

HARDWIRING HAPPINESS



How to reshape
your brain and your life

**‘A book to savour, to practise,
and take to heart’**

**Prof Mark Williams,
author of *Mindfulness***

RICK HANSON

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About the Book

What we think and feel changes the brain. In *Hardwiring Happiness*, neuropsychologist and leading author Dr Rick Hanson shows how to turn our everyday experiences into the neural pathways we need for our well-being.

Thousands of years ago, the struggle to survive meant our ancestors learned primarily from their negative experiences. Yet today, the ability to focus on the positive is essential for our health, happiness and relationships. Combining neuroscience with contemplative techniques, Dr Hanson explains how to weave life's good experiences into the brain and make enduring use of them.

Revolutionary yet profoundly practical, *Hardwiring Happiness* equips us to heal old wounds, increase our motivation, handle stress, improve our ability to learn and, ultimately, transform our lives – putting us in charge of our brains, rather than at the mercy of our thinking.

About the Author

Dr Rick Hanson is a neuropsychologist, and an authority on self-directed neuroplasticity. Founder of the Wellspring Institute for Neuroscience and Contemplative Wisdom, and an Affiliate of the Greater Good Science Center at UC Berkeley, he has been invited to speak at Oxford, Stanford and Harvard universities, and taught in meditation centers worldwide.

He is the author of *Buddha's Brain: the practical neuroscience of happiness, love and wisdom* (written with Rick Mendius, and translated into 24 languages), *Just One Thing* and *Mother Nurture*. His work has been featured widely, including by the BBC, CBC, NPR and *O* magazine, and his articles have appeared in *Tricycle* magazine, *Insight Journal* and *Inquiring Mind*. He edits the Wise Brain Bulletin, and his weekly e-newsletter – Just One Thing – has more than 80,000 subscribers. He also appears on the Huffington Post, Psychology Today and other major websites, and has several audio programs with Sounds True.

For more information, please see www.RickHanson.net

ALSO BY RICK HANSON

Just One Thing

Buddha's Brain

Mother Nurture

Hardwiring happiness

The practical
science of
reshaping
your brain –
and your life

Rick Hanson



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For Laurel and Forrest

Think not lightly of good, saying, “It will not come to me.”

Drop by drop is the water pot filled.

Likewise, the wise one, gathering it little by little,
fills oneself with good.

—DHAMMAPADA 9.122

Introduction

If you're like me and many people, you go through each day zipping from one thing to another. But along the way, when's the last time you stopped for ten seconds to feel and take in one of the positive moments that happen in even the most hectic day? If you don't take those extra seconds to enjoy and stay with the experience, it passes through you like wind through the trees, momentarily pleasant but with no lasting value.

This book is about one simple thing: the hidden power of everyday positive experiences to change your brain—and therefore your life—for the better. I'll show you how to turn good moments into a great brain, full of confidence, ease, comfort, self-worth, and feeling cared about. These are not million-dollar moments. They're simply the cozy feeling of a favorite sweater, pleasure in a cup of coffee, warmth from a friend, satisfaction after finishing a task, or love from your mate.

A few times a day, a dozen seconds at a time, you'll learn how to *take in the good*, which will naturally grow more joy, calm, and strength inside you. But this practice and the science behind it are neither positive thinking nor another program for manufacturing positive experiences, both of which are usually wasted on the brain. This is about transforming fleeting experiences into lasting improvements in your neural net worth.

The inner strengths we need for well-being, coping, and success are built from brain structure—but to help our ancestors survive, the brain evolved a negativity bias that makes it like Velcro for bad experiences but Teflon for good

ones. To solve this problem and build inner strengths into your brain, you'll learn which positive experiences can meet your three essential needs for *safety*, *satisfaction*, and *connection*. As you build up inner peace, contentment, and love, you won't need to chase after pleasant events or struggle with unpleasant ones. You'll increasingly enjoy a sense of wellness that's unconditional, not based on external conditions.

Your brain is the most important organ in your body, and what happens in it determines what you think and feel, say and do. Many studies show that your experiences are continually changing your brain one way or another. This book is about getting good at changing your brain for the better.

The brain is amazing, and you'll learn a lot about it. In the first three chapters, I'll give an overview of how your brain works, why you need to take charge of it, and how you can come home to your wonderful deep nature. Then in the rest of the book, I'll show you many effective ways to take in the good and become really skillful at this practice. You won't need a background in neuroscience or psychology to understand these ideas. I've distilled them down to four simple steps with the acronym **HEAL**: **H**ave a positive experience. **E**nrich it. **A**bsorb it. **L**ink positive and negative material so that positive soothes and even replaces negative. (The fourth step is optional.) We'll explore each step thoroughly, and you'll learn many practical, down-to-earth ways, right in the middle of a busy day, to notice or create positive experiences and then weave them into your mind, your brain, and your life. At the end of each chapter, there's a section called "Taking It In" that summarizes the key points. And if you want to learn more about the science I've drawn upon or read my occasional side comments, see the [Reference Notes](#) and [Bibliography](#) in the back of the book.

I stumbled on how to take in the good while still in college, and it changed my life. Now, forty years later, in my work as a neuropsychologist I've tried to develop this practice in depth. I've taught it to thousands of people and many of them have sent me stories about how it's changed their lives as well; you'll see some of these stories in italics in the chapters to come. I am delighted to be able to share this powerful practice with you, and if you'd like to learn more about it, please see the freely offered resources at www.RickHanson.net.

As a father, husband, psychologist, meditation teacher, and business consultant, I've learned that it's what we actually *do* both inside the mind and out in the world that makes the most difference. Therefore, you'll see experiential methods for converting passing mental states into enduring neural structure; adapt my suggestions to your own needs. I hope you enjoy what you find in this book, which will help your discoveries sink into your brain and your life.

Trust yourself. Taking in the good helps you see the good in yourself, and in the world and other people.

PART ONE



Why

Chapter 1

Growing Good

Going through school, I was a year or two younger than the other kids in my grade, a shy, skinny, nerdy boy with glasses. Nothing awful happened to me, but it felt like I was watching everyone else through a wall of glass. An outsider, ignored, unwanted, put down. My troubles were small compared to those of many other people. But we all have natural needs to feel seen and valued, especially as children. When these needs aren't met, it's like living on a thin soup. You'll survive, but you won't feel fully nourished. For me, it felt like there was an empty place inside, a hole in my heart.

But while I was in college I stumbled on something that seemed remarkable then, and still seems remarkable to me now. Some small thing would be happening. It could be a few guys saying, "Come on, let's go get pizza," or a young woman smiling at me. Not a big deal. But I found that if I let the good fact become a good *experience*, not just an idea, and then stayed with it for at least a few breaths, not brushing it off or moving on fast to something else, it felt like something good was sinking into me, becoming a part of me. In effect, I was *taking in the good*—a dozen seconds at a time. It was quick, easy, and enjoyable. And I started feeling better.

In the beginning the hole in my heart seemed as big as an empty swimming pool. But taking in a few experiences each day of being included, appreciated, or cared about felt like tossing a few buckets of water into the pool. Day after day, bucket after bucket, month after month, I was gradually

filling that hole in my heart. This practice lifted my mood and made me feel increasingly at ease, cheerful, and confident.

Many years later, after becoming a psychologist, I learned why doing this seemingly small practice had made such a large difference for me. I'd been weaving inner strengths into the fabric of my brain, my mind, and my life—which is what I mean by “hardwiring happiness.”

Inner Strengths

I've hiked a lot and have often had to depend on what was in my pack. *Inner strengths* are the supplies you've got in your pack as you make your way down the twisting and often hard road of life. They include a positive mood, common sense, integrity, inner peace, determination, and a warm heart. Researchers have identified other strengths as well, such as self-compassion, secure attachment, emotional intelligence, learned optimism, the relaxation response, self-esteem, distress tolerance, self-regulation, resilience, and executive functions.¹ I'm using the word *strength* broadly to include positive feelings such as calm, contentment, and caring, as well as skills, useful perspectives and inclinations, and embodied qualities such as vitality or relaxation. Unlike fleeting mental *states*, inner strengths are stable *traits*, an enduring source of well-being, wise and effective action, and contributions to others.

The idea of inner strengths might seem abstract at first. Let's bring it down to earth with some concrete examples. The alarm goes off and you'd rather snooze—so you find the will to get up. Let's say you have kids and they're squabbling and it's frustrating—so instead of yelling, you get in touch with that place inside that's firm but not angry. You're embarrassed about making a mistake at work—so

you call up a sense of worth from past accomplishments. You get stressed racing around—so you find some welcome calm in several long exhalations. You feel sad about not having a partner—so you find some comfort in thinking about the friends you do have. Throughout your day, other inner strengths are operating automatically in the back of your mind, such as a sense of perspective, faith, or self-awareness.

A well-known idea in medicine and psychology is that how you feel and act—both over the course of your life and in specific relationships and situations—is determined by three factors: the *challenges* you face, the *vulnerabilities* these challenges grind on, and the *strengths* you have for meeting your challenges and protecting your vulnerabilities.² For example, the challenge of a critical boss would be intensified by a person's vulnerability to anxiety, but he or she could cope by calling on inner strengths of self-soothing and feeling respected by others.

We all have vulnerabilities. Personally, I wish it were not so easy for me to become worried and self-critical. And life has no end of challenges, from minor hassles like dropped cell phone calls to old age, disease, and death. You need strengths to deal with challenges and vulnerabilities, and as either or both of these grow, so must your strengths to match them. If you want to feel less stressed, anxious, frustrated, irritable, depressed, disappointed, lonely, guilty, hurt, or inadequate, having more inner strengths will help you.

Inner strengths are fundamental to a happy, productive, and loving life. For example, research on just one strength, positive emotions, shows that these reduce reactivity and stress, help heal psychological wounds, and improve resilience, well-being, and life satisfaction.³ Positive emotions encourage the pursuit of opportunities, create positive cycles, and promote success.⁴ They also strengthen

your immune system, protect your heart, and foster a healthier and longer life.⁵

On average, about a third of a person's strengths are innate, built into his or her genetically based temperament, talents, mood, and personality.⁶ The other two-thirds are developed over time. *You get them by growing them.* To me this is wonderful news, since it means that we can develop the happiness and other inner strengths that foster fulfillment, love, effectiveness, wisdom, and inner peace. Finding out *how* to grow these strengths inside you could be the most important thing you ever learn. That's what this book is all about.

In the Garden

Imagine that your mind is like a garden. You could simply be with it, looking at its weeds and flowers without judging or changing anything. Second, you could pull weeds by decreasing what's negative in your mind. Third, you could grow flowers by increasing the positive in your mind. (See the box [here](#) for what I mean by *positive* and *negative*.) In essence, you can manage your mind in three primary ways: *let be, let go, let in.*⁷ This book is about the third one, the cultivation of inner strengths: growing flowers in the garden of the mind. To help you do this most effectively, I'd like to relate it to the other two ways to approach your mind.

WHAT IS POSITIVE?

By *positive* and *good*, I mean what leads to happiness and benefit for oneself and others. *Negative* and *bad* mean what leads to suffering and harm. I'm being pragmatic here, not moralistic or religious.

Positive experiences usually feel good. But some experiences that feel bad have good results, so I'll refer to them as positive. For example, the

pain of a hand on a hot stove, the anxiety at not finding your child at a park, and the remorse that helps us take the high road make us feel bad now to help us feel better later.

Similarly, negative experiences usually feel bad. But some experiences that feel good have bad results, and I'll call these negative. The buzz from three beers or the vengeance in gossiping about someone who wronged you may feel momentarily pleasurable, but the costs outweigh the benefits. Experiences like these make us feel good now but worse later.

Being with Your Mind

Letting your mind be, simply observing your experience, gives you relief and perspective, like stepping out of a movie screen and watching from twenty rows back. Letting the stream of consciousness run on its own helps you stop chasing what's pleasant and struggling with what's unpleasant. You can explore your experience with interest and (hopefully) kindness toward yourself, and perhaps connect with softer, more vulnerable, and possibly younger layers in your mind. In the light of an accepting, nonreactive awareness, your negative thoughts and feelings can sometimes melt away like morning mists on a sunny day.

Working with Your Mind

But just being with your mind is not enough. You also need to *work with* it, making wise efforts, pulling weeds and growing flowers. Merely witnessing stress, worries, irritability, or a blue mood will not necessarily uproot any of these. As we'll see in the next chapter, the brain evolved to learn all too well from negative experiences, and it stores them in long-lasting neural structures. Nor does being with your mind by itself grow gratitude, enthusiasm, honesty, creativity, or many other inner strengths. These mental qualities are based on underlying neural structures that don't spring into being on their own. Further, to be with your mind fully, you've got to work with it to grow inner strengths

such as calm and insight that enable you to feel all your feelings and face your inner shadows even when it's hard. Otherwise, opening to your experience can feel like opening a trapdoor to Hell.

Staying Mindful

Whether you are letting be, letting go, or letting in, be *mindful*, which simply means staying present moment by moment. Mindfulness itself only witnesses, but alongside that witnessing could be active, goal-directed efforts to nudge your mind one way or another. Working with your mind is not at odds with mindfulness. In fact, you need to work with your mind to build up the inner strength of mindfulness.

Be mindful of both your outer world and your inner one, both the facts around you and how you feel about them. Mindfulness is not just *self*-awareness. While rock climbing, I've been extremely mindful of my partner belaying me and looking out for me far below!

A Natural Sequence

When something difficult or uncomfortable happens—when a storm comes to your garden—the three ways to engage your mind give you a very useful, step-by-step sequence. First, be with your experience. Observe it and accept it for what it is even if it's painful. Second, when it feels right—which could be a matter of seconds with a familiar worry or a matter of months or years with the loss of a loved one—begin letting go of whatever is negative. For example, relax your body to reduce tension. Third, again when it feels right, after you've released some or all of what was negative, replace it with something positive. For instance, you could remember what it's like to be with someone who appreciates you, and then stay with this experience for ten

or twenty seconds. Besides feeling good in the moment, this third step will have lasting benefits, for when you take in positive experiences, you are not only growing flowers in your mind. You are growing new neural circuits in your *brain*. You are hardwiring happiness.

Experience-Dependent Neuroplasticity

The brain is the organ that *learns*, so it is designed to be changed by your experiences. It still amazes me but it's true: Whatever we repeatedly sense and feel and want and think is slowly but surely sculpting neural structure.⁸ As you read this, in the five cups of tofu-like tissue inside your head, nested amid a trillion support cells, 80 to 100 billion neurons are signaling one another in a network with about half a quadrillion connections, called synapses. All this incredibly fast, complex, and dynamic neural activity is continually changing your brain. Active synapses become more sensitive, new synapses start growing within minutes, busy regions get more blood since they need more oxygen and glucose to do their work, and genes inside neurons turn on or off.⁹ Meanwhile, less active connections wither away in a process sometimes called neural Darwinism: the survival of the busiest.

All mental activity—sights and sounds, thoughts and feelings, conscious and unconscious processes—is based on underlying neural activity.¹⁰ Much mental and therefore neural activity flows through the brain like ripples on a river, with no lasting effects on its channel. But intense, prolonged, or repeated mental/neural activity—especially if it is conscious—will leave an enduring imprint in neural structure, like a surging current reshaping a riverbed.¹¹ As they say in neuroscience: *Neurons that fire together wire*

together. Mental states become neural traits. Day after day, your mind is building your brain.

This is what scientists call *experience-dependent neuroplasticity*, which is a hot area of research these days. For example, London taxi drivers memorizing the city's spaghetti snarl of streets have thickened neural layers in their *hippocampus*, the region that helps make visual-spatial memories; as if they were building a muscle, these drivers worked a part of their brain and grew new tissue there.^{[12](#)} Moving from the cab to the cushion, mindfulness meditators have increased gray matter—which means a thicker *cortex*—in three key regions: *prefrontal* areas behind the forehead that control attention; the *insula*, which we use for tuning into ourselves and others; and the hippocampus.^{[13](#), [14](#), [15](#), [16](#)} Your experiences don't just grow new synapses, remarkable as that is by itself, but also somehow reach down into your genes—into little strips of atoms in the twisted molecules of DNA inside the nuclei of neurons—and change how they operate. For instance, if you routinely practice relaxation, this will increase the activity of genes that calm down stress reactions, making you more resilient.^{[17](#)}

Changing the Brain for the Better

If you step back from the details of these studies, one simple truth stands out: Your experiences *matter*. Not just for how they feel in the moment but for the lasting traces they leave in your brain. Your experiences of happiness, worry, love, and anxiety can make real changes in your neural networks. The structure-building processes of the nervous system are turbocharged by conscious experience, and especially by what's in the foreground of your awareness. Your attention is like a combination spotlight and

vacuum cleaner: It highlights what it lands on and then sucks it into your brain—for better or worse.

There's a traditional saying that the mind takes its shape from what it rests upon. Based on what we've learned about experience-dependent neuroplasticity, a modern version would be to say that *the brain* takes *its* shape from what the mind rests upon. If you keep resting your mind on self-criticism, worries, grumbling about others, hurts, and stress, then your brain will be shaped into greater reactivity, vulnerability to anxiety and depressed mood, a narrow focus on threats and losses, and inclinations toward anger, sadness, and guilt. On the other hand, if you keep resting your mind on good events and conditions (someone was nice to you, there's a roof over your head), pleasant feelings, the things you do get done, physical pleasures, and your good intentions and qualities, then over time your brain will take a different shape, one with strength and resilience hardwired into it, as well as a realistically optimistic outlook, a positive mood, and a sense of worth. Looking back over the past week or so, where has your mind been mainly resting?

In effect, what you pay attention to—what you rest your mind on—is the primary shaper of your brain. While some things naturally grab a person's attention—such as a problem at work, a physical pain, or a serious worry—on the whole you have a lot of influence over where your mind rests. This means that you can deliberately prolong and even create the experiences that will shape your brain for the better.

I'll show you how to do this in detail, beginning in [chapter 4](#). Meanwhile, feel free to start taking in the good right now. This practice, applied to a positive experience, boils down to just four words: *have it, enjoy it*. And see for yourself what happens when you do.

The Experiences That Serve You Most

Contemplating your mental garden these days, which flowers would be good to grow? Certain kinds of experiences will help you more than others will.

Negative experiences might have value for a person.¹⁸ For instance, working the graveyard shift in a bottling plant one summer while in college toughened me up. But negative experiences have inherent negative side effects, such as psychological discomfort or the health consequences of stress. They can also create or worsen conflicts with others. When my wife and I were tired and frazzled raising two young children, we snapped at each other more often. The costs of negative experiences routinely outweigh their benefits, and often there's no benefit at all, just pain with no gain. Since neurons that fire together wire together, staying with a negative experience past the point that's useful is like running laps in Hell: You dig the track a little deeper in your brain each time you go around it.

On the other hand, positive experiences always have gain and rarely have pain. They usually feel good in the moment. Additionally, the most direct way to grow inner strengths such as determination, a sense of perspective, positive emotions, and compassion is to have experiences of them in the first place. If you want to develop more gratitude, keep resting your mind on feeling thankful. If you want to feel more loved, look for and stay with experiences in which you feel included, seen, appreciated, liked, or cherished. The answer to the question of *how* to grow good things inside your mind is this: *Take in experiences of them*. This will weave them into your brain, building up their neural circuits, so you can take them with you wherever you go.

Besides growing specific inner strengths for yourself, taking in the good has built-in, general benefits such as being active rather than passive, treating yourself as if you

matter, and strengthening your attention. Additionally, as we'll see in [chapter 3](#), over time you can gradually sensitize your brain to positive experiences so they become inner strengths more quickly and easily.

Self-Directed Neuroplasticity

A neurologist friend of mine once described the brain as “three pounds of tapioca pudding.” It looks like a gooey, unimpressive blob. But it's the master organ of the body and the primary internal source of your well-being, everyday effectiveness, psychological healing, personal growth, creativity, and success. Whether you feel angry or at ease, frustrated or fulfilled, lonely or loved depends on your neural networks. Further, how brains interact is the basis of fulfilling relationships, successful organizations, thriving nations, and ultimately, whether we live in a peaceful and sustainably prosperous world.

The science of experience-dependent neuroplasticity shows that each person has the power to change his or her brain for the better—what Jeffrey Schwartz has called *self-directed* neuroplasticity. If you don't make use of this power yourself, other forces will shape your brain for you, including pressures at work and home, technology and media, pushy people, the lingering effects of painful past experiences, and as we'll see in the next chapter, Mother Nature herself.

On the other hand, in quick, easy, and enjoyable ways right in the flow of your day, you can use the power of self-directed neuroplasticity to build up a *lasting* sense of ease, confidence, self-acceptance, kindness, feeling loved, contentment, and inner peace. In essence what you'll do with the practices in this book is simple: turn everyday good experiences into good neural structure. Putting it more technically: You will *activate* mental states and then *install*