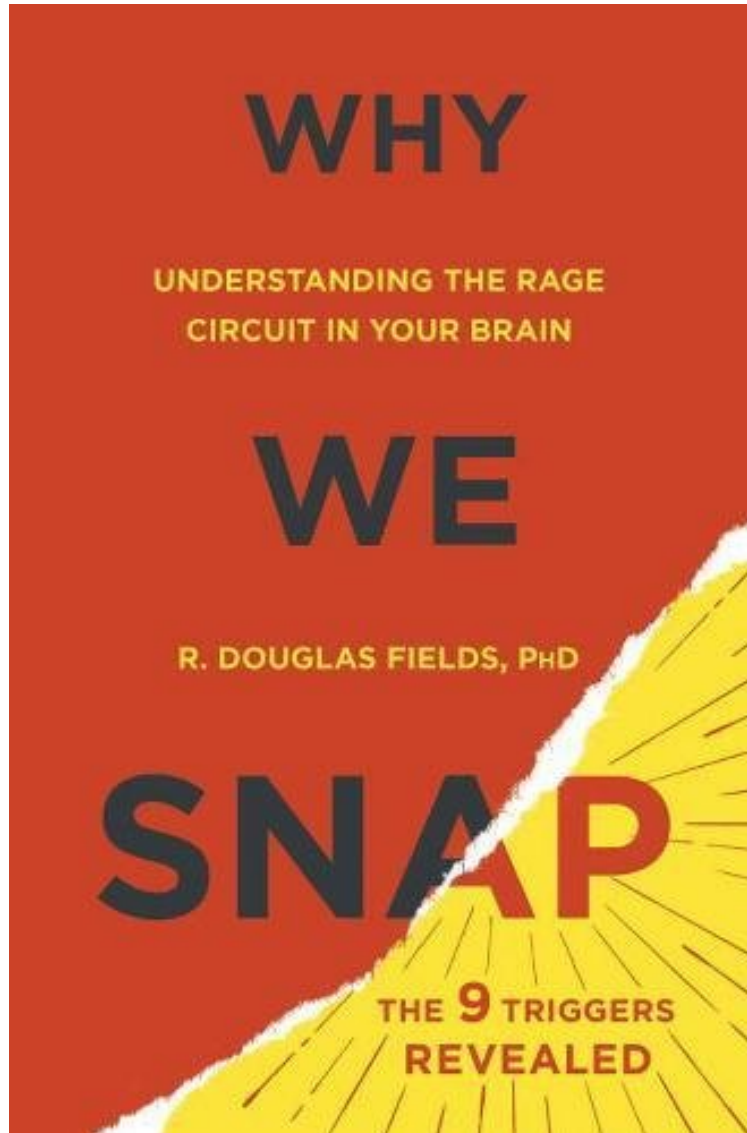


[Ebook free] Why We Snap: Understanding the Rage Circuit in Your Brain

## Why We Snap: Understanding the Rage Circuit in Your Brain

*Douglas Fields*

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**Douglas Fields : Why We Snap: Understanding the Rage Circuit in Your Brain** before purchasing it in order to gage whether or not it would be worth my time, and all praised Why We Snap: Understanding the Rage Circuit in Your Brain:

3 of 3 people found the following review helpful. If you are prone to fits of rage, there is no better resource available for self-helpBy DipIts amazing how hard it is for the human brain to fathom its own workings. Even at the behavioral level where explanations should be most apparent. And yet we can go our entire lives, victims of self-destructive behaviors that jeopardize everything we hold dear, and not have a clue about why we do what we do and more

importantly, how to fix it. If you are prone to fits of sudden, immense rage; this book is an excellent resource that will help you understand 'the why' of it. Once you understand 'the why', it's a relatively easy fix. 'Why' is always the hardest question to answer. And this resource does an excellent job at explaining the triggers for uncontrollable rage that can, in the blink of an eye, turn your world upside-down. The prose is lyrical and littered with anecdotes that illustrate, inspire and enlighten. Along with the triggers, the author also suggests ways you can check yourself before an outburst by basically being more self-aware and giving yourself more time and space to critically assess the situation. Once you become aware of what is triggering your anger, it becomes exponentially easier to pause a few seconds and ask yourself, "Is it going to be worth it?". The answer in today's society, with much lower risk to life and limb, is almost always NO. 0 of 0 people found the following review helpful. Five Stars By Erica Fabulous insight a great read! 16 of 20 people found the following review helpful. Too insubstantial for an entire book By John Vidale Material is too thin for an entire book. The author lists 9 reasons why we flip out or "snap", basically because circumstances are threatening, and it all seems fairly obvious and mostly overlapping. I must admit skepticism about the account of super-human reflexes when his wallet was purloined in France, his daughter grabbing the loose cell phone, then two hours of being chased by heavily tattooed gangsters, sounds a bit Hollywood. Also the claim of super-quick intuitions of the military SEALs seems annoyingly exaggerated. In contrast, while the details biology no doubt was accurate, it was too detailed to accurately follow for this casual reader. There are interesting anecdotes and items from the news, but interleaved with interpreting each with a half dozen of the 8 explanations and statements that if we understood the explanations, we might somehow avoid flipping out. Even skimming large sections of text, this book periodically lost interest. So in sum, lots of cool stuff, but not a smooth and clear read.

The startling new science behind sudden acts of violence and the nine triggers this groundbreaking researcher has uncovered. We all have a rage circuit we can't fully control once it is engaged as R. Douglas Fields, PhD, reveals in this essential book for our time. The daily headlines are filled with examples of otherwise rational people with no history of violence or mental illness suddenly snapping in a domestic dispute, an altercation with police, or road rage attack. We all wish to believe that we are in control of our actions, but the fact is, in certain circumstances we are not. The sad truth is that the right trigger in the right circumstance can unleash a fit of rage in almost anyone. But there is a twist: Essentially the same pathway in the brain that can result in a violent outburst can also enable us to act heroically and altruistically before our conscious brain knows what we are doing. Think of the stranger who dives into a frigid winter lake to save a drowning child. Dr. Fields is an internationally recognized neurobiologist and authority on the brain and the cellular mechanisms of memory. He has spent years trying to understand the biological basis of rage and anomalous violence, and he has concluded that our culture's understanding of the problem is based on an erroneous assumption: that rage attacks are the product of morally or mentally defective individuals, rather than a capacity that we all possess. Fields shows that violent behavior is the result of the clash between our evolutionary hardwiring and triggers in our contemporary world. Our personal space is more crowded than ever, we get less sleep, and we just aren't as fit as our ancestors. We need to understand how the hardwiring works and how to recognize the nine triggers. With a totally new perspective, engaging narrative, and practical advice, *Why We Snap* uncovers the biological roots of the rage response and how we can protect ourselves and others.

An important and timely book that uses neuroscience to illustrate why society must come to terms with our evolutionary heritage. Science Magazine For those craving an action-packed account of what scientists currently know about how rage works, this book delivers. Scientific American MIND "Synthesizing his own and others research and scores of case studies, Fields argues that many apparently inexplicable cases of violent rage are down to a clash between hard-wiring in the brain's hypothalamus, amygdala and limbic system, and nine rage triggers, from life-or-death situations to threats to social order... Cogent and timely." Nature Neuroscientist Fields provides insight into the seemingly inexplicable highly readable a thoughtful and essential light on one of the darkest aspects of human behavior. Publishers Weekly Neurobiologist Fields offers a sensible, plainspoken guide to the all-too-common phenomenon of rage [a] thoughtful and anecdotal examination Fields timely exploration of sudden acts of violence is sure to inspire conversation. Booklist The interplay between conscious and unconscious cognition is not unfamiliar territory, as readers of Daniel Kahneman or Malcolm Gladwell will recognize, but Fields' personal experience adds a fresh viewpoint to an intriguing subject. Kirkus sA fusion of news, in-person interviews, and academic research, this book will appeal to readers of popular neuroscience and those seeking specific information on anger and rage. Library Journal R. Douglas Fields illuminates the intricate neural processes involved in the common human experience of flipping our lid as we snap out of clear thinking and into states of rage. By carefully documenting the brain science beneath the complex states of fury and illustrating with examples of real life stories of those who've lost it, our expert guide reveals how we can both understand the mechanisms and the triggers for such states and use this new knowledge in practical ways to minimize the potential damage of going down the low road with ourselves and others. This is a fine example of applied neuroscience for the benefit of our common humanity. Bravo! Daniel J. Siegel, MD, author of *Brainstorm* and *Mindsight*, Clinical Professor, UCLA School of Medicine, Executive Director, Mindsight Institute

This book is a riveting journey into your brain's most mysterious, dangerous, and possibly redemptive territory. Douglas Fields guides us into the core of rage, and offers us a blueprint for understanding and perhaps remedying the explosions of violence that can mar our world and our lives. Dan Coyle, author of *The Talent Code*, Douglas Fields explores the dark matter of the soul engrained in the web of neurons in our brain. This is a superbly told investigation into the question of why we snap with urgent, useful implications for our personal lives as well as for the wider world. Everyone should know about the triggers of the rage circuit Douglas Fields has defined. Daniela Schiller, PhD, Neuroscientist, Icahn School of Medicine at Mt. Sinai, a superb must-read for anyone hoping to understand the common neural roots of spontaneous acts of violence, rage, and, yes, heroism. The argument is both riveting and convincing; the implications are profound, from rethinking the relationship between violence and personal responsibility to possible ways to temper the 'snap' response. Robert Burton, M.D. author of *On Being Certain* about the Author R. Douglas Fields is senior investigator at the National Institutes of Health in Bethesda, Maryland. He became head of the Neurocytology and Physiology Unit, NICHD in 1994 and chief of the Nervous System Development and Plasticity Section, NICHD in 2001. He is editor in chief of *Neuron*, *Glia*, *Biology* and a member of the editorial board of several other journals in the field of neuroscience. He lives in Silver Spring, Maryland.

Excerpt. Reprinted by permission. All rights reserved. *Snapping Violently* is a short madness. Horace, Book 1, Epistle ii, line 62 You must not say things about Melanie, he warns her. Who are you to tell me I must not? she snaps back, vibrating in anger. You led me on. You made me believe you wanted to marry me! Now, Scarlett, be fair, he pleads, trying to calm her fury. I never at any time You did! It's true! You did. She cuts him off. I'll hate you till I die! she screams. I can't think of anything bad enough to call you! Sobbing in rage, she suddenly slaps her lover across his face. As he retreats she grasps a vase and hurls it across the room. The delicate porcelain shatters against the wall. Later the jilted woman sobs desperately as the second man in her lover's triangle walks out on her: Oh, Rhett! Rhett, Rhett! Rhett... Rhett, if you go, where shall I go? What shall I do? He faces her calmly and delivers these enduring words: Frankly, my dear, I don't give a damn. *Gone with the Wind*, the 1939 film classic based on Margaret Mitchell's novel, captures the paradoxical moment of snapping that is familiar to us all, but inexplicable. Why smash a treasured vase? Why slap a lover across the face? The immediate aftermath brings regret and shame, and upon reflection bewilderment. The explosive impulse of destruction is driven by a powerful righteous rage, overwhelming but pointless. Who has not lost self-control in a blind rage, smashing a dish or worse? We all wish to believe we are in control of our behaviors and actions, but the fact is that in certain instances we are not. Something unexpected in our environment can unleash an automatic and complex program for violence, destruction, and even death of it an unconscious pre-established program. Rage explodes without warning. Overpowering judgment, compassion, fear, and pain, the fiery emotion serves one purpose: violence, both in words and actions. While this human response has been vital to our survival since our species evolved, rage simultaneously puts one's life at risk. And it seems there is no escaping the rage circuit once it has been activated. So if rage is an automatic reflex, are you really in control of your fate? That flare-up with your partner or child or friend or even a complete stranger can change your life in an instant, forever. Despite the essentially peaceful lives most of us lead most of the time, killing is programmed into the human brain. This is because, as with most animals, individuals in the natural world must be able to defend themselves and their offspring. Moreover, carnivores must kill other living creatures for food. These behaviors are hardwired in the brain, not in an area where consciousness resides but instead deep in the core of the brain where other powerful impulses and automatic life-sustaining behaviors (feeding, thirst, and sex) are programmed. Each of these behaviors, just like the complex rage behavior, is automatic once triggered. The question is, what triggers this deadly switch for violence and killing?

Late one summer night in a torrential downpour, my daughter and I threaded our way through the dark cobblestone back alleys of Paris, hungry and lost. Like most scientists, I travel the world to lecture and collaborate with other scientists, and I almost always travel alone. This night my seventeen-year-old daughter was with me. The springtime of proms, graduation ceremonies, and anxious anticipation of leaving high school behind had cleared a momentary opportunity for a father and daughter to share time together. It was wonderful seeing Kelly's eyes open to the world. Soaking wet, we leaped over puddles and escaped into a steamy one-room restaurant. No one spoke English. Kelly applied her high school French to order from one of the three frantic middle-aged women who shared the burden of all the cooking and serving. Suddenly in exasperation the woman jabbed at the menu, scolding Kelly. She had not ordered a glass of wine for herself. The idea that anyone would enjoy a fine dinner without the requisite glass of wine was unthinkable. For Kelly, underage for drinking alcohol in the United States, this was a revelation. Not everywhere in the world is necessarily the same as the place in which you were reared. After Paris we traveled to Barcelona for my next lecture at an international meeting of neuroscientists. The morning before the meeting began we made a quick visit to the Gaudi cathedral. Ascending the steps out of the dingy subway station smelling of concrete dust and sweat, we emerged into the brilliant Barcelona sun. The crowd of passengers pressed upon us in a gray blur. Suddenly I felt a sharp tug at my pant leg. As if swatting a mosquito I slapped the zippered pocket above my left knee. My wallet was gone! My left arm shot back blindly. In a flash I clotheslined the robber as he pivoted to hand my wallet to his partner and flee down the steps. As if swinging a sledgehammer I hurled him by his neck over my left hip and slammed him belly first onto the pavement, where I flattened him to the ground and applied a head lock. Splaying

my legs for hip control like a wrestler pinning an opponent I yelled for help. Fifty-six years old, 130 pounds, with wire-rimmed glasses and graying hair, I have no martial-arts training, no military experience, no background in street fighting. Drawing on junior high school wrestling moves from forty years ago, I found myself applying an illegal choke hold. The street-smart hoodlum struggling in my arms was in his late twenties or early thirties. Police! I shouted. Call the police! I've got him! There was no reply... no gasps of shock from the dense crowd... no one was coming to my aid. Instead, from my perspective on the ground all I saw were mens feet closing in around me in a tight circle. They were all part of the gang. Oblivious to being hunted as prey, we assumed that the crowd was the normal throng of passengers bumping and jostling through the Barcelona Metro system. The muscled man beneath me struggled to break my grip. With his neck in the crook of my left arm I cinched with all the force my biceps could produce, cutting off blood to his brain and air to his lungs. Bending his head back I torqued his spine backward painfully, tipping his face skyward. His eyes and mouth opened wide in shock, pain, and fear. The wallet popped free as he tossed it toward his accomplice and grasped furiously at my arm to break my stranglehold. That's my wallet! I yelled. A woman's hand shot between the thicket of legs. Instantly I recognized it as my daughter's. She had been cut off by the gang that had stalked and trapped us, encircling me silently like a pack of wolves. Captain of the Ultimate Frisbee team, Kelly dove through the air in an arc to deflect the disk inches from an opponent's grasp in a full-on layout onto solid concrete. She intercepted the pass in midair and tipped the wallet into the palm of my outstretched right hand. Reading the eyes of an accomplice fixating on my BlackBerry spinning on the pavement, she lunged again and beat him to the prize. With my wallet retrieved and realizing that I was horribly outnumbered, I released the thief and bounced onto the balls of my feet as he scurried backward on his butt like an injured crab escaping. Crazy man! he gasped. Looking into the eyes of the half-dozen muscular thugs surrounding me, I tried to discern if he choked out those parting words to deflect suspicion or if he meant it as a threat. Now what? A massive surge of adrenaline fueled my twitching muscles and nerves to levels of raw power I had never felt before. I was now struggling not to pick up the next hoodlum squaring off with me, hoist him over my head, and hurl him into his accomplices, knocking them down the steps of the Metro station like bowling pins. It was not a question of whether I could execute the superhuman feat. I had no doubt that I could do it. Rather, I was trying not to do it, simply because this might not be my best option. At least, not yet. Suddenly a middle-aged, well-dressed Spaniard stepped casually between me and the attackers and with flicking shoeing motions of his fingers he said, He no crazygo. Without breaking stride he descended the steps into the Metro station. As he passed me he smiled and said, Buenogoodgo now. In passing he had defused the situation to its best possible outcome: a draw. The band of robbers scattered into the Metro station like rats down a sewer, leaving my daughter and me standing there stunned, my wallet clenched in a death grip in my right hand. Unfortunately, that was not the end of it. The gang pursued Kelly and me throughout the city for the next two hours. They were not after my wallet anymore. I had humiliated and beaten up a member of their gang. They wanted revenge. We tried every trick to elude them fleeing into tourist shops and through noisy restaurants, cutting through back alleys, abruptly crossing streets to reverse course, changing clothing, and when they got too close, leaving the sidewalk and running down the center of the boulevard, weaving through oncoming cars. At one point we stopped traffic to jump into a taxi in the middle of a three-lane boulevard, but they had cell phones and wherever we went they sent increasingly menacing tattooed thugs with steroid-bloated biceps to intercept us. As we dodged the gang of robbers, we witnessed them casually pick wallets from two more tourists. I even snapped photographs of them doing it a stupid mistake, as it turned out, because their lookout on my side of the street caught me doing it. The unshaven goon came running up the sidewalk jabbering Russian into a cell phone and extending a video camera in an unconvincing attempt to pass as a tourist. We fled down a side street. As they closed in on us, we were forced to jump into a taxi and escape to a small town an hour away. In the cab, my daughter asked in a tone filled with shock and disbelief, Where did you learn to do that? I looked over and saw you swinging some guy around by the neck. I couldn't figure out what was happening. I laughed in nervous relief. A 170-euro cab fare later, we were broke but safe. Now my daughter is convinced that my job at the National Institutes of Health is just a cover for my real job as a spy. My daughter's and my experience in Barcelona with the pickpocket gang was the inspiration for this book. Where, indeed, had I learned to do what I had done? How, with the lightning-quick reflexes of someone snatching a fumbled coin from the air, had I unleashed such a flurry of moves on my attacker without conscious thought? Had I contemplated the situation, I never would have attempted such a thing. No amount of money is worth being injured or killed. I could have been kicked in the head by the gang as I struggled with their comrade on the ground and left to die brain damaged and in a coma. Or they could have easily held my daughter at knifepoint and used her as ransom. I never imagined that I would or could react this way. Yet it worked. One fifty-six-year-old tourist and his daughter had defeated a gang of criminals. This unconscious explosion of violence to protect my daughter and myself is the same behavior that is triggered inappropriately in so many everyday instances of sudden and regrettable violence. We need to understand this unconscious neural circuitry and recognize what trips it. In the aftermath of the attack I found myself wondering: Does everyone have this latent unconscious ability for rage waiting to be unleashed, or is this relatively uncommon? Would another person react differently rather than fight, become a helpless victim, run, or negotiate? Why? Which strategy is the best in which situation? Would I always react this way if caught unawares in similar circumstances? Whatever our response might

be to sudden threats like this one, is there any way to control it? Can the inherently meek, if they exist, be taught to fight back (to overcome or ignore their meekness, as it were), or are our individual reactions to such threatening situations preprogrammed? As a neuroscientist, I wonder how this unconscious reflex was possible. Without even seeing the robber in my peripheral vision I had snared the person by the neck and thrown him to the ground. How had my brain taken in all that information while my attention was fully occupied by the enormous challenges of negotiating my way through a strange new environment? Somewhere deep in my brain I must have been taking in this situational information unconsciously and guarding against the threat to which I was consciously oblivious. It had been a blind snatch. I did not really know who I had grabbed by the neck until the instant I saw my wallet being tossed to his fellow gang member, but the fact is, I found myself on the ground not with an eighty-year-old lady innocently walking in my blind spot: It was indeed the bad guy. Until I found myself on concrete in combat, I had simply witnessed my violent reflexes unleash themselves. Clearly, in many dangerous situations the process of conscious thought would be too slow. As when recoiling from a hot stove, our unconscious protective reflex kicks in before we feel the burn consciously, revealing a deeply embedded automatic lifesaving reaction that through millions of years of evolutionary struggle has been preprogrammed into our DNA. But snatching your hand back from a burning-hot stove is a simple reflex. Responding appropriately to a perceived threat within a fluid social environment is far more complex yet your life or the life of friends and family will depend on executing the proper split-second reflex for either rage or retreat. The rage reflex can unleash furious, uncontrollable anger or, as in this instance, trigger a rage of intense and purposeful violence devoid of anger. In either case the response is automatic and apparently unchecked by rational thought. The power of rage gives a petite woman strength to lift a car off the ground to free a trapped child. It is the stuff that drives a US Marine, 180 degrees against all normal instinct, to run into a hail of bullets to save a comrade in jeopardy. But sometimes this automatic lifesaving rage reflex embedded in our brain by evolution clashes against the modern world. I just snapped, the remorseful man confesses tearfully after having strangled his girlfriend in a fit of rage. Rage can ignite a crowd, resulting in sudden mob violence. The triggers can be small or large, individual or collective. The results can be devastating. We must understand the biology of how the animal instinct inside us works in order to appreciate how rage arises. We must learn to control rage if possible, and to exploit it when necessary to save our lives. How much of this propensity toward rage is genetically predetermined and how much is learned? Precisely what is it in any given situation, and in an individual's personal history, that will trigger rage? Would I have reacted the same way to the pickpocket had I been traveling alone rather than with my daughter? Does the tendency to unleash rage reside latent in everyone, or is it only programmed into a few? How do men and women differ with respect to rage triggers? As individuals and societies we need to examine the beast within us and confront, in the context of modern society, the biological roots of rage.