# The No-Nonsense Meditation Book

# What’s in it for me? Discover the science of stress-busting meditation.

Meditation has gone global, surpassing the reach of the Southeast Asian religions it’s been associated with for so long. Today, there are meditation groups everywhere from Buenos Aires to Berlin to Beirut, all of which promise the same thing: meditate, and you’ll be happier and less stressed. It’s a great sales pitch, but is it true? That’s the question neurologist Steven Laureys set out to answer after he noticed how meditation improved his own life. These blinks dive into the physiological impact of the practice through Laureys’s research, which points to a fascinating conclusion. The feel-good effect of meditation isn’t a mere placebo – practicing mindfulness can actually rewire your brain, reduce stress, and, indeed, make you happier. In these blinks, you’ll learn

why we’re evolutionarily programmed to worry and fret; what the brain of a 70-year-old monk can teach us about meditation; and how to start training your own mind.

# The brain’s evolution explains why we worry so much.

The human condition is fraught with constant thinking. Our heads never stop spinning with thoughts, ideas, analyses, and worries. At times, this cognitive noise can be overwhelming. But it’s that ability to think quickly and clearly that launched us on our evolutionary path to the top of the food chain. And though our brains have come a long way, they’re not as modern as you might believe – in fact, they’re downright prehistoric. Like the monkeys we once were, they can’t sit still. They swing from neurological branch to branch, warning us about threats, dreaming of a brighter future, and ruminating over the past. It’s no surprise, then, that we struggle to enjoy the moment and spend so much time fretting instead. The key message here is: The brain’s evolution explains why we worry so much. Survival is a stressful business. Avoiding danger and making the most of opportunities in an uncertain world requires hypervigilance. That’s true of pretty much every living being. Take microbial bacteria, the first life forms on our planet. They evolved crude sensors that helped them steer clear of dangerous areas and find safe places bustling with food. Our prehistoric forebears weren’t much different. Their minds raced with questions: like Where is it safe to sleep? Will that animal eat me? Are these berries tasty treats or toxic killers? Survival gave the brain a full-time job as it sifted through sensory and experiential data to make life-or-death decisions. The easiest way to end up in trouble, after all, was to switch off. Over the millennia, Homo sapiens became smarter. They got better at identifying threats and found ways of making life more comfortable – think fire and agriculture. These evolutionary milestones made us what we are today: a species with unparalleled control over our environment. Life on prehistoric savannas and steppes couldn’t be more different to life in the twenty-first century, yet the human brain hasn’t changed much. Our brains remain hypervigilant even though supermarkets don’t stock poisonous berries and we’re unlikely to be devoured by wild animals. Anything that looks like a threat – say, a rude remark or an argument – causes the brain to go into overdrive. Like our ancestors, we find it hard to switch off. Unlike them, we can afford to. We don’t have to lead anxious, fretful lives. We have the luxury to be calm and enjoy the present

moment. We just need to learn how.

# The brain can be retrained – for better or worse.

Your body's most energy-intensive organ is the brain. Believe it or not, your brain burns around a quarter of the calories you consume each day. That's because the brain contains 86 billion nerve cells, or neurons, which are in constant action. Neurons are connected to each other by synapses that act as cognitive bridges. These synapses use chemicals called neurotransmitters to carry signals from one neuron to the next. And because each neuron transmits between one and twenty signals every ten seconds, you're using trillions of signals just to absorb the information in this blink. In order to regulate your cognitive, sensory-motor, and emotional faculties, these signals contain one of two commands: either Do something! or Stop doing that! But this vast neural network isn't set in stone – in fact, it's constantly being rewired. The key message here is: Brains can be rewired – for better or worse. The sum of the brain's work is what we call the mind. The neural transmission of signals accounts for many of the things that make us who we are – including our thoughts, memories, and desires. Sensations, like pain or tingling, and emotions, like happiness or anger, are also processed in the mind. But these signals don't follow predetermined paths. The brain can be trained, modified, and reprogrammed – a phenomenon known as neuroplasticity. That explains how people who are hard of hearing often have a more developed sense of vision. The area in the brain that normally regulates hearing isn't being used, so it's reassigned to other functions like sight. The brain doesn't just compensate, though – it also develops in response to stimuli. Take professional pianists, for example. Their brains show higher levels of development in areas controlling fine hand-movement than their counterparts who don't play the piano every day. The repetitive nature of training cements a link between an input and an output. Unfortunately, this cuts both ways. While a pianist's frequent practice equals greater dexterity, someone who experiences frequent depression can relapse more quickly because the area in their brain that's responsible for depression has been stimulated more. All this suggests that neural activity is contextual. When you don't do something, the corresponding brain area finds other tasks. By contrast, do something a lot and the related area grows. That's good news – it means you have some control over your state of mind. The key, as we'll see in the next blink, is finding the right training exercises.

# Meditation trains your brain to be more attentive.

What is meditation? Well, it depends on who you're asking. In Chinese philosophy, it's associated with slow, deliberate movement coupled with breathing exercises. These overlapping techniques are said to cultivate "life-energy," or qigong. Across the Indian subcontinent, many Hindus and Buddhists practice by repeating mantras – phrases with no particular meaning, like "om" or "rama." In the West, Christian contemplative prayer, which is a personal dialogue with God, can also be seen as a way of meditating. In short, meditation is as varied and diverse as the people who practice it. But there is one common thread – it's always about mental exercise. The key message here is: Meditation trains your brain to be more attentive. We all know the health benefits of

physical training; doctors are constantly encouraging us to take up jogging, swimming, or weight lifting. Unfortunately, we're not as enlightened about our mental health, which is shrouded with stigmas and taboos. Usually, though, it's simply a question of not knowing how to exercise the mind. As neuroplasticity proves, the brain can be remodeled. Think of it like a neurological "muscle," which responds to training in the same way as your biceps and triceps. Let's take a look at one of the more simple kinds of exercise – mindfulness meditation. Here's how you can use it to start giving your brain a workout. Find a quiet spot and get comfortable. Feel free to sit, stand, or lie down – just make sure it's a position that's easy to hold and won't put you to sleep. Next, focus on a specific object, like a flower, or open your mind to what's going on in your environment. Now try to concentrate as much as possible on what's in your awareness without thinking about anything else. That's it! As you'll discover, simple doesn't necessarily mean easy. At first, you're likely to lose yourself in the whirlwind of thoughts that bombard you. What should I cook for dinner? Did I remember to put an apple in my kid's lunchbox? Am I ready for that meeting tomorrow? Is my spouse bored with me? How will I make next month's rent? And so on. This is your monkey mind – that prehistoric survival mechanism – talking. But the more you practice, the easier it becomes to shut it out. And like the resistance of heavy weights, noticing that your thoughts are wandering is a good sign – it shows that your brain is putting in the work.

# Meditation strengthens brain structures associated with self-control and connectivity.

So, how exactly do we know that meditation rewires the brain? Well, if you want to study the neurological effects of meditation, you need two things. First, you need an fMRI scanner, which stands for functional magnetic resonance imaging. This technique uses magnetic fields to take pictures of the brain's structures in real time. Second, you need to put someone who's spent a lot of time meditating inside that scanner. That's exactly what Laureys did in 2013 when he met Matthieu Ricard, a 70-year-old Buddhist monk from France. When Laureys told him about his research, Ricard agreed to be his guinea pig and undergo a series of tests in Liège, Belgium. The results confirmed Laureys's hypothesis: meditation really does alter the brain's structure. The key message here is: Meditation strengthens brain structures associated with self-control and connectivity. After getting his PhD in cellular genetics as a young man, Ricard moved to Nepal to become a Buddhist monk. As such, he has devoted over 60,000 hours of his life to the mind-altering technique of meditation. His fMRI scans quickly showed a brain unlike those of most men his age. Two things immediately jumped out: there was a lot more gray matter and white matter than you'd expect to find. Let's break that down. Gray matter refers to the darker-colored brain tissue where neuronal cell bodies are found. Gray matter in Ricard's brain was highly developed in the prefrontal cingulate cortex, insular cortex, and hippocampus – areas associated with concentration, emotions, and memory. This suggested that he had an above-average ability to focus his mind and control his feelings. White matter refers to the pale tissue where nerve fibers are located. It houses a fatty white substance called myelin that dictates the speed at which signals are transmitted through its network of neurons. The more developed the network, the more myelin is present and the faster the neurons send signals. The interconnections between neurons can exceed 100 trillion – that's 10,000 times the number of stars in our galaxy. So, picture the brain as a network of freeways. Ricard's

myelin-rich brain had a couple of extra lanes for each freeway in either direction, equipped with optimized, better-regulated interchanges. This means that signals moved at lightning speed and with purpose, rather than getting lost or backed-up. This isn't unique to Ricard, though – as we'll see in the next blink, anyone who meditates has shown similar transformations.

# The more you focus on a task, the more pleasurable it becomes.

OK, so maybe it makes sense that a dedicated Buddhist monk would have a transformed brain from routine meditation – but what about the rest of us? The good news is, you don't need to go on a five-year retreat in Nepal to reap the benefits of meditation. Take it from a study published in 2010. Researchers analyzed a group of beginners in a mindfulness meditation course. After just two months, they reported feeling less stressed. Brain scans explained why. There was a significant reduction of gray matter in the right amygdala; that's the part of the brain responsible for our fight-or-flight responses. Their amygdala wasn't being triggered as often because of the mindfulness meditation course. Meditation doesn't just reduce stress, though – it can also make life more enjoyable. The key message here is: The more you focus on a task, the more pleasurable it becomes. In 2004, neuroscientists at the University of Wisconsin–Madison made an interesting discovery: the brains of people who meditate produce more gamma waves than others. Gamma waves are the fastest frequency in the brain; they're produced during times of intense focus. To experience what your brain feels like when it's sending these waves, try eating an apple as mindfully as possible. The more you can fully focus on this task, the more intense the experience will feel. You'll notice every aspect of the fruit – from its waxy, smooth appearance to the sound it makes as you bite into it to its texture, taste, and smell. Meditation trains your mind in this kind of hyperawareness, which is why it causes the brain to produce more gamma waves. This, in turn, makes life more enjoyable. Not convinced? Let's look at a study published in Science magazine in 2010. Its conclusion, simply put, was that wandering minds are unhappy minds. Researchers contacted 2,000 volunteers at random times and asked them what they were doing, whether they were focused or distracted, and how they felt about that task. In general, participants were happiest when they were talking with friends and family and unhappiest when they were working at their computers. That's obvious, right? Not quite. Turns out, it's not the task itself that makes the difference. Whether on a computer or not, it's your focus on the activity that counts. Even a face-to-face chat with a best friend can be unpleasurable if there are distractions. When we focus on what we're doing, activities become more stimulating and enjoyable. Put differently, the best-tasting apple is the one you're thinking about!

# Mindful breathing calms the restless mind.

Now that we know the neurological benefits of meditation, let's look at the science behind why it works. It all starts with the two main branches of the nervous system: the sympathetic branch that acts like a gas pedal, and the parasympathetic branch that acts like the brakes. Your sympathetic nervous system prepares your body for potential threats. There's a flood of biochemicals, like cortisol; your heart rate, blood pressure,

and sugar levels shoot up, and your pupils dilate. This is your “fight or flight” response. By contrast, your parasympathetic nervous system calms your body. It relaxes your heart rate and muscles, and lets your digestive system absorb nutrients more efficiently. This is your “rest and digest” response. Mindful breathing lets your parasympathetic nervous system know there isn’t a looming threat – so your body can finally relax. The key message here is: Mindful breathing calms the restless mind. By now, you’re probably curious to see whether meditation will help relieve your stress and usher in more calm and enjoyment for the day ahead. It’s time to test the theory with this simple breathing exercise. Start by finding a pleasant spot where you’d like to meditate. You want to make yourself comfortable enough to hold your position – but not so comfortable that you’ll fall asleep! Close your eyes, and turn your attention to your breathing. Take slow and deliberate breaths. If your mind wanders, gently refocus on your breath. Your mind will most likely meander a lot at first; things like shopping lists, tasks, and worries might pop up. With practice, your mind’s focus will become stronger – but at the beginning, it might help to count or name your breaths: inhale, exhale, inhale, exhale. After a minute or two, you’ll become more attentive to the physical sensations you’re experiencing – the air tickling your nostrils or the movement of your belly and chest, for example. Concentrate closely on these sensations. Deliberate breathing, as you’ll see, isn’t just relaxing – it’s enjoyable! The length of each meditation is up to you. Set an alarm for as little as two minutes or as long as 15 minutes – or even more! When your practice is over, remain seated for a moment or two to savor any lingering sensations. Then, slowly open your eyes wide, stand up, and stretch. You’re now ready to continue your day with a fresh perspective on life!

# Mindfulness is the art of living in the moment.

Looming deadlines make us fret about the future. Upcoming performance reviews cause us to linger on the past. We worry about chores we’ve forgotten, and we anxiously await appointments. All in all, modern life makes it hard to be in the moment – let alone enjoy it. Our brains are busy, distracted, and filled with uncontrolled thoughts. That’s a recipe for stress. Worse, it means we miss out on the things that make life special and fun. But it doesn’t have to be like this. Becoming more conscious of yourself and the world you live in won’t happen overnight. But training your mind to be present in the moment is possible – with a little time, consistency, and practice. The key message here is: Mindfulness is the art of living in the moment. Staying in the moment can be challenging even on the least stressful days, but here’s an easy exercise that’ll help ground you in the now. Pour a cup of tea or, if you prefer, a glass of wine. Pick something you like that’s very flavorful, like fresh chamomile tea or a full-bodied Rioja. As you savor it, hold every sensation in your awareness. How does the liquid appear? How does it smell? What happens when you swirl it – does it release new scents? How does it feel on your lips or tongue? How about in your mouth? What does it taste like? Don’t judge any part of the experience. Use neutral terms like “sweet-smelling” rather than “smells good.” The idea is to fully engage with what’s in front of you as it truly exists without preconceived thoughts. For the next exercise, which is a body scan, lie down on your back with your palms turned upward and your feet slightly apart. Close your eyes, and focus on your breath for a minute or two. Then turn your attention to your body. What sensations do you notice? How do your clothes feel against your skin? What about the support beneath you – is it hard or soft? Are you hot or cold? Relaxed or tense? As you become more comfortable, scan different parts of your body and their

various sensations. After around ten minutes, you'll probably feel more relaxed. Open your eyes, and linger on this sensation before getting on with your day. The more you practice these techniques, the more mindful you'll become in other aspects of your life. That's a sign that your brain is being rewired! And the more you support this process, the more relaxed and content you'll become.

# Final summary

The key message in these blinks is that: The human brain evolved in an uncertain world. Our prehistoric ancestors had to be hypervigilant to survive. And though we've changed a lot since then, our brains have remained the same – they're always on the lookout for danger. That's why we're prone to so much stress, so much of the time. Thankfully, meditation can help us calm our busy brains for less anxiety and more enjoyment in life. Too good to be true? Nope! The latest neuroscientific research shows that meditation rewires our brains – for the better.