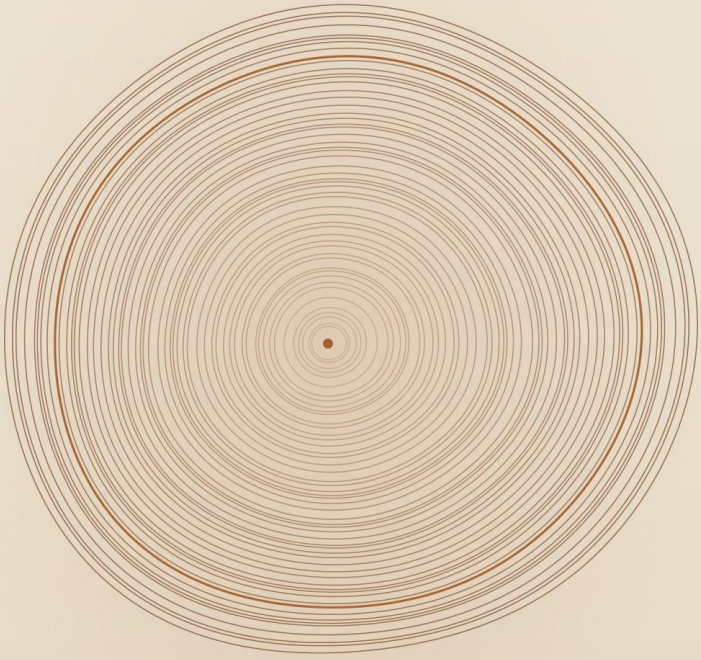
HABITS THAT EMPOWER

Fifty Case Studies in the Psychology and Practice of Behaviour Change



RON TAYLOR

executiveclass.ca

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AN EXECUTIVE CLASS SERIES BY RON TAYLOR

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Habits That Empower: Fifty Case Studies in the Psychology and Practice of Behaviour Change

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The cases describe real people, organizations and published research, summarized from the sources listed in the References. The book is for education and discussion; it is not professional, medical, psychological, legal or financial advice.

How to Use This Book

This book presents fifty case studies of behaviour change. Some describe individuals, such as a scientist, a novelist or a choreographer. Others describe organizations, and many describe research. Each case teaches one distinct lesson about how useful behaviour is started, repeated and sustained, and then turns that lesson into an exercise you can test in your own life.

THE STRUCTURE OF EACH CASE

Every case follows the same pattern, so that you can concentrate on the ideas rather than on finding your way.

1. **Central concept.** One line naming the principle the case explores.
2. **The challenge.** The problem the person, organization or researcher faced.
3. **What they did.** The behaviour itself, described as precisely as the sources allow.
4. **How we know.** The kind of evidence behind the case. An autobiography, an interview, a biography and a controlled experiment are very different kinds of evidence, and this section tells you which one you are reading.
5. **The psychology.** The mechanisms that may explain why the behaviour worked.
6. **The practical lesson.** What a reader can reasonably take from the case.
7. **The Habit Lab.** A short exercise that turns the lesson into something you can try.
8. **What this example does not prove.** The limits of the case, so that a good story does not become an exaggerated claim.

9. **Key terms.** Three words or phrases worth adding to your active vocabulary.

THE HABIT LAB

Every Habit Lab uses the same seven elements:

- **Behaviour:** the specific action you will practise.
- **Cue:** the situation that tells you it is time to act.
- **Starting action:** the first small step, made so obvious that beginning requires little thought.
- **Frequency:** how often the behaviour should occur.
- **Measurement:** how you will know whether it happened.
- **Disruption:** what you will do when the plan fails, because it will.
- **Review:** the question you will ask after a week or two.

Do not try to run fifty Habit Labs at once. Choose one, run it for two or three weeks, review it, and then decide whether to keep it, change it or replace it. One behaviour that becomes reliable is worth more than ten that are attempted and abandoned.

HOW TO READ THE EVIDENCE

The famous examples in this book are illustrations, not proof. When Stephen King describes his daily word count, we learn what worked for Stephen King. When a controlled experiment compares two groups of students, we learn something more general, though still limited to the people, tasks and conditions studied. A meta-analysis, which combines many studies, is usually more reliable than any single study. Throughout the book, claims are hedged where the evidence requires it. Words such as *may*, *often* and *tends to* are there because they make a statement more accurate, not weaker.

References appear in the text in the form *(Author, year)* and are listed in full at the back of the book.

IF ENGLISH IS YOUR SECOND LANGUAGE

The book is written in clear, standard Canadian English at an advanced level. Read each case once for meaning without stopping for every new word. Then read the "How we know" and "What this example does not prove" sections a second time and notice how careful writers qualify their claims. Use the key terms actively: write one sentence of your own with each term before you move on. You may also notice that the Habit Labs work very well for language learning itself. Several of the examples involve studying vocabulary, and that is no accident.

Introduction: Small Things, Repeated

Achievement is rarely the product of one extraordinary effort. More often, it emerges from ordinary behaviours repeated consistently over time: the daily page, the weekly review, the walk that clears the mind, the question asked before a meeting rather than after it.

Repetition alone, however, is not enough. Some repeated behaviours are ineffective. Others quietly reinforce the wrong patterns. A person can reread a textbook every evening for a month and still be unable to explain its main ideas. A team can hold the same meeting every Monday for years without improving anything. Repetition makes a behaviour more automatic; it does not make it more useful.

The important questions are therefore more specific. What behaviour is being repeated? What makes it easier to repeat? What psychological mechanisms sustain it? What evidence supports the claimed benefits? And how can a reader apply the lesson in a different setting, with different responsibilities, resources and constraints?

WHAT THIS BOOK IS NOT

This book is not a collection of inspirational biographies. Inspiration tends to fade when ordinary life returns on Monday morning. Each case has been chosen because it teaches a distinct lesson, and each lesson is stated with its limits.

Nor does the book promise that a habit takes a fixed number of days to form. The popular claim that habits take twenty-one days is often traced to a plastic surgeon's informal observation about how long his patients took to adjust to a changed appearance (Maltz, 1960). When researchers actually measured

habit formation, they found that the time varied enormously between people and behaviours (Lally et al., 2010). You will meet that research in Case 8.

Finally, the book does not claim that personal habits can overcome every obstacle. Money, health, discrimination, family responsibilities and a lack of opportunity are real constraints. Good habits help people make better use of the options they have. They do not remove every constraint, and nobody who struggles against real barriers should be told that they simply lack discipline.

THE ORGANIZATION OF THE BOOK

The fifty cases are arranged in ten parts. Part I examines discipline and consistency: how intentions become sustained behaviour. Part II turns to learning and intellectual growth, and to the difference between being exposed to information and actually learning it. Part III addresses confidence and courage, and Part IV communication and relationships. Part V considers productivity and focus, Part VI resilience and adaptability, and Part VII health and physical performance. Part VIII examines leadership and professional success, Part IX financial habits, and Part X personal development.

You do not need to read the cases in order. Start with the part that matches the challenge you are facing this month. Read one case, run its Habit Lab, and notice what happens. The purpose of the book is not to tell you who to become. It is to help you test, on the evidence of your own experience, which small things are worth repeating.

PART I

Discipline and Consistency

Why do good intentions so often fail to become good habits?

The first part of the book examines how people translate intentions into sustained behaviour. Discipline is often described as a personal quality that some people have and others lack. The cases in this part suggest a different view. Consistent behaviour is shaped by routines, cues, the design of the environment, feedback, expectations and the difficulty of the task itself. People who appear unusually disciplined have often simply arranged their lives so that the right behaviour requires fewer decisions.

CASE 1

The Discipline of Self-Monitoring

BENJAMIN FRANKLIN

CENTRAL CONCEPT *behaviour becomes easier to improve when it is observed honestly*

THE CHALLENGE

As a young printer in Philadelphia, in his early twenties, Benjamin Franklin decided to attempt what he later called a bold and arduous project: to live without committing any fault. He soon discovered that good intentions were not enough. While he concentrated on avoiding one fault, another would catch him by surprise. Habit, he observed, took advantage of inattention, and inclination was sometimes too strong for reason.

WHAT HE DID

Franklin listed thirteen virtues, among them temperance, silence, order, resolution, frugality, industry and sincerity, and wrote a short rule, or precept, for each. He arranged them deliberately, so that each would make the next one easier. Temperance came first, for example, because a clear head would help him keep the rest.

He then made a small book with a page for each virtue. Each page was ruled into seven columns, one for each day of the week, and thirteen rows, one for each virtue. Every evening he reviewed the day and marked a small black spot wherever he had fallen short.

Crucially, he did not try to improve everything at once. Each week he gave his strict attention to a single virtue and left the others to ordinary chance. A complete course through all thirteen took thirteen weeks, so he could repeat it

four times a year. When the paper pages wore through from repeated erasing, he moved the tables to ivory leaves that could be wiped clean with a damp sponge.

Franklin admitted that he never achieved the perfection he had aimed at. Order, in particular, defeated him. He nevertheless concluded that the attempt had made him a better and happier man than he would otherwise have been. He also told the story of a man who asked a smith to polish his whole axe until it was as bright as its edge. Growing tired of turning the grindstone, the man declared that he liked a speckled axe best. Franklin recognized the same temptation in himself: to stop trying and call the result good enough.

HOW WE KNOW

Our source is Franklin himself. He described the method in the second part of his *Autobiography*, written in 1784, when he was in his late seventies, about half a century after the events (Franklin, 1964). The account is therefore a recollection, written by a skilled author who was conscious of how he would be remembered. It tells us what Franklin designed and how he wished to describe it. It cannot tell us how faithfully he followed it.

THE PSYCHOLOGY

Franklin had discovered what psychologists now call *self-monitoring*: systematically observing and recording one's own behaviour. A meta-analysis of 138 experimental studies found that prompting people to monitor their progress increased the likelihood that they would attain their goals, and that the effect was stronger when progress was physically recorded or publicly reported (Harkin et al., 2016).

Several features of Franklin's method may explain why it helped. Recording behaviour at a fixed time turned a vague aspiration into an observable question: did it happen today or not? The record made patterns visible. One

bad evening is easy to excuse, but a column of black spots is difficult to ignore. Focusing on one virtue at a time also limited the demands on his attention, which was exactly the resource his first attempt had lacked.

THE PRACTICAL LESSON

Choose one behaviour that matters. Define what it looks like in practice, so that you could answer yes or no at the end of the day. Record it at a fixed time, and review the pattern each week rather than judging individual days. Resist the temptation to monitor many behaviours at once. Franklin's most important design decision was not the chart; it was the decision to concentrate on one thing at a time.

The Habit Lab

BEHAVIOUR
Choose one behaviour to monitor, defined clearly enough to answer yes or no.

CUE
A fixed time at the end of each day.

STARTING ACTION
Mark the record before doing anything else.

FREQUENCY
Daily, followed by a short weekly review.

MEASUREMENT
A simple mark for completion or for each lapse.

DISRUPTION
Resume recording the next evening without trying to make up for missed days.

REVIEW
What pattern do the records reveal after two weeks?

WHAT THIS EXAMPLE DOES NOT PROVE

Franklin's account illustrates a personal system. It is not, by itself, evidence that his method produces the same results for everyone. His record focused on failures, and some people find that a record of lapses becomes a source of discouragement rather than information. A record of successes may suit them better. Monitoring also reveals a problem without solving it: knowing that you keep falling short is useful only if it leads to a change in the conditions that produce the lapse.

KEY TERMS

self-monitoring — systematically observing and recording one's own behaviour

precept — a short rule intended to guide conduct

to fall short — to fail to reach a standard or expectation

CASE 2

Protecting Time for Demanding Work

CHARLES DARWIN

CENTRAL CONCEPT *important work requires protected time and a sustainable rhythm*

THE CHALLENGE

For most of his adult life, Charles Darwin suffered from a chronic illness that left him exhausted, nauseous and frequently unable to work. Even a conversation with visitors could tire him after about half an hour. Yet from his home at Down House, in the English countryside, he produced a body of work that included *On the Origin of Species*. His problem was not how to work long hours. It was how to make the most of the limited hours he had.

WHAT HE DID

According to his son Francis, Darwin's day followed a pattern that rarely varied (Darwin, 1887; Darwin Correspondence Project, n.d.). He rose early, took a short walk and ate breakfast alone. From eight until about half past nine he worked in his study, a period he regarded as his best working time. He then read his letters and listened to family letters read aloud, and returned to the study from about half past ten until a quarter past twelve. That, in effect, was the end of his serious working day.

At midday he walked. He had a sandy path laid out around a strip of woodland near the house, which he called the Sandwalk, and he walked its circuit, usually alone, sometimes with a dog. According to family recollections, he kept a small pile of flints at the turning point and knocked one aside on each lap, so that he did not need to count. The afternoon was

given to lunch, newspapers, correspondence and rest. A final hour in the study at the end of the afternoon cleared up the day's remaining business.

The striking feature of this routine is how little of it was concentrated intellectual work: perhaps three or four hours a day, divided into protected blocks at the times when he was most alert. The rest of the day supported those hours rather than competing with them.

HOW WE KNOW

The main source is the recollection of Darwin's son, published after his death (Darwin, 1887), together with Darwin's letters and later biographies (Browne, 2002). The routine described is that of his later years at Down House. It was observed by family members who admired him, and it describes the shape of his day rather than measuring its results.

THE PSYCHOLOGY

Two ideas help to explain the value of Darwin's routine. First, a fixed schedule removes the need to decide, every day, when demanding work will begin. The decision has already been made, and the work simply starts at eight.

Second, mental performance varies across the day. Research on circadian rhythms suggests that people's capacity for demanding cognitive tasks rises and falls with the time of day, and that the best time differs between individuals (Schmidt et al., 2007). Darwin placed his most demanding work at the time he had learned he was strongest, and he placed easier tasks, such as correspondence, at times when his energy was lower.

The walks may have mattered too. Darwin did much of his thinking while walking, and the regular break also gave his limited physical strength time to recover between working periods.

THE PRACTICAL LESSON

Identify the period of the day when your concentration is strongest, and protect it for the work that requires the greatest intellectual effort. Move routine tasks, such as email, to the hours when you are less alert. A short period protected every day may produce more than a long day that is constantly interrupted.

The Habit Lab

BEHAVIOUR
Protect one period each day for your most demanding work.

CUE
A consistent time, chosen when your concentration is usually strongest.

STARTING ACTION
Close email and messages, then begin the first clearly defined task.

FREQUENCY
On every planned working day.

MEASUREMENT
Record each protected session and what it produced.

DISRUPTION
Reschedule the session for later the same day rather than abandoning it.

REVIEW
Is the protected period producing meaningful progress on the work that matters most?

WHAT THIS EXAMPLE DOES NOT PROVE

Darwin's routine should not be treated as a universal productivity formula. Family wealth meant that he never needed to earn a salary, and his wife, Emma, and the household staff managed much of the domestic work around him. His illness also shaped the routine in ways that do not apply to most readers. What transfers is the principle of matching demanding work to one's best hours, not the particular timetable.

KEY TERMS

protected time — a period deliberately kept free of interruptions

circadian rhythm — the roughly twenty-four-hour cycle that affects alertness and other body functions

to make the most of — to use something as effectively as possible

CASE 3

Training the Body to Sustain the Work

HARUKI MURAKAMI

CENTRAL CONCEPT *physical habits can be the foundation that makes demanding mental work sustainable*

THE CHALLENGE

Haruki Murakami ran a jazz bar in Tokyo before he became a novelist. After his first books succeeded, he sold the bar to write full-time. The change brought a new problem. Writing novels meant sitting at a desk for long hours, and he had been a heavy smoker. He realized that if he wanted to write long, demanding books for many years, he would need the physical stamina to do it.

WHAT HE DID

Murakami began running in the early 1980s, and running became as much a part of his working life as writing. In an interview with *The Paris Review*, he described his routine while working on a novel (Wray, 2004). He wakes at about four in the morning and writes for five or six hours. In the afternoon he runs about ten kilometres or swims about fifteen hundred metres, or does both. He then reads and listens to music, and goes to bed at about nine. He keeps this routine every day for the six months to a year it takes to complete a novel.

He has said that the repetition itself becomes the important thing, a kind of mesmerism that helps him reach a deeper state of mind. He has also compared writing a long novel to survival training: physical strength, in his

view, is as necessary as artistic sensitivity. His memoir about running explores the same idea at length (Murakami, 2008).

HOW WE KNOW

Our evidence is Murakami's own description of his life, in interviews and in a memoir. It is a self-report from a successful author, and it describes his routine during intensive periods of writing. We have no independent record of how consistently he follows it.

THE PSYCHOLOGY

The case is not mainly about writing. Murakami treats exercise and sleep as part of the work rather than as competition for it. This reflects a reasonable reading of the research. A meta-analysis of studies on single sessions of exercise found small but positive effects on subsequent cognitive performance (Chang et al., 2012), and regular sleep at consistent times supports the alertness that demanding mental work requires.

The routine also links behaviours into a fixed sequence. Writing is followed by exercise, exercise by reading, reading by sleep. Because each activity has a settled place, none of them needs to be negotiated each day. The early bedtime is what makes the early start possible.

THE PRACTICAL LESSON

Ask what physical habits support the work you most want to do: sleep, movement, food, breaks. Then schedule them as part of that work rather than as rewards to be earned after it. If you study English in the evening and are too tired to concentrate, the problem may lie less in the study session than in the sleep and energy that come before it.

The Habit Lab

BEHAVIOUR
Add one physical habit that supports your main work.

CUE
A fixed point in your day, such as after the morning's main task.

STARTING ACTION
Put on your walking or running shoes.

FREQUENCY
Most days, at a level you can sustain.

MEASUREMENT
Record the activity and rate your energy for the work that day.

DISRUPTION
Replace the usual session with a ten-minute walk.

REVIEW
Over two weeks, does your energy for demanding work improve?

WHAT THIS EXAMPLE DOES NOT PROVE

Murakami's schedule is extreme. He has no employer, and he has acknowledged that it requires giving up much of an ordinary social life. Exercise did not make him a novelist, and it will not make anyone else one. Nor does the research show that running improves creativity in a direct or reliable way. The case shows only that one writer found physical training essential to sustaining his work, and that this is consistent with modest evidence about exercise and cognition.

KEY TERMS

> ***stamina*** — the physical or mental strength to continue an activity for a long time

> ***to sustain*** — to keep something going over time

> ***self-report*** — information that people provide about themselves

CASE 4

Volume: Reading a Lot and Writing a Lot

STEPHEN KING

CENTRAL CONCEPT *regular production, supported by regular input, creates opportunities to improve*

THE CHALLENGE

Many people who want to write spend their time waiting: for inspiration, for the right mood, for a free weekend. The waiting can last for years. Stephen King's view is that the waiting itself is the problem.

WHAT HE DID

In his memoir about the craft, King reduces his advice to two activities: read a lot and write a lot (King, 2000). He describes reading widely and constantly, often carrying a book with him and reading in moments that others spend waiting. Reading, in his account, is how a writer learns what good and bad writing feel like from the inside.

His writing has a measurable target. He describes writing about ten pages, or roughly two thousand words, a day, and not stopping until he reaches the target. He has said that he writes every day, including holidays, because a long break lets the story go cold.

King wrote much of that memoir after being struck by a van while walking near his home in 1999. He was badly injured, and he describes returning to his desk while still in pain. His first sessions back were short. The target could wait; the habit of returning to the desk could not.

HOW WE KNOW

The source is King's own book, a mixture of memoir and practical advice written by one of the most commercially successful novelists of his time. It describes his habits as he understood them. Like the other personal cases in this part, it is evidence of what one person did, not evidence of what would work for everyone.

THE PSYCHOLOGY

A daily word count turns an abstract ambition, such as "I want to be a writer", into a specific and observable behaviour. Research on goal setting has repeatedly found that specific, challenging goals tend to produce higher performance than vague instructions to do one's best (Locke & Latham, 2002). The count also provides immediate feedback: at the end of the day, either the words exist or they do not.

The pairing of reading with writing matters too. Producing work gives a person repetitions. Reading supplies models of what the work could become. A writer who only writes has nothing new to measure the work against, and a writer who only reads never practises.

This case differs from Case 3. Murakami's lesson concerns sustaining the body that does the work. King's lesson concerns volume: a measurable output target, combined with a steady supply of input.

THE PRACTICAL LESSON

Set a production target in a unit you control, such as words, pages, minutes or problems solved, and measure whether it is completed. Do not make inspiration a requirement for beginning. Then pair the output with deliberate input. For a learner of English, the equivalent might be writing one short paragraph a day and reading one good article.

The Habit Lab

BEHAVIOUR

Produce a defined amount of work and take in a defined amount of reading.

CUE

A scheduled period for writing, and a fixed moment for reading, such as the commute.

STARTING ACTION

Write the first sentence, however rough.

FREQUENCY

On planned working days.

MEASUREMENT

Track words or minutes written and pages read.

DISRUPTION

Resume with a smaller target rather than skipping the session.

REVIEW

Is the target encouraging steady work without undermining quality?

WHAT THIS EXAMPLE DOES NOT PROVE

King's output reflects many factors, including talent, decades of experience and professional circumstances that allow him to write full-time. Two thousand words is his number, not a scientifically established requirement; a smaller target that is actually met is better than a larger one that is regularly abandoned. Volume without feedback can also repeat the same mistakes indefinitely. Case 10, on deliberate practice, examines what turns repetition into improvement.

KEY TERMS

output — the amount of work a person produces

target — a level of performance that a person aims to reach

to wait for inspiration — to delay working until one feels creative or motivated

CASE 5

The Ritual That Starts the Day

TWYLA THARP

CENTRAL CONCEPT *a fixed starting ritual can remove the decision about whether to begin*

THE CHALLENGE

The choreographer Twyla Tharp built her career on physical work, and she knew that the hardest part of a demanding routine is often not the work itself. It is the moment of beginning, when the warm bed and the dark morning make every reason to stay home sound convincing.

WHAT SHE DID

In her book *The Creative Habit*, Tharp describes her morning (Tharp, 2003). She wakes at half past five, dresses in her workout clothes and walks out of her Manhattan home. She hails a taxi and tells the driver to take her to her gym, where she works out for about two hours.

Her key observation is about where the ritual lies. The ritual, she says, is not the exercise. It is the taxi. The moment she tells the driver where to go, the ritual is complete and the decision has been made. Everything after that follows almost automatically.

HOW WE KNOW

The source is Tharp's own book, in which she describes her practice and uses it to illustrate a broader argument about creative discipline. It is a self-report, written to teach, and it does not test whether the ritual is the cause of her consistency.

THE PSYCHOLOGY

Tharp's insight is that resistance tends to concentrate at the transition into an activity. Once a person is at the gym, or at the desk with the file open, continuing is usually easier than starting. Her ritual places a small, identical, nearly effortless action at exactly that point of transition.

Because the sequence of actions is the same every day, each step can become a cue for the next: waking leads to dressing, dressing to walking out, walking out to the taxi. The decision about whether to exercise is no longer made in bed, where it is most vulnerable to negotiation. It is made, in effect, by the routine itself. Cases 7 and 8 examine the research on how such cues and sequences develop.

THE PRACTICAL LESSON

Identify the behaviour you most often postpone, and then identify the moment at which you usually lose the argument with yourself. Design a short starting ritual for that moment. Make the first action small, obvious and identical each time: put on your shoes, open the document, sit at the desk with the textbook already open at the right page.

The Habit Lab

BEHAVIOUR
Begin the activity you tend to postpone.

CUE
A fixed event, such as waking up or finishing breakfast.

STARTING ACTION
Complete a short, identical starting ritual.

FREQUENCY
Whenever the activity is scheduled.

MEASUREMENT
Record whether the ritual led to beginning.

DISRUPTION
Use a shortened version when the usual sequence is unavailable.

REVIEW
Does the ritual reliably get you started?

WHAT THIS EXAMPLE DOES NOT PROVE

A ritual can help a person begin, but it does not guarantee the quality of what follows. Arriving at the gym is not the same as training well. Rituals can also turn into superstitions, in which a person comes to believe that work is impossible without them. And Tharp is a professional for whom physical training is part of the job; her motivation to arrive is unusually strong. The case shows that a starting ritual can reduce the cost of beginning, not that it can replace a reason to begin.

KEY TERMS

> ***ritual*** — a fixed sequence of actions performed in the same way each time

> ***transition*** — the movement from one activity or state to another

> ***to postpone*** — to delay something until a later time

CASE 6

Improvement as Part of the Daily Work

TOYOTA

CENTRAL CONCEPT *improvement lasts when it is built into ordinary work rather than added to it*

THE CHALLENGE

Every organization wants to improve quality and efficiency. Most attempt it through occasional initiatives: a new program, a consultant's report, a campaign with a slogan. Such efforts often fade once the attention moves elsewhere. Toyota's production system, developed in Japan in the decades after the Second World War, tried to make improvement a normal part of every working day.

WHAT TOYOTA DID

The system is associated with Taiichi Ohno, an engineer who shaped Toyota's production methods (Ohno, 1988), and with the idea of *kaizen*, or continuous improvement. Two practices are central.

The first is *standardized work*. Each task is performed according to a documented best-known method. The standard is not intended to be permanent. Its purpose is to provide a baseline, so that problems and possible improvements become visible. Without a standard, it is difficult to tell whether a change has made things better or worse.

The second is the expectation that workers will identify and solve problems. On many Toyota production lines, any worker who notices a defect can pull a cord, known as the *andon*, to signal the problem and, if necessary, stop the line. Toyota has also run a system for decades in which employees submit

suggestions for improving their own work. Researchers who studied the company closely argued that its real strength lay less in particular tools than in treating every task as a small experiment that could be examined and improved (Spear & Bowen, 1999).

HOW WE KNOW

Toyota's methods have been described by its own engineers, by researchers who studied its plants and by management writers (Liker, 2004; Ohno, 1988; Spear & Bowen, 1999). This is more varied evidence than a single autobiography, but much of it comes from admirers, and organizational success has many causes that cannot be separated cleanly.

THE PSYCHOLOGY

At the level of the individual, Toyota's approach combines several elements that make recurring improvement easier. A clear standard defines what "normal" looks like, so departures from it are noticed quickly. Small, frequent changes are easier to test and to reverse than large, occasional ones. And frequent feedback shows whether an adjustment worked.

At the level of the organization, people raise problems only if it feels safe to do so. Research on work teams has found that *psychological safety*, a shared belief that people will not be punished for raising concerns or admitting mistakes, is associated with more learning behaviour (Edmondson, 1999). A cord that stops the line is useless if workers are afraid to pull it.

THE PRACTICAL LESSON

Choose a recurring task in your work or life. First establish a dependable method and write it down, even briefly. Once the method works reliably, examine one aspect that could be improved, change only that aspect, and compare the result with the standard. Improvement begins with knowing what you currently do.

The Habit Lab

BEHAVIOUR
Improve one recurring task.

CUE
Completing the task.

STARTING ACTION
Note one source of wasted effort or error.

FREQUENCY
Review once each week.

MEASUREMENT
Time taken, number of errors or quality of the result.

DISRUPTION
Return to the written standard if the change fails.

REVIEW
Did the adjustment produce a measurable improvement?

WHAT THIS EXAMPLE DOES NOT PROVE

Toyota's success cannot be attributed to kaizen alone. Its system also involves management practices, supplier relationships, training, technology and culture, and many companies that copied its visible tools failed to reproduce its results. Even Toyota has not been immune to failure. During the large vehicle recalls of 2009 and 2010, the company's president, Akio Toyoda, told the United States Congress that Toyota had grown faster than its ability to develop its people and systems (Toyoda, 2010). A good improvement system must itself be maintained.

KEY TERMS

> ***kaizen*** — a Japanese term for continuous, incremental improvement

> ***baseline*** — a starting point used for comparison

> ***psychological safety*** — a shared belief that it is safe to raise problems or admit mistakes

CASE 7

Deciding in Advance

IMPLEMENTATION INTENTIONS

CENTRAL CONCEPT *a specific plan can bridge the gap between intending to act and acting*

THE CHALLENGE

People regularly form intentions that never become behaviour. They intend to exercise, to study, to call a relative, and the week passes without action. The problem is often not a lack of motivation. It is that the moment to act arrives unnoticed, or arrives when another activity seems more pressing.

WHAT THE RESEARCH FOUND

The psychologist Peter Gollwitzer proposed a simple tool: the *implementation intention* (Gollwitzer, 1999). Rather than stating only a goal ("I will study more"), a person specifies when, where and how they will act, in the form *If situation X occurs, then I will do Y*. For example: "After breakfast, I will study English vocabulary for fifteen minutes."

In one early study, university students in Munich were asked to write a report about how they spent Christmas Eve, and to send it within two days of the holiday. Half were also asked to decide exactly when and where they would write it. Among the students whose reports could be analyzed, about seventy-one percent of those who had formed a plan sent the report on time, compared with about thirty-two percent of those who had not (Gollwitzer & Brandstätter, 1997).

A single small study proves little. Later, however, a meta-analysis combining ninety-four independent tests found that forming implementation intentions

had a medium-to-large effect on goal attainment across many kinds of behaviour (Gollwitzer & Sheeran, 2006).

HOW WE KNOW

Unlike the personal cases earlier in this part, this case rests on controlled experiments, in which people were randomly assigned to form a plan or not, and on a meta-analysis of many such experiments. This is considerably stronger evidence. It still has limits: many of the studies involved students and relatively short time periods.

THE PSYCHOLOGY

An implementation intention links a recognizable situation with a specific response. Two things appear to follow. The situation becomes easier to notice, because the person has already identified it in advance. And the response begins with less deliberation, because the decision has already been made. In effect, a conscious choice made once creates something like a habit that operates in the moment (Gollwitzer, 1999).

The same format can be used for obstacles. A *coping plan* specifies what you will do when something goes wrong: "If I come home too tired to study, then I will review five words instead of fifteen."

THE PRACTICAL LESSON

Do not write only what you want to achieve. Decide what you will do when a particular situation occurs, and choose a situation that happens reliably. Then add one coping plan for the obstacle you are most likely to meet.

The Habit Lab

BEHAVIOUR
Complete one important action that you keep postponing.

CUE
A specific, recurring situation.

STARTING ACTION
Write an if–then plan, and one coping plan for your most likely obstacle.

FREQUENCY
Every time the cue occurs.

MEASUREMENT
Record each occasion and whether you acted.

DISRUPTION
If the cue proves unreliable, choose a more dependable one.

REVIEW
Did the chosen situation reliably trigger the action?

WHAT THIS EXAMPLE DOES NOT PROVE

Planning does not remove barriers such as fatigue, competing responsibilities, limited resources or a lack of skill. Implementation intentions work best when a person already wants to reach the goal; they strengthen commitment rather than create it. Later research has also tended to find smaller effects than the early studies, which is common in psychology. An if–then plan is a useful tool for supporting action, not a guarantee of success.

KEY TERMS

> ***implementation intention*** — a plan that links a specific situation with a specific action

> ***coping plan*** — a plan for what to do when a likely obstacle occurs

> ***goal attainment*** — the achievement of a goal

CASE 8

Repetition in a Stable Context

HABIT FORMATION

CENTRAL CONCEPT *a behaviour repeated in the same context can gradually become automatic*

THE CHALLENGE

Many people expect a new behaviour to become automatic after a fixed number of days, and they become discouraged when it does not. The popular figure of twenty-one days is still widely repeated. Researchers wanted to know what actually happens when people try to form a new habit in everyday life.

WHAT THE RESEARCH FOUND

A substantial part of daily behaviour already runs on habit. In one diary study, about forty-three percent of the behaviours people reported were performed almost every day, usually in the same place (Wood et al., 2002).

To study how new habits form, Phillippa Lally and her colleagues at University College London recruited ninety-six volunteers (Lally et al., 2010). Each chose a simple behaviour related to eating, drinking or activity, such as eating a piece of fruit with lunch, drinking a glass of water or going for a fifteen-minute run, and performed it in response to the same daily cue. Each day for twelve weeks, the volunteers rated how automatic the behaviour felt: whether they did it without thinking, and whether it would feel strange not to do it.

For a typical participant, automaticity rose steeply at first and then levelled off. The time needed to reach that plateau varied widely: the middle figure was about sixty-six days, but it ranged from eighteen days to an estimated 254

days. Simpler behaviours, such as drinking water, tended to become automatic sooner than more demanding ones, such as exercise. Importantly, missing a single opportunity did not noticeably interrupt the process.

HOW WE KNOW

This was a real-world study of people forming habits in their own lives, which makes it more realistic than a laboratory experiment. It also has limits. The sample was small, the measure of automaticity was each participant's own rating, and the data from a number of participants did not fit the researchers' model well. The longest times were estimates projected beyond the twelve weeks of the study.

THE PSYCHOLOGY

When a behaviour is repeatedly performed in the same context, the association between the context and the behaviour appears to strengthen. Over time, the cue itself can begin to trigger the action, with less conscious deliberation. This is why the stability of the cue matters so much. A behaviour performed "sometime in the morning" offers a weak cue. A behaviour performed "after I pour my first coffee" offers a strong one.

The finding about missed days also matters psychologically. Many people abandon a new habit after one lapse, believing that the effort has been wasted. The research suggests that the process is more forgiving than that.

THE PRACTICAL LESSON

Choose a behaviour small enough to repeat every day, and attach it to a stable part of your existing routine: "After I make my morning coffee, I will read two pages." Expect the process to take weeks or months rather than days. If you miss a day, simply resume at the next cue.

The Habit Lab

BEHAVIOUR
Select one small, repeatable action.

CUE
An established daily event, such as making coffee.

STARTING ACTION
Complete the smallest meaningful version of the behaviour.

FREQUENCY
Daily, in the same context.

MEASUREMENT
Record completion, and once a week rate how automatic it feels from 1 to 10.

DISRUPTION
Resume at the next available cue without trying to compensate.

REVIEW
Is the behaviour becoming easier to begin?

WHAT THIS EXAMPLE DOES NOT PROVE

There is no fixed number of days required to form a habit; sixty-six is the middle figure from one study, not a rule. The time varies with the person, the behaviour and the context. Automaticity is also not the same as benefit. A behaviour can become automatic without becoming useful, and harmful habits form through exactly the same process.

KEY TERMS

> ***automaticity*** — the degree to which a behaviour happens without conscious thought

> ***context cue*** — a feature of a situation that triggers a behaviour

> ***plateau*** — a stage at which progress levels off

CASE 9

Many Small Improvements Within a System

BRITISH CYCLING

CENTRAL CONCEPT *small improvements can add up when a system makes them visible, but a system needs limits*

THE CHALLENGE

Elite performance depends on many interacting factors. In cycling, those include fitness, technique, equipment, aerodynamics, nutrition, recovery, health and tactics. By the early 2000s, British track cycling had good riders but few major victories. Its leaders had to decide where improvement could come from when the obvious areas were already receiving attention.

WHAT THEY DID

Under its performance director, Dave Brailsford, British Cycling became associated with the *aggregation of marginal gains*: the idea of examining every element that contributes to performance and seeking small improvements in each. Widely reported examples included teaching riders careful hand-washing to reduce illness, testing which massage gels worked best and bringing riders' own pillows to hotels so that they slept better on the road.

The results were remarkable. British cyclists dominated the track events at the Beijing Olympics in 2008 and again in London in 2012. Brailsford also led a new professional road team, Team Sky, which produced Britain's first winner of the Tour de France in 2012.

The story did not end there. In 2017, an independent review criticized the culture of British Cycling's elite program, describing a climate of fear among some riders and staff (Independent Review Panel, 2017). In 2018, a committee of British members of Parliament concluded that Team Sky had crossed an ethical line in its use of medication, while accepting that no anti-doping rule had been shown to be broken (House of Commons Digital, Culture, Media and Sport Committee, 2018). In 2021, a medical tribunal found that the former doctor of British Cycling and Team Sky had ordered a banned testosterone product in 2011, knowing or believing that it was intended to improve an athlete's performance. He was removed from the medical register and later banned from sport for four years.

HOW WE KNOW

The marginal gains approach is known mainly from interviews with Brailsford and his staff, and from journalists who reported on the team's success. The later problems are documented in official reports and tribunal findings. The two sets of evidence are of different kinds, and together they give a fuller picture than either alone.

THE PSYCHOLOGY

Complex performance emerges from the interaction of many behaviours and conditions. A system that breaks a large objective into its parts makes each part measurable, makes problems more visible and gives people concrete actions to take. This is the same logic as Toyota's standardized work in Case 6, applied to athletic performance.

The later controversy adds a second lesson. A system designed to find every possible advantage creates pressure to keep finding them. Without clear limits, the search for marginal gains can drift toward the edge of what is acceptable, and a culture focused intensely on results can make people afraid to raise concerns.

THE PRACTICAL LESSON

Break an important objective into its contributing elements. Choose one element to improve, measure the result and then decide what to adjust next. At the same time, decide in advance which methods you will not use, however much they might help. Good systems include boundaries as well as targets.

The Habit Lab

BEHAVIOUR
Improve one component of a larger objective.

CUE
A regular weekly review of performance.

STARTING ACTION
List the components of the objective and pick one small source of friction.

FREQUENCY
One improvement each week.

MEASUREMENT
Track one relevant performance indicator.

DISRUPTION
Keep the previous reliable process if the change does not help.

REVIEW
Did the change contribute to the overall objective, and was it consistent with your limits?

WHAT THIS EXAMPLE DOES NOT PROVE

The aggregation of marginal gains is a useful framework, not a guarantee that small changes will always produce a large improvement. British Cycling's success also depended on substantial public funding, talented athletes, expert coaching and demanding training. Popular claims that tiny improvements compound mathematically into enormous ones are metaphors, not measurements. And the case shows that a celebrated system can coexist with serious ethical and cultural failures.

KEY TERMS

marginal gain — a small improvement in one element of performance

to aggregate — to combine many separate items into a total

ethical line — the boundary between acceptable and unacceptable conduct

PART II

Learning and Intellectual Growth

How do you know you have learned something, rather than merely seen it?

Learning is often mistaken for exposure: reading more, watching more videos, attending more courses or spending more time with information. These activities can be useful, but exposure alone does not show that learning has taken place. A major review of study techniques found that some of the most popular methods, such as rereading and highlighting, were among the least effective, while practice testing and practice spread out over time were among the most effective (Dunlosky et al., 2013). The cases in this part examine what effective learning requires: focused practice, retrieval, spacing, mixing, explanation, honest self-assessment, curiosity and the careful use of mistakes.

CASE 10

Improving Through Focused Effort

DELIBERATE PRACTICE

CENTRAL CONCEPT *improvement requires working deliberately on weaknesses, not simply accumulating hours*

THE CHALLENGE

Two people can practise for the same number of hours and improve at very different rates. One plays the pieces she already knows; the other works on the passage she keeps getting wrong. Time spent is easy to measure. What happens during that time is what matters.

WHAT THE RESEARCH FOUND

K. Anders Ericsson and his colleagues studied violinists at a music academy in Berlin (Ericsson et al., 1993). The students whom their teachers rated as the best had, on average, accumulated considerably more hours of solitary practice than less accomplished students. The researchers called this kind of activity *deliberate practice*: structured work designed to improve specific aspects of performance, usually with guidance from a teacher, clear goals, immediate feedback and repeated correction. It is effortful and often not enjoyable.

The research became famous in a simplified form. A bestselling book popularized the idea that ten thousand hours of practice is the key to world-class skill (Gladwell, 2008). Ericsson himself objected to this "ten-thousand-hour rule". The number, he pointed out, was an average from one group of musicians, and the kind of practice mattered more than its quantity (Ericsson & Pool, 2016).

Later research also qualified the original claims. A meta-analysis found that deliberate practice explained about twenty-six percent of the differences in performance in games, twenty-one percent in music, eighteen percent in sports, four percent in education and less than one percent in professions (Macnamara et al., 2014). Practice matters, but it is not the whole story.

HOW WE KNOW

The original study compared groups of musicians and asked them to estimate how many hours they had practised in the past, which introduces the risk of inaccurate memory. The later meta-analysis combined many studies across several fields. Together they support a balanced conclusion: deliberate practice is an important contributor to skill, and its importance varies considerably between domains.

THE PSYCHOLOGY

Skill develops when a person identifies the gap between current performance and the desired standard and works directly on that gap. Feedback makes the gap visible. Repetition directed at the weakness, rather than at what is already comfortable, creates opportunities to correct errors. This is why deliberate practice often feels harder than ordinary practice: it is concentrated on the things a person cannot yet do well.

THE PRACTICAL LESSON

Do not spend all your practice time repeating what you already know. Identify one specific weakness and design a short exercise that addresses it directly. For a learner of English, that might mean practising the three sounds that listeners most often misunderstand, rather than reading aloud texts that are already easy. Wherever possible, get feedback from a teacher, a recording or a standard you can compare against.

The Habit Lab

BEHAVIOUR
Practise one specific weakness.

CUE
The start of a scheduled practice session.

STARTING ACTION
Name the precise skill you will improve today.

FREQUENCY
Several short, focused sessions each week.

MEASUREMENT
Compare your performance against a defined standard.

DISRUPTION
Resume with a shorter session rather than abandoning practice.

REVIEW
What improved, and what still needs attention?

WHAT THIS EXAMPLE DOES NOT PROVE

Deliberate practice is important in many forms of skill development, but it does not explain every difference in achievement. Prior experience, opportunity, physical characteristics, motivation, the quality of instruction and other factors also matter. There is no fixed number of hours that guarantees expertise.

KEY TERMS

> ***deliberate practice*** — structured, effortful practice aimed at specific weaknesses

> ***feedback*** — information about performance that can guide improvement

> ***to accumulate*** — to gather or increase gradually over time

CASE 11

Learning by Remembering

RETRIEVAL PRACTICE

CENTRAL CONCEPT *trying to recall information strengthens learning more than reviewing it again*

THE CHALLENGE

A student reads a chapter three times and feels that she knows it well. The next day, asked to explain its main ideas without the book, she struggles. Familiarity with a text is not the same as being able to use what it says.

WHAT THE RESEARCH FOUND

Henry Roediger and Jeffrey Karpicke asked university students to study short prose passages (Roediger & Karpicke, 2006). Some students studied a passage repeatedly. Others studied it once and then took practice tests, writing down everything they could remember. When the students were tested five minutes later, those who had kept studying remembered slightly more. When they were tested one week later, the pattern reversed: the students who had practised recalling the material remembered considerably more.

One detail of the study is especially revealing. The students who had studied repeatedly predicted that they would remember the most. They were wrong. The method that felt most effective was not the one that worked best.

HOW WE KNOW

This was a controlled experiment, and its central finding has been replicated many times with different materials and learners. A major review rated

practice testing as one of the two most effective study techniques it examined (Dunlosky et al., 2013).

THE PSYCHOLOGY

Retrieval requires learners to reconstruct information from memory, rather than simply recognizing it on the page. This effort appears to strengthen later access to the material. Retrieval also has a second benefit: it reveals what has not been learned securely. Rereading feels productive precisely because the text is in front of you, which hides the gaps in what you could produce without it.

THE PRACTICAL LESSON

After reading or listening to something important, close the material and explain or write down what you remember. Then compare your version with the source and note what you missed. For vocabulary, look at the definition and try to produce the word, rather than looking at the word and recognizing the definition.

The Habit Lab

BEHAVIOUR
Retrieve information you have recently studied.

CUE
Finishing a reading or listening session.

STARTING ACTION
Close the source and write down three main points.

FREQUENCY
At the end of each study session.

MEASUREMENT
Record what you recalled accurately and what you missed.

DISRUPTION
Revisit the material and attempt retrieval again the next day.

REVIEW
Which ideas can you now explain without help?

WHAT THIS EXAMPLE DOES NOT PROVE

Retrieval practice does not replace learning the material in the first place. It works best when learners can check their answers and correct mistakes, and when the practice matches the way the knowledge will eventually be used. Recalling a definition is not the same as using a word naturally in conversation.

KEY TERMS

retrieval — the act of bringing information back from memory

testing effect — the finding that practising recall improves long-term retention

familiarity — a sense of recognizing something, which may be mistaken for knowledge

CASE 12

Returning to Learning Over Time

SPACED PRACTICE

CENTRAL CONCEPT *learning lasts longer when practice is spread out rather than concentrated*

THE CHALLENGE

The night before an examination, a student studies for six hours without a break. The session feels productive, and the material feels fresh. A month later, most of it has gone. The problem is not the effort but its timing.

WHAT THE RESEARCH FOUND

The phenomenon was first studied systematically in the nineteenth century by the German psychologist Hermann Ebbinghaus, who measured how quickly he forgot lists of nonsense syllables and how repeated study at intervals slowed the loss (Ebbinghaus, 1913). In the more than a century since, the *spacing effect* has become one of the most reliable findings in the psychology of learning.

A large review combined the results of hundreds of experiments on verbal learning and found that spreading practice across sessions consistently improved long-term retention compared with concentrating the same amount of practice into one session (Cepeda et al., 2006). A later study suggested that the best interval between sessions depends on how long the information needs to be remembered: the longer the material must be retained, the longer the useful gap tends to be (Cepeda et al., 2008).

HOW WE KNOW

The evidence comes from many controlled experiments, combined in a quantitative review. The finding is robust. The precise ideal interval, however, varies with the material, the learner and the time until the knowledge is needed, so the research supports a principle rather than one exact timetable.

THE PSYCHOLOGY

When a learner returns to material after a gap, some of it has been partly forgotten. Retrieving it then requires effort, and that effort appears to strengthen memory more than reviewing information that is still fresh. Spacing and retrieval therefore work well together. Each return to the material is another opportunity to recall it, rather than merely to reread it.

THE PRACTICAL LESSON

Replace occasional long study sessions with shorter, distributed ones. Review new material after increasing intervals, and test your recall each time rather than rereading. For new English vocabulary, a simple schedule might be: the next day, three days later, a week later and two weeks later.

The Habit Lab

BEHAVIOUR
Review previously learned material at planned intervals.

CUE
A scheduled study period.

STARTING ACTION
Try to recall five items you studied earlier, before looking at anything.

FREQUENCY
Several short sessions each week, with growing intervals for each item.

MEASUREMENT
Record accurate recall without looking.

DISRUPTION
Resume from the most recent completed review.

REVIEW
Can you still use the information after a longer interval?

WHAT THIS EXAMPLE DOES NOT PROVE

There is no single ideal spacing schedule for every subject or every learner. Spaced practice improves retention, but it does not create understanding on its own. A word reviewed perfectly on schedule may still be used incorrectly if it was misunderstood in the first place.

KEY TERMS

spacing effect — the finding that distributed practice improves long-term memory

interval — the period of time between two events

to cram — to study intensively just before an examination

CASE 13

Learning to Choose the Right Approach

INTERLEAVING

CENTRAL CONCEPT *mixing different types of problems improves the ability to recognize which method a problem requires*

THE CHALLENGE

Textbooks often group practice problems by type: twenty problems on one formula, then twenty on the next. Learners solve them smoothly, because the method is obvious before they begin. On the examination, however, the problems arrive mixed together, and the first challenge is recognizing which method each one requires.

WHAT THE RESEARCH FOUND

Doug Rohrer and Kelli Taylor taught university students how to calculate the volumes of four kinds of geometric solid (Rohrer & Taylor, 2007). One group practised in blocks: all the problems of one type, then all of the next. The other group practised the same problems shuffled together. During practice, the blocked group performed far better, solving about eighty-nine percent of problems correctly against about sixty percent for the mixed group. One week later, on a test, the result was reversed: the mixed group solved about sixty-three percent correctly, and the blocked group only about twenty percent.

Interleaving has also been studied outside mathematics. In one experiment, people learned to identify the styles of different painters. Those who saw the artists' paintings mixed together were better at identifying new paintings than

those who saw each artist's work in a block. Yet most participants believed that blocked study had helped them more (Kornell & Bjork, 2008).

HOW WE KNOW

Both findings come from controlled experiments, and interleaving has been studied in a growing number of settings. A major review rated it as promising but noted that more research was needed in some areas (Dunlosky et al., 2013).

THE PSYCHOLOGY

Interleaving requires learners to distinguish between similar problems and to select an appropriate response. Blocked practice removes that decision, because the type of problem is known in advance. Practice therefore feels easier but trains a narrower skill. Interleaving feels harder and produces more errors during practice, and that difficulty is part of why it works. The repeated finding that learners prefer the less effective method is a reminder that the feeling of progress is not a reliable guide.

THE PRACTICAL LESSON

Once you understand the basics of a skill, practise applying it in mixed contexts. For English, that might mean practising several verb tenses in the same exercise, so that you must choose the right one each time, rather than completing a page on one tense and then a page on the next.

The Habit Lab

BEHAVIOUR
Practise several related skills in a mixed order.

CUE
The start of a practice session.

STARTING ACTION
Select three different types of task and shuffle them.

FREQUENCY
Two or three mixed sessions each week.

MEASUREMENT
Record accuracy and whether you chose the right method.

DISRUPTION
Return briefly to grouped practice if a skill has not yet been learned.

REVIEW
Can you recognize which approach is needed without being told?

WHAT THIS EXAMPLE DOES NOT PROVE

Interleaving is not automatically better in every situation. Beginners may need initial instruction and repetition within one category before mixing different tasks; mixing skills that have not yet been learned can simply produce confusion. The benefit depends on the problems being similar enough to be confused, so that choosing between them is a real part of the skill.

KEY TERMS

> ***interleaving*** — mixing different types of problems or material during practice

> ***blocked practice*** — practising one type of problem repeatedly before moving to the next

> ***transfer*** — the ability to apply learning in a new situation

CASE 14

Making Knowledge Your Own

SELF-EXPLANATION

CENTRAL CONCEPT *explaining an idea in your own words reveals whether you understand it*

THE CHALLENGE

Information can seem clear while you are reading it and prove impossible to reconstruct later. A worked example in a physics textbook can be followed line by line without the reader ever understanding why each step follows from the last.

WHAT THE RESEARCH FOUND

Michelene Chi and her colleagues studied how university students learned from worked examples in physics (Chi et al., 1989). The students who later solved problems successfully differed from less successful students in a striking way: while studying the examples, they explained them to themselves far more often. They asked why each step was taken and how it connected to the principles they had read about, and they noticed when they did not understand something.

In a later study, the researchers asked one group of school students to explain to themselves each sentence of a text about the human circulatory system, while another group read the same text twice (Chi et al., 1994). The students who were prompted to explain showed a deeper understanding of how the system worked.

HOW WE KNOW

The first study observed differences between successful and less successful learners, which shows an association but not a cause. The second study deliberately prompted self-explanation and found a benefit, which provides stronger evidence that the activity itself helps. A major review rated self-explanation as moderately effective across a range of learners and materials (Dunlosky et al., 2013).

THE PSYCHOLOGY

Explaining requires learners to organize information, connect it with what they already know and identify the gaps in their understanding. A sentence that seemed obvious while reading can become difficult the moment you try to say why it is true. That difficulty is useful information.

This case differs from Case 11. Retrieval practice asks whether you can remember something. Self-explanation asks whether you can explain why it is so.

THE PRACTICAL LESSON

After reading a section or completing a lesson, explain the main idea without copying the original wording. Ask yourself three questions: What is the central point? Why does it matter? What is still unclear? Explaining aloud, or to another person, makes gaps harder to ignore.

The Habit Lab

BEHAVIOUR
Explain newly learned information in your own words.

CUE
Completing a lesson or a section of reading.

STARTING ACTION
Give a one-minute spoken explanation without notes.

FREQUENCY
After each substantial learning session.

MEASUREMENT
Rate the clarity, accuracy and completeness of the explanation.

DISRUPTION
Return to the source and try again.

REVIEW
Could you explain the concept to someone unfamiliar with it?

WHAT THIS EXAMPLE DOES NOT PROVE

Self-explanation is not a substitute for accurate instruction or feedback. A learner can confidently explain an incorrect interpretation, and the explanation may make the error feel more convincing. Explanations should be checked against reliable sources.

KEY TERMS

self-explanation — explaining new material to oneself while learning it

worked example — a problem shown with each step of its solution

to reconstruct — to build something again from its parts

CASE 15

Knowing What You Know

METACOGNITIVE CALIBRATION

CENTRAL CONCEPT *effective learners develop an accurate sense of how well they know something*

THE CHALLENGE

A student finishes reviewing a chapter and feels confident. She stops studying and moves on. On the examination she discovers that she could recognize the material but not produce it. Her confidence was not a reliable guide to her knowledge.

WHAT THE RESEARCH FOUND

Metacognition refers broadly to thinking about one's own thinking: monitoring what one knows and controlling how one learns (Flavell, 1979). One important part of it is *calibration*: the match between how confident a person feels and how well they actually perform.

Calibration matters because learners use their judgments to decide what to do next. In one study, students learned definitions of key concepts and judged after each attempt whether they had recalled the definition correctly (Dunlosky & Rawson, 2012). Students who were overconfident tended to stop studying definitions before they had learned them, and they remembered less on a later test. Their inaccurate judgments, rather than a lack of effort, undermined their learning.

The students in Case 11 who studied repeatedly and predicted that they would remember the most were showing the same problem.

HOW WE KNOW

The evidence comes from controlled studies of learning, in which learners' confidence can be compared directly with their performance. These studies show consistent patterns, but they mostly involve students learning specific material under laboratory conditions.

THE PSYCHOLOGY

Familiarity creates a feeling of knowing. When a text is in front of us, or has just been read, it feels easy, and that ease is easily mistaken for learning. Independent testing provides a better basis for judgment, because it measures what you can do rather than what feels familiar.

This case completes a sequence. Retrieval practice asks whether you can remember. Self-explanation asks whether you can explain. Calibration asks whether you can judge accurately how well you understand.

THE PRACTICAL LESSON

Before checking an answer, rate how confident you are that it is correct. Then compare that confidence with the result, and look for patterns over time. If you are regularly confident and wrong on a particular topic, that topic needs more practice than it feels as though it does.

The Habit Lab

BEHAVIOUR
Compare your confidence with your actual performance.

CUE
Completing a practice question or task.

STARTING ACTION
Write a confidence rating from 0 to 100 percent before checking the answer.

FREQUENCY
During regular study sessions.

MEASUREMENT
Compare confidence ratings with accuracy.

DISRUPTION
Give extra review to the topics where your ratings were least accurate.

REVIEW
Are your judgments of what you know becoming more accurate?

WHAT THIS EXAMPLE DOES NOT PROVE

Confidence and accuracy depend on the task, experience, feedback and testing conditions. A single poorly calibrated judgment means little; the value comes from examining patterns over time. Nor is the goal to feel less confident. It is to feel as confident as the evidence justifies.

KEY TERMS

> ***metacognition*** — awareness and control of one's own thinking and learning

> ***calibration*** — the match between confidence and actual performance

> ***overconfidence*** — confidence that is greater than one's performance justifies

CASE 16

Turning Questions into Learning

CURIOSITY

CENTRAL CONCEPT *a genuine question can increase attention to information and memory for it*

THE CHALLENGE

Some learners study mainly to meet a requirement. Others are driven by questions they want to resolve. Most people know from experience that they remember what they were curious about better than what they were told to learn. Researchers wanted to know whether that impression was accurate, and why.

WHAT THE RESEARCH FOUND

The economist George Loewenstein proposed that curiosity arises from an *information gap*: a noticed difference between what we know and what we want to know (Loewenstein, 1994). The gap creates something like a desire, which is satisfied by closing it.

Matthias Gruber, Bernard Gelman and Charan Ranganath tested the effect of curiosity on memory (Gruber et al., 2014). Participants read trivia questions and rated how curious they were about each answer. While they waited for the answer to appear, they were shown an unrelated photograph of a face. Participants later remembered the answers to the questions that had made them curious better than the others. More surprisingly, they also remembered better the unrelated faces that had appeared while they were curious. Brain imaging showed increased activity in regions associated with reward and memory during states of high curiosity.

HOW WE KNOW

This was a laboratory experiment with a small number of participants, using trivia questions and brain imaging. It provides evidence about a mechanism, but it does not show how curiosity affects learning over months in a classroom or a workplace.

THE PSYCHOLOGY

An unanswered question seems to prepare the mind to learn. Curiosity may increase attention and engagement, and the study suggests that it can improve memory even for information encountered nearby. This may explain why a question asked at the start of a lesson can be more effective than the same information presented without one.

THE PRACTICAL LESSON

Begin a learning session with a question you genuinely want answered. Use it to guide your reading, listening and discussion. For learners of English, choose reading and listening material about subjects you actually care about. You will be learning the language in the service of a question, rather than for its own sake.

The Habit Lab

BEHAVIOUR
Investigate one question that genuinely interests you.

CUE
The start of a learning session.

STARTING ACTION
Write down one question you want answered.

FREQUENCY
At least once per study session.

MEASUREMENT
Record what you found and what remains unanswered.

DISRUPTION
Reduce the question to a smaller one that can be answered today.

REVIEW
Did the investigation produce deeper understanding, and a better next question?

WHAT THIS EXAMPLE DOES NOT PROVE

Curiosity does not guarantee accurate learning. Interesting information can be misleading, and exploration can distract from essential work. Some material that must be learned will never feel fascinating. Critical evaluation and reliable sources remain necessary.

KEY TERMS

curiosity — a desire to know or learn something

information gap — the difference between what one knows and what one wants to know

engagement — active involvement and attention

CASE 17

Turning Errors into Information

LEARNING FROM MISTAKES

CENTRAL CONCEPT *a mistake becomes useful when it leads to a change in understanding or behaviour*

THE CHALLENGE

When something goes wrong, people can ignore the error, conceal it or examine it. Only the third response produces learning. Yet examining a mistake is uncomfortable, and many people, and many organizations, avoid it.

WHAT THE RESEARCH FOUND

Research on learning suggests that errors, when they are followed by corrective feedback, can improve learning rather than harm it (Metcalfe, 2017). One surprising finding concerns confidence. When people make an error they were very confident about and are then told the correct answer, they are especially likely to remember the correction (Butterfield & Metcalfe, 2001). The surprise appears to draw attention to the right answer.

In workplace training, a meta-analysis compared training that encouraged learners to make errors and learn from them with training designed to prevent errors (Keith & Frese, 2008). *Error management training* produced better results overall, particularly when learners later had to apply their skills to new tasks.

Reflection after the event matters too. In a study of soldiers taking part in a series of navigation exercises, those who systematically reviewed what had happened in each exercise performed better in later ones. Reviewing successes as well as failures was valuable (Ellis & Davidi, 2005).

HOW WE KNOW

These findings come from laboratory experiments, a meta-analysis of training studies and a field study of experienced practitioners. The evidence is consistent in suggesting that analyzed errors can contribute to learning. It does not suggest that errors are valuable in themselves.

THE PSYCHOLOGY

An error provides information about the difference between an intended outcome and an actual result. Feedback and reflection help identify the source of the difference: knowledge, assumptions, preparation, strategy or external circumstances. Without that analysis, a mistake is simply repeated.

Emotion also matters. Mistakes can produce embarrassment, and embarrassment encourages avoidance. People learn more readily from errors when the setting treats mistakes as information rather than as evidence of personal failure, which is the same principle of psychological safety that appeared in Case 6.

THE PRACTICAL LESSON

After a meaningful mistake, wait until the immediate emotion has passed, and then ask four questions. What did I expect? What happened? Why was there a difference? What will I do differently next time? Apply the same review to things that went well, because successes also contain lessons.

The Habit Lab

BEHAVIOUR
Review one meaningful error or unexpected result.

CUE
Completing a difficult task or experiencing an unexpected outcome.

STARTING ACTION
Write down the difference between what you expected and what happened.

FREQUENCY
After important tasks.

MEASUREMENT
Identify one specific change for the next attempt.

DISRUPTION
Return to the review when the situation is less stressful.

REVIEW
Did the next attempt improve because of what you learned?

WHAT THIS EXAMPLE DOES NOT PROVE

Failure is not automatically educational. Repeated mistakes without analysis can reinforce ineffective behaviour. Some errors are caused by factors outside an individual's control, and blaming oneself for them teaches nothing useful. In some settings, such as medicine or aviation, errors are costly enough that practice should take place where mistakes are safe.

KEY TERMS

corrective feedback — information that identifies and corrects an error

error management — an approach that treats errors as opportunities for learning

after-event review — a structured discussion of what happened after a task

PART III

Confidence and Courage

What if confidence is the result of action, rather than its precondition?

Many people wait to feel confident before they act: before they speak up, apply, ask or begin. The cases in this part suggest that the order is usually reversed. Confidence tends to grow from experience, especially from small, deliberate experiences of doing the thing that is feared. Courage, in this view, is less a personality trait than a practice: approaching difficulty in steps small enough to take, often enough to learn from.

CASE 18

Confidence Built One Step at a Time

GUIDED MASTERY

CENTRAL CONCEPT *confidence grows most reliably from direct, graduated experiences of success*

THE CHALLENGE

Fear tends to protect itself. A person who is afraid of something avoids it, and because they avoid it they never discover whether the fear is justified. The avoidance brings short-term relief, which makes the next avoidance more likely. Encouragement alone rarely breaks this cycle. Telling a frightened person that there is nothing to fear does not usually make them less afraid.

WHAT THE RESEARCH FOUND

In the 1960s, the psychologist Albert Bandura and his colleagues studied adults with a severe fear of snakes (Bandura et al., 1969). Participants were randomly assigned to one of four conditions. One group watched a film of people handling snakes. Another received a standard relaxation-based treatment. A third received no treatment. The fourth received what Bandura called *guided participation*: a therapist first handled a snake, and then the participant joined in, step by small step, with the therapist's support. At first they might simply look at the snake through glass. Later they might touch it with a gloved hand, then a bare hand, and finally let it rest in their lap.

The difference was striking. About ninety-two percent of the guided participation group eventually completed the final step of holding the snake in their lap, compared with about a third of those who watched the film, a

quarter of those who received the relaxation treatment and none of the untreated group.

Bandura went on to develop the theory of *self-efficacy*: a person's belief in their capacity to carry out a specific course of action (Bandura, 1977). He argued that the most powerful source of self-efficacy is *mastery experience*, the direct experience of succeeding at something. Watching others, being encouraged and feeling calmer can all help, but none of them is as convincing as doing the thing yourself.

HOW WE KNOW

The snake study was a controlled experiment with random assignment, and the approach it tested became the foundation of later treatments for fear. Its participants, however, were people with a specific fear, studied over a short period. The broader theory of self-efficacy has been supported by a large body of research, but the strength of the effect varies with the task and the person.

THE PSYCHOLOGY

Graduated steps make each experience of success possible. A step that is too large produces failure or escape, which confirms the fear. A step that is small enough produces a modest success, which slightly weakens the fear and makes the next step possible. Confidence, in this account, is not a feeling that must exist before action. It is a conclusion drawn from evidence, and each completed step adds a little more evidence.

The guide matters too. A supportive person can demonstrate the next step, reduce its difficulty and make it safe to try. Many people find the first step much easier with a teacher, colleague or friend beside them.

THE PRACTICAL LESSON

Identify something you avoid because it makes you anxious: speaking in meetings, making telephone calls in English, presenting your work. Break it

into a ladder of steps, from the easiest to the most difficult, and begin with a step you are fairly sure you can complete. Move up only when the current step feels manageable. If you can, find someone to go first or to stand beside you.

The Habit Lab

BEHAVIOUR
Take one step toward a situation you usually avoid.

CUE
A planned time each week, written in your calendar.

STARTING ACTION
Write a ladder of five steps, from easiest to hardest.

FREQUENCY
One step at a time, repeated until it feels manageable.

MEASUREMENT
Rate your anxiety from 0 to 10 before and after each attempt.

DISRUPTION
If a step feels too large, insert a smaller one below it.

REVIEW
Has your anxiety at each step fallen with repetition?

WHAT THIS EXAMPLE DOES NOT PROVE

Graduated practice is not a cure for every fear, and it is not a substitute for professional treatment when anxiety is severe or disabling. The original study concerned a specific, concrete fear; social fears and fears about one's career are more complicated, because the outcomes are less predictable. And some situations are genuinely dangerous. The aim is to test fears that may be exaggerated, not to ignore real risks.

KEY TERMS

self-efficacy — a person's belief in their ability to perform a specific task

mastery experience — direct personal experience of succeeding at something

avoidance — staying away from something because it causes fear or discomfort

CASE 19

One Hundred Days of Rejection

JIA JIANG

CENTRAL CONCEPT *deliberately practising small rejections can reduce the fear of rejection itself*

THE CHALLENGE

Jia Jiang had left a well-paid corporate job to build a technology start-up. In 2012, when a potential investor turned him down, he was devastated, and he realized that his fear of rejection was shaping his decisions. He was not asking for things because he could not bear to hear the word *no*.

WHAT HE DID

Jiang came across a game called Rejection Therapy, which challenges players to seek out rejection deliberately. He decided to make one unusual request every day for one hundred days and to record each one on video (Jiang, 2015).

The requests were deliberately strange. He asked a stranger to lend him one hundred dollars. He asked to make an announcement on a flight. He asked a pet groomer to cut his hair. In one of his first attempts, he asked a doughnut shop employee to make him doughnuts linked together in the shape of the Olympic rings. To his surprise, she agreed, made them and gave them to him free of charge. The video spread widely online.

By the end of the project, he had received a mixture of yeses and noes, roughly half of each. More importantly, he reported that the word *no* had lost much of its power over him. He also noticed that he received more yeses when he explained his reasons, stayed in the conversation after a refusal, and asked what would make a request acceptable.

HOW WE KNOW

The source is Jiang's own account, in his videos, talks and book. His experiment was a personal project, not a controlled study, and the people he approached were not selected at random. The videos do, however, provide an unusually direct record of what he asked and how people responded.

THE PSYCHOLOGY

Jiang's project was an informal version of the graduated exposure described in Case 18, applied to a social fear. Each request was a small experiment that tested a prediction: that rejection would be humiliating and unbearable. Most rejections turned out to be brief, polite and quickly forgotten.

His experience is also consistent with research on asking for help. In a series of studies, people who made direct requests of strangers substantially underestimated how many people would agree (Flynn & Lake, 2008). If we expect refusal, we ask less often, and our expectations are never corrected.

THE PRACTICAL LESSON

Practise asking for things in situations where the stakes are low: a better table, a small discount, an introduction, a few minutes of someone's time. Treat each request as an experiment and record the result. The goal is not to collect yeses. It is to discover, through repeated experience, that a refusal is survivable and often contains useful information.

The Habit Lab

BEHAVIOUR
Make one small request that might be refused.

CUE
A daily or weekly opportunity, such as a shop, a café or a colleague's desk.

STARTING ACTION
Decide on the request before you arrive, and explain your reason when you ask.

FREQUENCY
Several times a week for two weeks.

MEASUREMENT
Record each request, the answer and your anxiety level from 0 to 10.

DISRUPTION
If a refusal shakes you, return to an easier request the next day.

REVIEW
Have your expectations of refusal, and your fear of it, changed?

WHAT THIS EXAMPLE DOES NOT PROVE

Jiang's project made an engaging story, partly because it was unusual and filmed. His results are not a reliable guide to how often requests succeed, and they say nothing about high-stakes rejections such as job applications, which carry real consequences. Some people also face more frequent or more hostile refusals because of discrimination, which deliberate practice cannot remove. The case shows that the fear of minor rejection can be reduced through practice, not that rejection never matters.

KEY TERMS

rejection — a refusal to accept a request, offer or person

to stay in the conversation — to continue talking after an initial refusal

low-stakes — having few serious consequences

CASE 20

Fewer People Are Watching Than You Think

THE SPOTLIGHT EFFECT

CENTRAL CONCEPT *people tend to overestimate how much others notice their appearance and mistakes*

THE CHALLENGE

Many acts of courage are small: asking a question in a meeting, speaking a second language in public, wearing something unusual, admitting that you do not understand. What makes them difficult is often the imagined audience: the feeling that everyone will notice, judge and remember.

WHAT THE RESEARCH FOUND

Thomas Gilovich, Victoria Medvec and Kenneth Savitsky asked university students to put on a T-shirt showing a large picture of the singer Barry Manilow, a choice the students considered embarrassing, and then to enter a room where other students were completing questionnaires (Gilovich et al., 2000). Afterwards, the wearers estimated that about half the people in the room would be able to name the face on the shirt. In fact, only about a quarter could.

The researchers called this the *spotlight effect*: the tendency to believe that our appearance and behaviour are more noticeable to others than they really are. Later studies found similar overestimates for other kinds of behaviour, including people's contributions to group discussions. The effect appeared even when the shirts showed people the wearers admired, which suggests that it is not only about embarrassment.

HOW WE KNOW

The original paper reported a series of controlled studies, and the general finding has been repeated in later research. The exact size of the overestimate varies between studies; the original experiment's finding, that the wearers roughly doubled the true figure, is a useful rule of thumb, not a fixed law.

THE PSYCHOLOGY

We experience our own lives from the inside, with our attention focused on ourselves. When we stumble over a word, we notice every detail. Other people, meanwhile, are mostly occupied with their own concerns, including their own spotlight. We also tend to adjust insufficiently from our own perspective when we imagine how things look to others. The result is a systematic overestimate of how much attention we receive.

For a learner of a second language, this is especially relevant. A small grammatical error that feels conspicuous to the speaker is often barely registered by a listener who is focused on the meaning.

THE PRACTICAL LESSON

Before a small act of courage, remind yourself that you are probably overestimating how much attention it will receive. Afterwards, test the prediction: notice how many people commented, or ask a trusted colleague what they remember. Gathering this evidence repeatedly helps to recalibrate the imagined audience.

The Habit Lab

BEHAVIOUR
Do one small thing you avoid because of how it might look.

CUE
A regular situation, such as a weekly meeting.

STARTING ACTION
Before the situation, write how many people you expect to notice or remember.

FREQUENCY
Once a week.

MEASUREMENT
Afterwards, record what actually happened and any comments received.

DISRUPTION
If someone does react, note whether the reaction was as serious as you predicted.

REVIEW
Are your predictions about the audience becoming more accurate?

WHAT THIS EXAMPLE DOES NOT PROVE

The spotlight effect does not mean that nobody ever notices or judges. In some settings, such as a job interview or a presentation to senior managers, people are paying close attention, and preparation matters. The research concerns ordinary, everyday situations. It also does not mean that other people's opinions are unimportant, only that we tend to overestimate how much of their attention we occupy.

KEY TERMS

> ***spotlight effect*** — the tendency to overestimate how much others notice us

> ***conspicuous*** — easily noticed

> ***to recalibrate*** — to adjust a judgment so that it becomes more accurate

CASE 21

Preparing for What Could Go Wrong

CHRIS HADFIELD

CENTRAL CONCEPT *confidence under pressure can come from rehearsing failure, not only success*

THE CHALLENGE

The Canadian astronaut Chris Hadfield flew three space missions and, in 2013, became the first Canadian to command the International Space Station. Spaceflight involves extraordinary risk. A single error during launch, a spacewalk or an emergency can be fatal. The question for astronauts is not how to feel no fear. It is how to act calmly and correctly when fear would be entirely reasonable.

WHAT HE DID

Hadfield has described a habit of mind that he learned in training: constantly asking what could go wrong next, and preparing a response to it (Hadfield, 2013). Astronauts spend years in simulations that rehearse failure: engine shutdowns, fires, loss of pressure, medical emergencies. Each problem is examined in detail and practised until the correct response becomes familiar. In his view, astronauts are not unusually brave. They are unusually well prepared.

The value of that preparation became clear during his first spacewalk in 2001. Cleaning solution from inside his helmet got into his left eye, which stopped working. Without gravity, his tears did not fall away; they formed a ball of liquid that spread across to his other eye, and he could no longer see at all. Outside the space station, he was effectively blind. Rather than panic, he

worked through the situation as he had been trained to do. He considered what he knew, communicated with the team, and followed procedures, eventually releasing some of the air in his suit to help clear the liquid. His sight gradually returned, and he completed the work.

HOW WE KNOW

The account comes from Hadfield's own book and talks. It is a personal description of his experience and of the training culture at NASA and the Canadian Space Agency, written to teach general lessons. The details of the spacewalk are his recollection, though the event itself is documented.

THE PSYCHOLOGY

Rehearsal changes the experience of a crisis. When a situation has been practised, attention can go to the familiar sequence of actions rather than to the threat itself. Preparation also reduces uncertainty, and uncertainty is a powerful source of anxiety. Hadfield's habit of asking what could go wrong is not pessimism. It turns vague worry into specific problems that can be solved in advance.

This differs from Case 18. Guided mastery builds confidence through repeated success at increasingly difficult steps. Rehearsing failure builds confidence by making the worst moments familiar before they happen.

THE PRACTICAL LESSON

Before an important event, such as an interview, a presentation or a difficult conversation, list the three things most likely to go wrong. For each one, decide exactly what you will do and practise it. "If I forget a word in English, I will describe it in other words." "If the projector fails, I will continue from my printed notes." The fear may remain, but it will have something to do.

The Habit Lab

BEHAVIOUR
Rehearse responses to likely problems before an important event.

CUE
Scheduling an interview, presentation or difficult meeting.

STARTING ACTION
Write down the three problems most likely to occur.

FREQUENCY
Before each important event.

MEASUREMENT
Record which problems occurred and how well your plan worked.

DISRUPTION
If an unexpected problem occurs, add it to your list for next time.

REVIEW
Do you feel calmer and act more effectively when things go wrong?

WHAT THIS EXAMPLE DOES NOT PROVE

Hadfield's preparation took place within one of the most resourced training systems in the world, with expert instructors, realistic simulators and years of practice. Most people cannot prepare that thoroughly for everyday challenges. Excessive rehearsal of what could go wrong can also feed anxiety rather than relieve it, if it becomes repetitive worry rather than practical planning. The aim is a plan for each problem, not a longer list of fears.

KEY TERMS

simulation — a realistic practice version of a real situation

contingency plan — a plan for what to do if a particular problem occurs

to rehearse — to practise something before doing it for real

PART IV

Communication and Relationships

What do you repeat, every day, in the way you treat the people closest to you?

Relationships are built and worn down by small, repeated behaviours: how we respond when someone shares good news, whether we notice when they want our attention, whether we ask questions, whether we say thank you. Each behaviour seems trivial on its own. Repeated over years, together they shape trust, closeness and cooperation, at home and at work.

CASE 22

How You Respond to Good News

ACTIVE-CONSTRUCTIVE RESPONDING

CENTRAL CONCEPT *the way we respond to others' good news can strengthen or weaken a relationship*

THE CHALLENGE

Much of the advice about relationships concerns how to handle conflict and bad news. Yet people also share good news with each other several times a week: a compliment from a manager, a successful interview, a child's achievement. Researchers wanted to know whether the response to good news matters as much as the response to bad.

WHAT THE RESEARCH FOUND

Shelly Gable and her colleagues identified four ways in which people respond when a partner shares good news (Gable et al., 2004). Imagine a person who says, "I was offered the job!"

- **Active-constructive:** enthusiastic and engaged. "That's wonderful! How did they tell you? What are you most excited about?"
- **Passive-constructive:** positive but quiet. "That's nice."
- **Active-destructive:** pointing out problems. "Are you sure you can manage the longer commute?"
- **Passive-destructive:** ignoring or changing the subject. "What should we have for dinner?"

In their studies, people who reported that their partners usually responded in the active-constructive way also reported greater satisfaction, trust and

intimacy in their relationships. Only the enthusiastic, engaged response was consistently associated with better relationships. The quiet "That's nice", often intended as supportive, was not.

HOW WE KNOW

These findings come from surveys, diary studies and laboratory observations of couples. Much of the evidence is correlational: it shows that active-constructive responding is associated with better relationships, but it cannot fully separate cause from effect. Happier couples may simply respond more enthusiastically.

THE PSYCHOLOGY

When people share good news, they are inviting others to celebrate with them, and they are testing whether the other person cares about what matters to them. An engaged response confirms that the relationship is a source of support in good times as well as bad. Asking questions also lets the person relive the experience, which may increase the benefit of the good event itself.

THE PRACTICAL LESSON

When someone shares good news, stop what you are doing, show genuine interest and ask a question that lets them tell the story. Save any concerns for a later conversation, if they still matter. The habit is simple, but it requires noticing the moment, which is easy to miss when you are busy.

The Habit Lab

BEHAVIOUR
Respond to good news with interest and a follow-up question.

CUE
Someone shares a success, however small.

STARTING ACTION
Put down your phone or turn away from your screen.

FREQUENCY
Every time it happens.

MEASUREMENT
At the end of each day, note one occasion when you responded well.

DISRUPTION
If you responded poorly, return to the subject later: "Tell me more about the job offer."

REVIEW
Do conversations about good news feel warmer or last longer?

WHAT THIS EXAMPLE DOES NOT PROVE

Enthusiasm cannot be faked indefinitely, and an exaggerated response can feel insincere. Nor does the research suggest that concerns should never be raised; a serious problem may need discussion, just not in the first minute. Finally, responding well to good news will not repair a relationship that is troubled for deeper reasons.

KEY TERMS

active-constructive — responding with enthusiasm and engagement

to capitalize on good news — to gain extra benefit from a positive event by sharing it

intimacy — a feeling of closeness and mutual understanding

CASE 23

Turning Toward the Small Moments

JOHN GOTTMAN

CENTRAL CONCEPT *relationships are shaped by how people respond to small, everyday requests for attention*

THE CHALLENGE

Most couples who separate do not do so because of one dramatic event. More often, the relationship erodes gradually, through many small moments in which one person reached out and the other did not notice or did not respond. Researchers wanted to know whether these ordinary moments could predict which relationships would last.

WHAT THE RESEARCH FOUND

The psychologist John Gottman and his colleagues observed couples in a laboratory apartment, sometimes called the Love Lab, where they spent the day doing ordinary things while being recorded (Driver & Gottman, 2004). The researchers paid particular attention to what Gottman calls *bids*: small attempts to get the other person's attention, interest or support. A bid might be as simple as "Look at that bird" or "I had a strange conversation at work today."

The partner could respond in one of three ways: by *turning toward* the bid, with interest or acknowledgment; by *turning away*, ignoring it or not noticing; or by *turning against*, responding with irritation. Couples who turned toward each other's bids more often in everyday moments showed more warmth and humour when they later discussed a conflict. In Gottman's popular accounts, couples who were still together years later had turned

toward each other's bids far more often than couples who later separated (Gottman & DeClaire, 2001).

HOW WE KNOW

The observational studies were carefully designed and coded, but they involved relatively small samples, mostly of newly married couples. Some of the most widely quoted figures come from Gottman's books for general readers rather than from the peer-reviewed papers, and they should be treated with some caution. The general pattern, however, is consistent with a broad body of research on responsiveness in relationships.

THE PSYCHOLOGY

A bid is a small test of whether the other person is available and interested. Each response answers the question "Do you care about what matters to me?" A single missed bid means little. Repeated over months, the pattern of responses can build trust or slowly erode it. This is habit formation in its relational form: the response becomes automatic, in one direction or the other.

The same principle applies at work. A colleague who mentions a problem in passing, or a team member who shares an idea at the end of a meeting, is making a bid. How often those bids are noticed shapes whether people continue to make them.

THE PRACTICAL LESSON

Learn to notice bids, especially small ones. When someone close to you comments, asks or points something out, respond, even briefly: look up, answer, ask a question. You do not need to drop everything. "I want to hear about it. Give me five minutes to finish this" is still turning toward.

The Habit Lab

BEHAVIOUR
Notice and respond to small requests for attention.

CUE
A partner, child, friend or colleague comments, asks or points something out.

STARTING ACTION
Make eye contact, or give a short verbal acknowledgment.

FREQUENCY
Throughout the day.

MEASUREMENT
Each evening, recall two bids you noticed and how you responded.

DISRUPTION
If you missed one, return to it later: "Earlier you mentioned work. What happened?"

REVIEW
Do the people around you seem to share more with you?

WHAT THIS EXAMPLE DOES NOT PROVE

Responding to bids is not a cure for serious relationship problems, and it does not mean that one person should be constantly available to another. Healthy relationships also need boundaries and time apart. The research describes patterns across many couples; it cannot predict what will happen in any particular relationship, and some widely quoted percentages are less precise than their popularity suggests.

KEY TERMS

bid — a small attempt to get another person's attention or connection

to turn toward — to respond to a bid with attention or interest

to erode — to wear away gradually

CASE 24

Asking Questions Makes People Like You

THE FOLLOW-UP QUESTION

CENTRAL CONCEPT *asking follow-up questions signals attention and increases liking*

THE CHALLENGE

Many people believe that the way to make a good impression is to say impressive things: to share their achievements, opinions and stories. In conversations with new people, or in a second language, they spend their effort preparing what to say rather than listening to what the other person says.

WHAT THE RESEARCH FOUND

Karen Huang and her colleagues at Harvard studied what happened when people asked more or fewer questions in conversation (Huang et al., 2017). In online chats between strangers, some participants were instructed to ask many questions and others to ask few. Those who asked more questions were liked more by their conversation partners.

The type of question mattered. *Follow-up questions*, which respond to what the other person has just said ("You said you moved last year. What made you decide to?"), had the strongest effect. The researchers also analyzed recordings from speed-dating events and found that people who asked more follow-up questions were more likely to be chosen for a second date.

Interestingly, the people asking the questions did not predict this effect. They underestimated how much asking questions would increase liking.

HOW WE KNOW

The findings come from controlled experiments in which people were assigned to ask more or fewer questions, combined with an analysis of real conversations. This is good evidence for an effect on first impressions. It does not tell us as much about long-term relationships.

THE PSYCHOLOGY

A follow-up question proves that you were listening. It shows interest in the other person's experience, and it invites them to continue speaking about something that matters to them. People generally enjoy talking about themselves, and they tend to like those who make it easy to do so.

For learners of English, follow-up questions offer a practical advantage as well. They keep the conversation moving while the other person does more of the talking, and they require you to listen closely, which is itself excellent practice.

THE PRACTICAL LESSON

In your next conversation, aim to ask at least two follow-up questions about something the other person has said. Short questions work well: "What happened next?" "How did you feel about that?" "Why did you choose that?" Then listen to the answer before thinking about your next question.

The Habit Lab

BEHAVIOUR
Ask follow-up questions in conversation.

CUE
The other person shares an experience, opinion or plan.

STARTING ACTION
Repeat a key word from what they said and turn it into a question.

FREQUENCY
In at least one conversation every day.

MEASUREMENT
After each conversation, count the follow-up questions you asked.

DISRUPTION
If you notice you have been talking too long, stop and ask a question.

REVIEW
Do conversations feel easier and more balanced?

WHAT THIS EXAMPLE DOES NOT PROVE

Questions can be overdone. A rapid series of questions can feel like an interrogation, and questions asked without genuine interest are easy to detect. Some cultures and settings also have different expectations about how personal questions should be. The research shows a reliable effect on first impressions in a particular setting, not a technique that works in every situation.

KEY TERMS

> ***follow-up question*** — a question that responds to something the other person has just said

> ***first impression*** — the opinion people form when they first meet someone

> ***to underestimate*** — to judge something as smaller or less important than it is

CASE 25

Saying Thank You More Than Seems Necessary

EXPRESSING GRATITUDE

CENTRAL CONCEPT *people undervalue the effect of expressing appreciation to others*

THE CHALLENGE

Most people feel grateful to someone they have never properly thanked: a former teacher, a mentor, a colleague who helped at a difficult moment. They intend to say something, but it feels awkward, unnecessary or too late. The thanks remains unspoken.

WHAT THE RESEARCH FOUND

Amit Kumar and Nicholas Epley asked participants to write a letter of gratitude to someone who had affected their lives, and then to predict how the recipient would feel on reading it (Kumar & Epley, 2018). The researchers then contacted the recipients. Across several studies, the writers consistently underestimated how surprised and positive the recipients would feel, and overestimated how awkward the recipients would find it. The recipients felt considerably better than the writers expected.

The writers also focused on how well they would express themselves, worrying that their words would seem clumsy. The recipients cared much less about the wording than about the warmth of the gesture.

HOW WE KNOW

The studies were controlled experiments in which writers' predictions could be compared with recipients' actual reactions. They show a consistent mismatch in expectations, but they measure feelings immediately after the letter was received, not long-term effects on the relationship.

THE PSYCHOLOGY

The researchers argue that a mistaken expectation creates a barrier. If we believe a thank-you will be awkward and of little value, we will rarely express it. The prediction is never tested, so it is never corrected. This is the same pattern that appeared in Case 19, where people underestimated how often others would agree to help. In both cases, a miscalculation about other people leads us to avoid actions that would benefit everyone involved.

Gratitude also seems to strengthen relationships by signalling that a person's effort was noticed. People who feel appreciated are more likely to help again.

THE PRACTICAL LESSON

Make gratitude a regular habit rather than an occasional impulse. Once a week, send a short, specific message of thanks to someone who has helped you, recently or long ago. Specific thanks work better than general ones: describe what the person did and what difference it made. Do not wait until you can find the perfect words.

The Habit Lab

BEHAVIOUR
Express specific thanks to one person each week.

CUE
A fixed time, such as Friday afternoon.

STARTING ACTION
Write one sentence: “Thank you for… It made a difference because…”

FREQUENCY
Once a week.

MEASUREMENT
Record whom you thanked and any response you received.

DISRUPTION
If you miss a week, send two short messages the following week.

REVIEW
How did people respond, compared with what you expected?

WHAT THIS EXAMPLE DOES NOT PROVE

Expressions of gratitude are not a tool for manipulating people, and insincere thanks can damage trust. The research measured short-term reactions; it does not show that one letter will transform a relationship. And gratitude does not replace fair treatment. A manager who thanks staff warmly but pays them unfairly should not expect thanks alone to compensate.

KEY TERMS

gratitude — a feeling of being thankful for something someone has done

appreciation — recognition of the value of someone or something

to undervalue — to judge something as less valuable than it is

PART V

Productivity and Focus

Where does your attention actually go during a working day?

Productivity is often discussed as a matter of working harder or longer. The cases in this part treat it instead as a matter of attention: how it is divided, what pulls it away and what helps it return. Several of the habits are small and almost mechanical, such as finishing a task before switching, removing a distraction from sight, following a checklist or writing down what remains unfinished. Their value lies in protecting a limited resource that is easy to spend without noticing.

CASE 26

Finishing Before Switching

ATTENTION RESIDUE

CENTRAL CONCEPT *switching between unfinished tasks leaves part of the mind behind*

THE CHALLENGE

Most working days are fragmented. A person begins a report, checks an email, joins a call, returns to the report and then answers a message. Each switch seems to take only a moment. Yet many people end the day feeling busy but unproductive, unable to explain where their concentration went.

WHAT THE RESEARCH FOUND

Sophie Leroy studied what happens to attention when people move from one task to another before finishing the first (Leroy, 2009). In her experiments, participants worked on a task and were then switched to a second one. Some had completed the first task before switching; others were interrupted before they could finish, or were working under conditions that left the first task feeling unresolved. Those who switched with the first task unfinished performed worse on the second task, and tests showed that their thoughts were still partly occupied with the first.

Leroy called this *attention residue*: part of a person's attention remains with a previous task after they have moved on. The residue was smaller when people had completed the first task, or at least had reached a clear stopping point.

HOW WE KNOW

The findings come from laboratory experiments with relatively short tasks. They provide a clear mechanism, but laboratory tasks are simpler than real work, and the size of the effect in an ordinary office is harder to measure.

THE PSYCHOLOGY

An unfinished task keeps a claim on attention. The mind continues to monitor it, returning to it even when we try to focus elsewhere. When work is divided into many small, unfinished fragments, attention is spread across all of them, and none receives full concentration.

The practical implication is not that we must never switch tasks. It is that a switch has a cost, and the cost is lower when we leave the first task at a clear stopping point, with a note about what to do next.

THE PRACTICAL LESSON

Group similar small tasks together, such as replying to messages, and handle them in a single block rather than throughout the day. Before switching away from demanding work, take thirty seconds to write down where you stopped and what the next step will be. That note gives the mind permission to let go.

The Habit Lab

BEHAVIOUR
Reach a clear stopping point before switching tasks.

CUE
The urge, or the need, to move to another task.

STARTING ACTION
Write one line: "Stopped at... Next step:..."

FREQUENCY
Every time you leave demanding work.

MEASUREMENT
At the end of the day, count how many switches you made and how many had a note.

DISRUPTION
If an interruption is unavoidable, write the note as soon as you return.

REVIEW
Is it easier to restart work after a break?

WHAT THIS EXAMPLE DOES NOT PROVE

Some jobs consist largely of interruptions, and responding quickly is part of the work. The research does not suggest that people in those roles are working badly. It also does not prove that every switch is harmful or that long, uninterrupted sessions suit everyone. The aim is to reduce unnecessary switches and make necessary ones less costly.

KEY TERMS

> ***attention residue*** — attention that remains on a previous task after switching

> ***fragmented*** — broken into many small, separate parts

> ***stopping point*** — a natural place to pause a task

CASE 27

Removing the Cue

THE PHONE IN ANOTHER ROOM

CENTRAL CONCEPT *it is often easier to change the environment than to resist temptation*

THE CHALLENGE

Most people check their phones far more often than they intend to. Each check is brief, and each one seems justified. Over a day, the checks add up to a constant pull on attention. Telling oneself to resist the phone, again and again, is tiring and often unsuccessful.

WHAT THE RESEARCH FOUND

Research on self-control suggests that the most effective strategies often operate before temptation arises, by changing the situation rather than relying on willpower in the moment (Duckworth et al., 2016). Choosing not to keep tempting food in the house is easier than resisting it every evening.

A widely reported study applied this idea to smartphones (Ward et al., 2017). Participants completed tests of attention and memory with their phones either on the desk, in a bag or pocket, or in another room. Those whose phones were in another room performed best, even though the phones were switched to silent and were not used.

Later research, however, has complicated the picture. A careful attempt to repeat the experiment found no difference in performance between the conditions (Ruiz Pardo & Minda, 2022). The specific claim that the mere presence of a phone drains mental capacity is therefore uncertain.

HOW WE KNOW

The general principle that changing the situation is often more effective than resisting temptation is supported by a broad range of research. The specific smartphone finding comes from one influential study whose result was not confirmed in a later replication. This is a useful reminder that a single study, however widely reported, is not settled knowledge.

THE PSYCHOLOGY

Every visible cue invites a response. A phone on the desk is a cue to check it; a notification is an even stronger one. Each time we resist, we spend a little effort, and each time we give in, the habit of checking is reinforced. Removing the cue removes both the temptation and the need to resist it.

This is the reverse of habit formation in Case 8. There, a stable cue was used to trigger a useful behaviour. Here, the strategy is to remove the cue that triggers an unwanted one.

THE PRACTICAL LESSON

For your most important work, put your phone out of sight and out of reach, ideally in another room. Turn off non-essential notifications. Apply the same principle elsewhere: close email during focused work, and keep the materials you want to use visible and the distractions you want to avoid out of view.

The Habit Lab

BEHAVIOUR
Work without your phone within reach.

CUE
The start of a focused work or study session.

STARTING ACTION
Place your phone in another room, or in a drawer.

FREQUENCY
Every focused session.

MEASUREMENT
Record the length of the session and how many times you wanted to check.

DISRUPTION
If you need to be reachable, give the people who may need you another way to reach you, such as a landline or a colleague's number.

REVIEW
Do your focused sessions feel longer and less interrupted?

WHAT THIS EXAMPLE DOES NOT PROVE

The case does not prove that phones damage concentration in any measurable way simply by being nearby; the evidence for that specific claim is mixed. Nor are phones only distractions. For many people, including those far from family, they are essential tools for connection. The principle is narrower: when you want to concentrate, it is usually easier to remove a tempting cue than to resist it repeatedly.

KEY TERMS

willpower — the ability to control impulses and resist temptation

to replicate — to repeat a study to see whether the result is the same

notification — an alert from an app or device

CASE 28

Making the Routine Steps Reliable

THE SURGICAL CHECKLIST

CENTRAL CONCEPT *simple checklists can prevent experts from skipping essential steps*

THE CHALLENGE

Surgery is performed by highly trained professionals. Yet in operating rooms around the world, preventable errors still occurred: an antibiotic not given at the right time, a patient's allergy not confirmed, a team member who did not know another's name and so did not speak up. These were not failures of knowledge. They were failures to perform simple steps reliably under pressure.

WHAT THE RESEARCH FOUND

The surgeon and writer Atul Gawande worked with the World Health Organization to develop a short surgical safety checklist (Gawande, 2009). It took about two minutes to complete and covered basic steps at three points: before anaesthesia, before the first incision and before the patient left the operating room. One item required team members to introduce themselves by name and role.

The checklist was tested in eight hospitals in cities around the world, from high-income and low-income countries (Haynes et al., 2009). Researchers compared outcomes before and after the checklist was introduced. The rate of deaths after surgery fell from about 1.5 percent to 0.8 percent, and the rate of major complications fell from about 11 percent to 7 percent.

HOW WE KNOW

The study compared hospitals before and after the checklist was introduced, rather than randomly assigning hospitals to use it or not. Other changes during the same period, and the fact that staff knew they were being studied, may have contributed to the improvement. Later studies in other settings have produced mixed results, often depending on how seriously the checklist was used. The evidence is strong but not as simple as the headline figures suggest.

THE PSYCHOLOGY

Experts are especially vulnerable to skipping routine steps, precisely because the steps feel too obvious to need checking. Under time pressure or fatigue, memory becomes less reliable. A checklist moves routine steps out of memory and onto paper, so that attention can go to the parts of the work that genuinely require judgment.

The introduction item worked differently. By speaking at the start, every team member established that their voice was expected. This made it easier for a junior nurse to raise a concern later, the same principle of psychological safety discussed in Case 6.

THE PRACTICAL LESSON

Identify a recurring task in which an important step is sometimes forgotten: preparing for a client meeting, submitting a job application, sending a report. Write a short checklist of the steps that are easy to skip and costly to miss. Keep it brief; a checklist that tries to include everything will not be used.

The Habit Lab

BEHAVIOUR
Use a short checklist for one recurring, important task.

CUE
Beginning the task.

STARTING ACTION
Write down the five steps most often forgotten or most costly to miss.

FREQUENCY
Every time the task is performed.

MEASUREMENT
Record any errors or omissions before and after using the checklist.

DISRUPTION
If the checklist is being skipped, shorten it.

REVIEW
Have errors decreased, and does the checklist still contain only essential steps?

WHAT THIS EXAMPLE DOES NOT PROVE

A checklist cannot replace skill, judgment or adequate resources. It improves outcomes only when people use it genuinely rather than ticking boxes mechanically, and several later studies found smaller effects when checklists were imposed without the teamwork and commitment that supported the original trial. The case shows that simple tools can improve reliability, not that any list will improve any task.

KEY TERMS

checklist — a written list of steps to be checked or completed

omission — something that has been left out

to tick a box — to complete a requirement without real engagement

CASE 29

Writing Down What Remains Unfinished

CLOSING OPEN LOOPS

CENTRAL CONCEPT *a specific plan for an unfinished task can stop it from occupying the mind*

THE CHALLENGE

At the end of a working day, many people leave the office but not the work. Unfinished tasks follow them home and intrude on their evening and their sleep. Even at work, a long list of incomplete tasks can make it difficult to concentrate on any one of them.

WHAT THE RESEARCH FOUND

E. J. Masicampo and Roy Baumeister studied what happens to unfinished goals (Masicampo & Baumeister, 2011). In their experiments, participants who were reminded of an important unfinished task found that thoughts about it intruded while they were working on something else, and their performance on the second task suffered. But when participants were given the chance to make a specific plan for when and how they would complete the unfinished task, the intrusions largely disappeared, even though the task itself was still not done.

The researchers concluded that the mind does not necessarily need a goal to be completed in order to stop thinking about it. It needs to know that the goal is being taken care of.

HOW WE KNOW

The findings come from a series of laboratory experiments with university students. They are consistent with the experience of many people who use end-of-day planning, but they have not been tested extensively over long periods in real workplaces. Some research from the same broad tradition has since proved difficult to replicate, so the effect should be treated as promising rather than certain.

THE PSYCHOLOGY

An unfinished goal seems to remain active in the mind, prompting reminders until it is completed or until a plan exists. The plan acts as a substitute for completion: it tells the mind that the task has a time and a place. This connects to two earlier cases. It resembles the implementation intentions in Case 7, and it offers a way to reduce the attention residue described in Case 26.

THE PRACTICAL LESSON

At the end of each working day, spend five minutes writing down every unfinished task and, for the most important ones, when you will next work on them. Then deliberately close the day, with a phrase, a closed notebook or a short walk. A weekly version of the same review, on Friday afternoon, can do the same for the week.

The Habit Lab

BEHAVIOUR
Write down unfinished tasks and plan the next step for each.

CUE
The end of the working day.

STARTING ACTION
Open a notebook or file and list everything still open.

FREQUENCY
Daily, with a longer review once a week.

MEASUREMENT
Rate from 0 to 10 how much work intruded on your evening.

DISRUPTION
If you forget, write the list the next morning before starting.

REVIEW
Does work intrude less on your time away from it?

WHAT THIS EXAMPLE DOES NOT PROVE

Writing a plan does not make work disappear. If the workload is genuinely too heavy, planning can make the problem clearer but cannot solve it. The laboratory evidence is also limited, and the effect may be weaker for tasks that carry serious consequences, such as a job search or a financial worry. Planning helps to contain worry; it does not remove its causes.

KEY TERMS

open loop — an unfinished task or commitment that remains on the mind

to intrude — to come in where one is not wanted

shutdown routine — a set of actions used to end the working day

PART VI

Resilience and Adaptability

What habits help people recover when life does not go according to plan?

Resilience is often imagined as a rare quality possessed by exceptional people. Research suggests the opposite. The ability to recover from setbacks is common, and it is built from ordinary resources: relationships, routines, ways of interpreting stress and ways of making sense of difficult experiences. The cases in this part examine habits that help people absorb shocks, adapt to change and continue toward what matters.

CASE 30

Making Sense of a Difficult Experience

EXPRESSIVE WRITING

CENTRAL CONCEPT *writing about a difficult experience can help a person understand it and move forward*

THE CHALLENGE

When something painful happens, such as a job loss, a failed move or the end of a relationship, people often try not to think about it. Yet the experience continues to occupy the mind. Thoughts return at night, and the effort of pushing them away can be exhausting. People need some way to process what happened without being consumed by it.

WHAT THE RESEARCH FOUND

The psychologist James Pennebaker developed a simple technique known as *expressive writing* (Pennebaker & Beall, 1986). Participants write for about fifteen or twenty minutes on several consecutive days about their deepest thoughts and feelings concerning a difficult experience. They write only for themselves and do not need to show anyone.

One study applied the technique to experienced professionals who had lost their jobs in a corporate layoff (Spera et al., 1994). Some wrote about their thoughts and feelings about the layoff for five days. Others wrote only about practical matters, or did not write at all. In the following months, those who had written about their thoughts and feelings were more likely to have found new jobs than either comparison group. Interestingly, the groups did not differ in the number of job applications they made or calls they placed. The

difference seemed to lie in how they presented themselves, perhaps with less visible anger toward their former employer.

HOW WE KNOW

Expressive writing has been studied in many controlled experiments. A meta-analysis found a positive but small average effect across a wide range of outcomes (Frattaroli, 2006). The job-loss study is particularly relevant but involved a small group of participants, and its findings should not be generalized too confidently.

THE PSYCHOLOGY

Writing about an experience appears to help people organize it into a coherent story. A painful event that has been put into words becomes easier to understand and less likely to intrude. Pennebaker's analyses of the words people used suggested that those who benefited most tended to move, over the days of writing, from describing their feelings toward explaining causes and finding meaning: their writing included more words such as *because*, *realize* and *understand* (Pennebaker et al., 1997).

THE PRACTICAL LESSON

After a significant setback, set aside twenty minutes on three or four consecutive days. Write continuously about what happened, how it affected you and what it means for you now. Do not worry about grammar or style. If you are learning English, you may choose to write in your first language; the purpose is understanding, not language practice.

The Habit Lab

BEHAVIOUR
Write about a difficult experience for a short, fixed period.

CUE
A quiet time on three or four consecutive days.

STARTING ACTION
Set a timer for twenty minutes and begin with "What happened was..."

FREQUENCY
Once a day for three or four days.

MEASUREMENT
After each session, note whether the experience feels slightly clearer.

DISRUPTION
If writing becomes overwhelming, stop and write about something else.

REVIEW
A week later, does the experience occupy your thoughts less?

WHAT THIS EXAMPLE DOES NOT PROVE

Expressive writing is not therapy, and it is not suitable for everyone or for every situation. Some people feel worse immediately after writing, and the technique is not a substitute for professional help after trauma or during a period of serious distress. The average effects in research are modest. The case shows a low-cost tool that helps some people, not a guaranteed route to recovery.

KEY TERMS

> ***expressive writing*** — writing about one's thoughts and feelings concerning a difficult experience

> ***coherent*** — clear and logically connected

> ***to process*** — to think about an experience in order to understand and accept it

CASE 31

Interpreting Nervousness as Energy

REAPPRAISING STRESS

CENTRAL CONCEPT *the way people interpret their stress response can affect their performance*

THE CHALLENGE

Before an important examination, interview or presentation, the body prepares for a challenge: the heart beats faster, breathing quickens and the stomach tightens. Many people interpret these sensations as a sign that something is wrong, and they try to calm down. Often, the attempt fails, and the failure becomes another source of worry.

WHAT THE RESEARCH FOUND

Jeremy Jamieson and his colleagues studied students preparing to take the Graduate Record Examination, a standardized test used for admission to graduate school (Jamieson et al., 2010). Before a practice test, some students were told that a faster heart rate and nervousness can improve performance, because the body is preparing to meet a challenge. Others received no such information. The students who were encouraged to reinterpret their arousal performed better on the mathematics section of the practice test, and later on the real examination.

In another series of studies, Alison Wood Brooks asked people to prepare for anxious tasks, such as public speaking or singing in front of others (Brooks, 2014). Before beginning, some participants said aloud, "I am excited," while others said, "I am calm," or nothing at all. Those who described their feelings as excitement tended to perform better than those who tried to calm down.

HOW WE KNOW

Both sets of findings come from controlled experiments. The effects were meaningful but moderate, and they were measured in specific tasks over short periods. Research on stress reappraisal has continued to grow, but it is not yet clear how large or how lasting the benefits are in everyday life.

THE PSYCHOLOGY

Nervousness and excitement involve similar physical sensations. The difference lies largely in interpretation: one frames the situation as a threat, the other as an opportunity. Trying to move from high arousal to calm is difficult, because it requires the body to change state. Moving from anxiety to excitement may be easier, because it requires only a change of meaning. When the body's response is understood as preparation, attention can return to the task rather than to the sensations.

THE PRACTICAL LESSON

Before a stressful event, notice the physical signs of arousal and name them differently: "My heart is beating faster because my body is getting ready." Say, silently or aloud, "I am excited." Do not try to force yourself into calm; instead, direct the energy toward the task.

The Habit Lab

BEHAVIOUR

Reinterpret signs of stress before a challenging event.

CUE

Noticing a faster heartbeat or nervousness before an important task.

STARTING ACTION

Say, "I am excited," and name one thing you are ready to do.

FREQUENCY

Before each challenging event.

MEASUREMENT

Rate your performance and how you felt, from 0 to 10, afterwards.

DISRUPTION

If the reframing feels false, simply say, "This is my body preparing."

REVIEW

Has the experience of nervousness changed over several events?

WHAT THIS EXAMPLE DOES NOT PROVE

Reinterpreting arousal will not replace preparation, knowledge or skill. It is not appropriate for severe or chronic anxiety, which may require professional support. And stress caused by genuinely harmful circumstances, such as an abusive workplace, should not simply be reinterpreted; it should be addressed.

KEY TERMS

arousal — a state of physical and mental activation

to reappraise — to think about something again and interpret it differently

standardized test — an examination given and scored in the same way for everyone

CASE 32

One Day's Distance at a Time

TERRY FOX

CENTRAL CONCEPT *an overwhelming goal becomes possible when it is divided into a daily commitment*

THE CHALLENGE

In 1977, at the age of eighteen, Terry Fox, a university student from British Columbia, was diagnosed with bone cancer, and his right leg was amputated above the knee. In hospital, he saw other cancer patients, many of them children, and he decided to do something to raise money for cancer research. His plan was to run across Canada.

WHAT HE DID

On April 12, 1980, Fox dipped his artificial leg into the Atlantic Ocean at St. John's, Newfoundland, and began what he called the Marathon of Hope (Canadian Encyclopedia, n.d.). His aim was to reach the Pacific coast. Rather than thinking about the entire distance, he committed to a daily target: roughly the distance of a marathon, about forty-two kilometres, every day. He ran in rain, wind and summer heat, with a distinctive hop-step gait that his artificial leg required.

He ran for 143 days and covered 5,373 kilometres. On September 1, 1980, near Thunder Bay, Ontario, he was forced to stop: the cancer had spread to his lungs. He died the following year, at the age of twenty-two. By then, his run had raised more than twenty-four million dollars, and the annual Terry Fox Run, held in his memory, has since raised far more for cancer research.

HOW WE KNOW

Fox's run is one of the best-documented events in recent Canadian history, recorded in newspapers, television reports, his own journal and later biographies. The facts of the run are not in doubt. What can be debated is how much of his persistence came from the daily structure and how much from his extraordinary sense of purpose.

THE PSYCHOLOGY

A cross-country run is too large to imagine as a single task. A daily distance is concrete and measurable, and it can be completed before sleep. Each completed day adds to the total and provides evidence that the next day is possible. This is the same principle that underlies the daily word count in Case 4 and the graduated steps in Case 18, applied to an undertaking of enormous scale.

Fox's purpose mattered just as much. He was not running for himself. Research on motivation suggests that people often persist longer when their effort serves something beyond themselves, a theme that returns in the final case of this book.

THE PRACTICAL LESSON

When a goal feels overwhelming, define a daily commitment that would, if repeated, eventually reach it. Focus on completing today's portion, and record each day's progress. Keep the larger purpose visible as well. On difficult days, the reason for the effort may matter more than the size of the step.

The Habit Lab

BEHAVIOUR
Complete one day's portion of a large goal.

CUE
A fixed time each day.

STARTING ACTION
Write today's portion on a card and begin with the first part.

FREQUENCY
Daily, or on planned working days.

MEASUREMENT
Record each day's portion and the running total.

DISRUPTION
If a day is lost, resume the next day without trying to double the target.

REVIEW
Is the total growing, and does the purpose still feel worth the effort?

WHAT THIS EXAMPLE DOES NOT PROVE

Terry Fox's story is inspiring, but it should not be used to suggest that determination can overcome any illness. His run ended because of cancer, not because he lacked resolve. The case also involves an extraordinary individual, and few people should attempt anything comparable. What transfers is the structure: a large goal divided into daily portions and connected to a meaningful purpose.

KEY TERMS

amputation — the surgical removal of a limb

purpose — the reason for which something is done

undertaking — a large task or project that someone takes on

CASE 33

Keeping the Anchors of Daily Life

ORDINARY MAGIC

CENTRAL CONCEPT *resilience usually comes from ordinary resources, such as routines and relationships, rather than rare strength*

THE CHALLENGE

After a major disruption, such as a move to a new country, a job loss, a bereavement or an illness, people often feel that their normal lives have been suspended. Routines collapse, relationships are stretched and the future seems uncertain. Many assume that recovery requires exceptional inner strength, and they fear that they do not have it.

WHAT THE RESEARCH FOUND

Research on resilience has repeatedly found that it is far more common than people expect. In studies of adults who experienced loss or potentially traumatic events, many, often the majority, maintained relatively stable functioning over time, without long periods of serious distress (Bonanno, 2004). The ability to recover is not rare.

The psychologist Ann Masten, who studied resilience in children facing serious adversity, described it as *ordinary magic* (Masten, 2001). The children who adapted well were not generally extraordinary. They tended to have access to ordinary protective resources: at least one caring relationship, opportunities to develop competence, structure and routine in daily life, and a sense that their actions made a difference. Resilience, in this view, depends less on rare personal qualities than on keeping basic human systems working.

HOW WE KNOW

These conclusions come from many long-term studies of children and adults who experienced adversity, along with reviews of that research. The evidence is substantial. It describes patterns across groups, however, and individual experiences vary widely. Some people suffer prolonged distress despite having many resources, and this is not a personal failure.

THE PSYCHOLOGY

Routines provide predictability when much else is uncertain. They reduce the number of decisions to be made, and each completed routine is a small experience of control. Relationships provide practical help, emotional support and perspective. Competence, the experience of doing something well, restores a sense of agency.

These resources tend to be neglected precisely when they are most needed. During a crisis, people often stop exercising, sleep irregularly, withdraw from friends and abandon the activities that once gave them satisfaction.

THE PRACTICAL LESSON

During a period of disruption, choose two or three anchor routines and protect them: a regular waking time, a daily walk, a weekly call with a friend or family member. Keep them simple enough to maintain on difficult days. Look also for one small area in which you can experience competence, such as a skill, a class or a project, and one relationship you can lean on.

The Habit Lab

BEHAVIOUR
Maintain two or three anchor routines during a period of change.

CUE
Fixed points in the day or week, such as waking or Sunday evening.

STARTING ACTION
Write down your anchors and place the list where you will see it.

FREQUENCY
Daily and weekly, as planned.

MEASUREMENT
Record each anchor kept, and rate your sense of stability once a week.

DISRUPTION
On a very difficult day, keep only the simplest anchor.

REVIEW
Do the anchors help the days feel more manageable?

WHAT THIS EXAMPLE DOES NOT PROVE

Ordinary resources are not available equally to everyone. Isolation, poverty and discrimination can remove the very relationships and opportunities that support resilience. Nor does the research suggest that people should simply cope on their own; seeking help, including professional help, is itself one of the ordinary resources that resilience depends on.

KEY TERMS

resilience — the ability to recover from or adapt to difficulty

adversity — serious difficulty or misfortune

anchor — something that provides stability

PART VII

Health and Physical Performance

Which of your daily habits is your body quietly keeping score of?

Health is shaped less by occasional heroic efforts than by what happens most days: how long we sleep, how much we move, whether we wash our hands, whether the healthy choice is also the easy one. The cases in this part examine habits that protect the body's capacity to work, learn and recover. They also show why good evidence alone is often not enough to change what people actually do.

CASE 34

The Deficit You Cannot Feel

SLEEP RESTRICTION

CENTRAL CONCEPT *people adapt to feeling tired long before their performance recovers*

THE CHALLENGE

Many busy people sleep six hours a night or less, and many believe that they have adapted. They feel a little tired in the morning but function well enough during the day. Sleep becomes the most flexible part of the schedule, sacrificed whenever work, family or study requires more time.

WHAT THE RESEARCH FOUND

Hans Van Dongen and his colleagues tested this belief directly (Van Dongen et al., 2003). Healthy adults lived in a laboratory for two weeks and were allowed either four, six or eight hours in bed each night. Another group was kept awake for three nights in a row. Throughout the study, participants completed tests of attention, memory and reaction time.

The groups allowed four or six hours showed steadily worsening performance across the two weeks. By the end, those sleeping six hours a night were performing about as poorly as people who had gone without sleep for up to two nights. The most striking finding concerned how they felt. Their ratings of their own sleepiness rose at first and then levelled off. By the end of the study, they reported feeling only slightly sleepy, even though their performance was at its worst.

HOW WE KNOW

This was a carefully controlled laboratory study in which sleep could be measured precisely. Its participants were healthy young and middle-aged adults, and the study lasted only two weeks. Sleep needs vary between individuals, but the general finding, that chronic sleep restriction impairs performance more than people realize, is consistent with a large body of research.

THE PSYCHOLOGY

The study reveals a dangerous gap between feeling and functioning. People judge whether they are getting enough sleep largely by how tired they feel. But the feeling of sleepiness adapts, while the decline in performance continues to accumulate. Like the learners in Case 15 who misjudged what they knew, short sleepers misjudge how well they are functioning, and their confidence is not a reliable guide.

THE PRACTICAL LESSON

Treat sleep as a fixed appointment rather than as time left over at the end of the day. Choose a consistent bedtime that allows enough time in bed, and protect it as you would protect an important meeting. A short wind-down routine, such as dimming the lights and putting the phone away half an hour before bed, can work as a starting ritual for sleep in the same way that Case 5 described a starting ritual for work.

The Habit Lab

BEHAVIOUR
Go to bed at a consistent time that allows enough sleep.

CUE
A fixed alarm, set in the evening, that signals the start of your wind-down routine.

STARTING ACTION
Put your phone in another room and dim the lights.

FREQUENCY
Every night, including weekends where possible.

MEASUREMENT
Record bedtime, waking time, and your concentration the next day from 0 to 10.

DISRUPTION
After a late night, return to your normal bedtime rather than sleeping very late.

REVIEW
After two weeks, has your concentration improved, even if you did not feel tired before?

WHAT THIS EXAMPLE DOES NOT PROVE

The study does not establish a precise number of hours that everyone needs; individual needs vary. For many people, short sleep is not a choice but the result of shift work, caring responsibilities, financial pressure or a health condition, and advice about sleep habits does not remove those constraints. Persistent difficulty sleeping can also be a medical issue that requires professional attention.

KEY TERMS

sleep restriction — regularly sleeping less than the body needs

cumulative — increasing gradually through repeated additions

to adapt — to adjust to new conditions

CASE 35

The Value of Ordinary Movement

THE LONDON BUS STUDY

CENTRAL CONCEPT *everyday physical activity, built into ordinary life, can protect long-term health*

THE CHALLENGE

In the years after the Second World War, heart disease was rising rapidly in wealthy countries, and doctors did not understand why. The idea that physical activity might protect the heart was not yet established. The epidemiologist Jeremy Morris wanted to know whether the amount people moved in their daily work made a difference.

WHAT THE RESEARCH FOUND

Morris and his colleagues studied the men who worked on London's famous red double-decker buses (Morris et al., 1953). Each bus had two workers: a driver, whose work was sedentary because he sat for most of his shift, and a conductor, who collected fares and climbed hundreds of steps a day, up and down the stairs. The two men worked on the same buses, in the same city, for the same company.

The conductors had substantially lower rates of heart disease than the drivers, and when they did develop it, the disease tended to be less severe. Morris found a similar pattern among postal workers: those who delivered mail on foot had lower rates than those who worked at desks. His research helped to establish one of the most important findings in modern public health: regular physical activity protects against heart disease.

HOW WE KNOW

Morris's study was observational. It compared groups of workers rather than assigning people to be active or inactive. The researchers later found that the drivers and conductors also differed in other ways, including body size when they were hired, which may have contributed to the difference. Even so, the basic finding has been confirmed by decades of later research using many different methods.

THE PSYCHOLOGY

The conductors did not decide to exercise. Their movement was part of their job, repeated every working day for years. This is perhaps the most reliable kind of physical activity: it does not depend on motivation, remembering or finding time, because it is built into the structure of ordinary life.

The lesson connects to the theme of environmental design throughout this book. Just as Case 27 suggested removing a distracting cue, the bus study suggests building useful movement into the routines that already exist.

THE PRACTICAL LESSON

Look for ways to make movement part of what you already do, rather than an additional task. Take the stairs. Walk or cycle for part of your commute. Hold some telephone calls while walking. Set a reminder to stand and move for a few minutes every hour of desk work. Small amounts, repeated daily, add up over years.

The Habit Lab

BEHAVIOUR
Build one form of everyday movement into an existing routine.

CUE
A recurring part of the day, such as arriving at work or taking a phone call.

STARTING ACTION
Choose the stairs, or stand up when the call begins.

FREQUENCY
Every day, at the same point in the routine.

MEASUREMENT
Record the movement, or use a step counter for one week to establish a baseline.

DISRUPTION
On a day the usual routine is unavailable, take a ten-minute walk instead.

REVIEW
Has the movement become automatic, and could you add a second one?

WHAT THIS EXAMPLE DOES NOT PROVE

The bus study alone does not prove that climbing stairs prevents heart disease; its design could not rule out other differences between the two groups. Physical activity is also only one influence on health, alongside genetics, diet, smoking, stress and access to medical care. People with health conditions should seek advice before significantly changing their level of activity.

KEY TERMS

epidemiologist — a scientist who studies the patterns and causes of disease in populations

sedentary — involving a lot of sitting and little physical activity

observational study — a study that observes groups without assigning them to different conditions

CASE 36

When Evidence Is Not Enough

IGNAZ SEMMELWEIS

CENTRAL CONCEPT *a habit spreads only when people accept it, not merely when it is proven to work*

THE CHALLENGE

In the 1840s, the Vienna General Hospital had two maternity clinics. In the first, staffed by doctors and medical students, many more women died after childbirth from a disease called puerperal fever than in the second, staffed by midwives. Women begged to be admitted to the second clinic. Nobody could explain the difference.

WHAT HE DID

The Hungarian physician Ignaz Semmelweis, working in the first clinic, investigated. In 1847 a colleague died after being cut by a student's scalpel during an autopsy, and his illness closely resembled the fever that was killing the mothers. Semmelweis concluded that doctors and students were carrying something from the bodies they dissected to the women they examined. The midwives did not perform autopsies.

In May 1847 he required everyone in his clinic to wash their hands in a chlorine solution before examining patients. The effect was dramatic. The death rate in the clinic, which had been above eighteen percent in April, fell to about two percent within two months (Semmelweis, 1983).

Yet his colleagues largely rejected the idea. Many doctors were offended by the suggestion that their own hands were causing deaths, and Semmelweis could not explain why the washing worked, because the germ theory of disease had

not yet been established. He also responded to criticism with growing anger. He lost his position in Vienna and died in 1865, having seen his method widely ignored. Only in later decades, after the work of Louis Pasteur and Joseph Lister, was it generally accepted.

HOW WE KNOW

Semmelweis published his findings and statistics, and the history of his work has been studied extensively. His data were not collected as a modern controlled trial, and historians have debated aspects of his story. But the basic sequence of observation, intervention and resistance is well documented.

THE PSYCHOLOGY

The Semmelweis story is often told as a tale of foolish colleagues. It is more useful as a lesson about how habits spread. The new behaviour was inconvenient, it implied that respected people had caused harm, and it lacked an explanation that fitted existing beliefs. Semmelweis's own manner, increasingly accusatory, made acceptance harder still.

The problem has not disappeared. In modern hospitals, where the importance of hand hygiene is universally understood, observed compliance among health-care workers has often been far lower than it should be (Erasmus et al., 2010). Knowing that a habit matters is not the same as practising it reliably. Systems, reminders, convenient equipment and a culture that makes the habit normal all play a part, the same lesson that appeared in the checklist case in Part V.

THE PRACTICAL LESSON

When you want to introduce a new habit to other people, at work or at home, evidence is necessary but rarely sufficient. Make the behaviour easy and convenient. Explain why it matters in terms people can accept. Avoid framing

it as an accusation. Ask respected colleagues to model it first. And when you encounter resistance, try to understand it rather than condemn it.

The Habit Lab

BEHAVIOUR
Introduce one useful habit to a team or household.

CUE
A recurring situation in which the habit should occur.

STARTING ACTION
Remove one obstacle that makes the habit inconvenient.

FREQUENCY
Review weekly while the habit is being established.

MEASUREMENT
Observe how often the habit actually occurs.

DISRUPTION
If people resist, ask what makes the habit difficult, and adjust.

REVIEW
Is the habit becoming normal for the group, not only for you?

WHAT THIS EXAMPLE DOES NOT PROVE

Semmelweis's story does not show that every rejected idea is correct; many ideas are rejected because they are wrong. It also illustrates a historical moment with different scientific standards. The lesson is narrower: even a habit supported by strong evidence may fail to spread unless people find it convenient, understandable and consistent with their sense of themselves.

KEY TERMS

> ***hand hygiene*** — cleaning the hands to prevent the spread of infection

> ***compliance*** — the degree to which people follow a rule or recommendation

> ***to model a behaviour*** — to demonstrate it so that others can follow

CASE 37

Pairing What You Want with What You Should Do

TEMPTATION BUNDLING

CENTRAL CONCEPT *linking an enjoyable activity to a necessary one can increase the necessary behaviour*

THE CHALLENGE

Many people know they should exercise more, yet the gym competes with activities that are more immediately enjoyable, such as watching a favourite series or reading a gripping novel. The healthy behaviour offers benefits in the future; the tempting one offers pleasure now.

WHAT THE RESEARCH FOUND

Katherine Milkman, Julia Minson and Kevin Volpp tested a strategy they called *temptation bundling*: allowing oneself to enjoy a tempting activity only while doing a beneficial one (Milkman et al., 2014). University students and staff who wanted to exercise more were divided into three groups. One group received an iPod loaded with gripping audiobooks that could be listened to only at the gym, where the devices were kept. A second group received the same audiobooks on their own devices and were encouraged, but not required, to listen only at the gym. A third group received a gift voucher and encouragement to exercise.

At first, the group whose audiobooks were kept at the gym visited it about fifty-one percent more often than the control group. However, the effect faded after a holiday break, when the routine was interrupted. When

participants were later asked whether they would pay for gym-only access to tempting audiobooks, a majority said they would.

HOW WE KNOW

This was a randomized field experiment, which provides good evidence for the initial effect. But the effect weakened over time, and a later, much larger study of temptation bundling among gym members found smaller effects (Kirgios et al., 2020). The strategy appears to help, but not dramatically or permanently.

THE PSYCHOLOGY

Temptation bundling addresses two problems at once. It makes the necessary activity more enjoyable, and it reduces the guilt of the tempting activity, which is now linked to something beneficial. It also creates a reason to begin: the desire to find out what happens next in the story becomes the cue to go to the gym.

The fading effect after the holiday break is instructive. As Case 8 showed, habits depend on stable contexts. When the context changes, even a well-designed habit may need to be rebuilt.

THE PRACTICAL LESSON

Identify an activity you enjoy and one you tend to avoid, and allow yourself the first only during the second. Listen to a favourite podcast only while walking. Watch a series only on the exercise bike. Learners of English can make the enjoyable activity an English one: listen to an absorbing English-language audiobook, but only during a commute or a daily walk.

The Habit Lab

BEHAVIOUR
Pair a tempting activity with a beneficial one.

CUE
The start of the beneficial activity, such as putting on walking shoes.

STARTING ACTION
Start the podcast, audiobook or series only when the activity begins.

FREQUENCY
Every time you do the beneficial activity.

MEASUREMENT
Record how often you do the beneficial activity each week.

DISRUPTION
After a break or holiday, restart with the same pairing on the first possible day.

REVIEW
Has the pairing increased the beneficial activity, and is it holding over time?

WHAT THIS EXAMPLE DOES NOT PROVE

Temptation bundling is not a powerful or permanent solution, and its effects in research have been modest and fading. It also works only if the tempting activity is genuinely restricted; if the audiobook is available everywhere, the bundle disappears. It is best seen as one useful tool among several, not as a reliable way to make an unwelcome habit effortless.

KEY TERMS

temptation bundling — linking an enjoyable activity to a beneficial one

randomized — assigned to groups by chance

to restrict — to limit something to particular conditions

CASE 38

Putting Something at Stake

COMMITMENT DEVICES

CENTRAL CONCEPT *people can protect their future intentions by making failure costly in advance*

THE CHALLENGE

Many smokers sincerely want to quit. They make the decision, often more than once, and then find that their resolve disappears when the craving returns. The person making the decision and the person facing the temptation seem to want different things.

WHAT THE RESEARCH FOUND

Xavier Giné, Dean Karlan and Jonathan Zinman offered smokers in the Philippines a savings account called CARES (Giné et al., 2010). Participants deposited their own money, in whatever amounts they chose, over six months. At the end, they took a urine test for nicotine. If they passed, they received their money back. If they failed, the money went to charity.

Only a minority of the smokers offered the account chose to open one. Among those offered it, however, the chances of passing the nicotine test at six months were a few percentage points higher than in a comparison group, and the effect was still present in surprise tests a year after the study began. The account did not work for everyone: most of those who opened one still did not quit.

HOW WE KNOW

This was a randomized field experiment involving real money and an objective test, which makes the findings unusually reliable. The effect was real but modest, and it applied to a particular population with particular financial circumstances.

THE PSYCHOLOGY

A *commitment device* is an arrangement made in advance that makes it harder or more costly to abandon a goal later. It recognizes that people's preferences change over time: the calm person planning on Sunday evening is not the same as the tired, tempted person on Wednesday afternoon. By putting something at stake, such as money, reputation or a promise to another person, the planner protects the goal from the future self who might abandon it.

Commitment devices take many forms. A public promise, a paid course with a fixed schedule or an arrangement with a friend to meet at the gym all raise the cost of quitting.

THE PRACTICAL LESSON

For a goal you have repeatedly abandoned, consider what you could put at stake. Tell a friend what you intend to do and ask them to check with you. Pay in advance for classes. Arrange to meet someone at a fixed time. Choose a stake that is meaningful but not so severe that failure would cause real harm.

The Habit Lab

BEHAVIOUR
Create a commitment device for a goal you have abandoned before.

CUE
A planning session at the start of the week.

STARTING ACTION
Tell one person exactly what you will do and when they should check.

FREQUENCY
Weekly, for the length of the commitment.

MEASUREMENT
Record whether you met the commitment each week.

DISRUPTION
If you fail, renew the commitment with a smaller target rather than abandoning it.

REVIEW
Does the commitment help you persist when motivation is low?

WHAT THIS EXAMPLE DOES NOT PROVE

Commitment devices are not suitable for every goal or every person. A stake that is too large can cause harm if circumstances change, and some failures result from addiction, illness or other factors that a financial penalty cannot overcome. Most people in the study who committed money still did not quit smoking. The case shows a modest, real effect, not a cure.

KEY TERMS

> ***commitment device*** — an arrangement that makes abandoning a goal more costly

> ***stake*** — something that may be lost if one fails

> ***craving*** — a strong desire for something

PART VIII

Leadership and Professional Success

What do the people you lead see you do every week?

Leadership is often described in terms of vision, strategy and personality. In practice, much of it consists of small, repeated behaviours: regular conversations, consistent priorities, attention to progress and the example a leader sets. The cases in this part examine how those habits shape the performance and culture of teams and organizations.

CASE 39

The Habits of Good Managers

GOOGLE'S PROJECT OXYGEN

CENTRAL CONCEPT *effective management consists of observable, learnable behaviours*

THE CHALLENGE

In its early years, Google's engineering culture was skeptical of managers. Many engineers believed that managers added little value and that technical expertise was what mattered. In 2002, the company even experimented briefly with eliminating engineering managers altogether. The experiment did not last, but the question remained: do managers matter, and if so, what makes a good one?

WHAT GOOGLE DID

Google's people analytics team set out to answer the question with data, in a research effort called Project Oxygen (Garvin, 2013). The team analyzed performance reviews, employee surveys and interviews, comparing the highest-rated managers with the lowest-rated.

The results surprised many engineers. Teams with better managers performed better and had lower turnover. And the behaviours that distinguished the best managers were not mainly technical. The list of eight behaviours the team identified began with being a good coach, and included empowering the team without micromanaging, showing interest in team members' success and well-being, communicating well and listening, and helping with career development. Technical expertise appeared near the bottom of the list.

Google then used the findings to train managers and to give them regular feedback from their teams on these specific behaviours. Many managers, particularly those with lower scores, showed improvement.

HOW WE KNOW

Project Oxygen was internal research by a company, described in published case studies and articles rather than in peer-reviewed journals. Its methods were rigorous by business standards, but Google's employees and culture are unusual, and the findings may not transfer directly to every organization.

THE PSYCHOLOGY

The project's most important contribution was to make management observable. "Be a better manager" is vague advice. "Hold regular one-to-one meetings in which you ask about the person's goals and obstacles" is a behaviour that can be scheduled, practised and measured. Regular feedback then provides the information needed to improve, in the same way that deliberate practice in Case 10 depends on knowing where performance falls short.

THE PRACTICAL LESSON

If you manage people, schedule regular one-to-one conversations with each person, and use them mainly to listen: ask about their progress, their obstacles and their goals. Ask your team for feedback on specific behaviours, not on your management in general. If you do not manage anyone, you can still adopt the same habits with peers, and seek a manager who practises them.

The Habit Lab

BEHAVIOUR
Hold regular one-to-one conversations focused on the other person.

CUE
A recurring calendar appointment with each team member or colleague.

STARTING ACTION
Begin with a question: "What's going well, and what's getting in your way?"

FREQUENCY
Every week or every two weeks.

MEASUREMENT
Record each conversation and one action you took as a result.

DISRUPTION
If a meeting must be cancelled, reschedule it within the same week.

REVIEW
Every few months, ask for feedback on how useful the conversations are.

WHAT THIS EXAMPLE DOES NOT PROVE

Project Oxygen identified behaviours associated with highly rated managers in one company; it did not prove that these behaviours alone cause team success. Google's resources, culture and workforce differ from those of most organizations. And good management habits cannot compensate for poor strategy, inadequate resources or unfair policies.

KEY TERMS

> ***people analytics*** — the use of data to understand and improve how organizations manage people

> ***to micromanage*** — to control the details of other people's work too closely

> ***turnover*** — the rate at which employees leave an organization

CASE 40

One Priority, Repeated

PAUL O'NEILL AT ALCOA

CENTRAL CONCEPT *a single visible priority, pursued consistently, can reshape the habits of an organization*

THE CHALLENGE

When Paul O'Neill became chief executive of Alcoa, the American aluminum producer, in 1987, investors expected him to talk about profits, costs and markets. The company was large, established and, in the view of many, underperforming. Aluminum production is also dangerous work, involving molten metal and heavy machinery.

WHAT HE DID

At his first meeting with investors and analysts, O'Neill talked about worker safety. He announced that his goal was to make Alcoa the safest company in America, aiming for zero injuries. Some listeners were baffled; at least one reportedly advised clients to sell their shares.

O'Neill made safety a daily practice rather than a slogan. He required that every injury be reported to him within twenty-four hours, together with an analysis of its cause and a plan to prevent it from happening again. He told managers that safety problems should be fixed immediately, without waiting for budget approval. Workers were encouraged to report hazards, and he gave out his home telephone number so that they could reach him directly.

Over his thirteen years as chief executive, Alcoa's rate of injuries causing lost working days fell dramatically, from about 1.86 per hundred workers to

about 0.23 (EHS Today, 2013). During the same period, the company's market value grew roughly ninefold.

HOW WE KNOW

O'Neill described his approach in many speeches and interviews, and the story was later popularized in a bestselling book about habits (Duhigg, 2012). The injury figures are drawn from company and industry sources. The connection between the safety program and the financial results, however, is an interpretation rather than a proven cause; many other factors affected Alcoa's performance during those years.

THE PSYCHOLOGY

O'Neill's argument was that safety could not be improved without understanding exactly how work was done. Tracing each injury to its cause required managers and workers to examine processes, communicate across levels of the organization and change routines. Those habits of investigation and communication, he believed, spread to quality and efficiency as well.

His approach also showed the power of consistency. A priority announced once is easily forgotten. A priority checked every day, through a rule as specific as the twenty-four-hour report, becomes part of how the organization works.

THE PRACTICAL LESSON

If you lead a team, choose one priority that matters and that everyone can contribute to, and make it visible every day or every week through a specific routine. If you are not in a leadership position, the same principle applies to your own work: one priority, checked consistently, is more powerful than several that are mentioned occasionally.

The Habit Lab

BEHAVIOUR
Pursue one clear priority through a daily or weekly routine.

CUE
A fixed point, such as the start of each team meeting.

STARTING ACTION
Begin the meeting with a short review of the priority.

FREQUENCY
At every meeting, or daily.

MEASUREMENT
Track one indicator of progress on the priority.

DISRUPTION
If other matters crowd it out, return to it first at the next meeting.

REVIEW
After three months, has the priority changed how people work?

WHAT THIS EXAMPLE DOES NOT PROVE

The Alcoa story is often told as proof that focusing on one "keystone habit" will transform an organization. The evidence does not support so strong a claim. Alcoa's financial success had many causes, including market conditions and strategic decisions. O'Neill's approach is a powerful example, but it is one example, told mainly by admirers.

KEY TERMS

priority — something that is treated as more important than other things

hazard — something that could cause harm

lost workday — a day of work missed because of an injury

CASE 41

Leaders Who Keep Learning

SATYA NADELLA

CENTRAL CONCEPT *the habits a leader models in public shape what others feel safe to do*

THE CHALLENGE

When Satya Nadella became chief executive of Microsoft in 2014, the company was large, profitable and widely regarded as having lost its way. It had missed the shift to mobile phones, and its internal culture had a reputation for competition between divisions and for rewarding people who appeared to know everything. Admitting uncertainty or mistakes was risky.

WHAT HE DID

Nadella made culture a central part of his strategy (Nadella, 2017). Drawing on the psychologist Carol Dweck's work on mindsets, he encouraged employees to move from being "know-it-alls" to "learn-it-alls": people who were curious, willing to ask questions and willing to learn from failure. He modelled the behaviour himself, speaking openly about his own mistakes and about what he had learned from them.

One episode became well known. In 2014, he was asked at a conference what advice he would give to women who were uncomfortable asking for a pay rise. He suggested that they should trust the system to give them the right raises. The comment was widely criticized. Within hours, he apologized publicly, and he later wrote to employees that his answer had been completely wrong. He used the moment to show the behaviour he was asking of others.

During his time as chief executive, Microsoft's business was transformed, particularly through its cloud computing services, and the company's market value rose enormously.

HOW WE KNOW

The account comes largely from Nadella's own book and public statements, along with reporting on the company. As with the Alcoa case, the link between cultural change and business success is an interpretation. Microsoft's growth also reflected strategic decisions, investments and the growth of entire industries.

THE PSYCHOLOGY

Employees learn what is safe from what leaders do, not only from what they say. When a leader admits a mistake publicly and recovers, it signals that others can do the same. This is closely related to the psychological safety discussed in Case 6. A culture in which people can ask questions and admit errors is better able to learn.

The research behind the language of mindsets is, however, more limited than its popularity suggests. Large reviews have found that growth-mindset interventions in schools produce, on average, very small effects on academic achievement (Macnamara & Burgoyne, 2023). The value of Nadella's approach probably lay less in the concept itself than in the visible, repeated behaviour of leaders who practised it.

THE PRACTICAL LESSON

Whatever your position, model the learning habits you want to see in others. Ask questions in meetings, even when you might appear less knowledgeable. When you make a mistake, acknowledge it promptly and say what you will do differently. Treat other people's mistakes as information, as described in Case 17.

The Habit Lab

BEHAVIOUR
Model learning openly in front of colleagues.

CUE
A meeting, discussion or mistake.

STARTING ACTION
Ask one genuine question, or acknowledge one thing you got wrong.

FREQUENCY
At least once a week.

MEASUREMENT
Record each instance and how others responded.

DISRUPTION
If you avoided admitting a mistake, raise it at the next opportunity.

REVIEW
Are colleagues becoming more willing to ask questions and admit errors?

WHAT THIS EXAMPLE DOES NOT PROVE

The Microsoft story does not prove that a change of culture caused the company's financial success, nor that the concept of a growth mindset is a reliable tool for change. The evidence for mindset interventions is weaker than often claimed. What the case illustrates is narrower: leaders' visible behaviour signals what is acceptable, and that signal can make learning easier or harder for everyone else.

KEY TERMS

> ***mindset*** — a set of beliefs that shapes how a person interprets and responds to situations

> ***to model*** — to demonstrate a behaviour so that others can learn it

> ***to acknowledge*** — to accept or admit that something is true

CASE 42

Noticing Small Wins

THE PROGRESS PRINCIPLE

CENTRAL CONCEPT *making progress in meaningful work is a powerful source of motivation*

THE CHALLENGE

Managers spend a great deal of effort trying to motivate people: through recognition, incentives, clear goals and good relationships. Yet many professionals still describe their working days as frustrating and draining. Researchers wanted to understand, day by day, what actually made people's working lives better or worse.

WHAT THE RESEARCH FOUND

Teresa Amabile and Steven Kramer asked 238 professionals working on creative projects in several companies to complete a short diary at the end of each working day (Amabile & Kramer, 2011). Over many months, they collected about twelve thousand entries describing what had happened and how people felt.

The analysis revealed a clear pattern. Of all the events that could make a working day good, the most powerful was making progress in meaningful work, even a small step forward. On the days when people felt most motivated and positive, they were far more likely to report progress. Setbacks, by contrast, had a strong negative effect.

Amabile and Kramer also surveyed hundreds of managers and asked them to rank several factors in order of their importance for employee motivation.

Most managers ranked progress last. The most powerful motivator was the one they understood least.

HOW WE KNOW

The diary study was large and detailed, and it captured working life as it happened rather than as people remembered it later. It shows a strong association between progress and motivation. Because it is observational, it cannot fully separate cause from effect: motivated people may also make more progress.

THE PSYCHOLOGY

Progress provides evidence that effort is producing results. It satisfies the desire to be competent and effective, and it makes the next step easier to begin. Small wins matter because they are frequent. A large achievement may occur once a year; a small step forward can occur every day.

This finding reinforces several earlier cases. Franklin's daily record in Case 1 made his progress visible. King's word count in Case 4 and Terry Fox's daily distance in Case 32 converted enormous goals into daily units of progress.

THE PRACTICAL LESSON

At the end of each working day, write down one thing you moved forward, however small. If you lead others, ask regularly what is blocking their progress and remove obstacles where you can. Recognize progress, not only final results.

The Habit Lab

BEHAVIOUR
Record one piece of progress at the end of each working day.

CUE
Closing your computer, or the end-of-day routine from Case 29.

STARTING ACTION
Write one sentence: "Today I moved forward on..."

FREQUENCY
Every working day.

MEASUREMENT
Review the record each week and rate your motivation from 0 to 10.

DISRUPTION
On a day with no progress, write what blocked it and one way to remove the obstacle.

REVIEW
Does seeing your progress change how you feel about your work?

WHAT THIS EXAMPLE DOES NOT PROVE

The progress principle does not mean that motivation problems can be solved by small wins alone. Unfair pay, poor management or meaningless work will not be fixed by a diary. The research also involved professionals in creative work, and its findings may differ for other kinds of jobs.

KEY TERMS

> ***small win*** — a modest but real achievement

> ***setback*** — a problem that delays progress

> ***meaningful work*** — work that a person believes is important or worthwhile

PART IX

Financial Habits

Which financial decisions do you make once, and which do you make every day?

Financial well-being depends partly on income and partly on habits: how often we save, how we pay for things, what happens automatically and what requires a decision. Research in behavioural economics has shown that small changes in how choices are arranged can produce large differences in what people actually do with their money. The cases in this part apply those findings to everyday financial behaviour.

CASE 43

Making the Good Choice the Default

AUTOMATIC ENROLMENT

CENTRAL CONCEPT *people tend to stay with whatever option happens when they do nothing*

THE CHALLENGE

Most people agree that saving for retirement is important, and many employers offer savings plans with generous contributions. Yet large numbers of employees never join. The forms are not difficult, and the benefits are clear. The problem is that joining requires a decision, and the decision is easy to postpone indefinitely.

WHAT THE RESEARCH FOUND

Brigitte Madrian and Dennis Shea studied a large American company that changed the rules of its retirement savings plan (Madrian & Shea, 2001). Before the change, employees had to choose to join. After the change, new employees were enrolled automatically unless they chose to leave. Nothing else about the plan changed.

The effect on participation was dramatic. Among new employees, participation rose from well under half to more than four in five. The research also revealed a less welcome result. Many automatically enrolled employees stayed at the default contribution rate and in the default investment fund, even when those choices were more conservative than they might have chosen for themselves.

HOW WE KNOW

The study compared groups of employees hired before and after the rule change at the same company. Later research at many other companies, and national policies such as automatic enrolment in the United Kingdom, have confirmed that defaults have very large effects on participation.

THE PSYCHOLOGY

A default is the option that takes effect when a person does nothing. Defaults are powerful for several reasons. Changing them requires effort, and effort is easy to postpone. People also tend to interpret the default as a recommendation from whoever set it. And once a person has been enrolled, leaving can feel like a loss.

The lesson extends beyond retirement plans. Many of our habits are, in effect, defaults: what happens automatically on payday, what appears on the table at dinner, what opens when the computer starts.

THE PRACTICAL LESSON

Arrange your finances so that the good choice happens without a decision. Set up an automatic transfer to savings on the day you are paid, before the money appears in your everyday account. Then review the amount once a year, because a default that was right at the start may not stay right.

The Habit Lab

BEHAVIOUR
Save automatically on payday.

CUE
The day your salary or income arrives.

STARTING ACTION
Set up a recurring transfer to a separate savings account.

FREQUENCY
Every pay period, automatically.

MEASUREMENT
Check the savings balance once a month.

DISRUPTION
If you must pause the transfer, set a date to restart it.

REVIEW
Once a year, ask whether the amount should increase.

WHAT THIS EXAMPLE DOES NOT PROVE

Defaults are powerful, but they are not always right for everyone. People who stay with a low default rate may save less than they would have chosen deliberately. Automatic saving also requires an income with something left over; for people struggling to pay for essentials, the problem is not a lack of good habits. The case shows how strongly defaults shape behaviour, which is why the default itself deserves careful thought.

KEY TERMS

> ***default*** — the option that takes effect when no choice is made

> ***automatic enrolment*** — being included in a plan unless one chooses to leave

> ***inertia*** — a tendency to remain in the current state

CASE 44

Committing Future Raises in Advance

SAVE MORE TOMORROW

CENTRAL CONCEPT *people find it easier to commit future income than present income*

THE CHALLENGE

Many people know they should save more, but saving more today means spending less today, and that feels like a loss. Asked to increase their savings immediately, most decline. The problem is not knowledge but timing.

WHAT THE RESEARCH FOUND

Richard Thaler and Shlomo Benartzi designed a program called Save More Tomorrow (Thaler & Benartzi, 2004). Employees who felt unable to increase their savings now were invited to commit in advance to saving a portion of their future pay raises. Each time they received a raise, their savings rate would increase automatically. They could leave the program at any time.

The program was designed around three behavioural observations. People find future sacrifices easier to accept than present ones. People dislike seeing their take-home pay fall, and saving part of a raise means it never does. And inertia, once working in favour of saving, keeps people in the program.

In the first company to use the plan, most of the employees who were offered it chose to join, and most stayed through four annual raises. Their average savings rate rose from 3.5 percent to 13.6 percent of their income over about three and a half years.

HOW WE KNOW

The evidence comes from implementations at real companies, with real money, rather than laboratory tasks. The original results came from a small number of firms, but the design has since been adopted by many retirement plans, and later research has generally supported it.

THE PSYCHOLOGY

Save More Tomorrow works with human tendencies rather than against them. It combines a commitment device, similar to the one in Case 38, with a default, as in Case 43. The difficult decision is made once, at a time when it feels easy, and then repeated automatically.

THE PRACTICAL LESSON

The next time your income increases, commit part of the increase to savings before you receive it. Decide in advance: "When my pay rises, half of the increase will go to savings." Because you never had the money in your everyday budget, you will not feel its absence.

The Habit Lab

BEHAVIOUR
Commit part of a future income increase to savings.

CUE
A pay raise, a new job or any increase in income.

STARTING ACTION
Write down the percentage you will save before the increase arrives.

FREQUENCY
At each increase.

MEASUREMENT
Record your savings rate as a percentage of income each year.

DISRUPTION
If you cannot save the full amount, save a smaller portion rather than none.

REVIEW
Is your savings rate rising over time without causing hardship?

WHAT THIS EXAMPLE DOES NOT PROVE

The program works for people whose incomes rise regularly; it offers less to those with stagnant or unpredictable incomes. Saving more is also not always the right priority. Paying off high-interest debt, for example, may matter more. And as with all financial decisions, individual circumstances vary; this book does not offer personal financial advice.

KEY TERMS

pay raise — an increase in salary or wages

take-home pay — income after taxes and deductions

to commit in advance — to make a decision now that will take effect later

CASE 45

Making Spending Visible

THE PAIN OF PAYING

CENTRAL CONCEPT *the way people pay affects how much they are willing to spend*

THE CHALLENGE

Many people find that their spending is higher than they expected each month, even though no single purchase seemed extravagant. Card payments, online accounts and saved payment details make buying quick and painless. The convenience is real, but so is the effect on the total.

WHAT THE RESEARCH FOUND

Drazen Prelec and Duncan Simester conducted a real auction for tickets to sold-out sporting events in Boston (Prelec & Simester, 2001). Some participants were told they would have to pay in cash; others were told they would pay by credit card. The tickets were identical. On average, those paying by credit card bid considerably more, in some cases roughly twice as much.

The researchers argued that different methods of payment produce different degrees of what has been called the *pain of paying*. Handing over cash makes the cost vivid and immediate. A card payment separates the pleasure of buying from the moment of paying, and the cost feels less real.

HOW WE KNOW

The original study was a small experiment with an unusually large effect. Later research has generally supported the idea that card payments increase spending compared with cash, but usually with smaller effects, and some

studies have found little difference. As payment methods have changed, with phones and contactless cards, the comparison has also become more complicated.

THE PSYCHOLOGY

Spending decisions are influenced by how costs are experienced, not only by their amount. When the cost is visible and immediate, people weigh it more carefully. When it is hidden or delayed, they weigh it less. This is the same principle that appears throughout the book: behaviour responds to cues, and making a cost visible is a way of providing a cue.

THE PRACTICAL LESSON

For categories of spending that tend to grow without your noticing, such as eating out, small online purchases or subscriptions, make the cost more visible. Track each purchase in a simple list for a month. Remove saved card details from shopping sites. Review subscriptions every few months. The aim is not to make spending painful, but to make it deliberate.

The Habit Lab

BEHAVIOUR
Record every purchase in one spending category.

CUE
Each purchase in that category.

STARTING ACTION
Write the amount in a note on your phone immediately after buying.

FREQUENCY
Every purchase, for one month.

MEASUREMENT
Total the category each week.

DISRUPTION
If you forget an entry, check your bank statement at the end of the week.

REVIEW
Did the record change your spending, and was the change one you wanted?

WHAT THIS EXAMPLE DOES NOT PROVE

The size of the credit-card effect in the original study has not been consistently repeated, and it should not be treated as a reliable measure of how much more people spend. Paying by card also has benefits, including safety, records and, for some people, building a credit history. The lesson is about awareness, not about a particular method of payment.

KEY TERMS

pain of paying — the discomfort people feel when spending money

contactless payment — paying by tapping a card or phone

subscription — a regular payment for continuing access to a service

CASE 46

Making the Distant Future Vivid

MEETING YOUR FUTURE SELF

CENTRAL CONCEPT *people save more when their future selves feel real and connected to them*

THE CHALLENGE

Saving for retirement asks people to sacrifice something now for the benefit of a person who will exist decades in the future. For many people, that future self feels like a stranger. It is difficult to give up something today for someone you cannot imagine.

WHAT THE RESEARCH FOUND

Hal Hershfield and his colleagues used virtual-reality technology to show participants digitally aged images of their own faces (Hershfield et al., 2011). Afterwards, participants were asked how they would allocate a sum of money between immediate spending and a retirement account. Those who had seen their aged faces allocated about twice as much to retirement, on average, as those who had seen images of their current selves.

The research was based on an earlier finding that people who feel more connected to their future selves tend to make more patient financial choices. In brain imaging studies, thinking about one's future self can resemble thinking about another person more than thinking about one's present self (Ersner-Hershfield et al., 2009).

HOW WE KNOW

The studies were controlled experiments, but most used hypothetical money in a laboratory setting. Effects on real financial decisions have been harder to establish and appear to be smaller. The general idea that connection to one's future self influences saving is supported by a broader body of research, but the size of the effect in everyday life is uncertain.

THE PSYCHOLOGY

People are more willing to make sacrifices for those they feel close to. If the future self feels like a stranger, saving for retirement feels like giving money away. Making that future self vivid, through an image, a letter or a concrete description, may increase the sense of connection and make the sacrifice feel more like investing in oneself.

This connects to the theme of purpose in Case 32 and in the final case of this book. Behaviour becomes easier to sustain when we can see clearly whom it serves.

THE PRACTICAL LESSON

Make your future self concrete. Write a short letter from yourself at seventy describing the life you hope to be living, or describe in detail what a secure retirement would look like. Some financial applications can produce an aged image of your face. Keep the description where you will see it when you make saving decisions.

The Habit Lab

BEHAVIOUR
Strengthen your connection with your future self before financial decisions.

CUE
Reviewing your savings, or receiving a bonus or tax refund.

STARTING ACTION
Read a letter you have written from your future self.

FREQUENCY
At each review of your savings, at least every few months.

MEASUREMENT
Record how much of each windfall you save.

DISRUPTION
If the letter no longer feels relevant, rewrite it.

REVIEW
Do you feel more connected to the future, and are you saving more?

WHAT THIS EXAMPLE DOES NOT PROVE

The evidence for this technique is strongest in laboratory settings with hypothetical choices. It has not been shown to produce large, lasting changes in real saving behaviour. And no amount of connection to one's future self can create savings where income does not allow them. This book does not provide personal financial advice; decisions about retirement saving should consider individual circumstances.

KEY TERMS

future self — the person one will be at a later time

windfall — an unexpected sum of money

to allocate — to divide something and assign it to different purposes

PART X

Personal Development

What kind of person do your habits say you are becoming?

The final part of the book turns from specific domains to the person who carries all the habits: how they reflect on experience, how they describe themselves, what values guide them and why their efforts matter. These cases suggest that habits are not only things people do. Over time, they become part of who people are.

CASE 47

Learning from Today Before Tomorrow Begins

DAILY REFLECTION

CENTRAL CONCEPT *a few minutes of deliberate reflection can turn experience into learning*

THE CHALLENGE

Experience alone is an unreliable teacher. Many people repeat the same job for years without improving much, because they move from one day to the next without stopping to ask what they learned. The days are full; the lessons go unrecorded.

WHAT THE RESEARCH FOUND

The Roman philosopher Seneca described a nightly practice: once the lamp was removed and the house was quiet, he reviewed his entire day, examining what he had done and said, and asking where he had acted well and where he could improve (Seneca, 2010). He considered the habit a source of calm rather than anxiety.

Two thousand years later, Giada Di Stefano, Francesca Gino, Gary Pisano and Bradley Staats tested a modern version (Di Stefano et al., 2014). At a large technology services company in India, new employees in a training program were divided into groups. One group spent the last fifteen minutes of each day writing about the main lessons they had learned; the others spent the time working. At the end of the training, the employees who had reflected performed about twenty-three percent better on the final assessment.

HOW WE KNOW

Seneca's account describes a personal practice, written for instruction. The modern study was a field experiment within a real company, supported by laboratory experiments, and it was published as a working paper. It provides useful evidence, but it concerns new employees learning specific tasks during a training period.

THE PSYCHOLOGY

Reflection appears to work through two routes. It helps people articulate what they have learned, which clarifies their understanding, much as self-explanation does in Case 14. It also increases confidence in their ability to perform the task, the self-efficacy described in Case 18. A short review converts the day's experience into knowledge that can be carried into tomorrow.

THE PRACTICAL LESSON

At the end of each day, spend five to fifteen minutes answering two questions in writing: What did I learn today? What will I do differently tomorrow? Combine the review with the end-of-day routine in Case 29 and the progress note in Case 42, so that one short session closes the day.

The Habit Lab

BEHAVIOUR
Reflect in writing on the day's main lessons.

CUE
The end of the working day, or before sleep.

STARTING ACTION
Write the date and the question "What did I learn today?"

FREQUENCY
Daily, or on working days.

MEASUREMENT
Count the lessons recorded each week, and note any you applied.

DISRUPTION
If you miss a day, reflect on two days at once rather than skipping both.

REVIEW
After a month, are you improving faster at the work you reflect on?

WHAT THIS EXAMPLE DOES NOT PROVE

Reflection is not a substitute for experience, feedback or instruction. Too much reflection can become rumination, an unproductive cycle of dwelling on mistakes. And the modern study's large effect came from one setting; it should not be expected in every job. The habit is cheap and often useful, not a guarantee of rapid improvement.

KEY TERMS

reflection — careful thought about one's experiences

rumination — repetitive, unproductive thinking about problems

to articulate — to express something clearly in words

CASE 48

The Words That Frame a Commitment

"I DON'T" VERSUS "I CAN'T"

CENTRAL CONCEPT *describing a commitment as a personal standard may make it easier to keep*

THE CHALLENGE

When people try to resist a temptation, such as a second dessert, an unnecessary purchase or skipping a workout, they often say, "I can't." The phrase implies an external rule. It can feel like deprivation imposed from outside, which may make the temptation stronger.

WHAT THE RESEARCH FOUND

Vanessa Patrick and Henrik Hagtvedt compared two ways of refusing temptation (Patrick & Hagtvedt, 2012). In one study, participants practised saying either "I don't" or "I can't" in response to a temptation, and were then offered a choice between a chocolate bar and a healthier snack as they left. Those who had practised "I don't" were more likely to choose the healthier option.

In another small study, women who had set a personal health goal were asked to use one of the refusal strategies over ten days. Those who used "I don't" persisted with their goals more often than those who used "I can't" or a general strategy, and they reported a greater sense of autonomy and control.

The researchers argued that "I don't" signals a personal standard, a statement about who one is, whereas "I can't" signals an external constraint.

HOW WE KNOW

The studies were controlled experiments, but some were very small, and research on the effects of particular wording has often proved difficult to replicate. The finding should be treated as an interesting possibility rather than an established effect.

THE PSYCHOLOGY

The idea connects to a broader theme in research on habits: people tend to act consistently with how they see themselves. A behaviour framed as part of one's identity ("I am someone who exercises") may be more stable than one framed as an obligation ("I have to exercise"). Over time, repeated behaviour also changes identity: each time a person acts in a certain way, they gather evidence about the kind of person they are.

THE PRACTICAL LESSON

When you set a personal rule, express it as a standard rather than a restriction. "I don't check email before nine." "I don't buy things I haven't planned for." "I don't skip my Tuesday class." Then let the behaviour itself provide the evidence that the statement is true.

The Habit Lab

BEHAVIOUR
Express one personal rule as a standard, and keep it.

CUE
The moment a temptation appears.

STARTING ACTION
Say, silently or aloud, "I don't..."

FREQUENCY
Every time the temptation occurs.

MEASUREMENT
Record how often you kept the rule each week.

DISRUPTION
If you break the rule, restate it the next time rather than abandoning it.

REVIEW
Does the rule feel more like part of who you are over time?

WHAT THIS EXAMPLE DOES NOT PROVE

A change of words is not a reliable cure for difficult behaviour, and the evidence for this particular effect is limited. Identity-based rules can also become rigid or self-critical if they are broken. The case suggests that how we describe our commitments may influence how we keep them, not that a phrase can replace the other strategies in this book.

KEY TERMS

autonomy — the ability to make one's own decisions

identity — a person's sense of who they are

personal standard — a rule a person chooses to live by

CASE 49

Remembering What Matters Under Pressure

VALUES AFFIRMATION

CENTRAL CONCEPT *reflecting on one's core values may help people perform under threat, but the effect depends on context*

THE CHALLENGE

Situations that threaten a person's sense of competence or belonging, such as an important examination, a new workplace or a setting in which one's group is negatively stereotyped, can undermine performance. Anxiety consumes attention, and the person performs below their ability.

WHAT THE RESEARCH FOUND

Geoffrey Cohen and his colleagues tested a brief intervention in a school in the United States (Cohen et al., 2006). At the start of a school term, students were asked to write for about fifteen minutes about values that were important to them, such as family, friendship or music. A comparison group wrote about values that were not important to them. Among African American students, who faced negative stereotypes about academic ability, those who wrote about their own important values earned better grades over the term, reducing the achievement gap with their white classmates.

The finding attracted enormous attention. Later research, however, has been mixed. Some larger studies found smaller effects, and some found none at all. One attempt to repeat the intervention in two different schools found no effect on academic performance (Protzko & Aronson, 2016). Researchers

now believe that the effect depends heavily on context: it may help in situations where a real threat to identity is present, and do little elsewhere.

HOW WE KNOW

The original study was a randomized experiment in a real school, which is strong evidence for that setting. The later replications show that the result does not generalize reliably. This case is included partly because it illustrates an important lesson about evidence: a striking early result may become smaller, or disappear, when it is tested more widely.

THE PSYCHOLOGY

The theory behind values affirmation is that a threat to one part of a person's identity can be buffered by remembering the other parts that matter. A student worried about a test is more than a test score; reflecting on family, friendship or other values may reduce the sense that everything depends on one performance. When the threat is reduced, attention returns to the task.

THE PRACTICAL LESSON

Before an event that feels like a test of your worth, such as an interview, a performance review or your first presentation in a new language, take a few minutes to write about the values and relationships that matter most to you, and why. It costs little, and it may help put the event in perspective. But do not rely on it in place of preparation.

The Habit Lab

BEHAVIOUR
Write briefly about your core values before a high-pressure event.

CUE
The day before, or the morning of, an important evaluation.

STARTING ACTION
Choose one value from a list and write why it matters to you.

FREQUENCY
Before high-pressure events.

MEASUREMENT
Note how you felt before and during the event.

DISRUPTION
If you have no time to write, take one minute to think through the same question.

REVIEW
Does the exercise help you approach pressure with more perspective?

WHAT THIS EXAMPLE DOES NOT PROVE

The evidence for values affirmation is genuinely mixed. The intervention does not reliably improve performance in every setting, and it cannot compensate for unfair conditions, inadequate preparation or discrimination. The most important lesson of this case may be methodological: treat any single striking study with caution until it has been repeated.

KEY TERMS

> ***stereotype*** — a fixed, oversimplified belief about a group of people

> ***to buffer*** — to reduce the impact of something harmful

> ***achievement gap*** — a difference in academic performance between groups

CASE 50

Purpose as the Reason to Continue

SEEING WHOM YOUR WORK SERVES

CENTRAL CONCEPT *people persist longer when they can see the people their effort helps*

THE CHALLENGE

Much work, and many habits, involve repetitive effort whose results are distant or invisible. Call-centre workers rarely meet the people they help; students rarely see how today's practice will matter in ten years. Without a visible reason, effort fades.

WHAT THE RESEARCH FOUND

Adam Grant and his colleagues studied fundraisers at a university call centre who telephoned graduates to ask for donations to a scholarship fund (Grant et al., 2007). The work was repetitive, and rejection was frequent. In one study, some of the fundraisers met, for about five minutes, a student whose education had been paid for by the scholarships they were raising money for. The student described how the scholarship had changed their life. Other fundraisers had no such contact.

A month later, the fundraisers who had met the student were spending considerably more time on the telephone, more than twice as much as before, and raising substantially more money. The comparison groups showed no such change.

HOW WE KNOW

This was a field experiment in a real workplace, with random assignment and objective measures of performance. It involved a relatively small number of employees in one setting. Related research has found similar effects in other jobs, though the size of the effect varies.

THE PSYCHOLOGY

The brief meeting made the purpose of the work concrete. The fundraisers could now see a real person who had benefited from their effort, and that knowledge appeared to make the repetitive, often discouraging calls feel worth persisting with.

This final case brings together several threads in the book. Terry Fox's daily distance in Case 32 was sustained by a purpose beyond himself. The future self in Case 46 is another person whom present effort serves. And the habits throughout this book, from Franklin's record to the daily reflection, are easier to keep when we remember why they matter and to whom.

THE PRACTICAL LESSON

Identify the people your effort ultimately serves: a client, a family, a team, your future self, the colleagues who depend on your work. Find a way to make them visible: a photograph, a message of thanks you have received, a conversation with someone who has benefited. Return to that reminder when a habit becomes difficult.

The Habit Lab

BEHAVIOUR
Keep the purpose of one important habit visible.

CUE
The moment you begin the habit, especially on difficult days.

STARTING ACTION
Look at, or think of, one specific person the habit serves.

FREQUENCY
Each time you practise the habit.

MEASUREMENT
Rate your motivation from 0 to 10 on days with and without the reminder.

DISRUPTION
If the reminder loses its effect, seek a new conversation or example.

REVIEW
Does a clear purpose help you persist when the habit is difficult?

WHAT THIS EXAMPLE DOES NOT PROVE

A sense of purpose cannot make unfair or exploitative work acceptable, and it should not be used to ask people to accept poor conditions in exchange for meaning. The research shows that contact with beneficiaries can increase persistence in a particular setting, not that purpose alone will sustain any effort indefinitely.

KEY TERMS

> ***beneficiary*** — a person who receives help or an advantage from something

> ***purpose*** — the reason for which something is done

> ***to persist*** — to continue doing something despite difficulty

Afterword: Writing Your Own Case

You have now read fifty cases. Some described famous people, others ordinary employees, students and patients. In each, the same questions returned. What behaviour was repeated? What made it easier to repeat? What evidence supports it? And what does it not prove?

The most useful case in this book is the one you will write yourself. Choose one Habit Lab, the one that addresses the challenge you face most urgently this month. Run it for two or three weeks. Record what happens. Then review it as honestly as the cases in this book tried to review their subjects. What did you expect? What happened? Why was there a difference? What will you change?

Some experiments will fail. That is information, not a verdict on your character. The Habit Lab in Case 17 applies to your habits as much as to anything else: an error becomes useful when it leads to a change.

Keep the habits that prove their worth, adjust those that nearly work, and abandon those that do not. Then choose the next one. Over months and years, the small things you repeat will add up, as they did for Franklin with his chart, for Darwin on his walks, for the bus conductors on their stairs and for Terry Fox, one day's distance at a time.

Habits do not make a life by themselves. But they are, to a remarkable degree, the material from which a life is built. Choose them with care.

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A NOTE ON EVIDENCE

The cases in this book describe real people, organizations and published research. Accounts of individuals' routines are based on their own writing and interviews and on biographies; they are summaries, not complete portraits, and they are not evidence that any routine will work for every reader. Where a study is described, the description is a simplified summary of its main findings. Readers who want the full methods and results should consult the original sources below.

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About the Author

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