



Nonsense

THE POWER OF NOT KNOWING

Jamie Holmes

PRAISE FOR **Nonsense**

“Uncomfortable with ambiguity? Maybe you shouldn’t be. In this energetic, tale-filled, fascinating tour of a broad horizon, Jamie Holmes shows that people often prosper when and because they are uncertain. A persuasive argument, but one thing *is* clear: You’ll learn a lot from this book.”

— CASS R. SUNSTEIN, professor, Harvard University,
and coauthor of *Nudge*

“Jamie Holmes has written a refreshing, lively book sparkling with insights and entertaining stories that illustrate how the mind deals with ambiguity. And he makes the case well that how we manage ambiguity both as individuals and as a species is critical to our future success.”

— PETER BERGEN, author of *Manhunt: The Ten-Year Search
for Bin Laden from 9/11 to Abbottabad*

“How do we make sense of the nonsensical? Extract meaning from endless ambiguity? In *Nonsense*, Jamie Holmes takes us on an engrossing journey into the mind’s ability to process the murky world around us. From women’s hemlines to Nazi spies, Henri Matisse to Anton Chekhov, Holmes is an entertaining guide into the vagaries of our comprehension of reality—and the power we can derive from nonsense, if only we give it a chance.”

— MARIA KONNIKOVA, author of
Mastermind: How to Think Like Sherlock Holmes

“A book of astonishing stories and deep insights into how people deal with ambiguity, a subject that has troubled human beings forever, and never mattered more than it does now.”

— PETER BEINART, associate professor, CUNY,
columnist for *The Atlantic* and *Haaretz*

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AN ILLUMINATING LOOK
AT THE SURPRISING UPSIDE
OF AMBIGUITY—AND HOW,
PROPERLY HARNESSSED, IT CAN
INSPIRE LEARNING, CREATIVITY,
AND EVEN EMPATHY

Life today feels more overwhelming and chaotic than ever. Whether it's a confounding work problem or a faltering relationship or an unclear medical diagnosis, we face constant uncertainty. And we're continually bombarded with information, much of it contradictory. Managing ambiguity—in our jobs, our relationships, and our daily lives—is quickly becoming an essential skill. Yet most of us don't know where to begin.

As Jamie Holmes shows in *Nonsense*, being confused is unpleasant, so we tend to shutter our minds as we grasp for meaning and stability, especially in stressful circumstances. We're hardwired to resolve contradictions quickly and extinguish anomalies. This can be useful, of course. When a tiger is chasing you, you can't be indecisive. But as *Nonsense* reveals, our need for closure has its own dangers. It makes us stick to our first answer, which is not always the best, and it makes us search for meaning in the wrong places. When we latch on to fast-and-easy truths, we lose a vital opportunity to learn something new, solve a hard problem, or see the world from another perspective.

In other words, confusion—that uncomfortable mental place—has a hidden upside. We just need to know how to use it. This lively and original book points the way.

Over the last few years, new insights from social psychology and cognitive science have deepened our understanding of the role of ambiguity in our lives, and Holmes brings this research together for the first time, showing how we can use uncertainty to our advantage. Filled with illuminating stories—from spy games and doomsday cults to Absolut Vodka's ad campaign and the creation of Mad Libs—*Nonsense* promises to

transform the way we conduct business, educate our children, and make decisions.

In an increasingly unpredictable, complex world, it turns out that what matters most isn't IQ, willpower, or confidence in what we know. It's how we deal with what we don't understand.



Nina Subin

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PROLOGUE

IN 1996, LONDON'S City and Islington College organized a crash course in French for novices and below-average students. Paula, an earnest teenager wearing wire-rim glasses, had never spoken a word of the language before. Darminder, goateed and earringed, was not only new to French, but had also failed his Spanish General Certificate of Secondary Education (GCSE). Abdul had failed his German GCSE. Satvinder and Maria had each flunked their French GCSEs, and Emily's French teacher was so unimpressed that she advised her to give up on the language entirely. Instead of abandoning all hope, however, the students had signed up for a unique opportunity. For five full days, they'd submit to the eccentric methodology of a linguist named Michel Thomas.

Gray-haired and wearing a blue blazer, Thomas radiated poise and grace. "I'm very pleased to meet you," he told his new students, "and I'm looking forward to teaching you today, but under better physical conditions, because I don't think that where you're sitting is very comfortable. I would like you to feel comfortable, so we're going

to rearrange everything.” In a truck outside, Thomas had stashed some unexpected replacements for the standard classroom furniture: armchairs, pillows, coffee tables, plants, a rug, a fan, and even wicker folding screens. With a little effort, the students completely transformed the room. Plush high-backed armchairs formed a half oval, the blue curtains had been drawn, the lights dimmed, and the wicker screens enclosed the armchairs and lent the space an even cozier and more intimate feel.

There would be no desks, blackboards, paper, pens, or pencils. Thomas didn’t want the students to read or write anything. He didn’t want them to try to remember anything they studied either, or even review it at the end of the day. If, during class, they couldn’t remember something, he advised, it wasn’t *their* problem. It was his. Emily looked incredulous. Darminder and Abdul couldn’t contain their impish smiles. But none of the students could hide their genuine curiosity about the old man in front of them. Was he serious? Never *try* to remember anything taught in class?

“I want you to relax.”

This scene, Thomas’s methods, and the results of those five days appeared in a BBC documentary titled *The Language Master*. Margaret Thompson, head of the French department at the school, was tasked with evaluating Thomas’s results. At the end of the week, she watched as the students—many of whom had never uttered a word of French before—translated full sentences using advanced grammatical forms. Emily managed to interpret a phrase that would normally take years to tackle: “I would like to know if you want to go see it with me tonight.” Paula praised Thomas’s strong emphasis on calm and patience. The students felt, they said, as though they’d learned five years’ worth of French in only five days. Rather stunned by the outcome, Thompson bashfully deferred to their self-appraisal.

Michel Thomas knew how intimidating it can be to explore a

new language. Students face new pronunciations for familiar letters, words with novel meanings, missing parts of speech, and odd grammatical structures. That's why the City and Islington students, despite the relaxed atmosphere, still exhibited the signs of confusion: nervous laughter, embarrassed smiles, muttered apologies, stutters, hesitations, and perplexed glances. Learning a foreign language requires you to journey into unfamiliar terrain. Thomas referred to a new language as the "most alien thing" one can learn. To fend off these "alien" intrusions, the mind instinctively erects barricades, and the teacher's first and often most difficult challenge is to help students pull these walls down. Thomas was able to transform the atmosphere in that City and Islington classroom from one of stressful apprehension to one of calm curiosity. He somehow instilled a greater open-mindedness in the students. Pupils who had habitually dismissed what they didn't yet grasp suddenly became more likely to venture out into the unknown.

At the time of the BBC documentary, which aired in 1997, Thomas was already legendary. He'd learned eleven languages, opened tutoring centers in Los Angeles and New York, and built something of a cult following thanks to a client list that included Grace Kelly, Bob Dylan, Alfred Hitchcock, Coca-Cola, Procter & Gamble, and American Express. Nigel Levy, who studied with Thomas before producing the BBC piece, characterized the lessons as "astonishing." Emma Thompson described her time with him as "the most extraordinary learning experience of my life." Israel's former ambassador to the United Nations called him "a miracle worker." And Herbert Morris, a former dean of humanities at UCLA, confided that he'd learned a year's worth of Spanish in just a few days with Thomas and remembered it nine months later.

"The most important thing," Thomas said, was to "eliminate all kinds of tension and anxiety" that are associated with learning.

His attention to mood was peculiar, even downright radical. He'd often begin teaching French, for example, by telling his students that French and English share thousands of words. It's only that they sound a little different. "English is French, badly pronounced," he once joked. Words ending in *-ible*, like *possible*, and *-able*, like *table*, all originate from French words, he'd explain. Recasting the unknown as familiar, Thomas provided students, from the outset, with sturdy building blocks. His pupils grafted new knowledge onto existing knowledge, bit by bit, expressing their own thoughts and never reiterating rote phrases. Thomas taught for autonomy and rarely corrected his students directly.

By 2004, Thomas's French, German, Italian, and Spanish instructional CDs and tapes—recordings of Thomas teaching each subject to two students—were the top-selling language courses in the United Kingdom. But Michel Thomas wasn't merely a linguist. He was also a war hero. That same year, he was honored at the World War II Memorial in Washington, DC, where he received the Silver Star. He died in 2005 in New York City, as an American citizen, but he was born in the industrial city of Łódź, Poland, as Moniek Kroskof. He'd survived concentration camps, led troops, and worked as a spy and interrogator for the Allies, netting more than two thousand Nazi war criminals after the war. "Michel Thomas" was his fifth false identity and nom de guerre.

Thomas's firsthand experience with totalitarian propaganda and his postwar undercover career are no mere biographical curiosities. His insights into the way our minds snap shut or unlock in the face of ambiguity—the central concern of this book—grew from his experiences in Germany. He had witnessed up close how Nazism had fostered a dismissive, even disdainful approach to uncertainty and moral complexity among its most fervent adherents. And he then spent decades developing methods to nurture a diametrically op-

posed attitude among language learners. Fifty years before the BBC documentary, in fact, Thomas tested his early ideas in an episode that eerily inverts his pedagogical demonstration at City and Islington.

IN 1946, RUDOLF Schelkmann—formerly a major in the intelligence service of Hitler's SS—was hiding in Ulm, Germany, coordinating a loose network of loyalists hell-bent on reestablishing Nazi rule. That November, Schelkmann and three other former SS officers had been baited into meeting the purported commander of a more powerful and centralized underground neo-Nazi resistance. In reality, they were about to meet Moniek Kroskof, aka Michel Thomas, a Polish-born Jew and undercover agent of the US Army's Counter Intelligence Corps (CIC).

Tasked with bringing war criminals to justice, Thomas was on a mission to identify and eventually dismantle Schelkmann's network. Another CIC agent who went by the name of Hans Meyer had been carefully building a rapport with members of the network, but Schelkmann remained reticent. The former SS man had agreed to share contacts and operational details, but only after meeting face-to-face with Meyer's commander. Thomas had to keep Schelkmann and his men from smelling a rat. Toward that end, he had meticulously arranged for the SS conspirators to be run through a tortuous routine in the hours leading up to the big meeting.

Earlier that night, the SS men had been waiting, on Meyer's orders, in a "safe house" southwest of Ulm. Without warning, motorbikes arrived to pick them up. Thomas had deliberately waited for stormy weather; as the conspirators sat on the backs of the bikes, sharp winds pressed at the men's rain-soaked clothes. Dropped off on a deserted road, the conspirators were blindfolded and hustled

into two cars. In the darkness, they heard passwords exchanged as they navigated a series of staged security checks. They were pulled from the cars, marched blindly down a muddy path, and led through deep, icy puddles. They were kept waiting in an unheated corridor and were forbidden to speak. Still blindfolded, they listened to terse commands, scurrying footsteps, and doors opening and closing hurriedly. By the time Schelkmann and his men were finally led into a lodge hall and were allowed to see, it was past midnight.

Thomas—or Frundsberg to the SS men—greeted the conspirators from behind a large desk. Wearing civilian clothes except for a brown, military-style shirt, he'd been described to the Nazi loyalists as a former senior officer of the RSHA, an intelligence group once overseen by Himmler. Frundsberg's hunting lodge, as the faux headquarters of the underground "Grossorganisation" resistance, was artfully embellished with portraits of Hitler and other Nazi bigwigs and decorated with grenades, machine guns, pistols, flame throwers, and sabotage kits. Stacks of cash sat in an open safe.

Thomas nodded curtly, *sit*, and the men sat. He studied a dossier of unknown contents in silence. Then he made his position clear to Schelkmann: he would not tolerate any splinter resistance groups. Military actions taken outside his command were acts of treason, plain and simple. With seemingly offhand gestures, Thomas belittled Schelkmann and his small group, taking frequent phone calls to emphasize his indifference to them. Subordinates came and went with apparently urgent communiqués. Flustered, the Nazi major now offered some of the details that Thomas was after: his background, the backgrounds of the other SS men in the room, the name of his network, its charter, methods, and structure, and how its members were recruited.

The CIC's operation that night wasn't flawless. Thomas's elaborate fiction required roughly thirty people acting in concert, each

with assigned scripts. Small mistakes and inconsistencies in the theatrical performance were inevitable. Counterintelligence operations turn on such minutiae—on whether the strange hesitation, bizarre response, or involuntary twitch is interpreted as sinister or benign. That's why a certain Soviet spy, as the anthropologist Margaret Mead once noted, smoked a pipe. It immobilized his facial expressions. Buttons whose holes were sewn in a crisscross rather than a parallel pattern could reveal an agent's nationality and destroy an otherwise perfect operation. In Egypt, a foreign agent was once discovered because of his giveaway stance at a public urinal. No detail is insignificant to the intelligence operative, as Thomas knew, and Schelkmann's background in intelligence was formidable.

Schelkmann had two chances to unmask that night's hoax. His first came when he asked to be appointed Thomas's head of intelligence. "I had not anticipated this," Thomas later told his biographer, Christopher Robbins. "I could hardly grant the man's request without bringing him into the organization, which was obviously impossible. I pointed out the weakness in his operation, which in reality I was forced to admire." Thomas not only had to feign the workings of a fake espionage conspiracy, but also had to disparage a well-managed spy network on cue. Schelkmann didn't catch on and didn't protest. The second make-or-break moment of the night—the most dangerous one, according to Thomas—was when Schelkmann unexpectedly asked for orders.

"Und was befehlen Sie uns jetzt zu tun?"

And what would you command us to do now? Thomas feared, as Robbins recounted it, that "his mask had momentarily slipped and that he had stepped out of character." Yet again, the SS men didn't notice. Thomas recovered, ordering the Germans to hold off on any pending operations and to prepare for an inspection. His performance was vulnerable twice. But Schelkmann had missed it both times.

Here was the payoff of the gauntlet of blindfolds, switched vehicles, muddy marching, rain-soaked clothing, and humiliating treatment that the conspirators had been forced to endure: clues ignored, tells overlooked. The success of that night's scheme didn't depend on its perfect execution. On the contrary, Thomas knew there would inevitably be slip-ups that might reveal the charade and force him to arrest the Nazis immediately. His talent was to manipulate their mood and undermine their sense of control so that they would be less likely to notice such momentary stumbles.

Some months later, when Thomas left his work with the CIC in Germany for America, a new agent took over the task of roping in the diehard Nazi underground. Posing as Frundsberg's deputy, this replacement arranged a meeting with Schelkmann and his men at a local beer hall. Wives and girlfriends were allowed. This time, when a tense moment came and the undercover agent seemed flustered, the German conspirators sensed that something was off. They questioned him aggressively. The panicking CIC agent pulled a gun, and the other CIC undercover officers tucked elsewhere at the bar—his backup—had no choice but to move in and arrest the men, netting far fewer of the group's contacts than they'd hoped.

Schelkmann himself would serve twelve years in prison. When they were initially charged, he and his men vehemently denied the prosecution's seemingly incomprehensible claim that Frundsberg, too, had been working for the Americans. Just as Thomas's students opened their minds, the SS men had closed theirs.

THIS BOOK LOOKS at how we make sense of the world. It's about what happens when we're confused and the path forward isn't obvious. Of course, most of the challenges of daily life are perfectly

straightforward. When it's snowing, we know to put on a jacket before venturing out. When the phone rings, we pick it up. A red stoplight means we should brake. At the other end of the spectrum, vast stores of knowledge completely confound most of us. Stare at Babylonian cuneiform or listen to particle physicists debate, and if you're like me, your mind will draw a blank. We *can't* be confused without some foothold in knowledge. Instead of feeling uneasy because we half understand, we're as calmly certain in our ignorance as we are assured in our everyday rituals. This book examines the hazy middle ground between these two extremes, when the information we need to make sense of an experience seems to be missing, too complex, or contradictory. It's in these partially meaningful situations that ambiguity resides.

The mind state caused by ambiguity is called uncertainty, and it's an emotional amplifier. It makes anxiety more agonizing, and pleasure especially enjoyable. The delight of crossword puzzles, for example, comes from pondering and resolving ambiguous clues. Detective stories, among the most successful literary genres of all time, concoct their suspense by sustaining uncertainty about hints and culprits. Mind-bending modern art, the multiplicities of poetry, Lewis Carroll's riddles, Márquez's magical realism, Kafka's existential satire—ambiguity saturates our art forms and masterpieces, suggesting its deeply emotional nature. Goethe once said that “what we agree with leaves us inactive, but contradiction makes us productive.” So it is with ambiguity.

Tourism, science museums, and brainteasers testify to the extraordinary potential of ambiguity and mystery to captivate the imagination. But they also suggest just how tentative our relationship to perceived disorder can be. We like our uncertainty to be as carefully curated as a modern art exhibit. Most contexts in which we enjoy ambiguity are unthreatening, as when music flirts with dis-

sonance or horror films toy with madness. When we face unclear experiences beyond these realms, we rarely feel so safe. Real-life uncertainties take the form of inexplicable events, indistinct intentions, or inconclusive financial or medical news. Maybe your spouse doesn't get a job that he or she seemed exceptionally qualified for. Or perhaps you're not feeling well, but the doctor's diagnosis doesn't explain all of your symptoms. Maybe you're negotiating a business deal with someone you don't quite trust. Or maybe you're trying to work out a business plan in a rapidly shifting, highly competitive market. The key decision points in our lives—from choosing a college to deciding on a place to live—have always involved handling ambiguous information in high-stakes circumstances. Today, though, the world feels more overwhelming and chaotic than ever.

The paradox of modern life is that while technological acceleration—in transportation, communication, and production—should provide *more* free time, those same inventions increase our options at an exponential rate. Email was far faster than snail mail, but the Internet also brought Twitter, YouTube, and so on. As the German sociologist Hartmut Rosa described it, “no matter how much we increase the ‘pace of life,’” we cannot keep up with the deluge of information and options. The result is that “our share of the world” feels continually squeezed, even as we gain more efficient access to it. Estimates are that 90 percent of the world's data has been created in the last five years. We're all drowning in information, a reality that makes even the simplest decisions—where to eat, which health plan to sign up for, which coffee maker to buy—more fraught.

Meanwhile, we face the social anxieties of increasing inequality and an uncertain economic future as machines appear set to replace humans in many industries. Managing uncertainty is fast becoming an essential skill. The economist Noreena Hertz recently argued that one of today's fundamental challenges is “disorder—a combina-

tion of the breakdown of old, established orders and the extremely unpredictable nature of our age.”

Automation and outsourcing will require tomorrow’s workers to be more innovative and creative. Success or failure, as Harvard economist Lawrence Katz recently put it, will hinge on one question: “How well do you deal with unstructured problems, and how well do you deal with new situations?” Jobs that can be “turned into an algorithm,” in his words, won’t be coming back. “What will be rewarded,” Katz told me, “are the abilities to pick up new skills [and] remain attuned to your environment and the capacity to discover creative solutions that move beyond the standard way of doing things.”

Just as workers today must learn to adapt to the unknown, tomorrow’s workforce has to prepare for it. Miguel Escotet, a social scientist and education professor, has framed the argument well. Schools should “educate for uncertainty,” he said, simply because for many students, “it is almost impossible to know what will happen by the time they will join the job market.” For Escotet, educating for uncertainty involves helping students be flexible, self-critical, curious, and risk-embracing—the very capacities that tend to disappear when anxiety gets the better of us. Similarly, entrepreneurs cannot innovate without the ability to dwell calmly among multiple unknowns. Being able to handle ambiguity and uncertainty isn’t a function of intelligence. In fact, as we’ll see, this ability has no relationship whatsoever to IQ. It is, however, an emotional challenge—a question of mind-set—and one we would all do well to master. Today’s puzzle is to figure out what to do—in our jobs, relationships, and everyday lives—when we have no idea what to do.

Scientific interest in ambiguity has exploded over the last decade. Much of that attention has focused on exploring a concept called the *need for closure*. Developed by a brilliant psychologist named Arie Kruglanski, a person’s need for closure measures a particular “desire

for a definite answer on some topic, *any* answer as opposed to confusion and ambiguity." Like Michel Thomas's unorthodox teaching methods, Kruglanski's concept—and indeed the modern psychological study of ambiguity—can be traced to an attempt to understand Nazism.

In 1938, a Nazi psychologist named Erich Jaensch published *Der Gegentypus* (The antitype), an odious text in which he described certainty as a sign of mental health. To Jaensch, the very tolerance of doubt was evidence of psychological illness. After the war, Else Frenkel-Brunswik, a psychologist at the University of California, introduced the concept of *ambiguity intolerance*. In one experiment, she showed subjects a progression of images, starting with a sketch of a dog. The images gradually morphed slide by slide into the image of a cat. Subjects intolerant of ambiguity—people who tended to see the world in rigid categories—would insist stubbornly that the image was still a dog. Neatly reversing Jaensch, Frenkel-Brunswik suggested that the intolerance of unclear information was what characterized the unhealthy mind.

Kruglanski would offer a more modest and somehow more disturbing proposal than Frenkel-Brunswik's. He understood that humans have a need to resolve uncertainty and make sense of nonsense. It wouldn't be very adaptive, he reasoned, if we had no mechanism pushing us to settle discrepancies and make decisions. Without some type of urge for resolution, we'd never get anything done. That's the need for closure. But Kruglanski also suspected that our aversion to uncertainty isn't static. What if, he wondered, extremism results when our thirst for clear answers goes into hyperdrive? What if Nazism was partly fueled by the dangerous pairing of a hateful ideology with its adherents' inflated aversion to doubt?

That, in fact, is what Kruglanski and other researchers discovered. Our need to conquer the unresolved, as we'll see, is essential

to our ability to function in the world. But like any mental trait, this need can be exaggerated in some people and heightened in certain circumstances. As Kruglanski told me, “the situation you’re in, your culture, your social environment—change any of these factors, and you’re going to change someone’s need for closure.” Aversion to uncertainty can be contagious, picked up subconsciously from those around us. In stressful situations, we trust people in our social groups more and trust outsiders less. Fatigue heightens our appetite for order. So does time pressure. When our need for closure is high, we tend to revert to stereotypes, jump to conclusions, and deny contradictions. We may stubbornly insist, like Rudolf Schelkmann, that the dog is still a dog and not a cat.

Michel Thomas came to grips with the power of context to open or close the mind. He learned how to manipulate the situational levers controlling our discomfort with ambiguity. Think of how perfectly the CIC’s setup in Ulm inverted Thomas’s lessons at City and Islington. Wanting the SS men to feel time-pressured, he answered telephone calls during the meeting and made sure his “aides” interrupted him. He wanted to intimidate the conspirators, so he stocked the hunting lodge with weapons and bundles of cash. To put the SS men on the defensive, he lodged them at an unfamiliar safe house. To tire them out and make them uncomfortable, he had them ride through the rain, wait in the cold, and march through icy puddles. In London, by contrast, Thomas encouraged his students to have patience. To ensure that they were relaxed, he told them it wasn’t their responsibility to remember anything. He even had them cart away the classroom desks and replace them with living room furniture and wicker screens. His students arranged their own learning space. To further help them take control, he assured them that they were already familiar with thousands of French words.

Thomas turned the Nazis’ own doubt-repressing tools against

them and later employed their logical opposites to help students learn. Intimidation, discomfort, time pressure—all allies of Thomas the CIC officer—were his enemies as a teacher. He knew how to raise the likelihood that Schelkmann and his men would blot out potential contradictions, just as the spy-turned-teacher later learned how to lower the chances that his students would disengage from a peculiar new language. He understood that our need for closure isn't always tied to the particular ambiguity we're dealing with. Comfy chairs have nothing to do with French pronouns, just as cold puddles have no direct bearing on whether to trust someone. Our response to uncertainty, he saw, is extraordinarily sensitive even to unrelated stress.

As Kruglanski pointed out, we typically aren't aware of how a situation raises or lowers our need for closure or how drastically this affects our reactions to ambiguity. That's what makes Thomas's methods so striking. We don't normally think about closed- and open-mindedness as being so strongly influenced by our circumstances. While we may acknowledge that some people are more or less comfortable with uncertainty, we tend to see this trait as hard-wired. But we're not as beholden to our genes as we once thought.

This book argues that we often manage ambiguity poorly and that we can do better. Over the last several years, new discoveries from social psychology and cognitive science have extended our understanding of how people respond to ambiguity in ways that researchers couldn't have fathomed in the 1950s. The researchers' breakthroughs suggest new and smarter approaches to handling uncertainty at work and at home. Their insights point to ways that ambiguity can help us learn something new, solve a hard problem, or see the world from another perspective.

Part 1 will lay the groundwork. We'll explore the trade-offs inherent in our mental machinery and meet a young psychologist in the

Netherlands who is leading a vanguard movement toward a new, unified theory of how we make sense of the world. Part 2 focuses on the hazards of denying ambiguity. We'll look at the differences between wise and hasty reactions to destabilizing events, watch a master FBI negotiator deal with an ambivalent cult leader, and see how a cancer patient's comfort with uncertainty is helping change the way that we make medical decisions. We'll also learn how one business readies for the future by acknowledging the futility of predicting it. Part 3 highlights the benefits of ambiguity in settings where we're more challenged than threatened: innovation, learning, and art. What are the uses of uncertainty? How can teachers better prepare students for unpredictable challenges? Can embracing uncertainty help us invent, look for answers in new places, and even deepen our empathy? We'll see how a Grand Prix motorcycle manufacturer responded to a surprisingly dismal season, and we'll get to know a Massachusetts inventor who pushes beyond the hidden limitations of language. We'll look at the advantages of bilingualism and meet a daring filmmaker in Jerusalem.

Along the way, I'll hope to convince you of a simple claim: in an increasingly complex, unpredictable world, what matters most isn't IQ, willpower, or confidence in what we know. It's how we deal with what we don't understand.

The Resolving Mind

HOW SENSE MAKING WORKS

GÖRAN LUNDQVIST ARRIVED home from work and asked his wife a rhetorical question. “Today,” he said to her, “we made a deal with Damien Hirst and another with John Irving. Guess which business I’m in?” In a past life, Lundqvist had been a professional athlete. He had competed in the Olympics as a diver twice, in 1960 and 1964. He was also an actor, appearing in four Ingmar Bergman films, including the Golden Globe-winning *Wild Strawberries*. But in the late 1990s, he was the president of a company.

At that time, the company was in the midst of one of the most productive advertising campaigns in the history of marketing. The campaign, which was launched in November 1980, was not only immensely effective, but also exceedingly long-running. In 1992, the company was inducted into the American Marketing Association’s Marketing Hall of Fame, in a class with only two others, Coca-Cola and Nike. It achieved that honor, uniquely, without the help of television ads.

In its heyday, the company ran ads developed by Andy Warhol,

The Hidden A's

THE SECRETS OF SENSE MAKING

TILBURG, IN THE Netherlands, is the kind of European town where well-behaved citizens stroll around politely on brick sidewalks. As a boy, Van Gogh took his first serious drawing lessons here. Trappist monks produce a delicious beer, La Trappe, on the eastern outskirts of the city. When I traveled there in the fall of 2012, the De Pont contemporary art museum, formerly a wool spinning mill, was exhibiting the sculptor Anish Kapoor. Visitors circled a pale, tubular mass with red lacquered lips; a gigantic funhouse mirror flipped the exhibition hall upside down; and a bloodied cannon sat aimed at a corner clotted with red, tumorous lumps like some sad war's spent organic ammo. At the town's central train station, long rows of bicycles hung from hooks on the wall and lined the racks like plates stacked neatly in a dishwasher.

The Netherlands is a hotbed of psychological research, competing in cited papers with the United States, Great Britain, and Germany. Travis Proulx, a social psychologist at Tilburg University and a rising star in his field, was the reason for my trip. With animated

THREE

Shocks and Tremors

THE PROBLEM WITH URGENCY

IN THE DAYS after the April 18, 1906, San Francisco earthquake—one of the worst natural disasters in US history—a number of unusual events occurred. Rumors spread of a newly formed Matrimonial Bureau, a cooperative of single women who were now homeless after the quake and looking for husbands. Hearing the news, a man named William Perkins hurried over to Harbor Hospital, where he believed the bureau was located, and immediately proposed to the young matron on duty.

“Don’t judge me by my clothes,” he pleaded. “I am a brakeman and did not have time to dress up. I saw in *The Call* where a man from Fresno and another from Seattle had put in applications and I said to myself, ‘We need all our pretty girls at home,’ and as soon as I could get away I hurried over. Are you the only one left?”

Rebuffed, Perkins continued his frantic search for a refugee with a “reasonable love of pleasure” who could “make a cherry pie in a minute.” Ideally, the woman would be “rather small and blond,” but not “too small and not too blond.” His mother would vet applica-

FOUR

Fifty Days in Texas

WHY INTENTIONS ARE MISREAD

THE 1993 STANDOFF outside of Waco, Texas, ended on April 19, after a tense and protracted siege. The Branch Davidians, a religious sect, had holed up at a ranch they called the Mount Carmel Center, or more fondly, the "anthill." Their leader was thirty-three-year-old David Koresh, born Vernon Howell. He was suspected of converting semiautomatic weapons to fully automatic ones in violation of federal law. Months earlier, a UPS driver had spotted the outlines of grenade casings in a package addressed to Mount Carmel. The Bureau of Alcohol, Tobacco and Firearms (ATF) found additional evidence in shipping and sales records and ultimately planned a raid on the compound. In the background hovered allegations of child and sexual abuse against Koresh.

ATF agents set February 28 as the date of the raid. Surprise was essential, but they did a poor job of hiding their plans. Some 150 hotel rooms had been reserved for the night of the twenty-eighth. The agents had notified area hospitals to stay at the ready and had contacted an ambulance service. That morning, ten reporters and

FIVE

Overtested USA

WHEN TO RESIST MOMENTUM

IN LATE JUNE 2004, a fifty-two-year-old woman with short auburn hair and glasses noticed a lump on her torso. Her name was Trisha Torrey, and she was living in Baldwinsville, New York, north of Syracuse, running her own marketing company. The lump she discovered was about the size of a golf ball, firm, but not painful. Torrey's doctor couldn't be sure what it was without a test. So he referred her to a surgeon, who removed the lump that same afternoon and sent the tissue off for analysis.

One week passed. When Torrey still hadn't heard back about the results, she called the surgeon herself to check. The delay, he told her, was due to the long Fourth of July weekend. The lab doing the analysis was short-staffed. So Torrey waited some more, another week, until the surgeon finally called with the results. He delivered bad news. Apparently she had a very rare cancer called subcutaneous panniculitis-like T-cell lymphoma. Known as SPTCL, this particular cancer is so rare that the lab had ordered that the results be confirmed at a second lab. The doctor promised to make an oncol-

The Hemline Hassle

A STRATEGY OF IGNORANCE

JOHN FAIRCHILD, THE dimpled-chin editor of *Women's Wear Daily* (*WWD*), had helped turn the once-neglected pamphlet into one of the most powerful publications in fashion. Critics derided it as a "terror tabloid" and fashion's "bitchy bible," but designers knew to respect and fear its influence. *Vanity Fair* once described Fairchild as the "Citizen Kane of the fashion press." At the dawn of the 1970s, however, Fairchild was in trouble. He had risked his reputation—and that of *WWD*—by boldly predicting that 1970 would be the year of the midi, a skirt falling four inches below the knee. The months were ticking away, and Fairchild's endorsement of the midi seemed like a misplaced bet.

In London and Paris, the midi was in vogue. But in the United States, the skirt was slow to catch on, and in March 1970, *Life* magazine ran a cover article titled "The Great Hemline Hassle." The stumbling block for Fairchild and others with financial stakes in the midi was America's stubborn love of the miniskirt. "Those in the cruelest bind," *Life* noted, "are the high-volume apparel makers who

Building a Better Ducati

THE USES OF UNCERTAINTY

FOR THE ITALIAN manufacturer Ducati, 2004 was supposed to be a banner year in the premier class of Grand Prix motorcycle racing, MotoGP. Ducati had earned competitors' respect in 2003 with its GP3 motorcycle, and team director Livio Suppo reported that the new model, the GP4, had already clocked faster times at three tracks.

MotoGP motorcycles are high-tech prototypes produced in single-digit quantities. The official teams Honda, Ducati, Kawasaki, Suzuki, Yamaha, and Aprilia (among others) field two riders each and run through exorbitant sums in a globe-trotting R&D face-off. Private teams can also compete by buying and racing previous years' models, although that usually puts them at a competitive disadvantage.

Because MotoGP bikes crack over 200 miles per hour on straight-aways, riders have to be daring and surprisingly agile. Imagine corralling a three-hundred-plus-pound machine motored by a 230-horsepower engine around a hairpin turn. Your bike is at a sixty-

EIGHT

The Puzzle Man

WHERE TO FIND HIDDEN ANSWERS

BEFORE BASIC MOBILE phones took off, migrant laborers across the world had to endure long bus rides back to their countryside villages to hand-deliver money to their families. The trips were time-consuming and costly. If you wanted, you could ask someone to deliver the money for you, risking that they might spend a little on the way. Access to basic financial services simply wasn't an option for many. People didn't have bank accounts, but then, increasingly, they did have cell phones. In the Philippines in 1998, customers had an insight about the uses of rechargeable airtime minutes. Prepaid users would buy a scratch card at the local store, scrape off an opaque strip concealing a unique multidigit code, and type it into their phone.

Filipinos figured out that these codes could be used to transfer money. What was an activation code, after all? It was a unique number attached to a dollar amount. Prepaid airtime cards could serve as digital currency. All you had to do was buy an airtime card and, instead of uploading the code into your own phone, you could text it to a loved one or friend somewhere else in the country. Then you

The Art of Contradiction

WHAT DIVERSITY OFFERS

JERUSALEM IS A metropolis of barriers and boundaries. Its walled historic core, the Old City, is itself divided into cragged quarters: Armenian, Christian, Jewish, and Muslim. Divisions are further subdivided according to time-honored rites. Stark linguistic and cultural differences separate the New City less obviously. More subtle contrasts, for example, indicate the border of the Jewish neighborhood of Patt in southern Jerusalem. Take a right off Yaakov Patt Street and head down Berl Locker Road, and you'll see a residential neighborhood of palm and lemon trees, rose and roof gardens. You'll see four-story buildings in beige brick, many with decorative walls and gates, along with a few larger, eight-story apartment buildings. Colorful clothes hang outside next to air conditioners. Magenta bougainvillea flowers climb a cypress tree.

Below the mouth of Berl Locker is A-Natr Street, which leads into the Arab community of Beit Safafa. A-Natr soon becomes A-Safa Street and passes Al-Qada'il Road just north of the 1949 Green Line. In Beit Safafa, high-rises seem conspicuously absent. Building

EPILOGUE

HERE'S A SIMPLE thought experiment. Take a guess as to how much you've changed over the last ten years on a scale from 1 to 10. Now, on the same scale, estimate how much you will change over the next decade. How do your two ratings compare? Do you assess your past changes differently from how you predict your future ones?

It turns out that most people do, and that the inconsistencies are glaring. A team of psychologists led by Jordi Quoidbach recently recruited almost twenty thousand subjects between the ages of eighteen and sixty-eight to explore such disparities. The subjects were asked how much their personality, values, and preferences had changed over the past decade or would change over the next one. For instance, eighteen-year-olds filled out a personality questionnaire as if they were twenty-eight years old. Twenty-eight-year-olds answered the same questions as if they were eighteen or thirty-eight. Nineteen-year-olds and twenty-nine-year-olds did likewise, and so on. For a fifty-year span, Quoidbach could compare people's predictions of personal evolution with their reports of actual change.

In terms of values and preferences, people predicted significantly