BOOKSHELF

‘Forgetting’ Review: The Balm of Oblivion

Forgetting allows us to adapt and improvise, and sleep is key to deleting extraneous cortical information. We dream in order to forget.

Lethe, the river of forgetfulness.

PHOTO: ALAMY STOCK PHOTO

By Emily Bobrow

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There is a robust market for books that praise our seemingly feeble habits of mind. Authors have lately offered empirical support for the benefits of everything from swearing to grumpiness. Now Scott Small, the director of the Alzheimer’s Disease Research Center at Columbia University, joins this merciful bunch with his own upbeat take on one of our more profound mental shortcomings: forgetfulness.

Dr. Scott A. Small.

PHOTO: RENE PEREZ

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Forgetting: The Benefits of Not Remembering

By Scott A. Small

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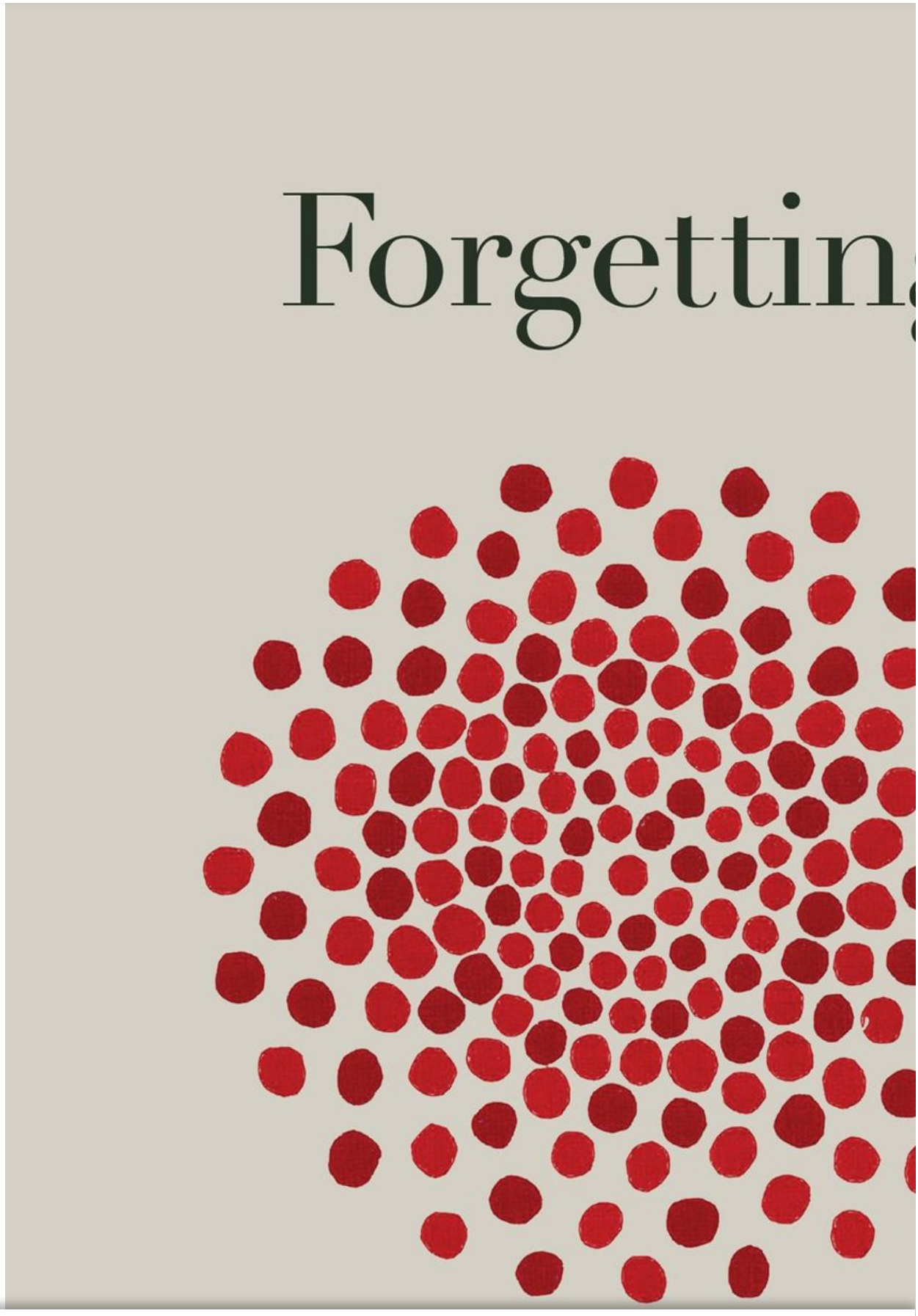

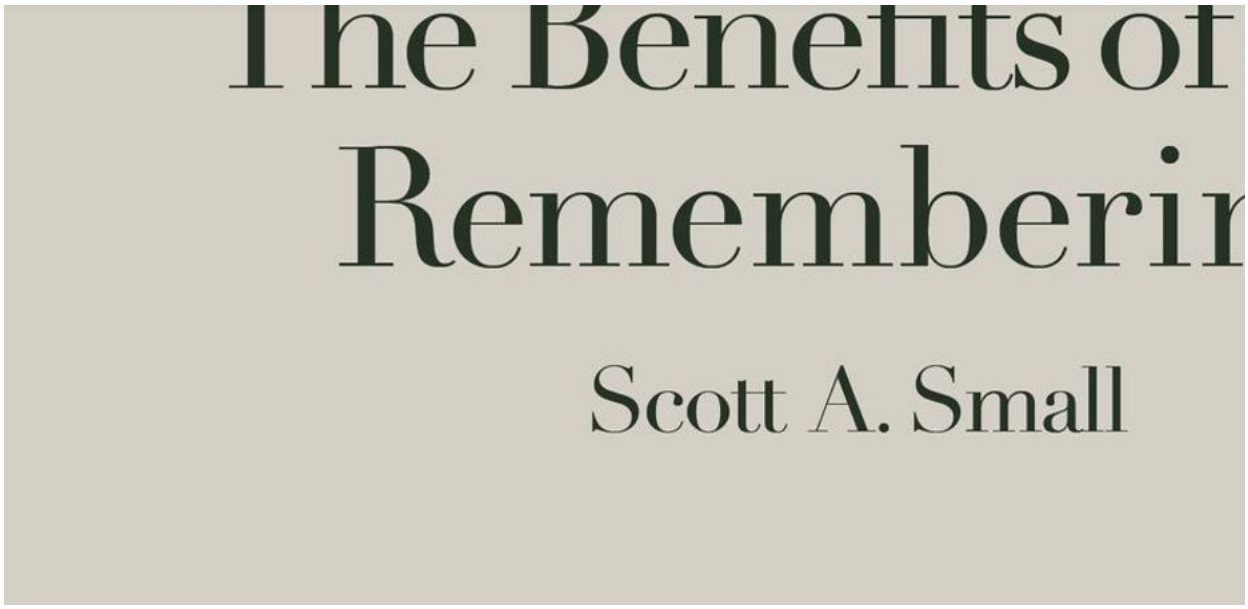

In “Forgetting” Dr. Small writes that until fairly recently, he and most other scientists believed that forgetting was simply a technical glitch, a bug in the system. For most of his 35 years as a memory specialist, he reflexively viewed retaining information as “always the noble goal” and forgetting as lamentable, to be avoided at all costs.

But recent research in neurobiology, psychology, medicine and computer science tells another story. In a boon to spouses everywhere, it turns out that mentally misplacing facts and details is not only healthy but psychologically necessary. When we draw a blank or stumble over a mislaid word, we are merely evidencing a “cognitive gift” that allows us to adapt to the tumult of our lives.

Given his work with Alzheimer’s patients, Dr. Small is keen to make clear that he is not romanticizing pathological absentmindedness. Although many of his patients are still able to laugh, love and be moved by beauty, he has witnessed too much suffering to want to “poeticize” memory-related diseases. Instead, the book concentrates on what he calls “normal forgetting,” which he says keeps our brains flexible enough to invite new experiences, recover from trauma and help us to thrive.

Our lives are informed by our memories, both conscious and unconscious. We intuit how to navigate our days—where to go, how to socialize, when to flee—from our recollections of what happened in the past. Yet even the most ordinary life is filled with variability; no one's days are exactly the same. Dr. Small argues that we are able to improvise the best way forward because we consistently let go of the details that we don't need—our molecular "memory toolbox" regularly trims the spines of unnecessary synaptic connections. Although we are constantly bombarded with stimuli, forgetting allows our brains to "extract general patterns from component parts."

The job of forgetting, which involves pruning valuable memories and otherwise wiping clean the cortical slate, is so big and important that it helps explain our need for sleep. Why we spend around a third of our lives unconscious and vulnerable to our surroundings has long been "one of biology's great mysteries," Dr. Small writes. Francis Crick, who won a Nobel Prize for his work describing the double helix of DNA, hypothesized in 1983 that sleep was essential for deleting extraneous cortical information. "We dream," he said, "in order to forget." Scientists only recently confirmed this theory, finding that the size of spines across the cortex tends to be smaller after sleep. Given the time-consuming work of forgetting, it makes sense that we are meant to spend so many hours dead to the world. The disorientation we feel when we are sleep-deprived may have less to do with physical fatigue than with our brains being overloaded.

Memory is essential for survival. We rely on it to know whether our "elaborate internal security systems" should release stress hormones to put our bodies on alert. Our amygdala, which processes and codes emotional information, oversees our response to threats. Normal forgetting usually liberates us from the drama of our darkest emotional moments, but sometimes traumatic experiences veer us into psychopathology, yielding a chronically hyperactive and hyperresponsive amygdala.

Emotional forgetting is necessary not only for curbing the risk of psychopathologies, but also for freeing us from the "prisons of pain, anguish, and resentments," Dr. Small writes. To help our brains unclench, the author recommends psychotherapy, cognitive behavioral therapy and therapeutic drugs, though alcohol and time with loved ones also help in a pinch.

Autism-associated genes appear to conspire against forgetting, which, Dr. Small suggests, may be why people with autistic spectrum disorder often have trouble synthesizing and generalizing a range of cues. Deprived of regular cortical pruning and clearing, those with ASD tend to struggle to see the big picture and classify the chaos of the world, which may help to explain why "behavioral inflexibility" is so common among them. In the face of confusing and unruly stimuli, many exhibit "an obsessive desire for the preservation of sameness," in the words of Leo Kanner, the father of child psychology.

Flexibility and creativity appear to be hallmarks of a brain kept limber through judicious forgetting. Animals that have been manipulated to develop a stronger memory are able to navigate a maze faster, but they have trouble adapting when the maze is slightly altered. For the animals to learn a new way out of the maze, scientists have to increase their ability to forget.

Though Dr. Small has published more than 140 scientific papers, this is his first book for a general audience, and it sometimes shows. Long passages about the neuroscience of memory are often riddled with competing metaphors (is the hippocampus an "old-fashioned telephone switchboard" or a "compassionate but strict schoolteacher"?) and

shedding of mental detritus is the “true and very natural cognitive power bestowed on us to live in an ever-fluctuating world.”

Ms. Bobrow writes the Weekend Confidential feature for the Journal.

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