

- It wasn't the trip to Cairo that had caused the shift, scientists were convinced, or the divorce or desert trek. It was that Lisa had focused on changing just one habit—smoking—at first. Everyone in the study had gone through a similar process. By focusing on one pattern—what is known as a “keystone habit”—Lisa had taught herself how to reprogram the other routines in her life, as well.

- “All our life, so far as it has definite form, is but a mass of habits,” William James wrote in 1892.² Most of the choices we make each day may feel like the products of well-considered decision making, but they're not. They're habits.

- One paper published by a Duke University researcher in 2006 found that more than 40 percent of the actions people performed each day weren't actual decisions, but habits.

- This book draws on hundreds of academic studies, interviews with more than three hundred scientists and executives, and research conducted at dozens of companies. (For an index of resources, please see the book's notes and <http://www.thepowerofhabit.com>)

- When the MIT researchers started working on habits in the 1990s—at about the same time that Eugene came down with his fever—they were curious about a nub of neurological tissue known as the basal ganglia.

- This process—in which the brain converts a sequence of actions into an automatic routine—is known as “chunking,” and it's at the root of how habits form.

- Millions of people perform this intricate ballet every morning, unthinkingly, because as soon as we pull out the car keys, our basal ganglia kicks in, identifying the habit we've stored in our brains related to backing an automobile into the street.

- Habits, scientists say, emerge because the brain is constantly looking for ways to save effort.

- An efficient brain also allows us to stop thinking constantly about basic behaviors, such as walking and choosing what to eat, so we can devote mental energy to inventing spears, irrigation systems, and, eventually, airplanes and video games.

- This process within our brains is a three-step loop. First, there is a cue, a trigger that tells your brain to go into automatic mode and which habit to use. Then there is the routine, which can be physical or mental or emotional. Finally, there is a reward, which helps your brain figure out if this particular loop is worth remembering for the future:

- THE HABIT LOOP

- The cue and reward become intertwined until a powerful sense of anticipation and craving emerges.

- When a habit emerges, the brain stops fully participating in decision making. It stops working so hard, or diverts focus to other tasks. So unless you deliberately fight a habit—unless you find new routines—the pattern will unfold automatically.

- However, simply understanding how habits work—learning the structure of the habit loop—makes them easier to control. Once you break a habit into its components, you can fiddle with the gears.

- The problem is that your brain can't tell the difference between bad and good habits, and so if you have a bad one, it's always lurking there, waiting for the right cues and rewards."

- Without habit loops, our brains would shut down, overwhelmed by the minutiae of daily life. People whose basal ganglia are damaged by injury or disease often become mentally paralyzed.

- Squire's new experiment also showed something else: that habits are surprisingly delicate. If Eugene's cues changed the slightest bit, his habits fell apart.

- Eugene showed that habits, as much as memory and reason, are at the root of how we behave. We might not remember the experiences that create our habits, but once they are lodged within our brains they influence how we act—often without our realization.

- they are so strong, in fact, that they cause our brains to cling to them at the exclusion of all else, including common sense.

- He created a craving. And that craving, it turns out, is what makes cues and rewards work. That craving is what powers the habit loop.

- That psychology was grounded in two basic rules: First, find a simple and obvious cue. Second, clearly define the rewards.

- Studies of people who have successfully started new exercise routines, for instance, show they are more likely to stick with a workout plan if they choose a specific cue, such as running as soon as they get home from work, and a clear reward, such as a beer or an evening of guilt-free television.¹³ Research on dieting says creating new food habits requires a predetermined cue—such as planning menus in advance—and simple rewards for dieters when they stick to their intentions.¹⁴

- Then Schultz adjusted the experiment. Previously, Julio had received juice as soon as he touched the lever. Now, sometimes, the juice didn't arrive at all, even if Julio performed correctly. Or it would arrive after a slight delay. Or it would be watered down until it was only half as sweet. When the juice didn't arrive or was late or diluted, Julio would get angry and make unhappy noises, or become mopey. And within Julio's brain, Schultz watched a new pattern emerge: craving. When Julio anticipated juice but didn't receive it, a neurological pattern associated with desire and frustration erupted inside his skull. When Julio saw the cue, he started anticipating a juice-fueled joy. But if the juice didn't arrive, that joy became a craving that, if unsatisfied, drove Julio to anger or depression.

- This explains why habits are so powerful: They create neurological cravings.

- One researcher at Cornell, for instance, found how powerfully food and scent cravings can affect behavior when he noticed how Cinnabon stores were positioned inside shopping malls. Most food sellers locate their kiosks in food courts, but Cinnabon tries to locate their stores

away from other food stalls.²⁴ Why? Because Cinnabon executives want the smell of cinnamon rolls to waft down hallways and around corners uninterrupted, so that shoppers will start subconsciously craving a roll. By the time a consumer turns a corner and sees the Cinnabon store, that craving is a roaring monster inside his head and he'll reach, unthinkingly, for his wallet. The habit loop is spinning because a sense of craving has emerged.²⁵

- That's basic learning. The habit only emerges once Julio begins craving the juice when he sees the cue. Once that craving exists, Julio will act automatically. He'll follow the habit:

- This is how new habits are created: by putting together a cue, a routine, and a reward, and then cultivating a craving that drives the loop.

- Or take email. When a computer chimes or a smartphone vibrates with a new message, the brain starts anticipating the momentary distraction that opening an email provides. That expectation, if unsatisfied, can build until a meeting is filled with antsy executives checking their buzzing BlackBerrys under the table, even if they know it's probably only their latest fantasy football results. (On the other hand, if someone disables the buzzing—and, thus, removes the cue—people can work for hours without thinking to check their in-boxes.)

- Particularly strong habits, wrote two researchers at the University of Michigan, produce addiction-like reactions so that “wanting evolves into obsessive craving” that can force our brains into autopilot, “even in the face of strong disincentives, including loss of reputation, job, home, and family.”²⁷

- Each change was designed to appeal to a specific, daily cue: Cleaning a room. Making a bed. Vacuuming a rug. In each one, Febreze was positioned as the reward: the nice smell that occurs at the end of a cleaning routine. Most important, each ad was calibrated to elicit a craving: that things will smell as nice as they look when the cleaning ritual is done. The irony is that a product manufactured to destroy odors was transformed into the opposite. Instead of eliminating scents on dirty fabrics, it became an air freshener used as the finishing touch, once things are already clean.

- They expected—they craved—that slight irritation. If it wasn't there, their mouths didn't feel clean. Claude Hopkins wasn't selling beautiful teeth. He was selling a sensation.

- Cravings are what drive habits. And figuring out how to spark a craving makes creating a new habit easier.

- “Champions don't do extraordinary things,” Dungy would explain. “They do ordinary things, but they do them without thinking, too fast for the other team to react. They follow the habits they've learned.”

- Rather, to change a habit, you must keep the old cue, and deliver the old reward, but insert a new routine.

- That's the rule: If you use the same cue, and provide the same reward, you can shift the routine and change the habit. Almost any behavior can be transformed if the cue and reward stay the same.

- THE GOLDEN RULE OF HABIT CHANGE You Can't Extinguish a Bad Habit, You Can Only Change It. HOW IT WORKS: USE THE SAME CUE. PROVIDE THE SAME REWARD. CHANGE THE ROUTINE.

- Notice how closely this study hews to the Golden Rule of habit change: Even when alcoholics' brains were changed through surgery, it wasn't enough. The old cues and cravings for rewards were still there, waiting to pounce.

- AA provides a similar, though less invasive, system for inserting new routines into old habit loops. As scientists have begun understanding how AA works, they've started applying the program's methods to other habits, such as two-year-olds' tantrums, sex addictions, and even minor behavioral tics. As AA's methods have spread, they've been refined into therapies that can be used to disrupt almost any pattern.

- At the end of their first session, the therapist sent Mandy home with an assignment: Carry around an index card, and each time you feel the cue—a tension in your fingertips—make a check mark on the card. She came back a week later with twenty-eight checks. She was, by that point, acutely aware of the sensations that preceded her habit.

- Then the therapist taught Mandy what is known as a "competing response." Whenever she felt that tension in her fingertips, he told her, she should immediately put her hands in her pockets or under her legs, or grip a pencil or something else that made it impossible to put her fingers in her mouth. Then Mandy was to search for something that would provide a quick physical stimulation—such as rubbing her arm or rapping her knuckles on a desk—anything that would produce a physical response.

- Continue with the index card, but make a check when you feel the tension in your fingertips and a hash mark when you successfully override the habit. A week later, Mandy had bitten her nails only three times and had used the competing response seven times. She rewarded herself with a manicure, but kept using the note cards. After a month, the nail-biting habit was gone. The competing routines had become automatic. One habit had replaced another.

- The truth is, the brain can be reprogrammed. You just have to be deliberate about it."²

- "We would practice, and everything would come together and then we'd get to a big game and it was like the training disappeared," Dungy told me. "Afterward, my players would say, 'Well, it was a critical play and I went back to what I knew,' or 'I felt like I had to step it up.' What they were really saying was they trusted our system most of the time, but when everything was on the line, that belief broke down."

- It wasn't God that mattered, the researchers figured out. It was belief itself that made a difference. Once people learned how to believe in something, that skill started spilling over to other parts of their lives, until they started believing they could change. Belief was the ingredient that made a reworked habit loop into a permanent behavior.

- "Even if you give people better habits, it doesn't repair why they started drinking in the first place. Eventually they'll have a bad day, and no new routine is going to make everything seem okay. What can make a difference is believing that they can cope with that stress without alcohol."

- “Belief is the biggest part of success in professional football,” Dungy told me. “The team wanted to believe, but when things got really tense, they went back to their comfort zones and old habits.”

- “Most football teams aren’t really teams. They’re just guys who work together,” a third player from that period told me. “But we became a team. It felt amazing. Coach was the spark, but it was about more than him. After he came back, it felt like we really believed in each other, like we knew how to play together in a way we didn’t before.”

- In a 1994 Harvard study that examined people who had radically changed their lives, for instance, researchers found that some people had remade their habits after a personal tragedy, such as a divorce or a life-threatening illness.³⁵ Others changed after they saw a friend go through something awful, the same way that Dungy’s players watched him struggle.

- But we do know that for habits to permanently change, people must believe that change is feasible. The same process that makes AA so effective—the power of a group to teach individuals how to believe—happens whenever people come together to help one another change. Belief is easier when it occurs within a community.

- it’s because they believed, and because that belief made everything they had learned—all the routines they had practiced until they became automatic—stick, even at the most stressful moments.

- How do habits change? There is, unfortunately, no specific set of steps guaranteed to work for every person. We know that a habit cannot be eradicated—it must, instead, be replaced. And we know that habits are most malleable when the Golden Rule of habit change is applied: If we keep the same cue and the same reward, a new routine can be inserted.

- So how did O’Neill make one of the largest, stodgiest, and most potentially dangerous companies into a profit machine and a bastion of safety? By attacking one habit and then watching the changes ripple through the organization.

- “I knew I had to transform Alcoa,” O’Neill told me. “But you can’t order people to change. That’s not how the brain works. So I decided I was going to start by focusing on one thing. If I could start disrupting the habits around one thing,

- Some habits, in other words, matter more than others in remaking businesses and lives. These are “keystone habits,” and they can influence how people work, eat, play, live, spend, and communicate. Keystone habits start a process that, over time, transforms everything.

- The habits that matter most are the ones that, when they start to shift, dislodge and remake other patterns.

- O’Neill had always been a big believer in lists. Lists were how he organized his life. In college at Fresno State—where he finished his courses in a bit over three years, while also working thirty hours a week—O’Neill had drafted a list of everything he hoped to accomplish during his lifetime, including, near the top, “Make a Difference.”

- Researchers have found institutional habits in almost every organization or company they've scrutinized. "Individuals have habits; groups have routines," wrote the academic Geoffrey Hodgson, who spent a career examining organizational patterns. "Routines are the organizational analogue of habits."⁴

- O'Neill figured his top priority, if he took the job, would have to be something that everybody—unions and executives—could agree was important.

- What most people didn't realize, however, was that O'Neill's plan for getting to zero injuries entailed the most radical realignment in Alcoa's history. The key to protecting Alcoa employees, O'Neill believed, was understanding why injuries happened in the first place.

- Studies have documented that families who habitually eat dinner together seem to raise children with better homework skills, higher grades, greater emotional control, and more confidence.¹¹ Making your bed every morning is correlated with better productivity, a greater sense of well-being, and stronger skills at sticking with a budget.¹² It's not that a family meal or a tidy bed causes better grades or less frivolous spending. But somehow those initial shifts start chain reactions that help other good habits take hold.

- Keystone habits offer what is known within academic literature as "small wins." They help other habits to flourish by creating new structures, and they establish cultures where change becomes contagious.

- During practices, when Bowman ordered Phelps to swim at race speed, he would shout, "Put in the videotape!" and Phelps would push himself, as hard as he could. It almost felt anticlimactic as he cut through the water. He had done this so many times in his head that, by now, it felt rote. But it worked. He got faster and faster. Eventually, all Bowman had to do before a race was whisper, "Get the videotape ready," and Phelps would settle down and crush the competition.

- "Small wins are a steady application of a small advantage," one Cornell professor wrote in 1984. "Once a small win has been accomplished, forces are set in motion that favor another small win."¹⁴ Small wins fuel transformative changes by leveraging tiny advantages into patterns that convince people that bigger achievements are within reach.¹⁵

- "If you were to ask Michael what's going on in his head before competition, he would say he's not really thinking about anything. He's just following the program. But that's not right. It's more like his habits have taken over. When the race arrives, he's more than halfway through his plan and he's been victorious at every step. All the stretches went like he planned. The warm-up laps were just like he visualized. His headphones are playing exactly what he expected. The actual race is just another step in a pattern that started earlier that day and has been nothing but victories. Winning is a natural extension."

- The small wins that started with O'Neill's focus on safety created a climate in which all kinds of new ideas bubbled up. "It turns out this guy had been suggesting this painting idea for a decade, but hadn't told anyone in management," an Alcoa executive told me. "Then he figures, since we keep on asking for safety recommendations, why not tell them about this other idea? It was like he gave us the winning lottery numbers."

- O'Neill's experiences with infant mortality illustrate the second way that keystone habits encourage change: by creating structures that help other habits to flourish.

- The researchers hadn't suggested any of these behaviors. They had simply asked everyone to write down what they ate once a week. But this keystone habit—food journaling—created a structure that helped other habits to flourish. Six months into the study, people who kept daily food records had lost twice as much weight as everyone else.

- Keystone habits make tough choices—such as firing a top executive—easier, because when that person violates the culture, it's clear they have to go.

- At the core of that education is an intense focus on an all-important habit: willpower. Dozens of studies show that willpower is the single most important keystone habit for individual success.

- At the time, there was relatively little academic scrutiny into willpower. Psychologists considered such subjects to be aspects of something they called "self-regulation," but it wasn't a field that inspired great curiosity. There was one famous experiment, conducted in the 1960s, in which scientists at Stanford had tested the willpower of a group of four-year-olds. The kids were brought into a room and presented with a selection of treats, including marshmallows. They were offered a deal: They could eat one marshmallow right away, or, if they waited a few minutes, they could have two marshmallows. Then the researcher left the room. Some kids gave in to temptation and ate the marshmallow as soon as the adult left. About 30 percent managed to ignore their urges, and doubled their treats when the researcher came back fifteen minutes later. Scientists, who were watching everything from behind a two-way mirror, kept careful track of which kids had enough self-control to earn the second marshmallow. Years later, they tracked down many of the study's participants. By now, they were in high school. The researchers asked about their grades and SAT scores, ability to maintain friendships, and their capacity to "cope with important problems." They discovered that the four-year-olds who could delay gratification the longest ended up with the best grades and with SAT scores 210 points higher, on average, than everyone else. They were more popular and did fewer drugs.

- Willpower isn't just a skill. It's a muscle, like the muscles in your arms or legs, and it gets tired as it works harder, so there's less power left over for other things."

- As people strengthened their willpower muscles in one part of their lives—in the gym, or a money management program—that strength spilled over into what they ate or how hard they worked. Once willpower became stronger, it touched everything.

- "When you learn to force yourself to go to the gym or start your homework or eat a salad instead of a hamburger, part of what's happening is that you're changing how you think," said Todd Heatherton, a researcher at Dartmouth who has worked on willpower studies.¹¹ "People get better at regulating their impulses. They learn how to distract themselves from temptations. And once you've gotten into that willpower groove, your brain is practiced at helping you focus on a goal."

- “That’s why signing kids up for piano lessons or sports is so important. It has nothing to do with creating a good musician or a five-year-old soccer star,” said Heatherton. “When you learn to force yourself to practice for an hour or run fifteen laps, you start building self-regulatory strength. A five-year-old who can follow the ball for ten minutes becomes a sixth grader who can start his homework on time.”

- The patients who had written plans in their booklets had started walking almost twice as fast as the ones who had not. They had started getting in and out of their chairs, unassisted, almost three times as fast. They were putting on their shoes, doing the laundry, and making themselves meals quicker than the patients who hadn’t scribbled out goals ahead of time.

- As the psychologist scrutinized the booklets, she saw that many of the plans had something in common: They focused on how patients would handle a specific moment of anticipated pain.

- What employees really needed were clear instructions about how to deal with inflection points—something similar to the Scottish patients’ booklets: a routine for employees to follow when their willpower muscles went limp.

- Throughout the training manuals are dozens of blank pages where employees can write out plans that anticipate how they will surmount inflection points.

- This is how willpower becomes a habit: by choosing a certain behavior ahead of time, and then following that routine when an inflection point arrives.

- When a customer comes in who seems overwhelmed, for example, an employee immediately asks them to visualize the space in their home they are hoping to organize, and describe how they’ll feel when everything is in its place.

- “We’ve found this again and again,” Muraven told me. “When people are asked to do something that takes self-control, if they think they are doing it for personal reasons—if they feel like it’s a choice or something they enjoy because it helps someone else—it’s much less taxing. If they feel like they have no autonomy, if they’re just following orders, their willpower muscles get tired much faster. In both cases, people ignored the cookies. But when the students were treated like cogs, rather than people, it took a lot more willpower.”

- Simply giving employees a sense of agency—a feeling that they are in control, that they have genuine decision-making authority—can radically increase how much energy and focus they bring to their jobs.

- Destructive organizational habits can be found within hundreds of industries and at thousands of firms. And almost always, they are the products of thoughtlessness, of leaders who avoid thinking about the culture and so let it develop without guidance. There are no organizations without institutional habits. There are only places where they are deliberately designed, and places where they are created without forethought, so they often grow from rivalries or fear.

- Crises are so valuable, in fact, that sometimes it’s worth stirring up a sense of looming catastrophe rather than letting it die down.

- But once a sense of crisis gripped Rhode Island Hospital, everyone became more open to change.³⁸ Other hospitals have made similar shifts in the wake of mistakes and have brought down error rates that just years earlier had seemed immune to improvement.

- Shoppers bought roughly the same amount of food each time they went shopping, even if they had pledged to cut back. “Consumers sometimes act like creatures of habit, automatically repeating past behavior with little regard to current goals,” two psychologists at the University of Southern California wrote in 2009.

- People’s buying habits are more likely to change when they go through a major life event. When someone gets married, for example, they’re more likely to start buying a new type of coffee.

- “Soldiers were more likely to eat food, whether familiar or unfamiliar, when it was prepared similar to their prior experiences and served in a familiar fashion,” a present-day researcher evaluating those studies wrote.²³

- “Hey Ya!” was played, it was sandwiched between songs that were already popular. “It’s textbook playlist theory now,” said Tom Webster, a radio consultant. “Play a new song between two consensus popular hits.”

- Whether selling a new song, a new food, or a new crib, the lesson is the same: If you dress a new something in old habits, it’s easier for the public to accept it.

- Studies show that people have no problem ignoring strangers’ injuries, but when a friend is insulted, our sense of outrage is enough to overcome the inertia that usually makes protests hard to organize. When Parks’s friends learned about her arrest and the boycott, the social habits of friendship—the natural inclination to help someone we respect—kicked in.

- In other words, if you don’t give the caller looking for a job a helping hand, he might complain to his tennis partner, who might mention those grumblings to someone in the locker room who you were hoping to attract as a client, who is now less likely to return your call because you have a reputation for not being a team player. On a playground, peer pressure is dangerous. In adult life, it’s how business gets done and communities self-organize.

- “We’ve thought long and hard about habitualizing faith, breaking it down into pieces,” Warren told me. “If you try to scare people into following Christ’s example, it’s not going to work for too long. The only way you get people to take responsibility for their spiritual maturity is to teach them habits of faith. “Once that happens, they become self-feeders. People follow Christ not because you’ve led them there, but because it’s who they are.”

- Transforming his church into a movement, however—scaling it across twenty thousand parishioners and thousands of other pastors—required something more, something that made it self-perpetuating. Warren needed to teach people habits that caused them to live faithfully not because of their ties, but because it’s who they are.

- For an idea to grow beyond a community, it must become self-propelling.

- “People went to see how other people were handling it,” said Branch. “You start to see yourself as part of a vast social enterprise, and after a while, you really believe you are.”

- Movements don’t emerge because everyone suddenly decides to face the same direction at once. They rely on social patterns that begin as the habits of friendship, grow through the habits of communities, and are sustained by new habits that change participants’ sense of self.

- “But what was really interesting were the near misses. To pathological gamblers, near misses looked like wins. Their brains reacted almost the same way. But to a nonpathological gambler, a near miss was like a loss. People without a gambling problem were better at recognizing that a near miss means you still lose.”

- “Some thinkers,” Aristotle wrote in *Nicomachean Ethics*, “hold that it is by nature that people become good, others that it is by habit, and others that it is by instruction.” For Aristotle, habits reigned supreme. The behaviors that occur unthinkingly are the evidence of our truest selves, he said. So “just as a piece of land has to be prepared beforehand if it is to nourish the seed, so the mind of the pupil has to be prepared in its habits if it is to enjoy and dislike the right things.”

- Hundreds of habits influence our days—they guide how we get dressed in the morning, talk to our kids, and fall asleep at night; they impact what we eat for lunch, how we do business, and whether we exercise or have a beer after work. Each of them has a different cue and offers a unique reward. Some are simple and others are complex, drawing upon emotional triggers and offering subtle neurochemical prizes. But every habit, no matter its complexity, is malleable. The most addicted alcoholics can become sober. The most dysfunctional companies can transform themselves. A high school dropout can become a successful manager. However, to modify a habit, you must decide to change it. You must consciously accept the hard work of identifying the cues and rewards that drive the habits’ routines, and find alternatives. You must know you have control and be self-conscious enough to use it—and every chapter in this book is devoted to illustrating a different aspect of why that control is real.

- Regarding his ability to change, “I will assume for the present—until next year—that it is no illusion. My first act of free will shall be to believe in free will.”

- If you believe you can change—if you make it a habit—the change becomes real. This is the real power of habit: the insight that your habits are what you choose them to be. Once that choice occurs—and becomes automatic—it’s not only real, it starts to seem inevitable, the thing, as James wrote, that bears “us irresistibly toward our destiny, whatever the latter may be.”

- ‘Morning, boys. How’s the water?’” the writer David Foster Wallace told a class of graduating college students in 2005. “And the two young fish swim on for a bit, and then eventually one of them looks over at the other and goes ‘What the hell is water?’” The water is habits, the unthinking choices and invisible decisions that surround us every day—and which, just by looking at them, become visible again. Throughout his life, William James wrote about habits and their central role in creating happiness and success. He eventually devoted an entire

chapter in his masterpiece *The Principles of Psychology* to the topic. Water, he said, is the most apt analogy for how a habit works. Water “hollows out for itself a channel, which grows broader and deeper; and, after having ceased to flow, it resumes, when it flows again, the path traced by itself before.”

- To understand your own habits, you need to identify the components of your loops. Once you have diagnosed the habit loop of a particular behavior, you can look for ways to supplant old vices with new routines.

- Most cravings are like this: obvious in retrospect, but incredibly hard to see when we are under their sway.

- You get the idea. What you choose to do instead of buying a cookie isn't important. The point is to test different hypotheses to determine which craving is driving your routine. Are you craving the cookie itself, or a break from work? If it's the cookie, is it because you're hungry? (In which case the apple should work just as well.) Or is it because you want the burst of energy the cookie provides? (And so the coffee should suffice.) Or are you wandering up to the cafeteria as an excuse to socialize, and the cookie is just a convenient excuse? (If so, walking to someone's desk and gossiping for a few minutes should satisfy the urge.)

- As you test four or five different rewards, you can use an old trick to look for patterns: After each activity, jot down on a piece of paper the first three things that come to mind when you get back to your desk. They can be emotions, random thoughts, reflections on how you're feeling, or just the first three words that pop into your head.

- Then, set an alarm on your watch or computer for fifteen minutes. When it goes off, ask yourself: Do you still feel the urge for that cookie?

- The reason why it's important to write down three things—even if they are meaningless words—is twofold. First, it forces a momentary awareness of what you are thinking or feeling. Just as Mandy, the nail biter in chapter 3, carried around a note card filled with hash marks to force her into awareness of her habitual urges, so writing three words forces a moment of attention. What's more, studies show that writing down a few words helps in later recalling what you were thinking at that moment. At the end of the experiment, when you review your notes, it will be much easier to remember what you were thinking and feeling at that precise instant, because your scribbled words will trigger a wave of recollection. And why the fifteen-minute alarm? Because the point of these tests is to determine the reward you're craving. If, fifteen minutes after eating a donut, you still feel an urge to get up and go to the cafeteria, then your habit isn't motivated by a sugar craving. If, after gossiping at a colleague's desk, you still want a cookie, then the need for human contact isn't what's driving your behavior. On the other hand, if fifteen

- To identify a cue amid the noise, we can use the same system as the psychologist: Identify categories of behaviors ahead of time to scrutinize in order to see patterns. Luckily, science offers some help in this regard. Experiments have shown that almost all habitual cues fit into one of five categories: Location Time Emotional state Other people Immediately preceding action

- So if you're trying to figure out the cue for the "going to the cafeteria and buying a chocolate chip cookie" habit, you write down five things the moment the urge hits (these are my actual notes from when I was trying to diagnose my habit):

- Where are you? (sitting at my desk) What time is it? (3:36 P.M.) What's your emotional state? (bored) Who else is around? (no one) What action preceded the urge? (answered an email)

- Put another way, a habit is a formula our brain automatically follows: When I see CUE, I will do ROUTINE in order to get a REWARD. To re-engineer that formula, we need to begin making choices again. And the easiest way to do this, according to study after study, is to have a plan. Within psychology, these plans are known as "implementation intentions." Take, for instance, my cookie-in-the-afternoon habit. By using this framework, I learned that my cue was roughly 3:30 in the afternoon. I knew that my routine was to go to the cafeteria, buy a cookie, and chat with friends. And, through experimentation, I had learned that it wasn't really the cookie I craved—rather, it was a moment of distraction and the opportunity to socialize. So I wrote a plan: At 3:30, every day, I will walk to a friend's desk and talk for 10 minutes.

- Andy Ward acquired *The Power of Habit* before he even started as an editor at Random House. At the time, I did not know that he was a kind, generous, and amazingly—astoundingly—talented editor. I'd heard from some friends that he had elevated their prose and held their hands so gracefully they almost forgot the touch. But I figured they were exaggerating, since many of them were drinking at the time. Dear reader: it's all true.