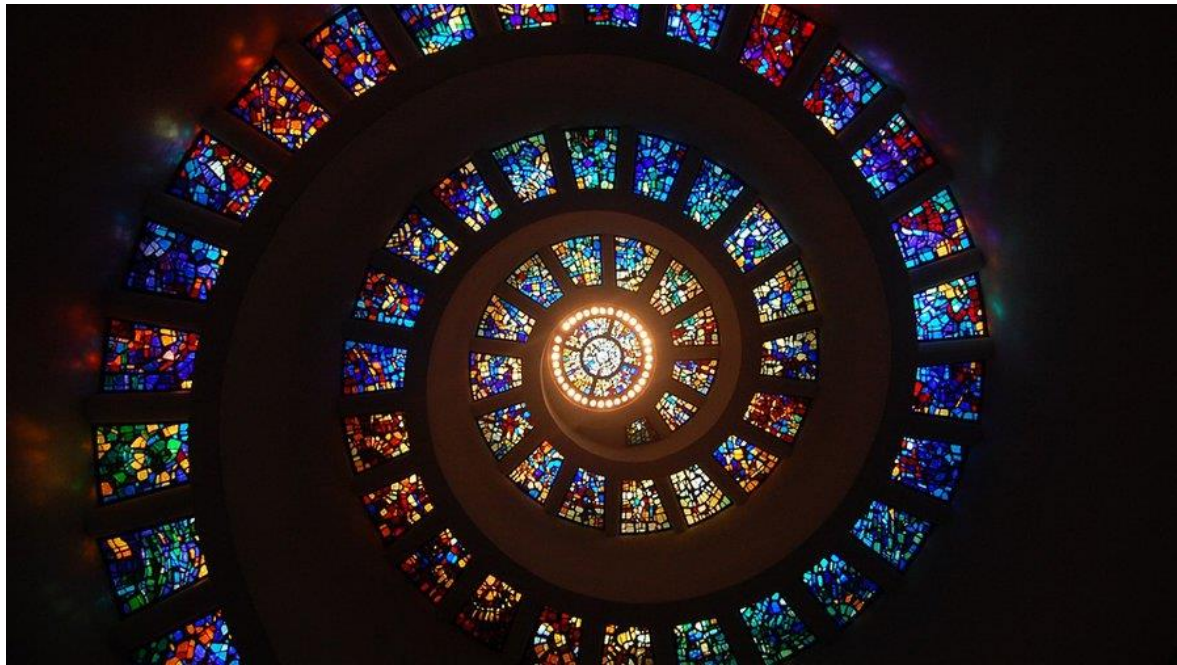


How Reading Rewires Your Brain for More Intelligence and Empathy

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Fitness headlines promise staggering physical results: a firmer butt, ripped abs, bulging biceps. Nutritional breakthroughs are similar clickbait, with attention-grabbing, if often inauthentic—what, really, is a “superfood?”—means of achieving better health. Strangely, one topic usually escaping discussion has been shown, time and again, to make us healthier, smarter, and more empathic animals: reading.⁵

Reading, of course, requires patience, diligence, and determination. Scanning headlines and retweeting quips is not going to make much cognitive difference. If anything, such sweet nothings are dangerous, the literary equivalent of sugar addiction. Information gathering in under 140 characters is lazy. The benefits of contemplation through narrative offer another story.

The benefits are plenty, which is especially important in a distracted, smartphone age in which one-quarter of American children **don't learn to read**. This not only endangers them socially and intellectually, but cognitively handicaps them for life. One **2009 study** of 72 children ages eight to

ten discovered that reading creates new white matter in the brain, which improves system-wide communication.

White matter carries information between regions of grey matter, where any information is processed. Not only does reading increase white matter, it helps information be processed more efficiently.

Reading in one language has enormous benefits. Add a foreign language and not only do communication skills improve—you can talk to more people in wider circles—but the regions of your brain involved in **spatial navigation and learning new information** increase in size. Learning a new language also improves your overall memory.

In one of the most fascinating aspects of neuroscience, language affects regions of your brain involving **actions you're reading about**. For example, when you read “soap” and “lavender,” the parts of your brain implicated in scent are activated. Those regions remain silent when you read “chair.” What if I wrote “leather chair?” Your sensory cortex just fired.

Continuing from the opening paragraph, let's discuss squats in your quest for a firmer butt. Picture the biomechanics required for a squat. Your motor cortex has been activated. Athletes have long envisioned their movements—Serena Williams's serve; Conor McGregor's kicks; Usain Bolt's bursts of speed—to achieve better proficiency while actually moving. That's because their brains are practicing. That is, *they're* practicing through visualization techniques.

Hard glutes are one thing. Novel reading is a great way to practice being human.¹⁰ Rather than sprints and punches, how about something more primitive and necessary in a society, like empathy? As you dive deeper into Rabbit Angstrom's follies or Jason Taylor coming of age, you not only feel their pain and joy. You actually experience it.

In one respect novels go beyond simulating reality to give readers an experience unavailable off the page: the opportunity to enter fully into other people's thoughts and feelings.⁹

This has profound implications for how we interact with others. When encountering a 13-year-old boy misbehaving, you most likely won't think, “Well, David Mitchell wrote about such a situation, and so I should behave like this,” but you might have integrated some of the lessons about young boys figuring life out and display a more nuanced understanding in how you react.

Perhaps you'll even reconsider trolling someone online regarding their political opinion, remembering that no matter how crass and inhumane a sentiment appears on screen, an actual human is sitting behind the keyboard pecking out their thoughts. I'm not arguing against engaging, but for the love of anything closely resembling humanity, argue intelligently.

Because reading does in fact make us more intelligent. **Research shows** that reading not only helps with fluid intelligence, but with reading comprehension and emotional intelligence as well. You make smarter decisions about yourself and those around you.

All of these benefits require actually reading, which leads to the formation of a philosophy rather than the regurgitation of an agenda, so prevalent in reposts and online trolling. Recognizing the intentions of another human also plays a role in constructing an ideology. Novels are especially well-suited for this task. A **2011 study** published in the *Annual Review of Psychology* found overlap in brain regions used to comprehend stories and networks dedicated to interactions with others.

Novels consume time and attention. While the benefits are worthwhile, even shorter bursts of prose exhibit profound neurological effects. Poetry elicits strong emotional responses in readers and, as **one study shows**, listeners. Heart rates, facial expressions, and “movement of their skin and arm hairs” were measured while participants listened to poetry. Forty percent ended up displaying visible goose bumps, as they would while listening to music or watching movies. As for their craniums:

Their neurological responses, however, seemed to be unique to poetry: Scans taken during the study showed that listening to the poems activated parts of participants' brains that, as other studies have shown, are not activated when listening to music or watching films.

These responses mostly occurred near the conclusion of a stanza and especially near the end of the poem. This fits in well with our inherent need for narrative: in the absence of a conclusion our brain automatically creates one, which, of course, leads to plenty of heartbreak and suffering when our speculations prove to be false. Instead we should turn to more poetry:

There is something fundamental to the poetic form that implies, creates, and instills pleasure.

Whether an Amiri Baraka verse or a Margaret Atwood trilogy, **attention matters**. Research at Stanford showed a neurological difference between reading for pleasure and focused reading, as if for a test. Blood flows to different neural areas depending on how reading is conducted. The researchers hope this might offer clues for advancing cognitive training methods.

I have vivid memories of my relationship with reading: trying to write my first book (*Scary Monster Stories*) at age five; creating a mock newspaper after the Bernard Goetz subway shooting when I was nine, my mother scolding me for “thinking about such things”; sitting in the basement of my home in the Jersey suburbs one weekend morning, determined to read the entirety of *Charlie and the Chocolate Factory*, which I did.

Reading is like any skill. You have to practice it, regularly and constantly.¹¹ While I never finished (or really much started) *Scary Monster Stories*, I have written nine books and read thousands more along the way. Though it's hard to tell if reading has made me smarter or a better person, I like to imagine that it has.

What I do know is that life would seem a bit less meaningful if we didn't share stories with one another. While many mediums for transmitting narratives across space and time exist, I've found none as pleasurable as cracking open a new book and getting lost in a story. Something profound is always discovered along the way.

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