** Language is a product of the neocortex. What mental models are to higher order thinking and synthesis, language and expression is to cognition. What you don't have a word for, and cannot properly express, you often cannot experience either. Hence, the importance of learning metaphors and allegories.
- **Read deeply.** Books and trade journals, not list articles. Quality > quantity.
- **Find multiple-idea books and excellent essays.** Then put them in a *Review File* inside your commonplace to be systematically re-read over the years.

As for writing, it helps to organize your thinking. It's a brain exercise. If you decided to make a study of it, you'd find that most successful people are consistent—albeit often frenetic—writers.

If you cannot put your thoughts on paper, your thinking isn't as clear as you think it is. Only a small percentage of the population, like 5-10%, keeps written goals.

Writing can also be a great motivator. Here are a few ways you can start practicing it:

- **Keep a journal.** It helps put your emotions and behavior in context. It helps you look at yourself more objectively, from a metacognitive perspective.
- **Start a blog.** I know several people whose lives changed because they did, including myself.
- **Get a pen-pal**—to correspond with someone intelligent. Preferably on a specific topic.
- **Keep a decision-log** to consider the important decisions you make. Write



down your assumptions and expectations beforehand. Then afterward, evaluate: Why did you do X? Why did you expect Y to happen? And so on.

- **Try writing aphorisms.** They force you to flex your thinking muscle. (I suppose poetry, rhymes, and Haikus fulfill the same purpose, if that's your thing.)

## **Mental Shortcuts to Become More Flexible and Contrarian in Your Thinking:**

- **Ask yourself:** "Is this really necessary?", "What makes me think that?" and "What assumptions do I base this on?"
- **Think backwards.** "What should I not do this week?" or "If I wanted to sabotage myself, what would I do?" then don't do those things. Always do this after having a good idea or setting a goal. Ex 1: "What is this stock *not* worth?" Ex 2: "What salary do I *not* deserve?"
- **Which possible outcomes exist here?** 3 scenarios: The likely, the nightmare, everything goes as expected or better.
- **Quantify:** Put estimated numbers on things and do back-of-the-envelope calculations, just to get a better idea or guesstimate something.
- **Consider consequences:** What might happen if \_\_\_\_? Or When \_\_\_\_? How will other people react? Is it worth it?
- **Change the frame:** Try occasionally to see things from someone else's set of values and current goals than your own. Try not to judge people of the past based on today's cultural standards. And vice versa: Try judging people today based on past societies' standards. E.g: How decadent and cowardly would the Romans find us on a scale from 1-10?

## **Practice Higher Order Thinking:**

First: Make a list of some things that interest you where higher order thinking might be relevant. Like the credit cycle, or what it might lead to if you don't work out today, or how much time and money you'd lose if you make the wrong business or career choice. Then, once you have a couple of things that are interesting to think about:

1. Ask “then what?” or “why?” for as long as you can, before you find a root cause.
2. Break bigger things into component pieces.
3. Consider alternative consequences. You could make a decision-tree.

**More thought exercises for practicing higher order thinking:**

- First-order consequence vs second, third, or fourth order consequences. (It’s difficult to go beyond second order consequences; “just” going one step further goes a LONG way.)
- Are there multiple different parts of a system that interact with each other?
- Categorize things in order or rank them by importance.
- Subdivide into components and how they tie together.
- Look at things from a feedback loop perspective.
- Think of combinations and permutations of ideas and mental models. Blend into a synthesis. (Like the reasons why many think rich people are evil.)

## **Ludvig Recommends:**

**Grow the Garden of Your Mind by Creating and Cultivating a Commonplace Book I have experimented extensively with different practices for thinking more and better. And you know what I've learned? *Commonplacing* is the clear winner.**

Starting a commonplace might be the most important thing you can do for self-improvement, organization, and for becoming a more structured thinker...

... so it's no surprise that most of the best thinkers for the last 500 years did it. (Da Vinci, Erasmus, Napoleon, Francis Bacon, and many more.)

Commonplacing is a practice used for collecting ideas across different topics and dividing your life into subsystems to improve upon. This is the best way to make your thinking more structured.

This takes some psychological commitment to get started, but it results in more methodical mental habits through repetition (by learning to categorize your thoughts into different "drawers"), and that's a very gratifying process. This will allow you to "stack" your thinking, so that it builds towards something over the long-term.

You can keep a commonplace in physical form or digitally. I recommend the latter because it's more practical (more easily accessed) and will scale your work significantly over time.

## CHAPTER 9

# **Perfecting Your Pattern Recognition: How to Go From Novice to Expert And Master Selective Focus**

Expert pattern recognition is when you get paid big bucks just to show up. Because you're a master who's got the "right stuff" and they don't.

## Perception is Reality

The universe conspires to your success, said Ralph Waldo Emerson, and you can only find magic if you believe in it, according to Roald Dahl.

Recognize these quotes? If so, you may be guilty of reading too much "success literature".

Jokes aside, these aren't just empty motivational sayings. They hint at something real: *The selective focus of your brain's pattern recognition.*

In 1938 the radio series WAR OF THE WORLDS aired. This was fiction, based on the book by H.G Wells, but they never said that out loud, so many listeners confused it for real-world reporting.

Not only did the listeners believe in the premise (that the world might be coming to an end) but there were many people who reported sightings of aliens and claimed to have been abducted.

It has been said that the Aztecs didn't see Hernan Cortez's fleet of Spanish ships when they first showed up in the horizon, because the Aztecs didn't know what a ship was.

Do I believe in the Aztec story? Not really, but it *could* be true. We know at least that similar phenomena is true for animals with less advanced brains than humans.

### **Cat Study Shows How the Brain Blocks Out Unfamiliar Stimuli from Vision**

In 1970, Cambridge Psychology professors Colin Blakemore and Grant Cooper conducted a cognitive experiment that would change the idea of how we perceive reality (and make Colin Blakemore a target of the animal rights movement).

The researchers raised kittens in two different groups: one that grew up in a special chamber lined with VERTICAL stripes, and another group that grew up in a chamber with HORIZONTAL stripes.

Since the kittens were raised in these special environments during an imperative period of their brains' development and were exposed to the same stimulus time and again (the horizontal or vertical stripes), the visual receptors of their cerebral cortex adapted to it.

The researchers then placed the two groups of cats in new environments that incorporated stimuli that was contrary to their respective special chambers. They found that the “horizontal cats” could not see vertical objects while the “vertical cats” could not see horizontal objects.

When they placed a chair in front of the horizontal cats, they did not notice it—and walked right into it! When the researchers placed a tabletop in the environment of the vertical cats, they either kept away from it or walked along its edge, as if it were a cliff.

What about humans? To which extent does the formation of our brain dictate how we perceive reality?

The short answer is: What we don't have a concept for, we are unlikely to notice or think about, because it doesn't register in the *Reticular Activation System* (RAS). We see what we are prepared to see—and here's what we're prepared to see:

1. What we have a mental model for.
2. What we have been mentally primed for.
3. What we have recently learned.
4. What we have a lot of emotional commitment to.

Sound tricky? Don't worry, in this chapter you'll learn all the intricacies of how it works.

## **You'll also learn:**

- The difference between experts and novices.
- How to go from despondent dilettante to a master with expert pattern recognition.
- How to notice nuances of life undiscovered to most.

- How your inputs for information shape who you are.
- How to become a vigilant hunter and spot more opportunities.
- How to grow old and wise (and why many people don't).

## **Your Brain Reaps What You Sow**

To Cicero, if you live right, the inferior part of life is the early part. That was a revolutionary idea to many people at that time. Now, there's plenty of cognitive research to support it.

### **Treat Your Brain Well and it Will Reward You Later**

How you use your brain in the early stages of life—like what you pay attention to and the type of information you process—has a big impact on its development later in life, especially in old age. It's a lot like farming, where you sow the seeds, nurture them as they grow, and finally harvest the crops.

In youth, your brain goes through a chaotic growth spurt, over-producing millions of redundant synapses. Later, presumably in your twenties and onward, a long-term pruning process—"Neural Darwinism"—takes place and the neural pathways that aren't used are removed while those which are subject to repeated stimuli become reinforced with myelin.

MCI (Mild Cognitive Impairment) brain studies indicate that for every decade after age 30-40, the brain decreases in size by about 2-5% per decade. This decrease in cerebral size speeds up after age 70, resulting in senescence and increasing the risk of mental disease.

What can you do—other than taking care of your body and keeping your brain occupied? One big thing is to make an effort to learn the most important things early in life, because information that gets encoded into your pattern recognition and long-term memory before age 30 has a significantly higher chance of "surviving" until old age.

### **The Top 3 Implications from Studies Done on Aging and the Brain**

Here are some of the most important things to know from studies done on the human brain in relation to aging and senescence:

- Much of the decrease in brain size is due to the pruning process. Some of



it has to do with decrease of grey matter (neuronal death) and decrease of white matter (myelin). However, Myelin, which is gained by deliberate practice, can be regained even in old age.

- It is believed that the parts of the brain which are slowest to develop and become reinforced with myelin, are the ones most harshly subject to senescence. If this is true—which seems likely—then the prefrontal cortex, the neocortex, and the heteromodal associative cortex, which are all associated with higher order cognitive functions, are most vulnerable.
- **Dopamine levels decrease by about 10% per decade after early adulthood.** This is another reason why it's important to engineer your life around the *4 Pillars of Wakefulness* and maintain upkeep of novelty, variation, randomness, and goal-setting.

## **The Cerebral Infrastructure of Habits, Automatic Behavior, and Pattern Recognition**

The *cerebellum* and *basal ganglia* are associated with the fixing of habitual behavior and encoding of automatic actions; like knowing how to tie your shoes or putting in the door code to your apartment complex.

The *thalamus* processes information coming from various parts of the body (including eyes and ears) and then hands it over to the neocortex to be experienced or analyzed. The only known exception is *smell*, which bypasses the thalamus and gets registered directly by the olfactory system.

*Pattern recognition*—the process of making sense of otherwise incoherent information—is associated with the thalamus, cerebral cortex, neocortex and reticular activating system.

The thalamus and the cerebral cortex together detect simple patterns (on an unconscious level), while the neocortex is involved with higher level analysis of information (which can range from unconscious use to highly conscious use, as in the case of higher-order thinking). And the reticular activating system filters through information to our direct perception, determining what we pay attention to or don't.

## **The Reticular Activating System Determines Much of Your Daily Reality**

The exact process for what goes on in the brain is hard to explain, but what it does to us is not: The Reticular Activating System blocks out an enormous amount of stimuli, leaving us with only a few elements to experience directly.

This filtering function of the RAS is why you often don't pay attention to things until they are pointed out to you. For example, if you're having lunch with a friend, and your friend tells you "look: those two people in the far end of the restaurant both have blue shirts!" chances are you hadn't noticed it before he told you about it.

The information was there all along, it just wasn't considered important enough to be filtered through to your direct perception.

Other examples of this is if you make the shift from regular employment into entrepreneurship, from entry level to manager, or starting a family. You'll begin to notice all kinds of things that you previously didn't have a strong enough reason to pay attention to.

## **How Does the RAS Determine What's Important Enough to be Noticed?**

For the most part, the RAS discriminates between stimuli based on what's important for your survival, maintaining your physiological state, or accomplishing a goal.

There are a few exceptions (like the Cocktail Effect—where you can hear your name being called in a loud venue), but for the most part, the RAS is unconsciously directed at maintaining homeostasis. If you're on your way to work and you are feeling exceptionally lazy, you'll be much more likely to notice buses, taxis and other types of transportation—so that you don't have to walk. On ordinary days you probably would be busy thinking about something else.

When your hormonal levels change, so does your focus. When you become hungry, your RAS suddenly focuses attention onto the smell of food or a meal in background. The smell and the meal may have been present in the location ten minutes ago, but you weren't hungry so you didn't notice it.

Magic is yet another example. Many magic tricks and sleights of hand (like pick-pocketing) work by manipulating your attention through clever use of misdirection or mental priming.

In this chapter, we'll go over different ways you can use to have an immediate impact on the filtering function of your RAS, allowing you to better manipulate it for your benefit and become more intentional and aware in your daily interactions. Over the long-term, this results in *expert pattern recognition*.

# Perfect Your Pattern Recognition or Become Another Despondent Dilettante

"Genius is only a superior power of seeing."  
—John Ruskin

When the massive tsunami hit Thailand in 2004, lots of people died gruesome deaths. But not the Sea Gypsies. They saw it coming and escaped unharmed.

Having lived by the sea for many generations, they noticed that something was off. Their pattern recognition enabled them to make sense of a wide array of seemingly disconnected information (that no normal person even noticed) and it was this that alerted them of the changing conditions. They then retreated deep into the forests, tucked away safely from the tsunami.

When a Sea Gypsy was asked later by a CBS reporter why he thought other people, like the Burmese fishermen, had not noticed the tsunami ahead of time, he said: "They were looking at the squid... They don't know how to look."

## What Does it Take to Become an Expert at Something?

Is the *10,000 Hour Rule* true? Not really. There are lots and lots of exceptions to this so-called 'rule', and having memorized this piece of popular trivia does not do you much good.

A better question is: *What's the difference between an expert and a novice?*

Experts are people who have put in the time, done the trial and error, experimented thoroughly, and through this labor they have gained a set of mental reference points for what leads to success in some domain of life.

These mental reference points are not consciously held, they are subconsciously *felt*. They are intricately connected with the proper emotional responses, thought patterns, and effective cognitive filters. This is how intuition is earned.

Since the world is becoming more complex, and the number of evolutionary mismatches goes up, real intuition is becoming increasingly valuable.

## 4 Key Distinctions Between Experts and Novices:

## Four Distinctions Between Experts and Novices:

1. Experts have mastered more *activity-specific habits* related to their domain. This means they don't need to think (as much) to perform complicated tasks consisting of multiple steps, like a dance or a long mathematic equation.
2. Experts have developed neural pathways related to the activity that are heavily reinforced with *myelin*. This allows them to fire signals with electrifying speed, responding to relevant stimuli with lightning-fast reflexes.
3. Experts develop *cognitive filters* and *chunk* information more effectively. Cognitive filters automatically block off useless information from entering the mind of an expert. This allows them to pay attention only to relevant information (whereas the novice gets lost in minutiae). Chunking lets experts bunch together bigger pieces of relevant information than normal (untrained) people.
4. Another element of improved chunking is that experts can detect (minor) *differences* while novices only notice similarities. As cognitive researcher Marvin Minsky put it: "A novice best remembers 'being at' a concert. The amateur remembers more of what it 'sounded like.' Only the professional remembers the music itself, timbres, tones and textures."

All these 4 distinctions are essentially the same phenomenon, only I'm separating it for pedagogic purposes. The main thing is *cognitive filters and chunking*. This is what allows expert to execute complex tasks with minimal effort by focusing their limited attention on the signal while avoiding most of the noise, like picking a needle out of a haystack while being blindfolded.

## Expert Pattern Recognition is The Closest We Can Get to Having Superpowers

*Expert pattern recognition* means to be highly trained for processing a specific sort of information. This results in superior identification of informational patterns. The polymath scientist Herbert Simon wrote on this topic that:

Recognition of familiar patterns is a major component of expert skill, and experts can consequently replace a great deal of heuristic search with solutions, or partial solutions, that they discover by recognition. Moreover, problem solving by recognition has all the characteristics of what is usually called "intuitive," "judgmental," or even "creative" problem solving

A novice must exert conscious effort (signified by PFC activation) just to make sense of what's going on. Someone slightly more experienced can sort out noise and latch onto a key point. An expert makes a multi-variate analysis (higher order thinking) with minimal mental effort, and can then use his conscious mind to weigh factors for or against each other and reach an accurate decision.

This is why, when chess masters are playing an opponent, the bad moves don't even enter their head as an alternative; they only see the good moves. Likewise, a skilled mathematician or physicist is unlikely to waste mental energy trying out different false pathways to a theorem; instead, they're more likely to "feel" their way towards a promising solution.

A novice cannot do any of these things easily because he lacks the internal reference points required to screen out the bad moves, and be (properly) guided by feeling.

## **Expert Pattern Recognition Also Allows for Super-Human Feats of Multi-Tasking**

Snipers can keep both eyes open while being fully alert; one peering through the scope, and the other for situational awareness and wind conditions. The fighter pilot can absorb different information with each of his eyes: one eye focused on the dashboard taking in updates from the radar, observing heat signatures, and gauging the altimeter; the other eye focused outward into the far distance, looking for the reflection of sunlight to indicate hostile planes.

Financial traders can scan multiple computer screens with low effort; one for news, two for asset price updates, and (at least) a fourth for trading chart programs, and still remain attentive to information that may alter market prices. And professional online poker players can play multiple tables at the same time.

**When you achieve expert pattern recognition in a domain you can go with your gut.** This stands in stark contrast to being a dilettante, who's constantly duped by his homeostasis. The dilettante cannot reliably trust his emotional responses, hormonal reactions, and reflexes—for they have not been honed for the task through trial and error.

How many areas can you attain expert pattern recognition for? No one knows for sure. But at least several, if you enjoy learning and start early in life.

Another thing on intuition: You should beware of when and how much you can trust your intuition. It varies between areas. The worst mistakes are made when you think you know what you're doing and you don't.

## **The Holy Grail of Hard Work**

What's the secret of success in business? I've read the biographies of many great people. One thing I've noticed about famous business people (especially those living before the IT era) is that you usually don't start hearing about their exploits until after they are 30-40 years old.

The problem with this is that you miss the most important part of their learning curve.

You don't hear about all the mistakes made along the way; the sleepless nights, full of adrenaline, not knowing what to do, and how they've learned to weigh this decision against that decision and straddle crucial compromises.

There are many things a businessman needs to know by heart—and become hardened by—before being able to build a big company and make boatloads of money, because business is complex.

Industrialist Andrew Carnegie said that even if you stripped him of his wealth, he would be back in operation in a matter of years. Why? Partly because he had established a great reputation and built a strong network of people who could lend him money to re-establish himself. But mainly, what he meant, was that he had already done the hardest work—in his head.

Carnegie had cracked the code of money-making. Rap mogul Master P (who has a net worth of 350 million dollars) said it even better: "I have a Billion-dollar mind!"

Ray Kroc was the mastermind behind McDonald's success. McDonald's is a boring company, but from a business standpoint it's interesting. And Kroc's life story is fascinating. The revolutionary franchising-restaurant idea was the pinnacle after decades of hard work as a salesman. Kroc said:

You can't peddle paper cups and multimixers in a town for 35 years without learning something about it. And if you're sincere about serving your customers better, you'll learn the layout of his basement, what kind of alley access he has, and so forth. You might be able to suggest a better way for him to handle his stock or deliveries. That's what I always did, and **now it's paying off for me in detailed knowledge that helps McDonald's.** If you have this

kind of attitude toward your work, life can't get you down, and that applies whether you're chairman of the board or chief dishwasher. You have to learn the joy of 'working and being let work'.

“Detailed knowledge” is the key phrase in that quote. Kroc fine-tuned his instincts for psychology, sales, and marketing to the level of an expert.

While the success of McDonald's surpassed everyone's expectations—including his own—it's important to remember that Kroc would still have become a multimillionaire through his own company Prince Castle Sales (that sold multimixers).

It was through that business he got to know the McDonald's brothers in the first place. If Kroc had met the McDonald brothers 10-20 years earlier, he would probably not have recognized the opportunity, and sold them like any other lead.

The oil tycoon John Paul Getty said that “there are always opportunities through which businessmen can profit handsomely if they will only recognize and seize them.”

It's not hard to make money when you know how. Your pattern recognition does most of the job for you automatically. *The hard part is getting expert pattern recognition in the first place.* Most people don't apply themselves enough mentally, and remain as despondent dilettantes.

## **Expert Pattern Recognition is the Difference Between Knowing and Doing**

Everyone knows it's *possible* to make lots of money in the financial markets, but only a few people know how to do it.

Successful investors often follow relatively simple principles, but to mere mortals what they do seems like wizardry because there are so many factors to take into account before you can be somewhat certain about having made the right decision.

Since investing is such a complex process, involving many variables that you must take into account—and also because the circumstances are never quite the same—an ounce of experience is worth a pound of information.

If you had the exact same information as Warren Buffett or Ray Dalio have about the financial markets, would you be able to make money as easily as they



do?

The answer is: No, you would not.

What would happen, is that all of this information would be a big burden to you, leading to paralysis through analysis. Because, if you were to have all of that information, but lack the experience, you wouldn't know what to do with it. Without expert pattern recognition you wouldn't be able to assign the *proper cognitive weight* to each little factor involved in making complex investing decisions.

## **Sometimes, There is No Lesson... Except Expert Pattern Recognition**

George Soros is one of the best-known people in the world of finance. And with a net worth of some \$25 Billion, he is definitely one of the most financially successful. But he is also one of the most misunderstood of the major money masters.

Soros wrote in his biography that while he was running the Quantum Fund, he made more money when he didn't think through or analyze all his trades. He also wrote that he suffered acute backaches when something in his portfolio was amiss. It sounds ridiculous, doesn't it? Many people think so. But don't be so sure...

It's actually not that far-fetched, given the fact that Soros didn't start running the fund until his late 40s, by which time he'd already spent 20-something years deep in the trenches of the financial markets; first as an arbitrage trader, then as a financial analyst. This gave him an impressive width of experience to draw from when he became a hedge fund manager:

I remember looking at myself with awe, amazed at the speed with which I could react, the wealth of information I could draw on, and the analogies I could apply. I was on top of every situation, I was able to establish connections that were not readily visible to others.

So when Soros experiences his backache it might be expert pattern recognition joined by instincts that have been honed from years of trial and error, subconsciously processing what's going on and giving him somatic feedback to warn him of impending danger. But if it were any other guy—then it would just be some guy with an aching back.

No wonder most people don't understand his thinking and trading strategy. They

don't make sense unless you have his brain and body—and the hardwiring that come along with it.

When you study successful people, you'll find a lot of people like this. The one lesson to learn from them is the importance of perfecting your pattern recognition and acquiring a similar breadth of tacit knowledge related your main purpose in life.

## **This is the One and Only Time-Tested Method for Making Lots of Money Fast**

Seneca said that luck is what happens when preparation meets opportunity and scientist Louis Pasteur said that in the fields of observation chance favors only the mind that is prepared.

You want to gain expert pattern recognition within a useful field—preferably one with high transferability—while you save up plenty of cash and remain vigilant to opportunity. Then strike fast like a cobra

Windfall opportunity is the result of mental preparation and the reward of a life well-lived.

# Open Up for Opportunity: Tap Into the Hidden Power of the RAS

## Alexander Hamilton's Dictum: My Ideal Wife Must \_\_\_\_.

She must be young, handsome (I lay the most stress upon a good shape), sensible (a little learning will do), well-bred (but she must have an aversion to the word ton), chaste and tender (I am an enthusiast in my notions of fidelity and fondness), of some good nature, a great deal of generosity (she must neither have money nor scolding, for I dislike equally a termagant and an economist).

In politics, I am indifferent what side she may be of; I think I have arguments that will easily convert her to mine. As to religion, a moderate streak will satisfy me. She must believe in god and hate a saint. But as to fortune, the larger shock of that the better.

You know my temper and circumstances and will therefore pay special attention to this article in the treaty. Though I run no risk of going to purgatory for my avarice, yet as money is an essential ingredient to happiness in this world—as I have not much of my own and as I am very little calculated to get either more by my address or industry—it needs be that my wife, if I get one, bring at least a sufficiency to administer to her own extravagancies.

Notice with which EXTREME detail Hamilton knew what he wanted and didn't want in a wife.

For your information: He met Elizabeth Schuyler a few months later, and she was even better than the description. Then they had 8 children, worked together on many successful projects, and stayed happily married until Hamilton's death.

That's what the romantic version of the "law of attraction" can look like for people who use their brain. However, the RAS can also become hyper-focused on something else—like shooting people.

## How to Be America's #1 Killing Machine

Chris Kyle set a new record among American snipers, with more than 150 confirmed kills. In his biography he explains how—suddenly—all of his mental focus seamlessly shifted to improving his skills the day after he had made the decision to commit fully to specializing as a sniper:

It seemed like everything I did helped train me, even video games. I had a little handheld mahjong game that a friend of mine had given us as a wedding present. I don't know if it was exactly appropriate as a wedding present... but as a training tool it was invaluable. In

exactly appropriate as a wedding present—but as a training tool it was invaluable. In mahjong, you scan different tiles, looking for matches. I would play timed sessions against the computers, working to sharpen my observational skills.

Once you make up your mind—and you mean it—that's it. Your RAS will lock in and filter through information to help you. All of a sudden, the universe conspires to help you.

When you have *that* level of commitment, insane results become possible. Founding Fathers Alexander Hamilton, James Madison and John Jay wrote *The Federalist Papers* (85 historic essays upon which U.S politics is founded upon) in just seven months under an intense deadline.

Microsoft was spawned by a similar type of upfront commitment, with Bill Gates phoning in to MIT and telling them he had made BASIC software (he hadn't) to see if they were interested in meeting him and hearing more about it; when they said they were, he made the software in a few weeks together with Paul Allen.

### **3 Ways to Unleash the Power of Your Pattern Recognition:**

These three ways act as triggers to control your pattern recognition and direct it towards a conscious end. Once you use one of these triggers, you can go about your day like a vigilant hunter, trusting your RAS to automatically filter out helpful information:

1. **Make upfront commitments.** Like Hannibal and his army did when they crossed the alps into Italy, or like Bill Gates did when he launched Microsoft by bluffing that he already had BASIC finished. Burn the ships like Cortez.
2. **Set clear goals.** Goals that have a definite outcome, a deadline, and can be measured somewhat easily. As long as the goal is firmly cemented in your mind, it will work. In either case, it's a good idea to write out your goal and its milestones and look at it often. Define the parameters clearly, like Hamilton did with his ideal wife.
3. **Start the day by learning something new.** When you learn something new it sits on top of your mind, and your RAS will look for further reference points to hammer in the concept. The best way to do this is by reading a book or walking and listening to a podcast or an audio book early in the day before you get preoccupied with work.

Are there other factors that impact your pattern recognition? Yes, there are. *The learning process* being one of the most dominant. More on this next.

# The Learning Process and the Ladder of Competence

What we've just learned tends to dominate our mind.

Picasso said that the painter goes through states of inspiration and release. "I go for a walk in the forest of Fontainebleau. I get 'green' indigestion. I must get rid of this sensation into a picture. Green rules it. A painter paints to unload himself of feelings and visions." This applies to other areas than painting.

There is a process for how this happens, and you can train yourself to discern it.

To understand how it works, you will first need to know about the key components of *the learning process* as well as *the four stages of competence*.

## The Key Components of the Learning Process

The learning process is characterized by our improved ability for *chunking* information at higher levels.

We start learning by doing the activity step-by-step, until we eventually can do all the steps fluently without losing focus. At that point, we've mastered *one* component, and we are ready to move on to another one. This process goes on unconsciously all the time, but it can be made conscious through deliberate practice.

To give you an example, let's take the skill of songwriting. The key components of the learning process for this activity might look like this:

1. *Learn to rhyme two words.*
  - Put together three or more rhymes.
  - Put together multi-syllable rhymes.
  - Change of tonality or emphasis to make ordinarily non-rhymable words sound like they rhyme anyway.
2. *Put together a coherent string of rhymes on a consistent theme.*

- Put together rhymes to complete an entire train of thought.
  - Make an entire song about a theme.
  - Make an entire song about a theme and make each rhyme connect to the next from start to finish, like interlocking train cars.
3. *Learn to adjust the speed of your delivery of the lyrics to make it fit the beat:*
- Practice alternating with different tempos.
  - Do it only occasionally, when it fits to the melody.
4. *Infuse vivid wordplay such as the use of similes, analogies, and relatable examples.*
- Come up with some thought-provoking comparison others have not made.
  - Employ your clever wordplay without killing off the rest of the song.
  - Use it flawlessly as a well-timed punchline.
5. *Acquire intuition for when to break the standard stylistic patterns.*
- Notice where everyone else uses the same rhymes or patterns of lyricism.
  - Set it up so it looks like you're also going to do it, then you do something completely different just to stand out.
  - Only do it when it makes sense to do so—as per intuition.

Notice how there are added levels of complexity to each component. Each level represents a higher cognitive function—this is the result of *improved chunking*. This level of skill may come about randomly, if you put in enough time, but it will happen much faster with deliberate practice.

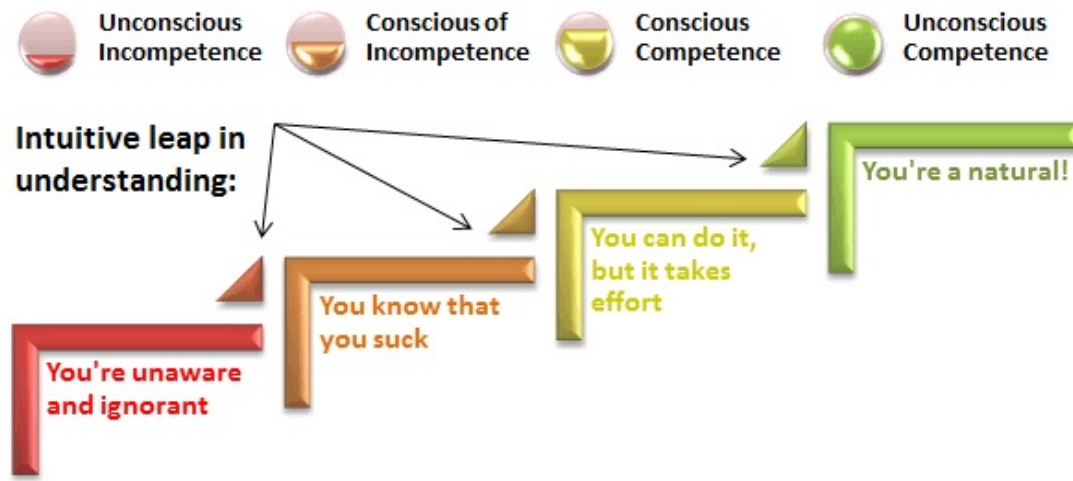
The learning process is fundamentally the same for every type of activity—whether it's reading, writing, music, finance, analytic thinking, or martial arts. First you learn the basic building blocks (the components), then you learn how to

string them together with increased complexity, and finally you learn how to do it in a way that makes sense according to some higher level of reasoning.

Moreover, learning can be said to go through four different stages.

### The Four Stages of Competence Are:

1. *Unconscious incompetence.*
2. *Conscious incompetence.*
3. *Conscious competence.*
4. *Unconscious competence.*



In the philosophy of Zen, there is a koan (a thought experiment) called *the Gateless Gate*. It's about a person standing before a gate who does not know how to get past it. Later, somehow, the person finds himself past the gate and when he looks back, the gate is suddenly gone. This koan is meant to symbolize that the person has achieved a higher level of consciousness, and moved one step closer towards enlightenment.

The Gateless Gate is a good analogy for the process of going *from unconscious incompetence to unconscious competence*; first your RAS finds instances of the thing that you're trying to learn. With practice, you no longer need to consciously focus on it. Some time later, it has been *assimilated* in your pattern recognition, and you're chunking information at a higher conceptual level, where you're no longer paying attention to that particular thing.



**Mastery** means to have reached a state of *unconscious competence* for the fundamental actions, best practices, and informational patterns related to an activity or a field of knowledge.

### **3 Rules to Remember for How the Learning Process Hijacks Your Pattern Recognition**

The learning process has a significant impact on both your behavior and on your cognition. This happens because it unconsciously steers your RAS to focus on certain things (and block out information at odds with it).

**On an unconscious level, this leads us to:**

1. Pay extra attention to that which is top-of-mind or not yet fully learned. AKA: The *recency effect*.
2. Engage in overuse, clumsy use, or over-weighting the importance of that which we are in the process of learning<sup>19</sup>. But just because we see it, doesn't necessarily mean it's important. AKA: *availability heuristic*.
3. See the same patterns over and over, once we've reached a state of unconscious competence. This goes for stereotypes, beliefs and mental models too. AKA: *Confirmation bias*.

These three rules are general—and apply to everyone, *all the time*. You can notice their operation in other people, and occasionally discern it in yourself, if you train yourself to do so.

The easiest way to minimize the harmful effects of #1-2 is by letting the information simmer for a while before acting on it, in the same way that a writer might write a first draft of a text and then not publish. Steve Jobs was known to do this with products.

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<sup>19</sup>. This usually comes at the cognitive expense of blocking out more useful alternative. This is sometimes why recent business school graduates need on-the-job training; just for the sake of avoiding overuse of academic models they were taught recently. It might also be why—as I mentioned in another footnote from the chapter about Higher Order Thinking—migration politics and feminism are having an irrational romp in popular culture at this moment.

# **If You're Not Controlling Your Attention, Someone Else is**

Popular culture is a cesspool of non-issues to entertain primitive degenerates. That's why Thomas Jefferson never read newspapers.

Popular culture is the limited reality to which Homeostasis Dwellers are consigned for their lack of mental activity and vivid imagination. Popular culture distracts your pattern recognition by focusing on non-issues such as:

- Gossip, trends, celebrities, shock-and-awe.
- Political drama concerning the U.S or EU.
- An unlucky child getting hit by a truck or some new conflict in the Middle East.

As a first-order consequence, this is relatively harmless (these things have little bearing on your life, other than being a waste of your time), but as a higher order consequence, it has a negative impact.

If you go around planting weeds, you can expect them to grow. And it won't take long until the weeds have driven out all the nice plants in your garden.

When you consume useless information concerning popular culture, it will focus your mind on the wrong things. For example, because you watched the news yesterday, and you learned about some scandal involving the music artist Flo Rida, you will now recognize him on billboards on your way to work. And inside a magazine on the train ride home...

The question is: *Does it help you to know that Flo Rida exists? How!*? Is that something you want your precious pattern recognition to pluck out and identify to your conscious mind, out of the innumerable amount of potential ideas you might otherwise have had?

Is Flo Rida more important than information that could help you reach your goals?

—It would have been better not to know at all.

## **Media Bias: “If it Bleeds, it Leads”**

American deaths during year 2002:

- 172,000 deaths by war.
- 696,000 deaths by violent crimes.
- 873,000 deaths by suicide.

No one cares.

Then comes the 9/11, with the New York World Trade Center falling down. This caused the deaths of a few thousand people.

Now everyone cares.

15 years later: The statistical pattern is pretty much the same, terrorist attacks are killing a disproportionately small number of the population, but receiving almost all the attention in mainstream media and social media.

Moral of the story: Stay away from mainstream media if you care about learning new things.

## **Beware the Slippery Slope of Losing Attention**

Not being in charge of your attention is a slippery slope that leads to sloppy mental habits.

Before you know it, you'll be dumber than a pile of bricks. You'll acquire a hyperactive pattern recognition that makes mountains out of molehills, unable to distinguish between what's meaningful and what's meaningless, seeing conspiracy theories where there are none.

This is how fools grow more foolish and narrow-minded in old age; they go on confirming stupid ideas they were taught in their youth and never tried to disprove.

# Chapter Takeaways:

Attention and focus matter a great deal, so you better learn how to use it. The ability to focus is like a mental muscle (the PFC), whereas attention and direct perception is directed through the bottleneck of the reticular activating system (RAS).

The easiest way to get “lucky” and become an “overnight success” is by acquiring expert pattern recognition in a useful field and being a vigilant hunter for opportunity. Except it's not luck: It's process. It's unique to *your* biology and brain.

The information is out there for everyone to take advantage of—reality is reality—but only people who have brains capable of deciphering complex information and detecting meaningful patterns can make sense of it.

Everyone else will be caught by surprise while you saw it coming from a long way.

## Take-Home Info About Pattern Recognition and the RAS:

- **There are lots of things going on all the time, but we only notice and experience a minuscule amount of it.** In order for some information or stimuli to get filtered through the RAS it must be deemed important to our survival, to the maintenance of homeostasis, or important to our goals and desires. The more consciously stated our goals and desires are, the more psychologically committed to them we are, the more likely we are to perceive relevant information.
- **You mainly pay attention to that which you know.** This is why it's important to learn mental models, so that you can leverage more of your limited attention span through improved chunking of information.
- **Honing your pattern recognition requires relentless repetition.** The process is analogous to a piece of hot iron being pounded over and over with a hammer, tempered by ice-cool water, until it eventually ends up

becoming a katana. It takes a long time to craft, but once it's finished it lasts a lifetime. Expert pattern recognition, like a katana, slices through what is irrelevant with minimum effort.

- **Being an expert is characterized by improved ability for chunking information.** When you are not an expert at something—which, for the most part, you are not—your key priority is to avoid noise<sup>20</sup>. And underweight your emotional responses.
- Sometimes, when you study really successful people, there is no lesson to learn except to be diligent and acquire expert pattern recognition.
- 3 proven ways to direct your attention:
  1. Making up-front commitments,
  2. Setting clear goals
  3. Priming yourself for certain information (via reading, listening to audio, or visualizing).
- **The learning process can distort and block out other relevant information when it's something that's recent in mind.** We're also prone to overuse or overestimating the importance of things we've just learned or done.
- **If you're not controlling your attention, someone else is.** The first-order consequence of paying attention to irrelevant things is the alternative cost of not focusing on ideas or goals; the higher order effect is a bad brain with a hyperactive pattern recognition.

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<sup>20</sup>. This is a moot point once you have expert pattern recognition in the area because the effect of noise is minimal. Your brain just screens it out.

# RAS Pattern Recognition Practice

What would you do if you could control your attention twice as good? How would it change your life if you could do that—this week, this month, this year? How about the rest of your life?

—Acquire expert pattern recognition.

This is how Frederick the Great gained his legendary coup d'oeil (the ability to glance across a battlefield and quickly size up the situation). Here's how he explains it in his military manual:

The coup d'oeil may be reduced to two points; the first of which is the having abilities to judge how many troops a certain extent of country can contain. **This talent can only be acquired by practice**, for after having laid out several camps, the eye will gain so exact an idea of space, that you will seldom make any material mistake in your calculations.

The other point, is to be able to distinguish at first sight all the advantages of which any given space of ground is capable. This art is to be acquired and even brought to perfection, though a man be not absolutely born with a military genius.

Know this: Expert pattern recognition makes the learning process not linear, but exponential. Most of it will come from your work, study habits, and personal experiences.

Unfortunately, it's a pretty slow process and most people never reach a “critical mass” with it. They don't acquire expert pattern recognition for anything in particular, and remain as Despondent Dilettantes, misguided by their homeostasis from cradle to grave, only ever immersed in the shallowness of popular culture.

## Have Long-term Commitments

The easiest way to practice your pattern recognition is to have long-term goals, work on projects you care about, and reward yourself for being curious or creative by indulging in it when the muse strikes. I try to pace myself between the practical and the creative process.

Becoming an entrepreneur might be the most concrete example. Writing a book is another great way to “flex” your pattern recognition on a topic for a longer

time. Winston Churchill explained it like this:

It was great fun writing a book. One lived with it. It became a companion. It built an impalpable crystal sphere around one of interests and ideas. In a sense one felt like a goldfish in a bowl; but in this case the goldfish made his own bowl. This came along everywhere with me. It never got knocked about in traveling, and there was never a moment when agreeable occupation was lacking. Either the glass had to be polished, the structure extended or contracted, or the walls strengthening.

Now, imagine the RAS practice this book has afforded me.

## **Become a Vigilant Hunter: Prime Yourself for Powerful Patterns**

If you were to spend the morning reading a book about Chimpanzees and other primates, would that make you more receptive to picking up subtle social cues for the rest of the day? You bet.

What about business: If you spent the first 30 minutes of your morning reviewing your own collection of best practices learned through the years, would that make you more likely to avoid making bad decisions? Probably so.

Why? Because you'd have primed your pattern recognition for the right principles and you'd know what were looking for.



**Here are some other ways you can practice your pattern recognition like a vigilant hunter:**

- Change perspectives. For example, when purchasing products, look at it from the perspective of the seller and what they're choosing to emphasize. If you think about it logically, it will often be something idiotic and irrational (this either means they know their customers well, or they are totally out of line and just guessing).
- Find evidence to support your ideas or theories, then make brief notes of it. Then do the same for disconfirming evidence.

- Ask: “What am I paying attention to that’s recent in mind?”
- Ask: “What am I not paying attention to that’s important?”
- When reading, look up new words, underline eloquent phrases, and write mental models or principles in the margin (if it’s a physical book).
- Look for underlying themes<sup>21</sup> in movies.
- Hold some specific intention in mind as you go about your day.
- Look for similarities, differences, and contrasts between various observations.
- Keep a commonplace book and gather different information into distinct categories.

## **Be Contrarian in Your Information Habits**

If you want to be a pioneer, your inputs for information cannot be the same as everyone else’s.

- Skip the mainstream media.
- Don't watch TV.
- Don't casually browse the Internet.
- Stay away from everything else that’s part of popular culture.
- Don't read ”one-idea” books.
- When reading about someone’s great achievements, always ask: “What can I learn from this?” Sometimes, nothing except for expert pattern recognition.

Read the old classics, history, biographies or other valuable information that’s time-tested. Like science. Train your pattern recognition on those ideas. They’re just as relevant today; perhaps even more relevant, as we are living through an ongoing epidemic of over-specialization.

## **Repetition—the Mother of all Knowledge**



A good way to make use of repetition is to keep a *Review File*, where you list all the most important books, texts or other resources you have learned from. You can use it to go over the best stuff again, hammering it into your pattern recognition.

When you come over the best books—multiple-idea books—you want to re-read them many times over your life, because you can't learn everything in them on one reading. Your pattern recognition will most likely be focused only on that which is near and directly relevant to your current goals.

The next time you read the book, you will read it on a higher level, skipping past the material you already know and finding something else to learn from it. The takeaway will be different because *you* are different.

## **Make Lists; They Help You Focus**

There are two reasons why: First, because it's a clever way to gain extra commitment from your brain, and second, because it primes your RAS what to look for. Like Hamilton's "love list".

If possible, try to keep (practical) lists to a maximum of 7 items, as it's the limit of the working memory. The three best types of lists for dividing information are: best practices, checklists, and lists of examples.

If you were to apply these lists to this chapter, it might look like this:

- **BP:** Decide what to look for and make powerful commitments, but don't read newspapers and let others set your agenda.
- **Practical checklist:** Read something each morning to prime myself on new info, screen long and hard for multiple-idea books while avoiding one-idea books.
- **Examples:** Sea gypsies, Expert Pattern Recognition, learning process & Gateless gate, Vigilant Hunter vs Despondent Dilettante.

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[21.](#) For example: The theme of Harry Potter is "wizard world + Nazi Regime"; the theme of Avatar is "save the environment", and the theme of Rocky is "the underdog wins".

## CHAPTER 10

# **Throw Off the Chains of Amygdala Slavery: How to Stop Being a Conformist and Unlock the Genius of Boldness**

Your IQ doesn't matter if it cannot be used on the battlefield. If you've ever wondered how dumb people can succeed, this is it.

## **You Get What You Put Up With**

I know a woman who pays big bills for electricity and phone coverage. Let's call her Maria. She asked my advice what to do about it, so I told her "just call up their customer service and negotiate, look up the price of their worst competitor and tell them you're going to change. That's what I did and now I pay less than half the price".

That was months ago now—and Maria is still paying those super-sized bills. She's too afraid to pick up the phone and "confront" them (her words, not mine).

I recently met a graphic designer in his mid thirties who has over a decade of solid work experience. This guy had at least four years of university education and has worked for several prestigious companies. He is currently some type of free agent consultant.

He complained loudly about not making enough money. I asked him, "have you tried raising your price?" He said no. Then he launched into a long rant that was really an excuse for being afraid to experiment with raising his prices for a few days, and see what would happen.

Meanwhile, there are teenagers who start doing design work as a hobby or a side-gig, selling their services online. They do that for a few years, they get some return-customers, and then they start their own design agencies. Then they raise their prices—again and again—until they're making good money by the time they are in their mid-twenties.

**What's the Difference Between Them and This Guy? It isn't Skill or Experience; it's *Guts*.**

You don't need a degree for many jobs anymore. You can learn most things on the Internet better than you could in a school. Personally, I haven't had any use for my degree in business. What's the point of a certificate when you have real skills backed by brass balls?

It's almost becoming harder to be an employee than it is to be a free agent or an entrepreneur. I can easily make a living on my own, but I don't think I could get

a job at most companies I'd even consider working for. Isn't that funny?

Everyone's competing on inflated and arbitrary academic merits. If you were instead to operate on initiative and boldness, you'd leapfrog 90% of the competition—even if they are your betters in terms of intellect and certificates. Most people are afraid to stand out.

Success in most areas of life has less to do with skill than it has to do with mustering up the gumption to challenge social norms and doing something unconventional. This is the easiest way to get an edge—by taking initiative and differentiating yourself.

Grade-wise, I was probably in the bottom 20% of my master's program at university. Most people in the class had straight A:s. Yet, I got the "best" thesis job—a tailor-made assignment for IKEA—because I was the only one consistently cold-called companies and took the initiative to speak with guest lecturers, getting referrals from them.

The other students, it would seem, were too used to being spoon-fed tasks by the university, and could not muster up a single iota of initiative when it mattered most.

The extent to which you're ruled by arbitrary social norms, feel the need to fit in with others, and your level of contextual confidence; these things are mostly dominated by the *amygdala*. This is the part of the brain that activates in social situations, when we feel judged, criticized, threatened, or sense danger.

As long as you remain an *Amygdala Slave*, you'll consistently be outdone by people who are less intelligent and competent than you are, only because they are less restricted by social norms and trivial fears—like talking to strangers, cold calling, speaking in public, or being willing to take a stand for what they believe in.

It's not the smartest people who win, it's the ones who are *least* cognitively blocked.

### **Here are some key things you'll learn in this chapter:**

- Whether you're an (unwilling) sufferer of the *Will Hunting Syndrome*.
- Why Amygdala Slaves' IQ drops significantly in important situations.

- The iron rule and its corollaries.
- How you can unlock the Genius of Boldness—and why this is becoming increasingly important due to technological progression.
- What *Dunbar's Number* is, how it holds up society, and how you can use it to supplant idiots from your head and replace them with great historic figures.
- How overcome the irrational fear of standing out from the herd and why becoming ostracized is unlikely to happen these days.
- Why fitting in is bad for business.
- Why the losers of yesterday are the winners of today.

## Do You Suffer from The Will Hunting Syndrome?

*Good Will Hunting* is a movie written by Matt Damon and Ben Affleck, casting them in the two leading roles. It was through that movie that they both managed to catapult themselves into the A-list of Hollywood actors while still in their early twenties.

The plot: Will Hunting is a 20-year old genius living in Boston. He can memorize everything immediately. He is widely read and has a special facility for advanced mathematics and physics.

Will could easily succeed at any profession, and yet he chooses to spend his days working menial construction jobs with his best friend Chuckie (played by Ben Affleck). In their free time they get drunk, smoke cigarettes, and go to bars to pick up girls or get into fights with other guys.

Will's life is going nowhere—and it doesn't take a genius to figure that out.

Why doesn't Will just get a high-paying finance job or take up advanced research on a scholarship? It's because he feels trapped by his social circle. He dumbs himself down and squanders his gift in order to fit in with his not-so-smart friends. But they know he's not like them.

One day, after a hard day's work at the construction site, Will and Chuckie get into a heated conversation whilst drinking beer and smoking cigarettes:

**Chuckie:** So, when are you done with those meetings?

**Will:** Like the week after I'm 21...

**Chuckie:** Yeah? They gonna hook you up with a job or what?

**Will:** Yeah—if I can sit in a room and do long division for the next 50 years (chugs beer).

**Chuckie:** Ahh.. you'll probably make some nice bank though.

**Will:** But I'd be a fuckin' lab rat. . ?

**Chuckie:** Better than this shit. Way outta here.

**Will:** Uh, why'd I want way outta here for? I mean, I'm gonna live here for the rest of my life. You know, be neighbors, you know, have little kids, fuckin' take em' to little league together up Foley Field. (takes another chug of his beer).

**Chuckie:** Look, you're my best friend so don't take this the wrong way but... in 20 years, if you're still living here, coming over to my house to watch the Patriots game, still working in construction, I'll fuckin' kill you!

**Will:** What!?

**Chuckie:** That's not a threat—it's a fact: I'll fuckin' kill you.

**Will:** The fuck you talkin' about? (feigns ignorance)

**Chuckie:** Look, you've got something *none* of us have...

**Will:** Oh, c'mon! Why's it always this fuckin' "I owe it to myself to do this," what if I don't want to?

**Chuckie:** Naw, no no. Fuck you, you don't owe it to yourself. You owe it to ME. Cus' tomorrow I'm gonna wake up and I'll be 50, and I'll STILL be doing this shit. And that's alright, that's fine. But *you're sitting on a winning lottery ticket*, and you're too much of a pussy to cash it in. That's bullshit. Cus' I'd do fuckin' ANYTHING to have what you've got—and so would any of these guys. It'd be an INSULT to us if you were still here in 20 years; hanging around here, wasting your fuckin' time.

**Will:** You don't know that.

**Chuckie:** Let me tell you what I do know. Every day, I come by your house and I pick you up. We go out and we have a few drinks, a few laughs, then we scram. You know what the best part of my day is? For about 10 seconds, when I pull up to the curb and I get to your door, cus' I think maybe I'll get there and I'll knock on the door and you won't be there. No goodbye, no see you later, no nothing. You just left. I don't know much, but I know that.

## **The Will Hunting Syndrome is Quite Common**

For every publicized genius, there are probably nine closet geniuses that lacked the confidence and were too afraid to cultivate their gift.

Can't believe it? When you know how the amygdala and older parts of the brain work, you'll understand it better. The social aspect is many times stronger than the intellectual faculties. Many smart people are trapped in their own prison.



## Amygdala Functions

- The fight-or-flight response.
- Empathy and the seamless ability to pick up on social cues.
- Social intelligence and contextual awareness.
- Sensing whether strangers are hostile or friendly depending on their body language.
- Associative learning via emotions.
- Looking to others for what to do instead of thinking for yourself.
- Overriding rational thinking to facilitate group belonging.
- Constant awareness of social status and maintaining one's position in the pecking order.

The amygdala is what allows you to react instantly in urgent situations—like when you're making a sudden break with your car to avoid a crash. Or when you're walking around a corner and make an instant halt and successfully avert a collision with another person.

The amygdala is why we can freeze or become paralyzed in dangerous situations where we feel threatened or when we are taken by complete surprise. But, it also gives rise to much (unnecessary) tension and anxiety for most people today. It might cause you to instinctively keep quiet out of fear of disturbing the social situation you're in.

For many people, this is their natural state of being. Throughout my school years, I always dreaded social events and public speaking. I always had things to say, but I just couldn't get it out because my amygdala had me in a cerebral stranglehold.

## How Emotion Overrides Thought

The newer, rational parts of the brain (neocortex and PFC mainly) can help to override the older, emotional parts of the brain (amygdala, periaqueductal grey (PAG), basal ganglia), but it requires consistent practice and doesn't come about naturally. If you grew up in a tough neighborhood or have a history of doing scary stuff, you may be better at it than most people. Meditation also helps.

How does the amygdala override the neocortex? By being faster to perceive stimuli, and matching it to previously experienced threats. When a threat is matched, *the emotional part of the brain acts before the response is relayed to the conscious and rational part of the brain.*

Three common ways in which ordinary thinking gets overridden are through the *startle-response*, the *fight-or-flight* response, and *amygdala hijacks*; these all correspond with unconscious physiological responses and the tensing of certain parts of the body in anticipation of danger.

A person who has more control over the amygdala (and preferably metacognitive awareness and a strong prefrontal cortex as well), like a Navy SEAL or an experienced executive, will be able to stop himself early and avoid falling into unconscious emotional responses.

## Another Amygdala-based Phenomenon: Aimless Imitation in Everyday Life

When you enter an elevator, do you typically stand facing the elevator door? Most people do. But have you ever entered an elevator where everyone inside were facing a different direction?

There have been many experiments done by psychology professors testing how people react to different social factors. One of the most popular tests is to put an unknowing stranger into an elevator filled with planted people, who are all facing some other direction than the elevator door. The result is that the new entrant feels uncomfortable and quickly complies by also facing the weird direction.

Similar tests have been replicated in other environments and the results have been pretty much the same. We're prone to adjust our behavior to fit in with the group and copy people in situations where we don't already have a

predetermined agenda.

Another popular experiment is to show respondents a picture or tell them a story, and then ask them to describe it to someone else. When the respondent does this alone, the description is usually pretty accurate, but when the respondent is placed in a group setting—especially in alternate versions of the experiment where planted people deliberately exaggerate or lie—he or she will usually say something similar to what everyone else is saying. This is believed to be how urban legends come about.

Why do these things happen? Because of social pressure. It sucks when you're at the mercy of it, but when you learn to use it more intentionally, it can be quite helpful—by boosting associative learning.

## **The Link Between Emotion and Learning**

Here's an important rule of thumb for you to remember: *the more emotional you are, the more likely you are to learn or remember something.*

As a corollary to this, people who put themselves on the line (or trick their brain into thinking their social status is on the line) will learn faster than those who don't.

This is why entrepreneurs and free agents learn faster than employees and students. It's not that they're smarter or more talented, but that they have MORE emotional commitment to the outcome and a stronger incentive to succeed. This signals to the brain that *“this thing is important and if I don't understand it and do it, I'll be in danger!”*

When you experience short bursts of stress, the adrenaline increases your blood glucose and you become more focused. That energy would otherwise remain safely tucked away., perhaps going into your fat reserves. When you BOOH, you reach into the reserve tank and extract extra energy.

## **Amygdala Slavery: Why People Spend Their Life in the Shallows**

The amygdala may have saved the lives of our ancestors, but in a globally interconnected world, its triggering of automatic emotional responses is the cause of mass confusion, herd behavior, trend following, booms-and-busts, and many other situations where large groups of people act irrationally in *unison*.

Overactive amygdalas lead to unwarranted and immature emotional behavior—like the creation and continuation of petty disputes—causing havoc in large organizations.

The amygdala is equally responsible for keeping society together as it is for impeding improvement and advancement, by making it difficult to have a rational debate about many polarizing but important topics, like taxation, social welfare, religion, genetics, and ethnic issues.

## **The Iron Rule**

You don't get what you deserve, *you get what you put up with* (and most people will put up with a lot of B.S in order to stay in the comfort of their homeostasis).

The corollary of this iron rule is that *everything is up for negotiation*.

Unfortunately, most people are instinctively afraid of negotiations; whether it's their bills, getting a higher salary with their employer, or selling something.

Other things most people instinctively shy away from include: taking economic risks, raising prices, putting themselves on the line and standing up for something controversial, speaking in front of a crowd, getting on the phone with a stranger or some important person. These are important things that you need to be able to do, unless you want to go through life handicapped.

## **Most People are Unwilling Thralls of Amygdala Slavery**

*Amygdala Slaves* are those who cannot Break out of Homeostasis for fear, social consequences, or inability to control their thinking in emotional situations. This is the case for everyone now and then, but Amygdala Slaves are totally trapped by it.

### **Here are some common symptoms of Amygdala Slavery:**

- Being easily influenced by social proof and feeling inclined to go with the popular option.
- Needing affirmation from others before making decisions that have a social element (like voting or buying clothes<sup>22</sup>).
- Being more concerned with other people's opinions than one's own.
- Trying *too* hard to fit in, at the expense of more important things.

In a nutshell: Amygdala slaves are unable to go first or demonstrate initiative in the face of potential danger, social pressure, or at the risk of their status within a perceived hierarchy. This is why Amygdala Slaves can never be leaders.

## **It's Not That They're Bad People**

Amygdala Slaves are not devoid of virtuous qualities—it's just that their brain

physiology is stopping them from doing the right thing.

Their dilemma can be compared to weightlifting. I don't know about you, but I'd like to be able to bench-press 140 kilos. Unfortunately, I can't do that because my brain currently isn't able to produce the signal strength to activate my muscle fibers to lift that much. I probably have the *muscle mass* to do it—as I have managed 125 kg—and if I were in a life-or-death situation, I think I could do it. But in a normal setting I cannot.

So, it doesn't matter how big my muscles are, or how strong I look, if my brain can't produce the electrochemical signal to tell my central nervous system to lift that much. And the same goes for *intelligence* and *integrity*. It doesn't matter much if you have good values or high IQ if it gets suppressed in important situations, when the pressure is on.

Most of the times when people succeed (especially in business), it's not that this person was smarter or intellectually superior to someone else, but rather that he had a stronger willingness to face fears and push far beyond what his current social status seemingly entitled him to.

No one expects the intern to write a detailed internal memo to the CEO. When Alexander Hamilton joined the Revolutionary War he was barely 20 and had no previous combat experience, and still he decided to outfit his own company and pitch his tent next to George Washington's every day, until he was finally discovered and taken into his staff.

## **Amygdala Slaves Are 5X as Likely to Be Hurt as They Are to be Happy**

When we are given feedback that conflicts with our beliefs or current emotional state—like personal criticism—it invokes an instinctive reaction in our amygdala. This makes us feel self-conscious and defensive. That was perhaps a helpful evolutionary adaptation to cavemen, but it's an annoying and bad handicap to have in today's work environment.

*Criticism strongly outweighs positive feedback*—the numbers usually used are **5 to 1**. This is why most news (headlines at least) are negative—it grabs more attention and sells better.

To put this in better context:

- One rejection is as painful as getting five “yes”-es in dating.
- Enthusiastically saying “*thank you!*” 5 times has about the same cognitive weight as *omitting* saying it once to someone who deserves it.
- Losing a friend is felt more than gaining five new equally good ones.
- Five people on social media complimenting you feels about the same as one random person hating on what you’re doing<sup>23</sup>.

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<sup>22</sup>. Trendy clothing sell well because they remove this cognitive handicap for many people, acting as implicit proof of socially-safe behavior

<sup>23</sup>. It might be a lot more than that actually—by *contrast*—if you are usually only receiving positive feedback; as is common on social media, with people expecting reciprocal “likes” or positive comments.

## **Born Fears vs Learned Fears**

[In the grocery store]

Spinach, spinach, coconut fat—no wait, that’s the wrong one! Return and replace with the non-hydrogenated one, no avocados here today, 5 lemons, instant coffee, meat, eggs, bananas, rosemary, oregano, and some crème fraiche.

I check my shopping list to ensure I’m not forgetting anything. Got it.

Standing in line...

Finally, my turn to pay. The girl behind the register is a cute blonde, probably around 20. Looks a little tired. I use my special membership card for a rebate then I change to my bank card to pay.

Waiting for my groceries to be scanned...

“I’m afraid your card has been declined.” The girl snaps awake and her pupils dilate like two mushrooms.

I see. Can I pay with my membership card?

“Ehm, I’m afraid not, unless you have already deposited money on it.” I notice the middle-aged woman behind me in the queue is looking uncomfortable, as she conspicuously avoids eye contact.

I haven’t. Then I can’t buy this stuff. Sorry about that.

I feel how I’m being watched by the people in the queue as I walk the “walk of shame” for the 15 meters before going up the escalator. I exit the store and then I walk home with unusually good posture, feeling proud about myself.

Cost: 10 minutes of time.

Benefit: Improved amygdala.



## Useful vs Useless Fears

It has been said that we're all born fearless, but it's not true.

Children under the age of 5 months are—by default—afraid of losing their balance and falling. This is called the Moro Reflex. Children also become afraid of strangers around one year of age. But, after that, the vast majority of things we are afraid of are *learned fears*.

Learned fears include just about everything we've unconsciously come to associate with the threat of punishment, ridicule, loss of social status, or other negative emotions. It includes socialized behavior and cultural norms. This is why Westerners are afraid of burping loudly or spitting on the street while many Asians (Chinese in particular) are not.

It makes sense to fear an armed robber or getting stressed out about not being able to pay your bills. It also makes sense to be embarrassed about being fat. Because these are inherently negative things, and our emotional responses in those situations motivate us toward right action, but...

It doesn't make sense to fear talking to an attractive person of the opposite sex, becoming stressed out by about what other people—that you don't even know—think about you, or being embarrassed for not having the latest, trendiest clothes. Nor does it make sense to be afraid of speaking to people over the phone.

When I was in high school I worked part-time selling newspaper subscriptions over the phone. If you've ever done something like that, you'd know that you get rejected quite a lot. It can be downright brutal.

I watched movies like *Glengarry Glenross* and *Boiler Room* for motivation. I'm not sure I learned much (in terms of selling better), but I was inspired and felt like I could make it too if I tried.

After about one or two months I noticed that the people who were doing well, and selling more newspaper subscriptions than the rest of us, weren't successful so much because they did this or that thing; they were successful because *they didn't care*.

Most people who got a few rejections in a row would be RUINED for the day and not be able to get themselves back into a positive emotional state. But not

the best guys.

The best guys had discipline; they were friendly and they had good tonality, and—sure—they had a few clever retorts. But mostly, *they were on a winning streak*.

Since they felt like winners, they didn't fixate on temporary setbacks or give a shit if they got 20 NO:s in a row. They were focused on getting that first YES to start their momentum for the day.

## **How to Train Away Useless Fears**

The best way is by embarrassing yourself on purpose, through small social experiments.

Demosthenes shaved half of his head so that people would look at him and think he was weird when he walked through town. Unorthodox? Maybe, but it made him a more confident speaker.

Cato<sup>24</sup>, always the ardent Stoic, intentionally wore different (darker color) togas than other members of the Senate. This made him the target of ridicule amongst those with less self-esteem, but it conditioned him to become braver.

Gordon Liddy was an overly afraid child whose greatest fear were rodents. To overcome this, he caught a rat, roasted it, and forced himself to eat it.

I'm not as extreme as those people, but they've inspired me to conduct a few "social experiments" of my own.

When I was in my late teens I had a slight social anxiety. It was probably not worse than it is for most people, but I really hated having it. So, for the next two years I made a rule to chat with strangers one or two times per day. Now I don't feel uncomfortable talking to strangers at all.

When I got to university it really bothered me that I felt afraid to get up in front of a group and have a presentation. I decided to do something about it.

I put together a 3-step practice repertoire: The first thing I did was to create a personal rule to speak up and ask a minimum of one question during the first 15 minutes of every lecture I attended (which is a great learning hack). The second thing was joining the organization Toastmasters and give (at least) one formal speech there during every given opportunity, including several competitions.

The third thing I did was to buy a cheap camera and tripod to record myself giving speeches and random rants outdoors in public environments on whatever topic dominated my mind at the time. I did this at least 5 times per week.

This last thing was by far the most challenging. The first 1-2 months were brutally awkward. People would stare at me and think that I was either retarded or famous; if it was the latter, then they would listen in on what I was saying and subtly try to be seen in the background of my recordings.

I stuck with this 3-step routine for over a year. Never mind everyone who thought I was insane. At the end of it I had given about 30 speeches (including several Toastmasters competitions) in front of larger audiences outside of school. I had also recorded myself in public environments hundreds of times.

My speeches never became elegant or rhetorically sophisticated (they were often intentionally irreverent and awkward—like the time I talked about Hitler, Speer, and the SA), but I was successful in eradicating my fear of public speaking.

You know that reflex you feel that's stopping you from saying risky or offensive things in front of strangers? I don't have that anymore. And it feels great.

## **Homework Assignment: 6 Social Experiments You Can Do to Become Bolder**

Do at least one of them, otherwise you are really an Amygdala Slave.

1. Shave your head or grow a weird-looking beard.
2. Buy something at a store that costs more money than you can afford, forcing you to return the item. There should be at least one other person in the queue, so that you can experience extra embarrassment.
3. Wear old trousers with holes in them, preferably a large hole by the butt, then walk in front of people on a busy street. If you don't have any, make some. You can afford it.
4. Get yourself a pair of purple shoes.
5. Don't shower or shave for days, so that you look bad and smell foul. Then go out and buy a beer—all by yourself, like a loner!—at a popular bar.

6. Buy weird-looking fake tattoos and wear them for a week. You can buy water-based tattoos for cheap or get yourself an ugly sleeve tattoo.

—See how it feels.

It will probably feel weird and embarrassing, but then you'll grow into it and stop caring. And why should you care? There are a lot more important things to care about than the fleeting opinions of strangers whom you'll never meet again.

Remember: Boldness is its own force multiplier— it has direct transferability into most other areas of life. By practicing like this, you will improve your ability to take *real* risks that *actually* matter.

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[24.](#) Cato was an interesting fellow because he would also, supposedly, go for morning walks bare chested and without shoes. This too to practice away unnecessary shame.

# **Free Yourself From the Chains of Amygdala Slavery and Unlock the Genius of Boldness**

On August 4<sup>th</sup> 1796, during the Italian campaign, Napoleon was at Lonato with only 1,200 men when suddenly more than 3,000 lost Austrians busted into town.

A war-talk ensued. Napoleon informed the Austrian negotiating officer that his entire army was present. “If your entire division does not lay down its arms in eight minutes”, Napoleon said “I won’t spare a single one of you.” He then issued orders to Berthier (his Chief of Staff) about grenadier and artillery units that Berthier knew weren’t there.

The Austrians only discovered once they had surrendered and been disarmed that the French army wasn’t there. They could have captured and killed Napoleon then and there.

## **Fear is the Mind-Killer**

This is why scaredy cats never win, and, why the bold always find an outlet for their talents.

Before the brain-body connection was found, it had been guessed at for ages. Before discovering neurotransmitters and the spreading activation, it was well-known by military leaders that morale impacted performance. And for a long time it had been surmised that fear and low self-esteem diminishes one’s wit and intelligence. In 2012, it was confirmed by Caltech neuroscientists.

FMRI (brain scan) studies found IQ to be lowered in stressful environments such as exams, job interviews or other examples where people feel judged in some way.

Some people were found to perform about the same—or even better—in such environments, but *most* were found to perform worse.

Warren Buffett made a good analogy when he said that IQ and talent is like the horsepower of a motor, whereas the output depends on rationality:

“I always look at IQ and talent as representing the horsepower of the motor. But then in terms

of **output**—the efficiency with which the motor works—that **depends on rationality**. Because, a lot of people start out with 400 horsepower motors and get 100 horsepower of output. But it's way better to have a 200 horsepower motor and get it all into output."

Rationality, in this case, means being less influenced by the amygdala and being able to think on your feet while experiencing stress, anxiety or social pressure.

200 years earlier, Napoleon said something similar about being a general:

"A military leader must possess as much character as intellect. Men who have a great deal of intellect and little character are the least suited; they are like a ship whose masts are out of proportion to the ballast; **it is preferable to have much character and little intellect**. Those men whose intellect is mediocre and whose character is in proportion are likely to succeed in their profession. The base must equal the height."

## Core Confidence vs Contextual Confidence

Intelligence is not fixed, it *fluctuates*. It doesn't matter how smart you are if you're afraid, or if you enter a completely new environment. When this happens, you experience symptoms such as worse posture, emotional discomfort, unexpected brain freeze, and more submissive tonality.

This is *contextual confidence*—the experience of suddenly operating worse than normally when being thrown off your guard in different situations where your social status is lower than you're used to, or not having a reference point for what to do next.

The opposite of contextual confidence is *core confidence*. Core confidence is an elusive thing and no one has it perfectly. The only way to get it is by doing hard things and Breaking out of Homeostasis.

## Fear Overrides Skill and Intelligence, Turning Trained Fighters into Scaredy-Cats

Mike Tyson said: “The greatest aspect in life is *intimidation*. Because, once a person who's great at anything is intimidated, he can no longer perform under the high level he's normally been accustomed to working with.”

Tyson would know a thing about that. He won his first 19 fights by knockout and set the world record for youngest heavyweight boxing champion ever—while being significantly smaller than all his opponents. Tyson's opponents were usually 190 cm (6' 3''), while he is only 178 cm (5' 10'').

Still, he beat them all like they were rag dolls. How? Because he scared the hell out of them before they even set foot in the ring!

From an early age, Tyson consistently cultivated the reputation of being a fearless fighter, typically knocking out his opponents in the first round. His reputation preceded him and despite the large prize sums involved, many fighters declined facing him. Tyson had been taught to do this by his mentor Cus D'Amato, who—in turn—had learned it through his systematic study of warfare.

Alexander the Great, Hannibal, Napoleon, and Erwin Rommel are examples of generals who had a superior understanding of amygdala-based quitting. Because of this they placed a high premium on raising morale in their own troops, while

putting much thought and effort into scaring their enemies into confusion and low morale. This enabled them to consistently beat larger armies.

The military thinker Carl von Clausewitz wrote of Napoleon:

“You have to have seen the steadfastness of one of the forces trained and led by [Napoleon] Bonaparte; seen them under fierce and unrelenting fire to get some sense of what can be accomplished by troops steeled by long experience in danger, in whom a proud record of victories has instilled the noble principle of placing the highest demands on themselves. As an idea alone it is unbelievable.”

## **The Interaction Between Fear, Self-Esteem, and the Learning Process**

The combination of fear and low self-esteem is ferocious. Together, they block you from accessing the full extent of your intelligence and capabilities. There are a LOT of high-IQ and educated people who are deprived in this manner, going around cognitively blocked.

When your baseline level of confidence goes up, it results in improved cognition, better decision-making, having more creative ideas and being able to set bigger goals.

The amygdala is different from other parts of the brain. You could envision it as being the opposite; practicing other parts of the brain makes you “smarter” by evolving more sophisticated cognition, while practicing the amygdala only makes you *less blocked*.

According to Richard Hamming, this holds true for doing high-grade scientific work also:

“One of the characteristics of successful scientists is having courage. Once you get your courage up and believe that you can do important problems, then you can. If you think you can’t, almost surely you are not going to.”

THE AMYGDALA IS THE PARKING BRAKE OF LIFE. Stop driving with it.

You’re a lot smarter than you think you are. This is why, in moments when you are less cognitively blocked, like when you Break out of Homeostasis, your thinking often gains a temporary boost in boldness, and the nature of your thoughts often switch from the realm of the ordinary into the extraordinary.

## **Amygdala Hijacking & Contextual Confidence**



Consider specialized-training of almost any sort where you have people who are trained for some particular activity in a sterile, protected environment that's very different from the real world.

Like school.

Then when these people enter situations of peer pressure, high adrenaline, fear and crowd contagion, they are stunned and don't know what to do.

It could be, for example:

- The sniper who hits almost every shot perfect in target practice, but misses routinely in actual combat when lives are on the line.
- The sheltered researcher-expert who knows everything about his topic in private conversation, but can't draw on that information while giving a speech in front of a crowd.
- The good citizen who takes a course on how to do CPR, but forgets how it's done when someone on the street or inside the restaurant suddenly has a heart attack.

What happens is that their amygdala freaks out when they enter a new environment. The solution is to raise their contextual confidence by practicing in different environments.

I practiced many types of martial arts for twelve years straight—Judo, Jui-Jutsu, Karate, Jeet Kune Do, and MMA (Thai Boxing, Submission Wrestling, and Grappling)—between ages 7 to 19.

One thing I learned is that fighting in real life is very different from sparring; mainly because of the social and psychological factors. If you get scared and freeze up, it doesn't matter if you know how to do a spinning back kick in practice.

# **Pecking Orders, Group Belonging and the Fear of Ostracization**

There is something deep at the core of social mobility that inspires us with awe. This is why Horatio Alger-type rags-to-riches novels, and movies like Rocky, become popular. We like inspirational stories because they provide a positive counterforce to our default inclination of thinking that “it cannot be done”.

Why do we have this default inclination?

Every day you read about how this and that person came from dirt and poverty and yet managed to grow out of it and make millions. But that doesn't change the fact that for thousands and thousands of years, social mobility was so rare that it might as well have been non-existent.

This is stamped on our genetic code. 200 years of meritocracy hasn't made so much as a dent on it.

## **Why it's Difficult to Break Out of the Pack**

The problem with pecking orders and social status is that we grow to identify with our roles within the group. First we are assigned some role with a certain amount of social status, then we consistently receive feedback for our actions that further cement that role, and eventually it becomes reinforced in our physiology<sup>25</sup>. Then it gets carried on by homeostasis.

That was surely helpful when we were confined to the same group of people all our lives. But today, when it's easy to make new friends and change your geographical location? Not so much.

There are three main reasons it's difficult to raise your social status, break out of the pack, or reinvent yourself and assume a new identity:

1. It's reinforced as a neurobiological feedback loop in your body, and when you act contrary to this, it feels uncomfortable and incongruent to “who you are”.

2. Then there's the group factor; you can't expect the rest of the world to embrace your new change of identity overnight, at least not without some resistance. They'll try to put you down a peg before accepting your having changed. (It takes less energy on their part.)
3. Finally, there's the element of having a hyperactive amygdala (and most people have that), which makes it inherently socially awkward and scary to do anything that exceeds your previous level of perceived social entitlement.

This explains why it's hard for the Plebeian to act like a Patrician; why bullied kids who try to reinvent themselves typically only get bullied even worse for attempting to change, and why many people keep their ambitions modest while staying in the same social circle, despite feeling limited.

## **Social Pressure Produces Conformism and Group-think**

Dr. Solomon Asch wanted to find out to which extent we are affected by group opinion. In 1951, he did a series of experiments on group behavior that were to become famous. One of these experiments was particularly interesting.

The subject was to compare and describe three simple lines that had been drawn on a piece of paper; first alone, and then together with a group of seven to nine other people. The other people in the group had previously been instructed to give the *wrong* answer on purpose, and the subject did not know this. Would this have an effect on the assessment of what was a completely objective fact?

When the results were in, two things stood out:

1. One quarter of subjects never lost their independence of judgment and provided the same answer in both settings, while the remaining 75% of people changed their answer.
2. The difference in error (in describing how long the lines on the paper were) was about 1% when alone; in the manipulated group it was 36.8%.

So: The majority of people are easily swayed by social factors and will change their assessments and opinions to facilitate group belonging.

If you can get people, on average, to be 36,8% wrong about something as simple and uncontroversial as a line drawn on a piece of paper, imagine what you get

when dealing with complex systems (where there is no easy answer). Then add in political correctness and risking one's social status. What do you get? A potent recipe for confusion.

## **Practical Considerations for Being a Constructive Member of Society**

On one hand you don't want to live your life as a loner, and on the other hand you don't want to be stupefied every time you enter a group setting. You want to have a mind of your own, but you don't want to have to live by yourself on a desolate mountaintop. What must you do?

First, train yourself gradually into becoming more comfortable with solitude.

Second, know that it's a bad idea to enter into meetings in order to reach any important decision. Always have your own thinking done first, only then—after having formed an idea—do you enter a social environment to test it.

Third, you need to take affirmative action to tame your amygdala in order to diminish the cognitive curse of crowd influence. Fight off the instinct for group belonging; disagree on purpose sometimes, and disobey social rules from time to time—like Cato with his dark toga.

## **Being Ostracized is No Longer a Real Possibility**

The primal fear of being ostracized from the tribe is yet another way in which we are mismatched for thriving in the modern world.

Many ancient civilizations drew upon this fear to maintain social order, using it as the ultimate form of punishment. This was considered a fate worse than death. The Greeks and Romans would sentence enemies of the state to *exile* and the Christian church branded contrarian thinkers as *heretics*.

The aversion to taking risks, standing out from the crowd, challenging the status quo or going against popular opinion by standing up for what you believe in is no longer lethal, but it still *feels* that way.

Being frozen out or branded an outcast by some peer-group is not dangerous—only uncomfortable. It's impossible to be exiled in the modern world. We have the Internet, social media, and global mobility. The worst that can happen is that you find a better place.

And, if you think this is too bold an assertion, why don't you begin by reclaiming your *Dunbar's Number*?

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[25](#). This is why, when someone gets promoted from a junior to a managerial role, their posture changes and their testosterone levels increase. Almost overnight they become more authoritative.

# **Smash the Glass Prison of Hyperreality by Reclaiming Your Dunbar's Number**

When other kids were outside playing, Napoleon would isolate himself on the third floor of his Corsican home and read about the greats of history. Looking back and reflecting later in his life, he said that:

“The reading of history very soon made me feel that I was capable of achieving as much as the men who are placed in the highest ranks of our annals.”

## **Who Are “*They*”?**

We often unconsciously weigh our thoughts and actions to the response we would gain by others, thinking: “If I did that thing, what would *they* think?”

I have learned that this is mostly a useless mental reflex.

We’re programmed to think in terms of “us versus them” or, even worse, that it’s us against the world. But that’s an erroneous way of thinking.

Society is nothing but a loosely organized collection of ideological tribes and social circles. As for our own personal connections, these are held under the umbrella of *Dunbar’s Number*.

When I first learned this, it BLEW my mind. It was my last year of university, and when I told my thesis partner, he thought I was crazy.

That was when I realized that there was no organized conspiracy to put me down. 99% of people won’t give a hoot about me regardless of anything I say or do. They’re too busy caring about celebrities, co-workers, and random people they’ve added on social media.

## **What Dunbar’s Number is and What it Means for Your Life**

Dunbar's Number is a finding within evolutionary psychology. It states that humans have a cognitive limitation which confines us to being familiar with about 150 people. It was made by scientist Robin Dunbar, who based it on studying chimpanzee social circles and correlating it to their neocortex size.

This mental model has a number of important implications for how we should view the world:

- **You can only form close emotional ties with ca 150 people.** These are your perceived tribe. Anyone outside of those 150 people is either an acquaintances or a stranger. You might nod at them, hold their eye contact and acknowledge their presence, but you're not likely to engage in conversation with them. It can be hard to remember their names.
  - (150 may be the ceiling, but your inner circle is limited to about 5-10 people. So choose those friends and confidants with extreme caution.)
- **People are either in your tribe or outside of it.** People in your tribe are seen as familiar, trustworthy, and likable. Outsiders are treated with skepticism, fear and without much empathy. For a new person to become part of your "mental tribe", an existing member has to be replaced. This happens all the time, but in a gradual way (that you don't notice).
- **These 150 people become your benchmark for relative achievement.** They are the ones that you're most likely to compare yourself to. The people and *perceived personalities* that you are exposed to the most and/or spend the most time with become part of your Dunbar's Number. This includes actors on TV, popular celebrities, brand mascots, and the greats of history.

## **Control Your Dunbar's Number or Consign Yourself to Keeping up With the Joneses**

Most people's Dunbar's Number becomes corrupted through years of ignorance and negligence.

Why, just the other day, I was at the grocery store and the girl at the counter was approached by a male colleague who started talking about the Kim Kardashian TV show and one of the main characters having become pregnant. As if they KNEW those people!!

If you are reasonably intelligent, you can consciously select and implant your role models to become part of your Dunbar's Number. This is what every rational and ambitious person does.

You will then spontaneously think about them and compare yourself to them, instead of unambitious co-workers, idiotic TV talking heads, and shallow pop culture celebrities.

The best way to do this is by keeping good company and hanging out with positive and ambitious people. (Yes, you are the sum of the five people you spend the most time with; dead or alive.)

The second best way—when you don't have an awesome social circle of Homeostasis Breakers—is to read about the Greatest Men in History.

## **4 Ways to Get into the Mind of Masters**

After you find someone who is role model material you need to follow-up with mental repetition during a some time to make sure the person gets implanted into your Dunbar's Number. Here's how:

1. Read their Wikipedia page, Wikiquotes section, and watch 3 good interviews, speeches or documentaries.
2. Buy the definitive biography of their life.
3. Transcribe something valuable they said or wrote that registered emotionally for you.
4. While you're looking through all this material, put yourself in the person's shoes at the time. Imagine their intentions and occasionally ask yourself, "What would \_\_\_\_\_ do in this situation?"

What would Napoleon do if he lived today?



# Are Yesterday's Losers Becoming Today's Winners?

It's interesting to think about how certain groups of people, who were consigned to failure in previous historical paradigms, are now becoming successful in the modern world, with its expanding ecosystem of social roles.

Are the new social roles simply expanded archetypes of older tribal roles (shaman, hunter, leader, nurturer, etc) or are they fundamentally different, as a result of our genetics or brain physiology having evolved in some way and adapted to a new environment?

Due to technological progress, are the stereotypical roles of “winners” and “losers” changing? Paypal co-founder and investor Peter Thiel thinks so:

“In Silicon Valley, I've pointed out, many of the successful entrepreneurs seem to be suffering from a mild form of Aspergers—where it's like, you're missing the imitation-socialization gene... And it happens to be plus for innovation and creating great companies, but I think we always should turn this around as an incredible critique of our society, and we need to ask: **what is it about our society where those of us who do not suffer from Aspergers are at some massive disadvantage?** Because we will be talked out of our interesting, original, creative ideas—before they're even fully formed.

We'll notice: *Oh that's a little bit too weird, that's a little bit too strange, and maybe I'll just go ahead and open a restaurant that everyone else can understand and agree with...* or do something extremely safe and conventional, and therefore hyper-competitive, and probably, not that great as a [business] idea.”

If Thiel is correct—and I think he is—it might be because people who are socially awkward have to invent their own “survival strategies” early in life to fit in. Since they don't have it as easy as others do socially, they're forced into becoming more mentally resourceful. They also have to learn how to cope with not having everyone like them.

This is a harder start, but when they get into the “real” world, they have an advantage.

# Chapter Summary:

Boldness has genius, and genius finds a way. Therefore, the key is to unblock your amygdala.

The amygdala was probably very helpful when we were cavemen, but it's now mismatched in

many ways to modern society; especially in terms of business, social skills, and personal development.

Since the elements of violence and physical danger have been largely removed from our daily lives, we have fewer confrontations and avenues for gaining mastery over the amygdala. At the same time, as the world becomes more globalized, and the social aspect of society keeps expanding, it becomes even more important for us to be rational, tolerant, and get over social insecurities.

Whereas other parts of the brain can be likened to muscles that can be practiced to become stronger, the amygdala is a bottleneck; it doesn't necessarily improve, but you can make it stay open and keep it from blocking off proper cognition to the rest of the brain. In that way, boldness is its own force multiplier.

It doesn't matter how big and strong you are if your brain cannot make full use of it because you freeze up—like in a fearsome fight.

It doesn't matter how good a person you are or how well-meaning your intentions are if you cannot hold to them under social pressure.

And it doesn't matter how smart and rational you are if you can't think on your feet or apply that intelligence in different situations. Contextual confidence just won't do. You're only as strong as your weakest link.

The easiest way to leapfrog the competition is by taking initiative, daring to differentiate yourself, and standing out from the herd, because most people are Amygdala Slaves.

If you're above average in intelligence and ambition, you owe it not just to

yourself, but to the rest of the world to get over the primal fear of being ostracized.

Start by reclaiming your Dunbar's Number.

## Amygdala Practice

When it comes to amygdala training, it's best to go at it with your full focus for a longer time, or together with friend. It might not happen otherwise (because it's scary and awkward).

One easy experiment you can do to get started is to buy some water-based tattoos and flaunt them for a couple of days.

I got three white trash tattoos (one on my chest and one on each of my biceps) and had them for a week, while I went around wearing only tank-tops. I got much more attention than usually when I did my daily swims and went to the grocery store.

People looked at me either with respect (as if I were dangerous and not to be messed with) or they looked at me with scorn in their eye, probably thinking I was an idiot. Not once was I asked by anyone if my tattoos were water-based.

You could try doing the same thing. See how it feels. If someone bothers you about it, just say it's a social experiment. Or don't, and fool them for fun.

### **Improve Your Dunbar's Number:**

Here are two alternate ways of approaching it:

1. Make a list of 3 historic figures worth implanting firmly into your Dunbar's Number.
2. Instead of trying to implant the best masters, just get rid of all the nonsense idiots (pop culture figures) that are currently corrupting your Dunbar's Numbers. If you find yourself thinking about these people without trying, you have a problem.

### ***Score of 3***

As a one-day challenge, contact any of the following for a combined Score of 3:

- Famous person you look up to. (Advice or offering service)

- Attractive person of the other sex. (Date)
- Company or potential client. (Business)

What you'll find when you do this, is that the first one is hardest by far. Then it's downhill because you have broken out of homeostasis, perhaps unlocking the genius of boldness.

## **Induce Adrenaline on Purpose for Heightened Learning Purposes:**

- Since you learn better and faster by getting slightly stressed or fearful, it can be a good idea to do it on purpose before important events. For example, if you're going to a job interview or you're going to deliver an important presentation, force yourself to speak to 5 strangers before doing it. This will give you a natural high from Breaking out of Homeostasis—and you'll be socially sharp when you get to the event.
- Make a rule to raise your hand and speak up within the first 15 minutes when there's a meeting or presentation. Even if you have nothing planned, force yourself to improvise based on what has been said.
  - What you say is unimportant. The only thing that matters is the consistent defiance of fear—whenever you feel it—so that you stop being hypersensitive about how you are perceived by the other members of that crowd.

## **Take up Public Speaking:**

- Join Toastmasters and give some speeches. They're an International organization and you can do 10 speeches for free. Do a competition speech if you want to challenge yourself.
- Talk to a camera for at least 5 minutes every day for a week just to see how it feels.
- Film yourself in public while speaking about something you know well. You probably won't be eloquent—which means you're having an amygdala hijack. Can you do it anyway?

## **Irrational Fears Everyone Should Overcome**

- Force yourself to talk to one stranger per day. In the gym, at the bus stop, the train, or during the lunch queue are great examples to anchor this habit. The length of conversation is irrelevant. The only thing that matters is that you overcome the mental reflex of “not wanting to disturb people”.
- In case of an amygdala hijack, or strong cases of irrational social pressure, **pause for 6 seconds and breathe deeply into your stomach**<sup>26</sup>.
- Cold call or cold email someone. If you can't do this at first, start with someone you barely know and then work your way up. If you think you can't do it, come up with an arbitrary excuse first (like girls always do when approaching a guy at the bar).

## **Miscellaneous Ways of Becoming Bolder:**

- Walk alone at night.
- Become comfortable with close quarter combat, such as wrestling or Jiu-jitsu.
- Make bold bluffs in poker when it is least expected (even if you have everything to lose).
- Ask for 2x what you think you deserve in a negotiation.
- Skydive.
- Base-jumping or bungee-jumping.
- Walking on ropes high above the ground.
- Race Go-carts or high-speed cars in a circuit.
- Ride a motorcycle in traffic (if you also want to risk your life).

## **More Social Experiments You Can Do:**

- Ask random people questions (perhaps directions).

- Climb on top of a roof; if you live in an apartment building, this is easy. If you can't, at least climb the fire-escape all the way to the top.
- Shave half your head (like Demosthenes) or beard.
- Go jogging with seemingly shit-stained pants by sitting on dirty ground.
- Buy an ugly wig and an awkward hat and wear it while walking outside for an hour.
- Get water-based tattoos or fake sleeve tattoos and go to a bar. Don't make any reference to the tattoos, and above all, don't joke about them. Act like a gangster or a rapper.
- Go bare-chested. (It counts even if you do it post-workout or during a festival.)

Some or all of these things may seem inane, but they are not. If you can't get yourself to do awkward things like this, how can you expect not to crumble under social pressure or maintain your ability to think straight when *important* things are on the line?

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[26.](#) This is believed to be long enough for the emotional reaction to pass (for the hormones and neurotransmitters to dissipate) and for the PFC to regain control.

## Ludvig Recommends:

Attain eagle-eye vision, like the undefeated samurai warrior Miyamoto Musashi preached:

The gaze should be large and broad. This is the twofold gaze "Perception *and* Sight". Perception is strong and sight weak.

It is necessary in strategy to be able to look to both sides without moving the eyeballs. You cannot master this ability quickly. Use this gaze in everyday life and do not vary it whatever happens.

I remember reading this a couple of years ago, and it inspired me to go out running in the cold dark night, not wearing glasses or contacts (and I have a vision error of -3,5).

It was scary, but I felt a lot bolder afterward.

After having done this a few times I also stopped wearing contacts and glasses to the gym. For some reason, this improved my lifts. Perhaps due to becoming less socially distracted.

When I first started with the running—especially the first 10 minutes of each training session—I felt very insecure, like I wasn't sure where to put my foot, and I had to coax myself not to stop. But eventually I adapted and my peripheral vision improved fast. Or maybe it was always good, only I didn't trust it because I had no experience?

The most likely alternative is that peripheral vision is extremely good by default, only that we don't use it much these days, as we stare into computer screens and remain indoors most of the time.

Studies suggest that 97% of our visual perception is broad-based ("eagle eye view"). When we are focusing our vision—as we do most of the time—we are only seeing 3% of the total field of vision.

I have done this running practice hundreds of times now—in daytime and at night—and I don't think I've fallen or bumped into anyone even once. It seems I don't need to see more than 15 feet ahead to go running. But it sure didn't feel that way when I started.



## CHAPTER 11

# **Rewire Your Reward System: How to Get Out of Depressing Downward Spirals and Thrust Yourself into a Winner Effect**

You can become addicted to sugar and video games, or you can *make* yourself addicted to learning, progress, and achievement.

## Making the Switch

Joseph Campbell came up with the meme to “follow your bliss”, now embedded in popular culture as *follow your passion*.

Campbell was basically right, but the message has been distorted and now becomes taken out of context and used as a carte blanche for hedonism—a *noble indulgence*—by many people.

What most people *think* makes them happy often doesn't. It's easy to mistake your “bliss” or “passion” for homeostatic reactions that can be replaced if you were to put in the effort to *rewire your brain's reward system*.

### **You Can Change How You Feel by Rewiring Your Reward System**

Your brain's reward system is the sum total of the things you're currently motivated to do or avoid; it's all the thoughts and behaviors you've come to associate with pain or pleasure.

Someone who likes working out is a person who has grown addicted to having endorphin highs. That person then starts associating other positive emotions with the rest of that process, like packing their gym bag.

This is also true for working hard and keeping busy. Do I love writing my to-do list for the next day every evening? No. But it's part of the process; I know it primes me to do the things, and I know it sustains my winner effect. And so, because I've done it many times, I've learned to associate positive emotions with it and I do—in fact—derive some slight sense of enjoyment from it.

Just about every successful person I know or have met has strong emotional commitments. They have gotten themselves addicted to accomplishing their goals, and have grown to associate pleasure with working hard and having an impact in some way.

By contrast, average people rarely put in more than 8 hours of work or thinking per day; their reward system is wired very differently, and they don't have the default motivation to do it.

**You can rewire your brain's reward system to like most things, as long as you genuinely want to change and you don't hate the activity from the start.**

“Passion” is not something you find, you *acquire* it. You can engineer it if you’re psychologically savvy and a little disciplined. You can change most of your standard (and current) emotional responses by re-conditioning your pain-pleasure associations, and you can improve your concentration and happiness by lowering your stimulatory threshold.

It’s just as possible to enjoy hard work, eating healthy foods, meditation, reading books, going to the gym, working on meaningful projects, building a business, and facing your fears—*things that make you healthy, happy and successful*—as it is to enjoy watching TV, reading gossip magazines, eating junk food, going shopping, and getting drunk in a bar. It’s just hard to make that initial switch, because the latter things are inherently more appetizing to our biology.

Unfortunately, most people don’t come to this realization and never make the switch. They watch many motivational videos, feel good for the moment, and then go back to eating pizza. They remain stuck in a crappy reward system and have chronically low motivation. Then they watch more motivational videos.

Being in a crappy reward system... this might explain why 1 out of 6 adults in the U.S is on antidepressant medication (in Sweden it’s 1 out of 9).

When you decide that it’s time to rewire your reward system and change your life, you need a strategy for maintaining consistent motivation to drive through the behavioral modification. This chapter will give you all the tools needed for that sort of potent personal transformation.

### **What you’ll learn in the final chapter:**

- How the brain’s reward system works.
- The 3 most useful psychological methods you can use to become more motivated.
- How to break bad habits and addictions.
- The real nature of addiction (and why most of society gets it wrong).
- The 5 differences between the positive and productive reward system of a Homeostasis Breaker and the crappy reward system of a Homeostasis

Dweller.

- How to launch yourself into a *Winner Effect* and boost your dopamine and testosterone levels (or how to drag yourself out of the abominable abyss of a *Loser Effect*, if that's where you are).
- A little-known secret for making more rational decisions based on your current physiological state. Useful for decisions makers.

## Overstimulation and Desensitization

The brain reward system is a general term for the sum total of all the neural pathways related to motivation and behavioral learning. Its function is to register emotional responses, link them to experiences, and guide us toward pleasure and away from pain.

The reward system is connected all throughout the brain. Some of its main parts include: The prefrontal cortex (PFC), the nucleus accumbens (NaCC), the substantia nigra, the ventral tegmental area (VTA), and the basal ganglia. These brain parts are linked to each other through *dopaminergic pathways* (consisting of neurons that produce and project the neurotransmitter dopamine), like the mesolimbic pathway.

This ensures that whenever something happens to you, you will unconsciously associate that experience with the emotional stimuli it produced, making you more likely to repeat the behavior again if it made you feel good, or avoid it, if it made you feel bad.

The reward system evolved for a primitive environment and has now become mismatched to our modern living standards. It is manipulated and misled in ever more sophisticated ways, as . .

### **The World Continues to Get More Addicting!**

Being “normal” is no longer a positive thing. If you walk down the street eating a Twinkie and drinking from a big bottle of Coke, that’s basically normal. If you’re eating from a bag of spinach and you don’t own a smartphone, you’re a freaking weirdo!

30 years ago kids were still playing with each other and spending most of their time outdoors. If they were inside playing some game, it was probably a card game like checkers, bridge, solitaire, or maybe a board game like Monopoly. Video games, especially online Role Playing Games like World of Warcraft, are on a completely different magnitude of addictiveness.

It was easy for me to play away my teenage years. And while my generation was

completely consumed by the TV, it can't compete with the psychological addictiveness of YouTube, Facebook, Instagram, and Twitter, which the current generation of teenagers were born into.

We can expect the world to continue becoming more addictive: from smart phones, chemically engineered foods, to games, entertainment, and social media. It's only going to require more conscious effort and internal motivation to stay away from the bad stuff (and avoid having your reward system destroyed).

Why? Because of three converging factors: (1) population growth, (2) an increased number of Homeostasis Dwellers, and (3) the vice industries of gaming, gambling, drugs and emotional manipulation are becoming increasingly lucrative and effective.

## **It's Getting Easier to Become Desensitized from Over-Stimulation**

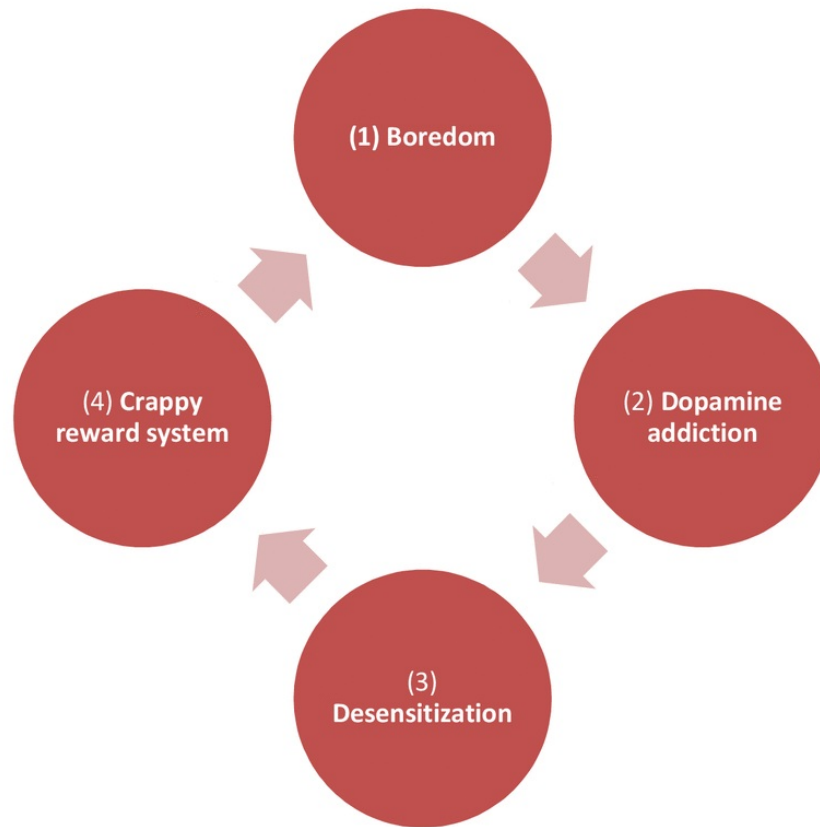
The brain's reward system evolved for an environment characterized by many random dangers, few easily available and energy-rich foods, and few strangers or sexual partners. There were more risks and threats of punishment, and the rewards came further apart, requiring more effort.

*Desensitization* is when you develop resistance to some stimuli and you have to UP the dosage to get a "high". If you combine it with habituation, you've got a potent recipe for boredom and purposelessness. Many people are now in this situation, as a result of (1) ruined reward systems and (2) failure to entertain the 4 Pillars of Wakefulness.

Peter Criss, the drummer of KISS, experienced this as he endured excruciatingly long tours with the band. To keep up with the hectic schedule and get through the monotony, he did copious amounts of drugs and had crazy orgies. It wasn't healthy, but it allowed him to keep going. Then when he got home he collapsed from overexertion and lost the motivation to have regular, one-on-one sex with his wife. (Gene Simmons' hobby of naked photography was clearly a better way to cope with the touring, as it allowed him to stay mentally engaged without ruining his reward system.)

That's an extreme example, and if you told it to someone I suspect they might laugh at you. But the fact that many young people these days cannot remain engaged in ordinary conversation without checking their phone's social feeds every few minutes is not really that different.

It starts as a way of coping with boredom, escalates into a dopamine addiction, then—as they continue to up the dosage—they become desensitized. Over time, this produces a negative cascade effect on the rest of their lives by messing up the brain’s reward system:



## **This is Why Most People Are Not Motivated to Improve**

The reason they can’t get themselves to execute on their ideas—even though they have all the information they need from helpful resources on the Internet—is because they’re not able to stay focused on the same thought long enough to activate the brain through the spreading activation mechanism. And the reason for that is because *their stimulatory threshold is too high from years of having rewarded themselves excessively without having earned it!*

They can’t get themselves into a flow state and derive enjoyment from work because they’ve conditioned their brain’s reward system to think that it doesn’t need to do anything to get its stimulation. That was my starting point at age 20, and it was pretty hard to change.

**We're All Just a Bunch of Addicts** I remember back in junior high school, there was a girl in my class. She would skip school and date dangerous older guys, always falling in and out of love. She was addicted to love and drama. At the same time, I knew a bunch of guys who would play video games all day long, myself included. We were addicted to that.

Why does the bachelor typically remain a bachelor? And why does the nester always seem to find a new partner shortly after a breakup? It's because they've gotten emotionally addicted to the stimulus and it's become wired into their reward system. They're just going along the path of least resistance, unconsciously striving to recreate the high they've grown used to.

In other words: Whether they remain single or find a new partner is not a conscious choice; *it's the continuation of their homeostasis.*

**Every Action Has a Corresponding Neurobiochemical Response**  
Winning produces *testosterone*. Stimulation, anticipation and rewards produce *dopamine*. Punishment and stress produce *cortisol*. Intimacy, bonding and friendship produce *oxytocin*. Love and intense craving for someone produces *phenylethylamine*. Pain and physical exertion produce *endorphins*.

When you understand this, it changes how you look at the world. It renders most systems of ethics and values arbitrary because behavior and virtues are just a means to an end: positive emotions.

In the end, we are all just a bunch of addicts running around trying to sustain or up the emotional high that our reward system is currently wired for.

The real question is: are you going to do something about it? Are you going to deliberately get yourself addicted to new sources of positive stimulation? Or will



you just remain in the same feedback loop?

## Acquired Tastes and Conditioned Responses

No kid likes whiskey, beer or wine on their first try, but they might learn to like it when they get older, after drinking enough of it to become euphoric and drunk.

A lot of things in life are acquired tastes. This stands in direct contrast to the idea of falling in love at first sight, or doing something for five minutes and thinking “Wow, I finally found my passion<sup>27</sup>—this is what I’m gonna spend the rest of my life doing!”

The reason people believe in concepts like love at first sight, instant enlightenment, and overnight success is because it appeals to homeostasis.

Such beliefs signify that you are OK as you are, and that you don’t need to change anything about yourself in order to get that elusive thing that’s been escaping you for who knows what reason. No effort is required on your part. Just jump from one thing to another, like a flimsy squirrel, until one day you hear the wheels turning and go “CLICK!”

That’s the moment when the world finally opens up its doors for you...

—*Not.*

You don’t find your passion. You acquire it. It happens as a function of the effort and concentration you put into something, while being rewarded and coming to associate positive emotions with the activity through repeated conditioning.

No one (really) likes to work long grueling hours. Fighters don’t enjoy getting punched in the face. What they do like is the sense of satisfaction that comes from outdoing themselves, learning more about the world, and achieving mind-body mastery.

—*That* is the reward. The work is just a conduit.

### Can You Change What Foods You Like?

Most people take for granted that their likes and dislikes cannot be changed.

They don't question their inclinations and hormonal responses. They never learn about homeostasis.

It's the makeup of your brain's reward system that determines most of these things. Like the food you enjoy eating, for example.

Though Asian countries are becoming rapidly westernized, a large portion of Asian people do not like western food (like pizza and hamburgers). Why do you think that is?

If you grew up eating chicken and rice, and you don't get exposed to western junk food until your late teens or adulthood, you are likely to be overwhelmed by its "unnatural flavor" (or so I have been told). It's too calorie-rich, has too much salt, sugar, fat and other artificial flavoring agents.

It's not that Asians are healthier than westerners per se (for they have their own sorts of unhealthy and highly processed foods), but their palate hasn't adapted to our types of foods... yet. But they probably will in another generation.

Similarly, if you were to radically revamp your diet habits and eliminate 90% of what most people eat for a number of years, and then eat fast food again, chances are you would not enjoy it as much as you do right now that you're used to it. You might even puke it up.

## **Pain, Pleasure, and Plateaus**

Fasting and exercising are two other good examples of acquired tastes. Neither one of them are inherently pleasurable, and both require some effort on your behalf before they yield a payoff.

By default, **you are likely to associate both fasting and exercising with pain simply for the fact that they violate your homeostasis in the beginning.** But after pushing through their respective plateau, your body adapts and it becomes pleasurable. Fasting yields heightened levels of dopamine and exercising gives you an endorphin high. After doing this a couple of times your brain learns to link positive emotions with these activities.

But if you had quit after 10 minutes, before pushing through the plateau, you wouldn't have got the emotional reward, and your brain would've created an *even worse* association to pain and discomfort, which would make you even less motivated to try it the next time!

## Personal Improvement is an Act of Alchemy

Building character, acquiring discipline, cultivating concentration, and putting your own behavior under microscope; these are all activities that are initially linked to pain. But once you see that it helps bring progress, it transforms into a *good* type of pain and your brain learns to link it with positive emotions.

The same can be said for working hard, exposing yourself to the feedback of others, or putting yourself on the line by standing up for something you believe in; all of these things are initially uncomfortable, and therefore you're instinctively inclined to withdraw from them.

Most people spend lives doing that.

The thing is, these activities activate the brain and body and often Break you out of Homeostasis, allowing you to unlock deeper levels of resourcefulness and creativity—and that's FUN. So, if you do that stuff enough, you'll rewire your reward system to enjoy them.

I would like for you, right now, to take a moment to think about some instinctive responses you may have unconsciously picked up over the years.

For example, do you:

- Feel bad about working overtime?
- Feel good about being admired by some person across the globe?
- Become upset when criticized by people you barely know?
- Care about how the lowliest loser at work perceives your actions?
- Get stressed out by reading the subj of what seems to be an urgent email?
- Double-check your door upon hearing the mailman drop a paper into your apartment?
- Care if you're seen naked by a stranger? (and he/she's not filming)

Are these responses adaptive or maladaptive? Did you put them there yourself? Or are they emotional reflexes acquired by having given into homeostatic reactions without thinking about it?

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[27.](#) Because the concept of “passion” is nothing but an analogy for love at first sight. Except that it’s your work, and not a person. It’s magic pill thinking.

# The 2 Reward Systems

“Choose the life that is most useful, and habit will make it the most agreeable.”  
—Francis Bacon

## Not All Stimuli Are Created Equal

So much in life depends on the feedback loops you're in and what your addictions and conditioned responses are. Something like 80% of motivation comes from this.

Start looking at the behavior of yourself and others from the perspective of what stimuli it consists of. Ask, “*What stimulation is this?*” [mental, physical, psychological] and “*What neurobiochemical response does it correspond to?*” [Endorphins, oxytocin, dopamine, etc.]

The escapism and instant gratification that so many people indulge in eventually becomes unconscious and instinctive. It starts out with a vague reason (to kill time, perhaps) and soon gathers its own momentum. Then they keep doing it for no reason at all.

Most people can't read books. Not because they're too dumb to do it, but because they haven't “acquired the taste” for reading. They're too ingrained with watching TV, browsing the Internet, and taking in information in ways that require less mental effort.

Reading rarely provides those quick dopamine spikes that TV, Internet, or social media gives you. You need to actively concentrate to do it—it's higher up neocortex hierarchy of effort than many people are used to.

## Get Your Brain Addicted to the Right Sort of Stimulation

I like studying successful people from different walks of life. Call it an addiction of mine. In doing this, there are certain patterns I've found...

For example, *many highly successful people got addicted to the right sort of stimuli early in life*—and just kept chasing it. The right sort of stimulation is one that's:

- Making you curious and concentrated.
- Making you scared and uncomfortable.
- Making you reflect and solve problems.

Thomas Edison, Albert Einstein, and Steve Jobs come to mind. They all went to great lengths to keep their brains activated from a young age—and never stopped.

Edison burnt down his father's barn when he was six years old because he was curious to find out how the fire would spread once it had been initiated. His father took him to the town square and beat him up in public to punish him for this! But that didn't dissuade young Edison from his incessant tinkering with chemistry (later making him half—deaf<sup>28</sup>).

In his late teens and early twenties Edison worked as a telegraphist for many different employers in the U.S. He got fired a lot; not because he was bad at the job—he was always the best telegraphist around—but because he kept pulling pranks and doing new experiments (which enraged the tradition-bound ones).

## **The Different Reward Systems of Homeostasis Dwellers and Homeostasis Breakers**

Homeostasis Dwellers and Homeostasis Breakers have reward systems that are wired very differently, and therefore they derive their daily dosage of stimulation from a different set of activities and actions.

**Homeostasis Dwellers** have a *crappy reward system*; they're constantly craving quick stimulation at the expense of their attention, their health, their productivity, and their career. Always eager to watch whatever “cool” things other people are doing, they can't stop themselves from indulging and quickly convince themselves with some compelling narrative. They reward themselves excessively and rarely, if ever, punish themselves. This results in a higher stimulatory threshold.

**Homeostasis Breakers** have a *productive reward system*. They derive their sense of stimulation mainly from work, seeing progress, undertaking challenging activities, novelty and variation, overcoming their fears, and receiving praise from hard-found peers. They know everything counts as a repetition for their reward system.



### **Unproductive & Inefficient**

- **Instant Gratification**
- **Rewards Used Excessively**
- **Unplanned Use of Stimuli and Rewards**



### **Productive & Efficient**

- **Delayed Gratification**
- **Rewards Used Sparingly**
- **Deliberate Use of Stimuli and Rewards**

## **The Crappy Reward System of a Homeostasis Dweller**

- **Addicted to activities that don't serve them at all, probably same since teenage years.**
- Excessive rewarding and no punishments.
- High stimulatory threshold due to dopamine addiction and over-stimulation.
- Over-reliant on technology (Internet & social media).
- Unaware of how they've associated actions to rewards.

Then compare that to the...

## **The Productive Reward System of a Homeostasis Breaker:**

- **Addicted to activities that help their goals and talents.**
- Deserved rewards and self-punishment when needed.
- Low stimulatory threshold; careful about over-stimulation.
- Mindful use of technology (not going to social media when bored).
- Aware of associations and careful about unwanted exposure.



## How Long Does it Take to Make the Switch?

That depends on how addicted you are to certain activities and emotions, and for how long you have been getting your stimulation in the same way.

It took me about one year (between age 20 to 21) to make a full switch from a crappy reward system into a moderately productive one. I don't know if this is standard—there is little research on this—but I had to undo more than 10 years of bad habits from over-stimulation, desensitization, and excessive undeserved rewarding.

This sort of personal transformation can be hard. It was for me. To pull through it you need two things: a knowledge about plateaus and a toolbox of psychological tricks that you can use to maintain motivation through tough times.

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[28](#). He was in the habit of bringing his lab with him to work (imagine how obsessed he must have been with exploring chemistry to do that!). One day it caught fire and a brutish train attendant lifted him by his ears to teach him a lesson.

## The 2 Levers of Behavioral Change

“The less they see of us, the better.” That’s what a high-ranking British official posted in India said. He had noticed there were fewer riots in the cities where no British troops *openly* walked the streets.

The British had become a symbol for all the negative things in India; the difference in wealth and poverty, the oppressors and the oppressed, the rulers and the ruled. The official noted that it would be wise not to remind the Indians.

### Lever 1: Classical Conditioning

Classical conditioning<sup>29</sup> was discovered by the psychologist Ivan Pavlov, who made his dogs salivate by ringing a bell. This was accomplished by first ringing the bell, and then feeding the dogs.

Pavlov repeated this procedure many times over, *conditioning* the dogs with an association between the stimuli. Eventually, he was able to elicit the salivation hunger response simply by having the dogs hear the sound of the bell.

This works on us humans too—and it’s one of the main reasons advertising can be effective. Like how Coca Cola for a long time have linked their drink to places and events where people are smiling and happy (like the Olympics, Christmas, and festivals).

Why does it work? Because the reward system cannot help associating an experience, feeling, or thought with a corresponding event. We don’t remember things in separation, we remember the relationship.

For example, if you meet a person many times during bad and unhappy circumstances, you may come to associate negative emotions with that person, even if he or she has nothing whatsoever to do with the negative outcome. Like in the movie *300*, where a Persian messenger comes to Sparta, delivers an unfortunate ultimatum, and King Leonidas gets overtaken with rage and kicks the poor messenger down a bottomless pit.

### 3 Practical Ways You Can Use it for Behavioral Change:

Association is intimately tied to the availability of mental stimuli; the more vivid and frequently occurring, the more effective.

- ***Habit stacking:*** The easiest way to implement a new habit is by associating it with other—existing—behaviors and making it part of a “habit stack” (like a morning ritual or a Sunday routine). The more particular the timing of the routine, the better (“4 PM every day I meditate, listen to music and get into the zone, then I go to the gym, and then...”)
- ***Control your inputs:*** Surround yourself with positive influences and symbolic items. For bad things, prevention is the best solution. Don’t keep ice cream at home and don’t spend time around negative people. The less you expose yourself to “repetitions” from negative stimuli, the less likely this is to arise in your thought process and tempt you into bad behavior.
- ***Avoid the spreading activation:*** When you are exposed to a bad stimulus, and you cannot help feeling inclined to yield to vice, learn to stop yourself in the tracks by changing your emotional state, or removing yourself from the situation. Two methods proven to work are to take 6 deep breaths or to wait 5 minutes.

## **How to Handle a Brutal Break-up Like an Emperor**

Napoleon had been in a romantic relationship with Josephine for over a decade before he broke up with her. He then immediately ordered for a cement wall to be erected in a doorway between their apartments, and removed all photographs and furniture that reminded him of her.

He knew that he had become emotionally addicted to Josephine—just like a drug — and that the best way to get over it was to quit cold turkey and minimize the risk of thinking of her; to stop the neural pathway from firing.

While he remained on friendly terms with her for the rest of his life, he promptly terminated all communication with her for a few months following the break-up, allowing for the mental-emotional associations he had with her to weaken in strength.

## **Consciously Create Your Own Rituals and Routines**

Most of our behavior is routine and ritual. The best make their own behavior. Once you have one or two strong rituals, you can use them as stepping stones for further behavioral changes via association and habit stacking.

Here are three of my current rituals:

- ***My morning routine:*** Mainly aimed at warming my brain up for the day. I do some light stretching, I read for an hour or so, then I go for a short walk.
- ***My (pre) workout ritual:*** Working out is like a reward for me, so I don't do it unless I have done at least a few hours of work for the day. I usually go to the gym in the afternoon. Before going, I will eat two spoonfuls of raw cacao, sit down in a special chair, and listen to an MP3 with music that I only use when I work out.
- ***My Sunday routine:*** I spend much of the day doing maintenance work based off of checklists in my commonplace (so that I don't need to remember every step).

## Lever 2: Operant Conditioning

Operant conditioning was made famous by the scientist B.F Skinner (known for his “Skinner boxes”—in which rats push levers to get a reward—like sugar, food, or cocaine).

I think I mentioned earlier that Demosthenes shaved half his head. He didn't do that because it was cool or trendy; it was a part of a long self-improvement program he had put together for himself to become the greatest orator in Greece.

Demosthenes didn't start out as an ideal speaker. Far from it. He had to overcome many obstacles: He lisped, he was a shallow breather (making it difficult for him to speak loudly), and—worst of all—he suffered from nervous tics!

To overcome the lisping and improve pronunciation, Demosthenes practiced speaking with pebbles in his mouth (a common practice among professional public speakers today). He did breathing exercises and ran up hills to overcome his shallow breathing. Finally, to overcome his nervous tics, he tied a short SPEAR around his shoulder so that each time the tic made him twitch, he would get stung by the spear and feel pain.

## 2 Ways to Change Behavior with Operant Conditioning

### *1) Positive reinforcement (pleasure-seeking):*

This is when you get rewarded for your behavior. This makes you more likely to repeat the same behavior in hope of achieving the same good emotions.

This is why if you are on the dance floor or at the gym and you're having a great time while moving in a certain manner, your body may unconsciously internalize those movements and you will find yourself repeating them some other time in hopes of getting back into that same positive state.

Other common examples could be: Getting complimented on dressing well, receiving money for doing a good job, or feeling good as a result of taking a drug—and then doing more of those things.

### *2) Negative reinforcement (pain-avoidance):*

This is when your behavior is motivated by the removal or minimization of some unpleasant sensation. Like Demosthenes when he tied the spear to his shoulder.

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[29.](#) The terms *Classical conditioning*, *Pavlovian conditioning*, *Mere association effect*, and *association* are basically synonymous.

# The Truth About Change

Can you change your life overnight? No. But you can get the motivation to do so.

However, for that motivation to *last*, you need to find ways of renewing it frequently. If you don't, chances are it will be consumed by the inertia of homeostasis.

If your life's in danger, it's easy to be motivated. It was not (psychologically) difficult for me to stick to a boring and restrictive diet to get rid of my candida infection; quitting my dopamine addiction from video games and TV was harder, because it was easier to rationalize.

Is it true that it takes 21, 30, or 64 days to form a habit? No, there is no absolute law for how long it takes you to learn a new behavior or remove an existing one. *Behavior modification takes as long as it takes*—and how long it takes depends on factors such as:

- **How long you've had the existing habit or addiction.** If you have been addicted to smoking for two months it's easier to quit than if you've done it for 20 years.
- **The rewards associated with the behavior.** If you've done something for a long time and consistently been rewarded for it, it'll be harder to change. Consider smoking; first there's the immediate reward (the nicotine kick), then there's the secondary and associative reward, like—perhaps—increased social status, belonging to the group of cool kids, or maybe your smoking breaks are the only contemplative and peaceful periods you have each day.
- **Peer contact.** It's harder to stop smoking if all your friends are doing it. Two reasons why: Group-belonging and exposure to temptation. Often the best way to change your behavior is to change peer group.
- **How important you perceive the new behavior to be.** Will it change your life, or is it only a minor priority? Is your life in danger? *Can you make yourself believe you are in danger?*

Next up: How to get into a *Winner Effect*.

(I believe this is the single most important thing for maintaining high motivation, assuming you're already rewarding yourself properly.)

# How to Get into a Winner Effect

*I'm the best ever...*

Once upon a time there was a Homeostasis Dweller whose name was Bruce. “Bruce the Buffoon”, some called him behind his back, for he had got a bad first year at the firm.

Every day was the same for Bruce: Waking up to an alarm, snoozing for a while, eating a sloppy breakfast, taking the subway to work, having to sit through meetings with other poorly motivated people, returning home, watching TV, trying to go to bed, and staring at the bedroom ceiling until he fell asleep.

One day, Bruce overslept and had to get to work in a hurry. So he took a cab—something he normally never did. For some reason, this made him tighten up and focus.

Being focused, Bruce had a good idea at the meeting and impressed his boss, who suddenly decided that Bruce should lead their new project. When Bruce got to work the next day he was more motivated and strutted around with improved posture.

The project turned out to be a great success and Bruce found himself in an upward spiral of achievement. To the amazement of everyone, he started outdoing himself consistently, gaining promotion after promotion, until—five years later—he was made a partner and then made history.

No one could've predicted this based on his first year at the firm.

## What is the Winner Effect and How Does it Work?

*“I'm the best ever! I'm the most brutal and vicious, and most ruthless champion there's ever been! There's no one that can stop me... I'm the best ever... There's no one that can match me. My style is impetuous, my defense is impregnable, and I'm just ferocious. I want your heart.”*

—Mike Tyson

The winner effect is a self-reinforcing feedback loop between *testosterone* and *dopamine* that results from winning battles, overcoming challenges, rising in social status, and consistently succeeding to make progress toward your goals.



When sustained, the winner effect changes your brain chemistry by increasing androgen and dopamine receptors. It rewires your reward system and makes you more motivated, ambitious, and bold. This is an exhilarating experience.

Basically: Success breeds success. Until it doesn't...

This goes a long way in explaining why horses, fighters, sports teams, and armies that achieve a winning streak tend to keep on winning. It also holds part of the explanation to the euphoria of economic booms and why a few people are consistently more motivated than others.

## **A Lot of Successful People Are Merely Sustaining a Winner Effect**

Success is not the norm and becoming elite at anything requires both genetics and effort, but *the people who get into a winner effect early in life achieve an enormous advantage over everyone else!*

At first this advantage is a temporary, but eventually it gets into their physiology and they become more confident. When others have to spend time and energy overcoming their insecurities and self-doubts, these people just power through it without paying it so much as a thought.

How does it start?

Often it's not so easy to pinpoint how a person first started "winning"; perhaps he or she got lucky once or twice and it raised their self-esteem, and it kept going up from there, as in Bruce's case. Sometimes it's the help of a mentor, as was the case for Mike Tyson. Or billionaire Bertil Hult, founder of the language learning trip company EF.

Little Bertil had a tough childhood. He started school at age six and quickly realized he didn't like it. He had dyslexia and could not keep up with the other kids. He was deemed retarded and put in a special class, putting him years behind his peers. He spent the next 10 years with the "dull kids" and came to believe he was one of them, drifting into an extremely severe *loser effect*.

In his late teens he dropped out of school and felt worthless, but was forced to apply for many jobs or starve. He then succeeded to get a job as an errand boy for a bank. At the job he had to wear a certain uniform. One day his boss told him to hand in the uniform. He got scared and immediately assumed he was being fired...

But he wasn't.

His uniform was returned to him with the pant pockets sewn shut. The boss told him: "From now on, I want you to walk with your back straight, your head held high, and never to put your hands in your pockets again."

The boss had noticed Hult's loser tendencies reflected in his body language, and decided he would help him fix it. From that point on, Bertil Hult's life started improving dramatically—all it took to reverse the feedback loop was changing his posture and having someone important believe in him!

Something similar happened to Mike Tyson, whose life was nothing but hell and suffering until age 13 when he met his mentor, coach Cus D'amato. Cus trained him in boxing and mental discipline, but also became his custodial guardian and gave him books to read.

Cus strategically paced Mike's progression as a fighter, pitting him against weak opponents to build his confidence, until Mike was in such a strong winner effect that he felt no one could beat him.

At age 20, with a winning streak of 28 professional fights (and much more than that as an amateur), he became the world's youngest boxing champion.

# 7 Real-Life Examples of Applying the Winner Effect

The big idea is to transform your life into one of those cool movie montages; like Rocky or Karate Kid, where all they're doing is practicing their skills, seeing consistent progress, and *winning*.

Most recent video games are built to induce a winner effect by showing you a bunch of easily available parameters that you can improve upon; like the strength, intelligence, charisma of your character, money earned by slaying monsters, missions completed on a quest list, and seeing your in-game ranking and reputation rise consistently. Why not do the same thing in real life? For example:

1. Growing a business bigger and better.
2. Getting stronger and stronger in the gym.
3. Improving your discipline and concentration.
4. Making more money every week, month, or quarter.
5. Reading increasingly difficult books and learning new things.
6. Doing bodily experiments and pushing through harder plateaus.
7. Cold calling, pitching, and consistently selling to bigger and better clients.

## How Important is Being in a Winner Effect for Different Professions?

Being in a winner effect will improve the quality of your life and career in many ways by making you more motivated, bold, and ambitious. But is it equally good for all professions? No.

Let's compare a salesperson with a financial analyst.

Being in a winner effect is a more reliable indicator of success for the salesperson, since his ability to motivate prospects to buy stuff increases when he's in a good mood; whereas the financial analyst cannot magically cause asset prices to rise by being enthusiastic.

For the analyst, there first has to be actual growth or value added via improvement and innovation of some sort, and then he has to be observant and diligent enough to spot it. If he's in a winner effect, he'll probably have the energy and motivation to read a few extra papers every day, which would improve his odds of being correct. So that helps, but not nearly as much as for the salesperson.

This distinction—between professions where there is or isn't a strong causal link between your mood, self-belief, and the end result—can be used as a benchmark for guessing at the value of being in a winner effect for different people. But it doesn't take into account the added well-being and positive emotions.

## **The Best Ways for Getting Into a Winner Effect (and Sustaining it Strategically)**

You don't have to do all of these things, but the more of them you do the better. Each one is like a psychological force multiplier.

- ***Record-Breaking:*** Breaking records (and pushing through noticeable plateaus) in different areas of life results in getting a sudden dopamine high. For example, the first time my podcast got 15,000 downloads in a day I got so excited that (even though it was nighttime and I felt tired 5 minutes ago) I went to the gym and did 140kg squats for two reps (which was another record for me); then I felt unstoppable.
  - Break large goals into smaller milestones and reward yourself upon reaching them.
  - Find ways to increase novelty and variation.
- ***The Consistency Principle:*** The more we do something, the more likely we are to continue doing it, as it eventually becomes the path of least resistance. The first few times you do a thing you often have to force yourself to do it, by the fourth time it happens almost by itself. To make

this easier, you can start doing the thing at a low level threshold (like writing 200 words per day) and build upward once it's easy to do the thing regularly. This can tie in with...

- ***Incremental Progress.*** The brain likes to see steady progress, and motivation goes down with long periods of stagnation. Therefore, If possible, you want to ration your rewards as much as you can to come in regular intervals to maximize its motivating effect. And vice versa: To minimize the demoralizing effect of bad stuff, you want it all to come at once.
- ***The Pygmalion Effect:*** The more that is expected of us, the more we are likely to achieve. Intelligence and ability increases with responsibility and position, as do testosterone levels, posture and tonality. What can you do? Keep your inner dialog positive, take on more responsibility than is asked of you, and strive for higher positions.
  - And avoid putting idiotic, limiting labels on yourself related to what you can or cannot do. In one famous experiment, women who were told beforehand that they would be taking a test of "math ability" performed significantly worse than women who were told they were taking a test of "general ability", despite it being the exact same test! If you think you're going to fail, you probably are.

Once you're in a winner effect, stay in it. It's much easier to maintain your momentum than it is to reverse a downward spiral.

## **Doctor's Diagnosis: You Know You're in a Winner Effect When...**

- Girls give you underwear on the first date.
- Only sleep and sex remind you of your mortality.
- You lay in bed at night, and you can't wait to get up tomorrow, rejuvenated and ready to continue working on the project you did not quite complete today.
- You lay in bed and can't sleep because it feels like your brain is growing, and moving inside the skull, from having so many ideas.

- You can walk into an important meeting totally unprepared and still dazzle everybody.
- Your style is impetuous and your defense is impregnable.

If you checked any or all of these boxes, chances are you're in a strong winner effect.

## How to Lift Yourself Out of a Loser Effect

Have you ever entered a public bathroom with other people in it, gone to the urinal, and failed to pee on your first try<sup>30</sup>? It's embarrassing and exasperating.

Even though you feel the urge, you're facing a strong psychological block that only gets harder to break through for each successive time you fail. That's what being in a *loser effect* feels like. Only a few tough guys will stand and fight until they win against the urinal. Most will walk away in shame (damn quitters!!)

Another hyper-salient example of a loser effect is when you're in the gym and you're going to lift a heavy weight and you fail on your first attempt. There's going to be a heightened level of pressure and trepidation on that second time, as you are not sure whether you'll succeed beforehand. Your heart beat increases and your breathing becomes unsteady.

And then there's *rejection*. Like a job interview, asking for a promotion, or failing to get a date...

Brutal.

In these examples, the negative feedback loop is extremely obvious. You can just feel how your emotional state goes “CLUNK!” and hits the floor. But it doesn't remain for long—it doesn't become part of your homeostasis—and you probably return to normal within minutes or a couple of hours.

But for someone who's bullied from an early age or someone who has a track record of giving up and failing at many things over a consistent period of time, the loser effect gets into their physiology and manifests itself subconsciously via poor posture and learned helplessness (like Bertil Hult).

## How to Lift Yourself Out of the Lethargy of a Long Loser Effect

You do it the same way you create a winner effect, only with more difficulty.

So sharpen your knives and prepare to claw yourself up a long plateau, because your homeostasis will be tugging at you in the opposite direction. And—if you're male—you will have a hormonal imbalance (low testosterone levels) that

needs to be addressed.

Note: Most people are neither in a loser effect nor a winner effect. Most people are only stuck in the feedback loops of a crappy reward system and perhaps a bit habituated from monotony. This can be done away with by using the 4 Pillars of Wakefulness and the principles in this practice section.

*You can skip over the rest of the advice in this section if you're not male*

### **LUDVIG'S DISCLAIMER:**

I am not an expert on hormonal issues and you should consult a doctor and do your own research. The following advice is intended to raise your attention to what may become a chronic health issue. You should beware that there are many other factors that influence health, and if you have a serious hormonal issue (related to testosterone) it is most likely linked to other elements of the male steroid cycle (estradiol, progesterone, etc). So, don't "just" look at testosterone by itself.

## **Do You Have a Testosterone Deficiency?**

*Testosterone and dopamine are bidirectionally connected.* That means they work in unison and if one is low it will limit levels of the other.

Having chronically low testosterone levels will *inhibit* dopamine production in the brain, making it harder for you to concentrate and feel motivated. This is true even if other important health factors—like your diet and sleep—are on point.

What are low testosterone levels? To be within the "normal range", your total testosterone needs to be least 400-450ng/dl. If you are below 350ng/dl you have a reason to be worried. Below 225ng/dl and you may have a serious hormonal imbalance.

I've done a few tests and my first two ones (without trying to improve) were roughly 500ng/dl and 650ng/dl.

## **Practical Advice and Natural Ways for Boosting Your Testosterone Levels:**

Men don't necessarily need high testosterone levels to be happy or become successful, but low levels are detrimental.



Every man over the age of 30 should do diagnostic health tests to keep track of vital health metrics (like testosterone, estradiol/estrogen, cortisol, blood lipids, and so on).

**Here are the main ways in which you can raise your testosterone levels naturally:**

- Be involved in some activity where you see consistent improvement and/or breaking records (start a winner effect).
- Do something competitive or be part of a team (work, sports, a hobby).
- **Exercise regularly** or lift heavy weights a few times per week.
- **Minimize sugar consumption**, except immediately after a workout.
- Minimize alcohol consumption (keep it to less than 2 drinks per day or drinking on occasion to avoid having your testosterone levels take a hit).
- Avoid losing—it's not the loss in itself that matters, it's the *feeling* it gives you.
- Have sex regularly (but not too much). It's mainly the anticipation of sex that raises testosterone; similar to how the PFC gets flooded by dopamine when delaying gratification in pursuit of a long-term goal.
- Be around (a variety of different) attractive women. Just *seeing* them has a positive effect.
- Eat more zinc (meat or supplements).

There are many other ways (go online and search for it if you feel like drowning in advice) but the ones listed here are the fundamentals that apply to everyone. Since this is a popular problem, there are many different diets, supplements, herbs and alternative treatments.

I don't want to recommend any particular diet.

There are two reasons for this. First: We all have different bodies and gut bacteria, capable of responding differently to various types of food. Secondly: One guy may have a deficiency in X and another in Y, therefore they would need a different type of “special-purpose” diet.

So it's mostly a matter of self-experimentation.

That being said, here are three general dietary guidelines:

1. You should consume plenty of good fats (olive oil, coconut fat, omega-3s) because these help ensure that your cell membranes stay healthy and fluid (and transmit hormones properly).
2. For this reason, you should consume a high quality natural fish oil if you're not already eating organic fish at least twice per week.
3. Your intake of protein, carbohydrates and fat should be reasonably balanced (unlike most extreme diets—keto, veganism, bodybuilding/bulking/cutting—that minimize one factor to maximize another).

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[30.](#) I wonder how much the dopamine and testosterone levels drop in the guy for each time. This is an easy experiment that should be conducted by scientists.

## Moderate Your State and Remain Rational with the Golden Mean

Men who don't compete are losers by default. And women who don't have intimacy are unhappy.<sup>31</sup>

Being *too* competitive has its own problems (like excessive risk-taking), but being completely non-competitive is harmful to your health and reward system over the long-term, by making you less active and more likely to dwell in homeostasis.

Let's consider both ends of the spectrum.

### **Running Rampant: The Dangers of Getting into TOO Powerful a Winner Effect!**

If you've been consistently rewarded for a behavior over a long time, you're not going to stop it easily.

This is why athletes have their weird little rituals (like wearing the same unwashed underwear for years), and why the winners of the current paradigm usually are slowest to adapt—and therefore go down hardest—when the rules of the game change.

This happened to the European countries when Napoleon overtook them: First in *war*, where his new way of waging war was different to what the old aristocratic generals were used to; then in *governance*, where he secularized states and rewarded meritocracy, making the nobility and priest class confused and uncomfortable.

It also happened, in a bad way, to Einstein; a smart man who lost his way, and could not come around to quantum mechanics, despite understanding (intellectually) how it worked.

It also happened in the computer business when companies discovered Moore's Law and changed their business models around it (those who didn't are no longer in business).

It also happened in retailing, where companies like Amazon, eBay and Ali Baba are changing the way business is done, making it difficult for brick-and-mortar stores to carry on as usual.

None of those paradigm changes happened overnight. It's just that the old boys had grown overconfident from years of winning and being admired; having been rewarded time and again for behavior that no longer worked.



## **Clip the Wings Before You Soar to Dangerous Heights and Drop Dead**

There are many other cases where an extreme, unrestrained winner effect makes the person irrationally overconfident, and what started propitiously results in downright disaster. In sports, it's due to overuse of steroids. In the gym it's the guy who deadlifts with straps and a belt. In business? Overuse of leverage. And in politics, it's addiction to power leading to excessive micromanagement in complex systems.

The winners soar high—and then they crash in the blink of an eye by overstepping their boundaries.

It's not uncommon.

You hear about it all the time: It's the old boxer going one bout too many, the attention-whoring media celebrity that ruins his or her brand just to be in the headlines one last time, the socialite who went from being beautiful to having one plastic surgery too many and now looks grotesque, the star athlete that suddenly gets broke by making a big bold bet that goes sideways, the super successful general that grows complacent from winning all his battles and neglects to check small things, or the day trader who gets lucky a few times in a row and then gets skinned.

Here are a few famous examples you may know of:

- Steve Jobs' unsuccessful "willpower-vs-cancer" situation.
- Mike Tyson going bankrupt despite being the best paid boxer (athlete?) in the world.
- Ivar Krueger's matchstick monopoly tumbling apart after years of monomaniacal lying.
- Hitler's generalship—especially the invasion of Russia.
- Kanye West bankrupting himself with a clothing business.

What do they have in common? They were in such a strong winner effect that they thought they could bend reality to their will using only self-belief. Their overconfidence made them assume that everything they put their hands on would turn to gold.

## **The Pros and Cons of Being in a (Strong) Winner Effect:**

### **Pros:**

- More motivated and higher energy levels.
- More confident and socially extroverted.
- More inspired and likely to act on spontaneous ideas (genius of boldness).

### **Cons:**

- More irrational and impulsive; prone to act even when it might be unnecessary.
- Instinctive assumption that what worked in the past will continue working.
- Get bald or thin-haired faster (if predisposed toward it).

There is another factor to take into account: *Your career*.

If you're a performer, manager, small-time entrepreneur, entertainer, or professional athlete, you should try to create as powerful a winner effect as humanly possible.

If you're a professional thinker, decision-maker, analyst, or hyper-specialist, you probably should strive for a moderate winner effect; one that's strong enough to propel you forward and keep you extra motivated, but not so strong that it makes you impulsive and irrational.

Success and happiness is less about minimizing risk than it is about being conscious of which *specific* risks you're willing to expose yourself to. So pick your poison carefully.

This next rule will help you do this by achieving a balance between your personal traits and the feedback loop you're in.

## Overweight or Underweight

You have a default risk-tolerance. You're also in a feedback loop that makes you more or less motivated to take on new challenges and expose yourself to risk.

So: On one hand you have your brain physiology, and on the other you have where you're at in terms of the winner or loser effect.

Based on this simple premise, here's how you can make better decisions:

- Know your natural inclination towards risk-taking.
- Consider what type of emotional feedback loop you're currently in (if any at all).
- Then decide whether you need to consciously underweight or overweight certain factors by pushing yourself in the opposite direction.

Let's assume: Based on the following situations, you have to make an important financial decision:

- a. *Underweight if...* you were just promoted to a new position at work, you just fell in love, and you're making consistent progress at the gym, frequently breaking records. Otherwise, you'll be over-optimistic, not consider the risks involved, and potentially put yourself in jeopardy.
- b. *Overweight if...* you're feeling stuck in your routine, work is nothing special, you haven't seen anyone for months, and you're not exercising consistently. Otherwise, you'll aim too low, overestimate the risks, and get nowhere (scared money don't make no money).

**If you don't make a conscious effort to over-or underweight your emotional state, you'll almost certainly go with your homeostasis.**

It would have been helpful for the young Mike Tyson to have known about this. It would also be helpful—for the opposite reasons—for the average person when it comes to business deals, negotiation, setting goals, as well as selling and buying financial securities.

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[31.](#) Look at pet statistics: 2/3 pet owners are female and an overwhelming majority of cute-looking pets (like chihuahas) are owned by women.



## **Is Your Reward System in Alignment with Your Goals?**

Given the fact that it's possible to rewire your reward system and change many of your habits, emotional responses, and pain-pleasure associations, it's important to consider whether your reward system is adapted for your goals or not.

Your current reward system may be good for one purpose or set of situations, but bad for another.

## The Sniper and the Billionaire

Chris Kyle, the American Sniper, was bored to death by normal life.

He would get irritated and angry over small things, like being cut off in traffic. He ached to get back to Iraq and join the battlefield. He had gotten heavily addicted to stimulants (coffee and dip mainly) as well as the stimuli of camaraderie and combat, and he could no longer concentrate properly unless he was in live target practice or in actual combat with his team.

Kyle's success on the battlefield could be explained by the fact that his brain's reward system had a really high stimulatory threshold, making him motivated to chase dangerous situations (whereas many other soldiers probably just wanted to get away safe and sound). This made him maladapted for civil life, but highly efficient in war.

British billionaire Felix Dennis acquired riches out of homeostatic drive—perpetuating the same emotional cocktail of stimulation that he had initially gotten himself addicted to in his late 20s—and died regretting it.

He wrote bitterly in his biography that, “Up to just seven years ago I was still working twelve to sixteen hours a day making money. With hundreds of millions of dollars in assets *I just could not let go*... Like an old, punch-drunk boxer, I couldn't quit. I always craved just one more massive payday.”

Felix Dennis's incessant money-chasing made him a rich man, but—in his own words—he would've been happier if he had shifted his focus to other pursuits, like poetry and forestry, after he had already acquired his first hundred million dollars.

Just because your behavior brings you success up to a certain level doesn't mean it will automatically be good later in another set of dynamics. Often, the opposite is true. That's when it's time for you to rewire your reward system to derive pleasure from a different set of stimuli and activities.

The more psychological and emotional commitment you have attached to something (like a big goal), the longer it takes to remove and get yourself into a new feedback loop. Plus, homeostasis grows with age, making it more challenging the older you are.<sup>32</sup>

This is why it took Felix Dennis so many years to cut down on the time he spent managing his businesses, despite intellectually understanding that he didn't have much to gain from making more money (in terms of increasing his life quality and overall happiness).

## **What About You?**

Is your current reward system in alignment with the results you want? Your goals and strategy determine what actions that must be taken, and it will be infinitely easier to repeat those actions if you can rewire your reward system so that you get addicted to the right sort of stimuli.

If you have the strength to do it, your homeostasis will be working *for* you. Then you will have aligned body and mind in pursuit of the goal.

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[32.](#) Therefore, there is a premium on:

1. Metacognition—the self-awareness required to notice when it's time to change.
2. Breaking out of Homeostasis—mainly the combination of psychological methods coupled with discipline to enforce behavioral change.

# Chapter Takeaways:

"It's a real high to be a participant rather than a spectator... After toiling for 30 years, I wake up looking forward to practicing my profession, creating something, competing against the best, having comradeship, receiving the psychic compensation that money can't buy."

—**Michael Bloomberg**

As the world moves faster and becomes more complex, luck will play a bigger part in success.

But everyone can't be at the right place at the right time. Jealousy will increase while patience and concentration—which are vital traits required for long-term learning—will go down as a result of widespread dopamine addiction and desensitization.

Given that technology makes most areas of life more addictive—by pandering to our now-mismatched biology—you should be grateful you did not start life one or two generations later, born completely immersed in the Matrix.

I expect it will be quite hard for most people to stay away from all the bad stuff and avoid messing up their brain's reward system.

After years of living like spectators and indulging in excessive amounts of unearned rewards that raise their stimulatory threshold through the roof, they'll have a hard time motivating themselves to work hard enough to build something meaningful of their own.

The gap between the Homeostasis Dwellers and the Homeostasis Breakers will keep growing, making the switch will get more difficult, and wealth concentration will become increasingly skewed.

## **Key Takeaways On How to Rewire Your Brain's Reward System:**

- **Many of our emotional responses and instinctive associations are mismatched for doing what needs to be done to accomplish our goals and have a good life.** How did they get that way? Usually by giving into homeostasis too many times in a row without thinking about it.

Fortunately, it is possible to change.

- **We are all addicts.** The question is what stimuli we are currently addicted to and what stimuli we have become unconsciously conditioned to shy away from. Most people go through life relying entirely on their homeostatic reactions, “feeling” their way through the world like sleepwalking zombies, not knowing it’s possible to have other types of emotions and reflexes, opening up entire new realms of experience.
- **Not all stimuli are created equal.** Look at behaviors and activities based on what stimuli they yield. *Consider whether there is a better way to get that stimulation.* Choose high quality inputs for information and stimulation. You can acquire a reward system that is healthy and productive, but it typically requires pushing through the plateau and seeing progress a few times before you “acquire the taste”. This is the case for exercising, eating healthy, self-studies, meditation, and receiving constructive criticism.
- **The world is becoming increasingly addictive.** It takes knowledge and self-control to avoid over-stimulation. Without moderation and mindful administration of stimulation, you run the risk of raising your stimulatory threshold to the point where you mess up your ability to maintain motivation and concentration.
- **The crappy reward system of a Homeostasis Dweller vs the productive reward system of a Homeostasis Breaker.**

## Crappy Reward System

- High stimulatory threshold & dopamine addiction.
- Bad habits & mindless addictions.
- Ignorant about the psychology of behavioral change.
- Neutral emotional state or stuck in a loser effect.

## Productive Reward System

- Low stimulatory threshold. Not easily bored.
- Positive habits & addicted to goal-based stimuli.
- Confident in ability to adapt. Has a toolbox of tricks.
- Positive emotions. In a moderate winner effect.

- **There are two levers of motivation. *Classical conditioning*** (how we associate a primary stimulus with a secondary stimulus, like Pavlov's bell or Coca Cola's sponsoring of fun events) and *operant conditioning* (how we respond to pain and pleasure, and seek rewards).
- **Start evaluating your actions based on their *psychological value*.** Everything is a rep. The question is whether it's a good one or a bad one. Ask yourself: "What would happen if I did this every day for a week? Or a month?" From now on, you will think more about the consequences of your current behavior on your future behavior.
- **You want to get into a strong winner effect.** Create a self-reinforcing feedback loop between dopamine and testosterone. As strong as possible, unless becoming a bit irrational, impulsive and overconfident will have bad consequences (like if you are an important decision-maker).
- **People who are in a strong winner effect can rely on their homeostasis to a greater degree** because they're addicted to stimuli that is likely to help them keep "winning", and their high morale will sustain an active work pace while unlocking the genius of boldness. However, this is only true for as long as the underlying dynamics don't suddenly change (as in the case of a paradigm shift or going into a totally different industry or domain).

- **The opposite of the winner effect is the loser effect.** It is when your testosterone and dopamine levels both go down, producing a depressing downward spiral. If it goes on for a longer period it may get into your physiology, as shown by submissive and slumped down posture and chronically low motivation, in spite of positive diet and sleep.
- **Moderate your state for more rational decision-making.** Consider first what your temperament is like (risk-taker vs risk-averse) and then whether you're in a winner effect or a loser effect. Then calibrate by overweighting or underweighting.
- **Pick your poison well.** Success and happiness depend on choosing which specific risks you're willing to expose yourself to, not in trying to eliminate *all* risk (which is impossible).
- **Whenever you set a new life-changing goal, the first step is to rewire your reward system.** The most effective way of reaching the goal is by getting yourself addicted to the type of activities and stimuli that are beneficial to its fulfillment. That way, you can rely on homeostasis to guide you toward it on a daily basis.

The final Practice Section will explain how.

# Reward System Practice

"We must make automatic and habitual, as early as possible, as many useful actions as we can."  
—**William James**

If you're making the transition from a crappy reward system into a productive one, prepare to face a long plateau. To keep motivation up, you should experiment with different psychological methods, until you find a general strategy for driving through behavioral change.

## The 3 Most Basic Principles That Always Work:

1. Maximize exposure to stimuli for the new behavior while minimizing for the old one.
2. Habit stacking: Insert the new behavior into a ritual or routine that's already easy for you to do.
3. Reward yourself promptly after doing the right thing (and avoid unearned rewarding).

## General Practical Tips for Behavioral Change and Motivation:

- *The following behaviors need to be automatic and linked to positive emotions:*
  - Exercising and eating healthy.
  - Concentrating at the task at hand.
  - Getting constructive criticism and analyzing your own mistakes not to repeat them.
  - Breaking out of homeostasis in different ways and doing (challenging) stuff to continually keep your brain activated and



curious.

- *For reduced stimulatory threshold:* Try eating your food without condiments, sauces, or non-natural spices (like a bodybuilder or pro athlete prepping for competition).
- *For all behavioral modification, gradual change is the easiest and most viable course of action for most people, most of the time.* A good example is the replacement method, where you take some bad habit and (a) minimize it, (b) replace it with a less negative habit, then (c) minimize the new habit, and finally, (d) replacing that with a positive habit.
  - E.G: First you're smoking a pack of cigarettes per day. Then you're smoking half a pack of cigarettes per day. Then chewing 5 nicotine gums per day instead. Then chewing 2 nicotine gums per day. Finally you quit cold turkey or start drinking tea.
- **Differentiate between random homeostatic responses and properly conditioned responses:** Whenever there's resistance to doing something that's in alignment with your goals, make a habit of asking yourself: "*Is this a homeostatic response?*"
- **Every once in a while, question how appropriate your current reward system is for your main goal and/or for your overall happiness.** Consider whether you have positive emotions associated to the activities necessary for staying healthy and accomplishing your main goal.
  - Sometimes you have to compromise short-term happiness and well-being for extraordinary results in the future. Decide in advance how long you will do it.

## Using Operant Conditioning | Rewards | Punishment:

Check it:

- **Proper Rewarding:**

- Do something meaningful or productive before relaxing or rewarding yourself. The anti-example is to have snacks 6+ times per and spend hours on social media.
- Tie the reward to an activity and avoid excessive, unearned rewarding; for it lowers overall motivation and lowers the potency of that specific reward.
- *Intermittent rewards are most powerful.*
  - This is when rewards come relatively far apart and not every day (similar to spaced repetition for learning) or at random, unpredictable intervals. Like having a “cheat day”<sup>33</sup> in your diet or “hobby day” in your weekly schedule.

- **Adjust for excessive rewarding and minimum punishment.** It’s easy to rationalize why you deserve to indulge yourself (without having earned it) and why, when you misbehave, you should be exempt from punishment. Someone else might see it differently.

- **Punishment:** Since it’s difficult to administer self-punishment, I’m not going to list XYZ methods for doing it. I only have only two general pieces of advice and you’re either going to do it, or you’re not:

- Be Spartan: Make use of fasting, cold showers, Breaking out of Homeostasis, and increasing your pain tolerance (such as by pressing your back to the warm wall of a sauna until it hurts). Consider dental work without anesthetic.
- Deprive yourself of rewards on purpose at unexpected moments. Learn to make up your mind not to indulge at the blink of an eye when you feel the urge.

## Using Classical Conditioning:

- **Make use of habit-stacking and ritual-creation:** If you have an existing ritual or routine that you do at a specific time or day, it becomes easier to link a new behavior to that “habit stack”, compared to if you were to practice the new habit as an isolated activity.
- **Engineer the environment and control your inputs:** Be mindful of your inputs for stimulation and information. This is important because it will affect your thoughts and behavior via the *spreading activation* mechanism, creating impulses and associative links (like Napoleon did when he broke up with Josephine). Here are some ways you can engineer your environment for associations:

1. *Avoid being in an environment where the temptation to act wrongly is strong.* Like having a bowl of candy visible at your kitchen counter.
2. *Consider your most-visited environments.* E.g: Work and home. What kind of inputs are there to trigger associative thinking and encourage positive behavior or induce unwanted temptations? What is one concrete action you can take to improve each of these environments? For example:

- Avoid or minimize interactions with negative or stupid people.
- Buy two whiteboards: One for your office and one for home. Then write your weekly goals, priorities, and important quotes on them.
- **Get rid of your TV.**
- Remove other sources of negativity and distraction (like newspapers and gossip magazines, or people who don’t add value on social media).
- Delete useless/unnecessary apps from your phone.
- **Put social media apps inside a folder on the screen**

**furthest away.**

- Change the start page of your Internet browser to one without news.
- Hide drugs or unhealthy foods and make healthy ones extra visible.
- Put your prepacked gym bag by the door so you are ready to exercise.

3. *What are some symbolic objects—associated with positive emotions or your goals—you could own?*

- Maybe a poster of your idol, helpful best practices for your profession, and mental models to train your neocortex and pattern recognition on?
- Maybe a small trampoline, set of dumbbells, and a pair of Roman rings?
- Maybe a yoga mat and a foam roller (for stretching out your back) and an incline walk machine (for improved posture)?
- Maybe a custom-made bust of yourself or the greatest men in history?

Surround yourself with physical objects that encourage positive long-term behavior or shift your thinking toward creative thought.

- **Brainwash yourself by maximizing exposure and vividness to the main message you are trying to condition:** I am a firm believer in that you need to consistently, persistently, and efficiently “brainwash yourself” to your goals and other difficult life changes which involve combating homeostasis. Here are the main avenues (think of these as personal advertising billboards) for self-chosen psychological exposure:

1. Get a whiteboard and write quotes/goals/mantras/measured

progress on it.

2. Put up post-it notes.
3. Change the background of your computer (and its screen saver).
4. Change the background of your phone (and its screen saver).
5. Carry physical notes with you.
6. Set recurring reminders on your phone or use reminder programs for spaced repetition (like Reminder Fox or Anki).
7. Use an Excel progress template of some kind.
8. If you have a commonplace, make a reminder system there—or tie reminders together with a routine you're already using, like going through a weekly checklist on Sundays (ritual/routine-creation and habit-stacking).

Note: Commitment plays a HUGE part here. Just the fact that you are bad enough to make the effort of setting up a system for repeated exposure to positive messages will help to shift your psychology for the better.

## **Getting Into an Unstoppable Winner Effect:**

Mercilessly force yourself into a cycle of success and tremendous achievement. Once you've got it, make sure you keep it. Motivation is a scarce resource and *you have to be willing to fight tooth and nail to remain in a good feedback loop.*

- **5 Best Practices for Getting Into a Mighty Winner Effect and Sustaining it:**

1. *Find at least one important metric to measure to see if you're making progress.* Track progress on a Whiteboard, in Excel/Google Docs, or in your commonplace.
2. *Break goals up in small milestones to achieve, or records to break, to maximize the positive impact on your psychology.* By setting the bar relatively low, it'll be easier to get started taking action and reaching that bar—thereby **setting yourself up for a**

**consistent streak of smaller victories to build confidence.** Each success will yield a dopamine kick, and it's smarter to have many small ones than a few big ones that come far apart.

3. *Make the progress as vivid as possible.* We are all motivated by progress, but whereas some people are motivated by seeing plain numbers in a table, others need a graph that goes up, and some want to see a picture (like gym progress pictures).
4. *Commitment and consistency.* The longer and more you've committed to a course of action, the more you will care about it and be inclined to continue it. Start by writing out your goals and intentions stated clearly, maybe tell a trusted friend, and use the association tips to maximize exposure and repetitions to the new goal/change.
5. *And once you've got it, be mindful about avoiding demoralizing activities.* Hitler refused to play soccer with the other Nazis in Landsberg Prison because he knew he would lose, and it would be bad for his motivation.

- **2 More Complementary Tips:**

- *Inject variation when possible.* Like having smaller, weird records or challenges to do, because it's another way to gain more dopamine.
  - *The Pygmalion Effect.* Avoid talking or thinking ill about yourself at any and all times. It does no good. By having an out-sized, monomaniacal sense of your abilities, you are likely to accomplish more than if you don't.
- **When you can't have a winner effect going for your main goal, get one on the side.** For example, if you're starting a business, writing a book, or if your main goal doesn't allow for consistent progress and record-breaking (which is the case for a lot of knowledge work that has a long build-up process), then you **MUST** find a way to sustain motivation through consistent improvement in a hobby (like learning or exercising), while tracking results for progress.

- I have found that swimming and running are two great physical exercises for this purpose. Reading and summarizing books also work well, as mental exercises.

## **Loser Effect & Hormonal Levels:**

You can't think your way out of long-held depressing downward spiral; it's in your physiology and you can only *act* your way out of it. How? By making use of the advice for getting into a winner effect, only it will take more consistency due to a slower-moving homeostasis. You just gotta push through it.

Hormonal problems are complex, and I am not a doctor. I recommend you to read up on this stuff for yourself. What you can and should do, is to take a blood test. If you have any of the following bad numbers (as a male) you should be on alert and take immediate action. It could dramatically improve your energy levels and life quality.

- Testosterone = below 300 ng/dl
- Estrogen/estradiol = above 61 pg/ml
- T/E ratio = 5.

If you don't live in a sunny country, you may also suffer vitamin D deficiency. If so, supplement with roughly 5,000-10,000 IU per day. Don't take it at night.

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[33](#). Cheat days don't work because they are healthy (which a lot of people think, probably due to *noble indulgence*), they work indirectly; by motivating people who otherwise would not be able to stay consistent due to a lack of rewards and/or a weak internal motivation.

**Ludvig Recommends A Proven Strategy for Getting Yourself Addicted to Working Out Exercising regularly is probably the most important positive habit to have. It must be automatic for you. If it isn't already, you need to rewire your brain's reward system to get *addicted* to it.**

Here's the exact strategy I used when I first got myself addicted to working out:

1. ***Commitment and consistency.*** I typically go at the same time: Either in the afternoon (4 PM) or at night (8-9PM).
2. ***Ritual + habit-stack + variation:*** I have an MP3 with songs I only use for working out, and I will listen to them while meditating for a while and shifting my focus from mind to body. I also switch the songs occasionally. When I first started I had a strong reward here (pre-workout supplement, coffee, lots of raw cocoa) but now I don't need it.
3. ***Measuring.*** I take brief notes on my phone where I write down spontaneous ideas if I broke a record or felt really good.
4. ***Perceived progress.*** I used to take progress photos my first two years. Now I just flex in the mirror every now and then when I have a powerful pump. It still does the trick.
5. ***Breaking records.*** There are many types of records you can break in the gym (as many reps as possible, as heavy lift as possible, etc). Try to be creative, it will pay off in motivation.
6. ***Variation:*** Shifting between different workout routines for specific body parts. E.G, for chest: Barbell bench, dumbbells, and weighted dips. Shock your body!
7. ***Ease and availability of association:*** Having a prepacked gym bag is enough to start the idea.



8. ***Mindful reward:*** I eat a big meal right after, and it's often my only meal of the day.
9. ***Good emotions + association:*** It feels good to calm down and not focus on work. That lowers cortisol. Then in the gym, especially if I break a record or become very focused, I will raise my dopamine levels and get a high from that. And then—post-workout—there's a predictable endorphin high also. This makes any soreness negligible, and even enjoyable.

If you do some or all of these things, it'll be impossible for you *not* to enjoy working out.

# Congratulations

"He who desires but acts not breeds pestilence."

—William Blake

So, you were strong enough to make it to the end.

Did you know that more than 9 out of 10 books that people buy are not finished? Most people don't get past the first or second chapter.

Still, a lot of the people who *do* finish books don't gain much. They might learn some cool stuff, maybe even get an epiphany, but then they forget it two days later. They don't follow through while the inspiration is fresh. I think it was for those people that William Blake wrote those words, in a book that was fittingly titled *Proverbs of Hell*.

Well, congratulations. You are now cursed with knowing better.

## **Final Challenge: A Day in the Life of a Homeostasis Breaker This is the send-off challenge.**

**A Day of Unbridled Homeostasis-Breaking Here's a special combination of different ways for Breaking out of Homeostasis that I have prepared for you. All these things can be stacked into one day. If you do all of them, you will BOOH in such a major way that you will experience an exhilarating natural high.**

- Get up early in the morning before anyone else is up.
- Do a bridge or stand upside down to get blood into your head.
- Take a cold shower.
- Fast for at least 16 hours (minimum requirement = skip breakfast).
- Go outside and sit on a park bench while listening to the bristling of trees.
- Then sit on the pavement. It's what dissidents do sometimes.
- Then find someplace to lay down flat on your back.
- If you see some stairs, jump them. If they are small, try to jump straight to the top. If they are large you must gallop all the way up (like in Rocky).
- Balance along a railing or the sidewalk (like walking on a tightrope).
- If the opportunity presents itself, walk against a red light.
- Go to a playground and play. Swing the swings or climb the obstacles.
- Start a conversation with a stranger.
- Eat a raw lemon or two (it won't break the fast).
- Go jogging without contacts (if you usually wear glasses).

- Explore a new area where you live. If you've been everywhere within a 15-minute radius, take the bike or bus or the metro. Above all, you must not take the same beaten path!
- Meditate for 15 minutes.
- Spend a few hours at the public library or book store, picking out books on interesting topics and skimming them for ideas.

Good luck and have fun.

PART III

**Addendum and Bonus Content**

# BONUS CHAPTER 12

## The 14 Fundamental Differences Between HDs and HBs

Difference	Homeostasis Dweller	Homeostasis Breaker
<b>Pain Tolerance and Homeostasis</b>	A weakling whose life is one long, unconscious mission aimed at avoiding pain, effort, and thought.	An individual who regularly Breaks out of Homeostasis and increases the three types of pain-tolerance.
<b>Pushing Through the Plateau</b>	A perpetual quitter who's plateau-ignorant.	Someone who knows that almost everything in life is a plateau, and keeps pushing.
<b>Activating the Brain and Body</b>	Stuck in emotional state (like a broken record). Relies on external stimulation and drugs to focus or feel good.	Mostly internally motivated. Has meaningful goals and a reliable repertoire of practical exercises for activating the brain and body.
<b>Metacognition</b>	Low. Routinely rationalizes and ennobles self-serving behavior, or fails to notice recurring thought patterns.	High. Not inclined toward self-delusion and excuse-making for bad behavior. Pays attention to thought process.
<b>Cognitive Biases</b>	Highly irrational. Thought process directed almost entirely by unconscious biases without knowing it.	Mostly rational. Usually notices when homeostasis wants to rationalize staying in the same emotional state.
<b>Coping Mechanisms</b>	Low stress-tolerance and finds cognitive dissonance intolerable. Copes with stress and uncertainty in the easiest way and ends up with bad habits.	Higher stress tolerance and mental ambiguity. Pauses mindfully before acting. Copes competently using positive outlet and ends up with better habits.
<b>Evolutionary Mismatches</b>	This person's life is a Darwinian death-trap. Totally misled by homeostasis. Porn, gambling, junk food, etc.	Has mastered the "mismatch-mindset" and does not trust bodily responses in these situations Thus: Indulges with extreme care.
<b>Allostasis and Ability to Adapt</b>	Low adaptability by default from chronic stress, poor sleep, malnutrition, and inability to control relaxation response.	High adaptability due to a fully loaded <i>Allostatic Gauge</i> . This is a result of mind-body mastery; eating well, and practicing BOOH.
<b>Habituation</b>	Beaten bloody by monotony; with no goals, some novelty, no	Keeps crisp by maintaining upkeep of the 4 Pillars of Wakefulness

	no goals, some novelty, no variation, and little randomness.	of the <b>1000s of variations</b> . Puts personal improvement over money.
<b>Prefrontal Cortex</b>	Weak PFC. Undisciplined from a lax lifestyle. Indecisive individual. Can't concentrate.	A decisive individual who delays gratifications and sacrifices to reach goals. Can focus intent at will.
<b>RAS + Pattern Recognition</b>	A Despondent Dilettante who detects patterns where there are none and believes in crazy conspiracy theories.	A Vigilant Hunter striving for expert pattern recognition. Diligently practicing his/her craft to reach the level where complexity becomes simple.
<b>Neocortex</b>	A disoriented thinker who is overly focused on the short-term, always inclined to believe in easy answers to complex questions. All to avoid thinking.	Uses mental models to better predict the future. Practices higher-order thinking, looks for interactions of multiple factors, and acknowledges complexity.
<b>Amygdala</b>	An Amygdala Slave with corrupted Dunbar's Number slots, living life like a passive spectator in a media-induced hyperreality. IQ drops to 80 outside of comfort zone.	A Bohemian who understands that boldness has genius. Belongs to his own tribe of fellow HBs. Doesn't get paralyzed by fear. Strives for a high contextual confidence.
<b>Reward System</b>	Crappy reward system. Gives into hormonal urges like an automaton. Aimlessly addicted to all the wrong things. Caught in a long-term <i>Loser Effect</i> of learned helplessness & excessive, unearned rewards without the use of any punishment. Probably eats 6 times per day and uses drugs.	Positive and productive reward system. Mindful of addictions and chooses ones that are healthy and goal-oriented. Gets into a strong & steady <i>Winner Effect</i> , and has a strategy for sustaining it. Avoids excessive rewards and has punishments in place. Probably fasts and takes breaks from favorite drugs.

## BONUS CHAPTER 13

# The Most Important Career Advice For People Under 30

"A man's character is formed before he is 30."

—Napoleon

The older you get, the harder it becomes to change. Especially if you're not already in the "habit" of Breaking out of Homeostasis.

### **Carve Out Your Character: Be Who You Want to Be By 30; or Else...**

Napoleon said it. Lee Kuan Yew agreed. Neuroscience and biology strongly indicate it, and I believe it.

The brain—including one's personality, habits, and worldview—is most malleable before the age of somewhere around 25-35. So let's call it age 30.

The philosopher William James (who lived between 1842 and 1910) wrote much about the phenomenon that we now know to be *homeostasis*. At that time, science had little information about the brain, the endocrine system, and the formation of habits. Still, he wrote:

The great thing, then, in all education, is to make our nervous system our ally instead of our enemy. It is to fund and capitalize our acquisitions, and live at ease upon the interest of the fund. For this we must make automatic and habitual, as early as possible, as many useful actions as we can, and guard against the growing into ways that are likely to be disadvantageous to us, as we should guard against the plague.

The big idea is to push yourself a little harder than what feels comfortable while you're young and extra malleable. Then, when you're older, it will become easier for you to go that extra mile and maintain allostasis. Invest your youth wisely and you will be amply rewarded.

You want to:



- Use your brain as much as you can,
- Delve into new areas of knowledge,
- Uncover secrets no one else knows,
- Deliberately incur stress on yourself and raise your pain-tolerance,
- Flood yourself with novel stimuli and start a winner effect,
- Take on increasingly large challenges and face your fears.

Sounds easy, except most people don't do it—because it goes against homeostasis.

### ***Craft Your Career: How to Maximize Your Youthful Brain and Become a Pioneer***

Historically, most new inventions or innovations have been made by young people, typically no older than 30 years old.

The science philosopher Thomas Kuhn wrote that, “almost always the men who achieve fundamental inventions of a new [scientific] paradigm have been either very young or very new to the field whose paradigm they change.”

There are two reasons for this: that young people are less cognitively blocked by outdated information from previous paradigms, and that they have a higher degree of raw creativity. For example, consider these incredible achievements by young pioneers:

PERSON	FIELD	INNOVATION	AGE
<b>Blaise Pascal</b>	Mathematics and hydrodynamics	Mechanic calculator, projective geometry, probability theory, and Hydraulic press	In his teens Then in early twenties
<b>Isaac Newton</b>	Mathematics, optics, and mechanics	Calculus, Newton's Theory of Color, and gravitation	Mid-twenties
<b>Alexander Hamilton</b>	Political theory and financial policy	Sinking fund, checks and balances, stronger congress, and a central banking system	Before 27
<b>Napoleon Bonaparte</b>	War strategy, administration, and	Meritocracy and secularism, the Prefect	Most ideas before 30 First Consul at 35

	political reform	System, the School system, and the Napoleonic Code	
<b>John D. Rockefeller</b>	Business management	The Committee System and first conglomerate	By age 31
<b>Andrew Carnegie</b>	Business	Mass-production of steel and vertical integration	By age 30
<b>Nikola Tesla</b>	Mechanics	Induction engine	Age 30
<b>Thomas Edison</b>	Sound	The Phonograph	Age 30
<b>Kurt Gödel</b>	Mathematics	Incompleteness Theory	Age 25
<b>John von Neumann</b>	Mathematics	Ergodic Formula	Age 29
<b>Albert Einstein</b>	Physics	Photoelectric Effect & Theory of Relativity	Throughout 20s
<b>Steve Jobs</b>	Computer business	Simplified personal computers for masses	Founded Apple at 21 with Steve Wozniak
<b>Bill Gates</b>	Operating system and software business	DOS and licensing business model for computing industry	Founded Microsoft at age 20 with Paul Allen
<b>Larry Page</b>	Internet Search	Created first intent-based search engine	Founded Google with Sergey Brin. Both 23.

Notice that these ground-breaking discoveries have mainly come from *new* fields.

This doesn't mean you're screwed if you haven't created your magnum opus by age 30, but you need to understand that *innovation* becomes more likely than invention as you grow older.

## Most “Post-30 Successes” Happen in Complex Fields

The reason for this is that in complex—slower-moving—established fields such as business, politics, or older branches of science, you usually need to learn a lot more before being able to contribute something new.

Most people who succeed big (and become very rich or make a ground-breaking discovery) after the age of 30 typically do so in a complex field.

Will this trend go on? Yes. And it will only grow in power, because the bar continues to be pushed up higher in almost all existing areas of life.

Ever since the time of Isaac Newton (mid 17<sup>th</sup> century) the combined knowledge of science has roughly **DOUBLED** for every year. This has meant that every generation of scientists has had to solve more difficult problems than the last

one. At least within their field.

The amount of information being produced and made available is accelerating at an exponential rate that's downright scary. Google CEO Eric Schmidt said in 2010 that for every two days we create more information—about 5 exabytes ( $10^{18}$ ) of data—than what existed from the dawn of civilization up until 2003. This is a dramatic statement on his part (as most of that information is useless) but you get the point.

In Newton's time there was just *one* branch of science: Natural Philosophy. In 1995 there existed roughly 10,000 fields of specialty. No one knows the exact number today, but it's a *looot* more.

In 1905, Nobel-winning physicists (on average) made their breakthrough discoveries at the age of 37. In 1985, the corresponding age was 50. In chemistry, the age increased from 36 to 47 during the same period, and for medical scientists the age rose from 38 to 46.

This leads us to two implications:

1. It's taking longer to become an innovator in the established fields of science because “the basics”—that you have to know just to keep up with the others—are expanding.
2. By simple reasoning of supply and demand, we can see that for as long as the trend of over-specialization and increased complexity continues, there will be a premium on synthesis and the creative combining of existing ideas. That is: *innovation* over invention.

## **What if You Run Out of Creative Ideas?**

Larry Page got his big ideas (self-driving cars, algorithmic search engines, and more) in his early 20s. Now look at what he's spent the last 20 years doing.

If you want to maximize your chances of doing big things, you should try to learn as much as possible and get a philosophical framework with big ideas by age 30 (as instructed in the neocortex chapter). Then assume you will spend the rest of your life implementing those ideas.

Remember: Some of the people you've read about in this book have been geniuses, and still, many of them didn't have new ideas past 30—Like Pascal,

Einstein, and Hamilton. They only kept working on their old ones. As did Charles Darwin.

Darwin was 29 years old when he read Thomas Malthus' "An Essay on the Principle of Population" and was sparked with the idea that turned into his Theory of Natural Selection. Unlike many other innovators listed in this chapter, Darwin was not a fast thinker. He labored patiently on the theory, reading contradicting ideas from other scientists, thinking about how they meshed with his theory, and not until he was 50 did he choose to publish it.

In his *Autobiography*, Darwin attributes his success to commonplacing, patience, objectivity, and rigorous study habits:

"In several of my books facts observed by others have been very extensively used, and as I have always had several quite distinct subjects in hand at the same time, I may mention that I keep from 30 to 40 large portfolios, in cabinets with labelled shelves, into which I can at once put a detached reference or memorandum. I have bought many books, and at their ends I make an index of all the facts that concern my work; or, if the book is not my own, write out a separate abstract, and of such abstracts I have a large drawer full. Before beginning on any subject I look to all the short indexes and make a general and classified index, and **by taking the one or more portfolios I have all the information collected during my life ready for use.**

Therefore my success as a man of science, whatever this may have amounted to, has been determined, as far as I can judge, by complex and diversified mental qualities and conditions. Of these, the most important have been—the love of science—unbounded patience in long reflecting over any subject—industry in observing and collecting facts—and a fair share of invention as well as of common sense."

If you want to increase your chances of becoming an innovator, you should create a commonplace book from an early age. This will serve as an information system where you store your creative ideas and thoughts across different topics. Then you can more easily work on your ideas later in life, like Darwin.

## **Career Conclusions: Enter a New Area or Go With the 2X Rule**

Put yourself in a position where you have incentive to learn as much as possible. For example, by becoming a free agent, an entrepreneur, or by working for a small company where people let you execute on your ideas more freely and you're given a lot of responsibility.

If your interests are not related to business you should get involved in some (scientific) field where you have the opportunity to pursue your curiosity unhinged by bureaucracy, ideology, obsolete tradition, regulations, and other

things that put your brain on a leash<sup>34</sup>.

However—statistically speaking—the chances of you entering a new industry are low, because the school system is set up in such a way as to train you for the old, established industries, where it is harder to make an impact. School does not help you become an inventor or an innovator.

Assuming you're under 30 and entering an established industry, *you should follow the 2X Rule*. This means your wage would have to be up to TWICE as high in order to justify working in an old industry or for a large hierarchical organization.

Let's assume you don't care about becoming a pioneer, an inventor, or an innovator; all you want is to make a lot of money and live the good life. Well, you should *still* go with the **2x Rule**.

Why? Because most of the money being made right now (and in the foreseeable future) is in fields with new and fast-growing niches. These have a common denominator: most are in the intersection of science, finance, marketing, and online. To stereotype, let's call it "Online X".

The thing about "Online X" is that it's complex; you need to understand how multiple pieces of the puzzle come together. This means you need either a strong talent for synthesis or (most likely) a couple of years' experience before you stand a chance of making the big money.

So, the conclusion is pretty much the same: Try to get a head start. Be willing to pay a premium for a steeper learning curve.

Now, let's look at what NOT to do.

### **Top 3 Career Mistakes to Avoid**

Do not:

1. Have a career in a field you're not interested in, along substandard coworkers.
2. Go into an established industry or a bureaucratic research institution.
3. Take a monotonous entry-level job with low incentives for initiative (in exchange for a slightly higher starting salary). This is like shooting

Future-You in the foot.

If you can just stay away from these herd behavior choices, you'll do more than fine.

However, if you feel like maximizing...

### **High Probability Area of Success #1:**

Work in a small organization where you are given relatively free reins, so long as you provide results.

### **High Probability Area of Success #2:**

Work in an esteemed corporation/organization where you can learn from some of the best in the industry and gain valuable insights not easily available elsewhere.

### **High Probability Area of Success #3:**

Enter a new industry or field of research.

### **High Probability Area of Success #4:**

Become self-employed as soon as possible *if* you can combine it with maximizing your learning.

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Bottom line: Invest into the future by being willing to take a pay cut in exchange for a larger chunk of learning and association with masters. This is extra important under age 30.

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[34.](#) This can be difficult in many countries, where you have to be politically correct in order to get funding.

## Free Bonus Content

If you'd like some exclusive material, head over to [www.BOOHbook.com](http://www.BOOHbook.com) and you can get the following bonus items:

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1. *15 Practical Implications of Breaking out of Homeostasis*
2. *Higher Order Thinker Curriculum* (10 book recommendations, 5 websites, and my special method for pounding in principles and big ideas).

## Glossary

**4 Pillars of Wakefulness:** The four main ways to stimulate the prefrontal cortex with dopamine to stay focused and engaged are: Novelty, variation, randomness, and goal-orientation.

**Allostasis:** The sweet-spot between exertion and relaxation, where you adapt to stress best.

**Allostatic overload:** When you are taking on more stress than your body can handle, and it's starting to become unhealthy. If you cannot return to homeostasis and recover you will burn out or sustain long-term ailments.

**Amygdala:** Primitive part of the brain associated with emotional and social functions. Together with the PAG (periaqueductal grey) it has the ability to shut down the thinking parts of the brain and cause us to react instinctively, when it perceiving a serious threat.

**Amygdala Slave:** Someone who has a hyperactive amygdala that's making them irrationally afraid, handicapping their cognition in situations they're not used to.

**Amygdala hijack:** When the amygdala blocks the neocortex and PFC from thinking.

**Autonomic nervous system:** Consists of two branches; parasympathetic nervous system ("ON") or sympathetic nervous system ("OFF"). As a rule, only one can be activated at a time.

**Brain activation system:** A term invented to describe people who are "risk-takers" and are naturally more motivated by seeking rewards and pleasurable outcomes, than avoiding punishment.

**Brain inhibition system:** A term invented to describe people who are "risk-averse" and are naturally more motivated by avoiding punishment and staying safe than getting big rewards.

**Biological prime time:** The time of the day where your energy levels are naturally peaking, and your brain and body become activated without any effort



on your part.

**Brain's reward system:** The sum total of what you've grown to associate with pain or pleasure.

**Brain and body bidirectional communication:** The reinforcing feedback loop which (temporarily) perpetuates an emotional state. To use it positively, deliberately activate the brain or the body. Then that one will positively reinforce the other.

**Classical conditioning:** A psychological method for changing your association between a biological drive and some unrelated stimuli.

**Confirmation bias:** The tendency to screen out information that does not adhere to our emotions, beliefs, and ideas.

**Comforting beliefs:** Things we've convinced ourselves of to feel better about our situation, in order not to have to think about things that give us pain and stress. They often impede progress.

**Contextual confidence:** When your sense of confidence, charisma, and ability to act intelligently fluctuates in different environments and situations.

**Coping mechanisms:** Hard-wired behaviors we use to cope with stress and return to homeostasis. They can be either good or bad depending on their long-term effect on our health.

**Commitment and consistency bias:** The more we invest into something, the more we care about it. And the more we do something, the harder it becomes for us to stop.

**Crappy reward system:** When you have become desensitized from over-stimulation, have low internal motivation, and you're addicted to stimuli and activities that are unhealthy or have nothing to do with your goals.

**Dunbar's number:** A mental model signifying that we can only maintain close relations with about 150 people. These are the people we are likely to think about or compare ourselves to.

**Desensitization:** When we start responding less efficiently to some stimuli. Someone who is desensitized needs more stimulation in order to function normally or get a "high".

**Despondent Dilettante:** Person who goes through life without developing expert pattern recognition.

**Expert pattern recognition:** When you automatically pay attention to the few things that are important for success in some area of life (while screening out everything less useful).

**Evolutionary mismatches:** Situations in modern life that are very different from what our biology has evolved for. Two major mismatches are (1) how homeostasis is no longer a reliable guide for remaining healthy, happy, or becoming successful, and (2) how easy it is to ruin your reward system by indulging in excessive stimulation and instant gratification.

**Flow:** The willful act of activating the PFC powerfully enough to breach a stimulatory threshold and trigger the spreading activation. This makes you mentally engaged.

**Genius of Boldness:** To BOOH and unlock a higher level of cognition, previously subdued by a hyperactive amygdala or a negative emotional state.

**Habituation:** When the prefrontal cortex stops being involved in processing some stimuli. This happens in monotonous environments or when we are exposed to too many repetitions of something in a short time (like listening to a great song 10 times in a row).

**Higher order thinking:** The neocortex's predictive ability to anticipate the consequences of some action and how it interacts with the larger scheme of things (like components in a system).

**Homeostasis:** The brain and body's mechanism for staying the same and saving energy.

**Homeostasis Breaker:** Someone who knows about homeostasis and develops a repertoire of methods for breaking out of it. This person achieves a higher level of mind-body mastery, remaining healthy and adaptable throughout life.

**Homeostasis Dweller:** Someone who is ignorant of homeostasis and therefore places an inordinate amount of trust in the accuracy of their thoughts, emotions and conditioned responses, without regard to the situation or stimuli eliciting it. This person is not the boss of their brain.

**Homeostatic reaction:** An emotional response—easily mistaken for your “gut

feeling”—caused by homeostasis resisting change.

**Loser effect:** The depressive downward spiral of consistently quitting, failing, losing, or being punished so much that it lowers your testosterone and dopamine levels, resulting in a self-sustaining physiological state of low motivation and poor posture.

**Mental rehearsal:** The act of visualizing yourself doing a specific thing in the future by simulating a scenario in your head.

**Mental model:** An idea or concept for interpreting some aspect of reality.

**Metacognition:** The ability to objectively observe your thought patterns, emotional reactions in different situations, and perceive the ongoing communication between brain and body.

**Myelin:** A material that wraps around neural pathways to amplify the electrochemical currents, making the signals faster and stronger. Myelin grows with repetition and deliberate practice.

**Neocortex:** The latest part of the human brain. It consists of the frontal lobe and the prefrontal cortex; the parietal lobe, the occipital lobe, and the temporal lobe.

**Noble indulgence:** Highly compelling narrative used to rationalize a primitive biological drive and deceive one into thinking that what he or she is doing is sophisticated and enlightened. Homeostasis Breakers know that biological drives need no explanation.

**Operant conditioning:** A psychological method for using rewards and punishments to change behavior.

**Pain/stress tolerance:** The level of mental, psychological, and physical stress you are comfortable with before panicking or having homeostasis throw a fit.

**Polyphasic sleeping:** A sleeping schedule where you rest more than one time per day.

**Positive reward system:** When you're internally motivated and emotionally addicted to stimuli and activities that improve your health and takes you towards your goals.

**Prefrontal cortex (PFC):** New part of the brain that plays a crucial part in

executive functions such as willpower, decision-making and impulse control. Leaders and thinkers use it a lot.

**Pushing through the plateau:** The ability to endure hormonal fits for as long as it takes until you Break out of Homeostasis and get into a new physiological state.

**Reticular activating system (RAS):** Old part of the brain that controls wakefulness and decides what stimuli gets filtered through to our conscious attention.

**Spreading activation:** The chain-reaction effect that happens after a thought or emotion reaches a critical mass. This makes the neural pathway keep firing for a longer duration of time.

**Stimulatory threshold:** The level of positive neurotransmitters (e.g: dopamine) needed to remain mentally engaged and happy.

**Vigilant hunter:** Someone whose RAS and pattern recognition is focused on a pre-determined agenda, like an important idea or your goals.

**Winner effect:** The positive feedback loop induced by a consistent streak of wins, seeing a steady progression in one's life, and being rewarded for one's efforts. This increases testosterone and dopamine, making you feel more motivated and happy. If it goes on for a while it becomes self-sustaining and maintained by homeostasis.