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## BOOK REVIEW

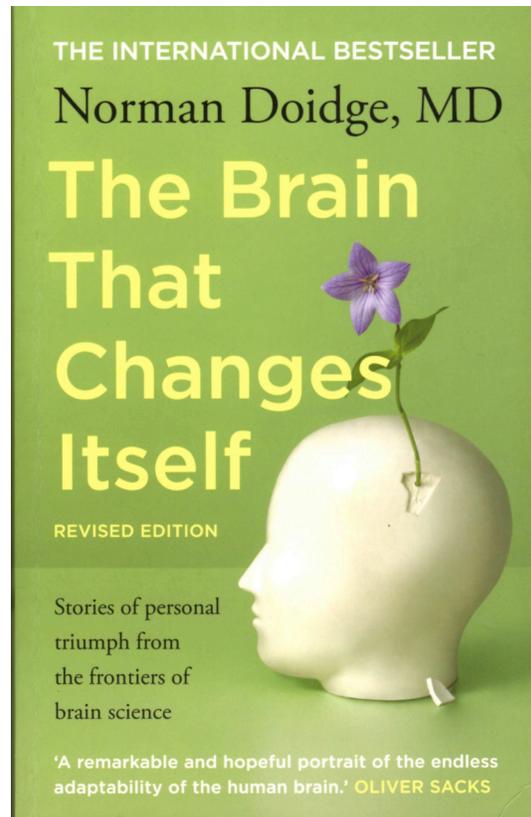
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# "The Brain that Changes Itself: Stories of Personal Triumph from the Frontiers of Brain Science" by Norman Doidge

Penguin Books: New York: 2007  
ISBN 13: 978-0143113102  
ISBN 10: 0143113100

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Yes, the human brain can change itself. This 2007 book compiles stories from scientists, doctors, and patients who have experienced this fascinating phenomenon.

Until recently, mainstream science purported that brain anatomy is fixed during adulthood until the process of decline that comes with age; that ill-developed or damaged brain cells were a lost cause; that those with brain damage or mental limitations were incurable; that facets of human nature governed by your brain could never change; and that your brain is like a hardwired machine.

After encountering patients that defied these assumptions, research psychiatrist and psychoanalyst Dr. Norman Doidge began to believe otherwise. From his preface:

I began a series of travels, and in the process I met a band of brilliant scientists, at the frontiers of brain science, who had, in the late 1960s or early 1970s, made a series of unexpected discoveries. They showed that the brain changed its very structure with each different activity it performed, perfecting its circuits so it was better suited to the task at hand. If certain "parts" failed, then other parts could sometimes take over. The machine metaphor, of the brain as an organ with specialised parts, could not fully account for changes the scientists were seeing. They began to call this fundamental brain property "neuroplasticity."

What he found especially intriguing was one scientist who "showed that thinking, learning, and acting can turn our genes on or off, thus shaping our brain anatomy and our behavior – surely one of the most extraordinary discoveries of the twentieth century." He dubbed these scientists *neuroplasticians* and their new skill *neuroplastic treatments*.

This is a very engaging book that I highly recommend to scientists and laypersons alike. Each chapter is an enlightening case study to which the author adds interviews with lead brain researchers such as Michael Merzenich, who believes that brain exercises may be as useful as drugs in treating schizophrenia and has created training programs in conjunction with his research; Paul Bach-y-Rita, who helped stroke victims improve their balance and walking; V.S. Ramachandran, who has been successful in treating phantom-limb pain; and scientists at Salk Laboratories in La Jolla, California, who are pioneering in this field. He writes engagingly and intimately, rendering what would otherwise be a dry, technical subject absolutely delightful to read about. *The Brain That Changes Itself* is as hard to put down as a detective thriller!

I can't resist providing the chapter titles of Doidge's case studies to give you an idea of how thought-provoking they are:

- A Woman Perpetually Falling... Rescued by the Man Who Discovered the Plasticity of Our Senses
- Building Herself a Better Brain: A Woman Labeled "Retarded" Discovers How to Heal Herself

- Redesigning the Brain: A Scientist Changes Brains to Sharpen Perception and Memory, Increase Speed of Thought, and Heal Learning Problems
- Acquiring Tastes and Loves: What Neuroplasticity Teaches Us about Sexual Attraction and Love
- Midnight Resurrections: Stroke Victims Learn to Move and Speak Again
- Brain Lock Unlocked: Using Plasticity to Stop Worries, Obsessions, Compulsions, and Bad Habits
- Pain: The Dark Side of Plasticity
- Imagination: How Thinking Makes It So
- Turning Our Ghosts into Ancestors: Psychoanalysis as a Neuroplastic Therapy
- Rejuvenation: The Discovery of the Neuronal Stem Cell and Lessons for Preserving Our Brains
- More than the Sum of Her Parts: A Woman Shows Us How Radically Plastic the Brain Can Be

It's no surprise that this book inspired a paradigm shift in brain science. It also inspired books such as one you might be familiar with: *Train Your Mind: How a New Science Reveals Our Extraordinary Potential to Transform Ourselves*, by Sharon Begley, which is the self-help version of Doidge's groundbreaking work; and his own 2012 sequel written with Barbara Arrowsmith-Young – *The Woman Who Changed Her Brain and Other Inspiring Stories of Pioneering Brain Transformation*.

I found this quote from Mark Lamendola at [www.MindConnection.com](http://www.MindConnection.com) indicative of the far-reaching impact of Doidge's brain research:

On a larger scale, this research holds the answer to the stupidity epidemic that is presently overwhelming our society. We see colossal stupidity on a massive scale in many ways...The book doesn't explore the idea of reversing aggregate stupidity, but it's one that struck me again and again as I read the book. If a critical mass of people engaged in purposeful brain input management, that could start a trend of diminishing stupidity.

*The Brain That Changes Itself* is satisfying on many levels. Its audience spans the sciences and the general public. It speaks to the mind, the heart, and the emotions. It shows that our cultural environment shapes our neurological processes, making cultural influences interesting beyond the realm of the social sciences.

The brain can mend itself in the face of negative social or environmental effects. Thoughts and actions *can* change the structure of your mind. Any willing and curious person can use this new brain science to learn about their ability to improve their own thinking and make positive changes in their life! How cool is that?

Doidge also explores the vulnerability of the brain to outside influences. In particular, mind-numbing television programs, mass media, and information overload result in subtle, negative impacts on brain function. Though the brain can mend itself, it can't do so unless you recognize what is influencing it, break the cycle, and take action to reprogram it. Doidge is not saying that this is easy to do, but that it is indeed possible. Greater intelligence, cognition, perception, and even muscle strength and musical talent can be programmed through gene management controlled by your thoughts!

Doidge is on the faculty at Columbia University's Psychoanalytic Center in New York, as well as at the University of Toronto in his home country of Canada. In 2008, he received the highest award in psychoanalysis, the Mary S. Sigourney Prize from the Sigourney Trust.

This book is brilliantly written, optimistic, and personally useful – and it's not brain surgery to understand it. Don't pass it up!

[Dr Darryl Cross is a clinical and organisational psychologist as well as a credentialed executive and personal coach. He is also an author, international speaker and university lecturer. Dr Darryl assists people to find their strengths and reach their goals. Further information on Dr Darryl can be seen at [www.DrDarryl.com](http://www.DrDarryl.com)]