

BLINK
*The Power
of Thinking
Without Thinking*

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*The Locked Door:
The Secret Life of
Snap Decisions*

Not long ago, one of the world's top tennis coaches, a man named Vic Braden, began to notice something strange whenever he watched a tennis match. In tennis, players are given two chances to successfully hit a serve, and if they miss on their second chance, they are said to double-fault, and what Braden realized was that he always knew when a player was about to double-fault. A player would toss the ball up in the air and draw his racket back, and just as he was about to make contact, Braden would blurt out, "Oh, no, double fault," and sure enough, the ball would go wide or long or it would hit the net. It didn't seem to matter who was playing, man or woman, whether he was watching the match live or on television, or how well he knew the person serving. "I was calling double faults on girls from Russia I'd never seen before in my life," Braden says. Nor was Braden simply lucky. Lucky is when you call a coin toss correctly. But double-faulting is rare. In an entire match, a profes-

sional tennis player might hit hundreds of serves and double-fault no more than three or four times. One year, at the big professional tennis tournament at Indian Wells, near Braden's house in Southern California, he decided to keep track and found he correctly predicted sixteen out of seventeen double faults in the matches he watched. "For a while it got so bad that I got scared," Braden says. "It literally scared me. I was getting twenty out of twenty right, and we're talking about guys who almost never double-fault."

Braden is now in his seventies. When he was young, he was a world-class tennis player, and over the past fifty years, he has coached and counseled and known many of the greatest tennis players in the history of the game. He is a small and irrepressible man with the energy of someone half his age, and if you were to talk to people in the tennis world, they'd tell you that Vic Braden knows as much about the nuances and subtleties of the game as any man alive. It isn't surprising, then, that Vic Braden should be really good at reading a serve in the blink of an eye. It really isn't any different from the ability of an art expert to look at the Getty kouros and know, instantly, that it's a fake. Something in the way the tennis players hold themselves, or the way they toss the ball, or the fluidity of their motion triggers something in his unconscious. He instinctively picks up the "giss" of a double fault. He thin-slices some part of the service motion and — *blink!* — he just *knows*. But here's the catch: much to Braden's frustration, he simply cannot figure out *how* he knows.

"What did I see?" he says. "I would lie in bed, thinking, How did I do this? I don't know. It drove me crazy. It

tortured me. I'd go back and I'd go over the serve in my mind and I'd try to figure it out. Did they stumble? Did they take another step? Did they add a bounce to the ball — something that changed their motor program?" The evidence he used to draw his conclusions seemed to be buried somewhere in his unconscious, and he could not dredge it up.

This is the second critical fact about the thoughts and decisions that bubble up from our unconscious. Snap judgments are, first of all, enormously quick: they rely on the thinnest slices of experience. But they are also unconscious. In the Iowa gambling experiment, the gamblers started avoiding the dangerous red decks long before they were actually aware that they were avoiding them. It took another seventy cards for the conscious brain to finally figure out what was going on. When Harrison and Hoving and the Greek experts first confronted the kouros, they experienced waves of repulsion and words popping into their heads, and Harrison blurted out, "I'm sorry to hear that." But at that moment of first doubt, they were a long way from being able to enumerate precisely why they felt the way they did. Hoving has talked to many art experts whom he calls fakebusters, and they all describe the act of getting at the truth of a work of art as an extraordinarily imprecise process. Hoving says they feel "a kind of mental rush, a flurry of visual facts flooding their minds when looking at a work of art. One fakebuster described the experience as if his eyes and senses were a flock of hummingbirds popping in and out of dozens of way stations. Within minutes, sometimes seconds, this fakebuster registered hosts of things that seemed to call out to him, 'Watch out!'"

Here is Hoving on the art historian Bernard Berenson. "[He] sometimes distressed his colleagues with his inability to articulate how he could see so clearly the tiny defects and inconsistencies in a particular work that branded it either an unintelligent reworking or a fake. In one court case, in fact, Berenson was able to say only that his stomach felt wrong. He had a curious ringing in his ears. He was struck by a momentary depression. Or he felt woozy and off balance. Hardly scientific descriptions of how he knew he was in the presence of something cooked up or faked. But that's as far as he was able to go."

Snap judgments and rapid cognition take place behind a locked door. Vic Braden tried to look inside that room. He stayed up at night, trying to figure out what it is in the delivery of a tennis serve that primes his judgment. But he couldn't.

I don't think we are very good at dealing with the fact of that locked door. It's one thing to acknowledge the enormous power of snap judgments and thin slices but quite another to place our trust in something so seemingly mysterious. "My father will sit down and give you theories to explain why he does this or that," the son of the billionaire investor George Soros has said. "But I remember seeing it as a kid and thinking, At least half of this is bull. I mean, you know the reason he changes his position on the market or whatever is because his back starts killing him. He literally goes into a spasm, and it's this early warning sign."

Clearly this is part of the reason why George Soros is so good at what he does: he is someone who is aware of the value of the products of his unconscious reasoning. But if you or I were to invest our money with Soros, we'd feel nervous if the only reason he could give for a decision was

that his back hurt. A highly successful CEO like Jack Welch may entitle his memoir *Jack: Straight from the Gut*, but he then makes it clear that what set him apart wasn't just his gut but carefully worked-out theories of management, systems, and principles as well. Our world requires that decisions be sourced and footnoted, and if we say *how* we feel, we must also be prepared to elaborate on *why* we feel that way. This is why it was so hard for the Getty, at least in the beginning, to accept the opinion of people like Hoving and Harrison and Zeri: it was a lot easier to listen to the scientists and the lawyers, because the scientists and the lawyers could provide pages and pages of documentation supporting their conclusions. I think that approach is a mistake, and if we are to learn to improve the quality of the decisions we make, we need to accept the mysterious nature of our snap judgments. We need to respect the fact that it is possible to know without knowing why we know and accept that — sometimes — we're better off that way.

1. *Primed for Action*

Imagine that I'm a professor, and I've asked you to come and see me in my office. You walk down a long corridor, come through the doorway, and sit down at a table. In front of you is a sheet of paper with a list of five-word sets. I want you to make a grammatical four-word sentence as quickly as possible out of each set. It's called a scrambled-sentence test. Ready?

- 01 him was worried she always
- 02 from are Florida oranges temperature

- 03 ball the throw toss silently
04 shoes give replace old the
05 he observes occasionally people watches
06 be will sweat lonely they
07 sky the seamless gray is
08 should now withdraw forgetful we
09 us bingo sing play let
10 sunlight makes temperature wrinkle raisins

That seemed straightforward, right? Actually it wasn't. After you finished that test — believe it or not — you would have walked out of my office and back down the hall more slowly than you walked in. With that test, I affected the way you behaved. How? Well, look back at the list. Scattered throughout it are certain words, such as “worried,” “Florida,” “old,” “lonely,” “gray,” “bingo,” and “wrinkle.” You thought that I was just making you take a language test. But, in fact, what I was also doing was making the big computer in your brain — your adaptive unconscious — think about the state of being old. It didn't inform the rest of your brain about its sudden obsession. But it took all this talk of old age so seriously that by the time you finished and walked down the corridor, you acted old. You walked slowly.

This test was devised by a very clever psychologist named John Bargh. It's an example of what is called a priming experiment, and Bargh and others have done numerous even more fascinating variations of it, all of which show just how much goes on behind that locked door of our unconscious. For example, on one occasion Bargh and two colleagues at New York University, Mark Chen and

Lara Burrows, staged an experiment in the hallway just down from Bargh's office. They used a group of undergraduates as subjects and gave everyone in the group one of two scrambled-sentence tests. The first was sprinkled with words like "aggressively," "bold," "rude," "bother," "disturb," "intrude," and "infringe." The second was sprinkled with words like "respect," "considerate," "appreciate," "patiently," "yield," "polite," and "courteous." In neither case were there so many similar words that the students picked up on what was going on. (Once you become conscious of being primed, of course, the priming doesn't work.) After doing the test — which takes only about five minutes — the students were instructed to walk down the hall and talk to the person running the experiment in order to get their next assignment.

Whenever a student arrived at the office, however, Bargh made sure that the experimenter was busy, locked in conversation with someone else — a confederate who was standing in the hallway, blocking the doorway to the experimenter's office. Bargh wanted to learn whether the people who were primed with the polite words would take longer to interrupt the conversation between the experimenter and the confederate than those primed with the rude words. He knew enough about the strange power of unconscious influence to feel that it would make a difference, but he thought the effect would be slight. Earlier, when Bargh had gone to the committee at NYU that approves human experiments, they had made him promise that he would cut off the conversation in the hall at ten minutes. "We looked at them when they said that and

thought, You've got to be kidding," Bargh remembered. "The joke was that we would be measuring the difference in milliseconds. I mean, these are New Yorkers. They aren't going to just stand there. We thought maybe a few seconds, or a minute at most."

But Bargh and his colleagues were wrong. The people primed to be rude eventually interrupted — on average after about five minutes. But of the people primed to be polite, the overwhelming majority — 82 percent — *never interrupted at all*. If the experiment hadn't ended after ten minutes, who knows how long they would have stood in the hallway, a polite and patient smile on their faces?

"The experiment was right down the hall from my office," Bargh remembers. "I had to listen to the same conversation over and over again. Every hour, whenever there was a new subject. It was boring, *boring*. The people would come down the hallway, and they would see the confederate whom the experimenter was talking to through the doorway. And the confederate would be going on and on about how she didn't understand what she was supposed to do. She kept asking and asking, for ten minutes, 'Where do I mark this? I don't get it.'" Bargh winced at the memory and the strangeness of it all. "For a whole semester this was going on. And the people who had done the polite test *just stood there*."

Priming is not, it should be said, like brainwashing. I can't make you reveal deeply personal details about your childhood by priming you with words like "nap" and "bottle" and "teddy bear." Nor can I program you to rob a bank for me. On the other hand, the effects of priming aren't

trivial. Two Dutch researchers did a study in which they had groups of students answer forty-two fairly demanding questions from the board game Trivial Pursuit. Half were asked to take five minutes beforehand to think about what it would mean to be a professor and write down everything that came to mind. Those students got 55.6 percent of the questions right. The other half of the students were asked to first sit and think about soccer hooligans. They ended up getting 42.6 percent of the Trivial Pursuit questions right. The "professor" group didn't know more than the "soccer hooligan" group. They weren't smarter or more focused or more serious. They were simply in a "smart" frame of mind, and, clearly, associating themselves with the idea of something smart, like a professor, made it a lot easier — in that stressful instant after a trivia question was asked — to blurt out the right answer. The difference between 55.6 and 42.6 percent, it should be pointed out, is enormous. That can be the difference between passing and failing.

The psychologists Claude Steele and Joshua Aronson created an even more extreme version of this test, using black college students and twenty questions taken from the Graduate Record Examination, the standardized test used for entry into graduate school. When the students were asked to identify their race on a pretest questionnaire, that simple act was sufficient to prime them with all the negative stereotypes associated with African Americans and academic achievement — and the number of items they got right was cut *in half*. As a society, we place enormous faith in tests because we think that they are a reliable indicator of the test taker's ability and knowledge.

But are they really? If a white student from a prestigious private high school gets a higher SAT score than a black student from an inner-city school, is it because she's truly a better student, or is it because to be white and to attend a prestigious high school is to be constantly primed with the idea of "smart"?

Even more impressive, however, is how mysterious these priming effects are. When you took that sentence-completion test, you didn't know that you were being primed to think "old." Why would you? The clues were pretty subtle. What is striking, though, is that even after people walked slowly out of the room and down the hall, they *still* weren't aware of how their behavior had been affected. Bargh once had people play board games in which the only way the participants could win was if they learned how to cooperate with one another. So he primed the players with thoughts of cooperativeness, and sure enough, they were far more cooperative, and the game went far more smoothly. "Afterward," Bargh says, "we ask them questions like How strongly did you cooperate? How much did you want to cooperate? And then we correlate that with their actual behavior — and the correlation is zero. This is a game that goes on for fifteen minutes, and at the end, people don't know what they have done. They just don't know it. Their explanations are just random, noise. That surprised me. I thought that people could at least have consulted their memories. But they couldn't."

Aronson and Steele found the same thing with the black students who did so poorly after they were reminded of their race. "I talked to the black students afterward, and I

Free Will

asked them, 'Did anything lower your performance?'" Aronson said. "I would ask, 'Did it bug you that I asked you to indicate your race?' Because it clearly had a huge effect on their performance. And they would always say no and something like 'You know, I just don't think I'm smart enough to be here.'"

The results from these experiments are, obviously, quite disturbing. They suggest that what we think of as free will is largely an illusion: much of the time, we are simply operating on automatic pilot, and the way we think and act — and *how well* we think and act on the spur of the moment — are a lot more susceptible to outside influences than we realize. But there is also, I think, a significant advantage to how secretly the unconscious does its work. In the example of the sentence-completion task I gave you with all the words about old age, how long did it take you to make sentences out of those words? My guess is that it took you no more than a few seconds per sentence. That's fast, and you were able to perform that experiment quickly because you were able to concentrate on the task and block out distractions. If you had been on the lookout for possible patterns in the lists of words, there is no way you would have completed the task that quickly. You would have been distracted. Yes, the references to old people changed the speed at which you walked out of the room, but was that bad? Your unconscious was simply telling your body: I've picked up some clues that we're in an environment that is really concerned about old age — and let's behave accordingly. Your unconscious, in this sense, was acting as a kind of mental valet. It was taking care of all the minor mental details in your life. It was keeping

tabs on everything going on around you and making sure you were acting appropriately, while leaving you free to concentrate on the main problem at hand.

The team that created the Iowa gambling experiments was headed by the neurologist Antonio Damasio, and Damasio's group has done some fascinating research on just what happens when too much of our thinking takes place outside the locked door. Damasio studied patients with damage to a small but critical part of the brain called the ventromedial prefrontal cortex, which lies behind the nose. The ventromedial area plays a critical role in decision making. It works out contingencies and relationships and sorts through the mountain of information we get from the outside world, prioritizing it and putting flags on things that demand our immediate attention. People with damage to their ventromedial area are perfectly rational. They can be highly intelligent and functional, but they lack judgment. More precisely, they don't have that mental valet in their unconscious that frees them up to concentrate on what really matters. In his book *Descartes' Error*, Damasio describes trying to set up an appointment with a patient with this kind of brain damage:

I suggested two alternative dates, both in the coming month and just a few days apart from each other. The patient pulled out his appointment book and began consulting the calendar. The behavior that ensued, which was witnessed by several investigators, was remarkable. For the better part of a half hour, the patient enumerated reasons for and against each of the two dates: previous engagements, proximity to other engagements, possible

meteorological conditions, virtually anything that one could think about concerning a simple date. [He was] walking us through a tiresome cost-benefit analysis, an endless outlining and fruitless comparison of options and possible consequences. It took enormous discipline to listen to all of this without pounding on the table and telling him to stop.

Damasio and his team also gave the gambler's test to their ventromedial patients. Most of the patients, just like the rest of us, eventually figured out that the red decks were a problem. But at no time did the ventromedial patients ever get a prickling of sweat on their palms; at no time did they get a hunch that the blue decks were preferable to the red cards, and at no time — not even after they had figured the game out — did the patients adjust their strategy to stay away from the problem cards. They knew intellectually what was right, but that knowledge wasn't enough to change the way they played the game. "It's like drug addiction," says Antoine Bechara, one of the researchers on the Iowa team. "Addicts can articulate very well the consequences of their behavior. But they fail to act accordingly. That's because of a brain problem. That's what we were putting our finger on. Damage in the ventromedial area causes a disconnect between what you know and what you do." What the patients lacked was the valet silently pushing them in the right direction, adding that little emotional extra — the prickling of the palms — to make sure they did the right thing. In high-stakes, fast-moving situations, we don't want to be as dispassionate and purely rational as the

Disconnect
What Know
do

Iowa ventromedial patients. We don't want to stand there endlessly talking through our options. Sometimes we're better off if the mind behind the locked door makes our decisions for us.

2. *The Storytelling Problem*

On a brisk spring evening not long ago, two dozen men and women gathered in the back room of a Manhattan bar to engage in a peculiar ritual known as speed-dating. They were all young professionals in their twenties, a smattering of Wall Street types and medical students and schoolteachers, as well as four women who came in a group from the nearby headquarters of Anne Klein Jewelry. The women were all in red or black sweaters, and jeans or dark-colored pants. The men, with one or two exceptions, were all wearing the Manhattan work uniform of a dark blue shirt and black slacks. At the beginning they mingled awkwardly, clutching their drinks, and then the coordinator of the evening, a tall, striking woman named Kailynn, called the group to order.

Each man would have, she said, six minutes of conversation with each woman. The women would sit for the duration of the evening against the wall on the long, low couches that ringed the room, and the men would rotate from woman to woman, moving to the next woman whenever Kailynn rang a bell, signaling that the six minutes were over. The daters were all given a badge, a number, and a short form to complete, with the instruction that if they liked someone after six minutes, they should check

the box next to his or her number. If the person whose box they checked also checked their box, both daters would be notified of the other's e-mail address within twenty-four hours. There was a murmur of anticipation. Several people made a last-minute dash to the bathroom. Kailynn rang her bell.

The men and women took their places, and immediately a surge of conversation filled the room. The men's chairs were far enough away from the women's couches that the two parties had to lean forward, their elbows on their knees. One or two of the women were actually bouncing up and down on the sofa cushions. The man talking to the woman at table number three spilled his beer on her lap. At table one, a brunette named Melissa, desperate to get her date to talk, asked him in quick succession, "If you had three wishes, what would they be? Do you have siblings? Do you live alone?" At another table, a very young and blond man named David asked his date why she signed up for the evening. "I'm twenty-six," she replied. "A lot of my friends have boyfriends that they have known since high school, and they are engaged or already married, and I'm still single and I'm like — *ahhhh*."

Kailynn stood to the side, by the bar that ran across one wall of the room. "If you are enjoying the connection, time goes quickly. If you aren't, it's the longest six minutes of your life," she said as she watched the couples nervously chatter. "Sometimes strange things happen. I'll never forget, back in November, there was a guy from Queens who showed up with a dozen red roses, and he gave one to every girl he spoke to. He had a suit on." She gave a half smile. "He was ready to go."

Speed-dating has become enormously popular around the world over the last few years, and it's not hard to understand why. It's the distillation of dating to a simple snap judgment. Everyone who sat down at one of those tables was trying to answer a very simple question: Do I want to see this person again? And to answer that, we don't need an entire evening. We really need only a few minutes. Velma, for instance, one of the four Anne Klein women, said that she picked none of the men and that she made up her mind about each of them right away. "They lost me at hello," she said, rolling her eyes. Ron, who worked as a financial analyst at an investment bank, picked two of the women, one of whom he settled on after about a minute and a half of conversation and one of whom, Lillian at table two, he decided on the instant he sat down across from her. "Her tongue was pierced," he said, admiringly. "You come to a place like this and you expect a bunch of lawyers. But she was a whole different story." Lillian liked Ron, too. "You know why?" she asked. "He's from Louisiana. I loved the accent. And I dropped my pen, just to see what he would do, and he picked it up right away." As it turned out, lots of the women there liked Ron the instant they met him, and lots of the men liked Lillian the instant they met her. Both of them had a kind of contagious, winning spark. "You know, girls are really smart," Jon, a medical student in a blue suit, said at the end of the evening. "They know in the first minute, Do I like this guy, can I take him home to my parents, or is he just a wham-bam kind of jerk?" Jon is quite right, except it isn't just girls who are smart. When it comes to thin-slicing potential dates, pretty much everyone is smart.

But suppose I were to alter the rules of speed-dating just slightly. What if I tried to look behind the locked door and made everyone explain their choices? We know, of course, that that can't be done: the machinery of our unconscious thinking is forever hidden. But what if I threw caution to the winds and forced people to explain their first impressions and snap judgments *anyway*? That is what two professors from Columbia University, Sheena Iyengar and Raymond Fisman, have done, and they have discovered that if you make people explain themselves, something very strange and troubling happens. What once seemed like the most transparent and pure of thin-slicing exercises turns into something quite confusing.

Iyengar and Fisman make something of an odd couple: Iyengar is of Indian descent. Fisman is Jewish. Iyengar is a psychologist. Fisman is an economist. The only reason they got involved in speed-dating is that they once had an argument at a party about the relative merits of arranged marriages and love marriages. "We've supposedly spawned one long-term romance," Fisman told me. He is a slender man who looks like a teenager, and he has a wry sense of humor. "It makes me proud. Apparently all you need is three to get into Jewish heaven, so I'm well on my way." The two professors run their speed-dating nights at the back of the West End Bar on Broadway, across the street from the Columbia campus. They are identical to standard New York speed-dating evenings, with one exception. Their participants don't just date and then check the yes or no box. On four occasions — before the speed-dating starts, after the evening ends, a month later, and then six

months after the speed-dating evening — they have to fill out a short questionnaire that asks them to rate what they are looking for in a potential partner on a scale of 1 to 10. The categories are attractiveness, shared interests, funny/sense of humor, sincerity, intelligence, and ambition. In addition, at the end of every “date,” they rate the person they’ve just met, based on the same categories. By the end of one of their evenings, then, Fisman and Iyengar have an incredibly detailed picture of exactly what everyone says they were feeling during the dating process. And it’s when you look at that picture that the strangeness starts.

For example, at the Columbia session, I paid particular attention to a young woman with pale skin and blond, curly hair and a tall, energetic man with green eyes and long brown hair. I don’t know their names, but let’s call them Mary and John. I watched them for the duration of their date, and it was immediately clear that Mary really liked John and John really liked Mary. John sat down at Mary’s table. Their eyes locked. She looked down shyly. She seemed a little nervous. She leaned forward in her chair. It seemed, from the outside, like a perfectly straightforward case of instant attraction. But let’s dig below the surface and ask a few simple questions. First of all, did Mary’s assessment of John’s personality match the personality that she said she wanted in a man before the evening started? In other words, how good is Mary at predicting what she likes in a man? Fisman and Iyengar can answer that question really easily, and what they find when they compare what speed-daters say they want with what they are actually attracted to in the moment is that those two

wants in a man, and that idea isn't wrong. It's just incomplete. The description that she starts with is her conscious ideal: what she believes she wants when she sits down and thinks about it. But what she cannot be as certain about are the criteria she uses to form her preferences in that first instant of meeting someone face-to-face. That information is behind the locked door.

Braden has had a similar experience in his work with professional athletes. Over the years, he has made a point of talking to as many of the world's top tennis players as possible, asking them questions about why and how they play the way they do, and invariably he comes away disappointed. "Out of all the research that we've done with top players, we haven't found a single player who is consistent in knowing and explaining exactly what he does," Braden says. "They give different answers at different times, or they have answers that simply are not meaningful." One of the things he does, for instance, is videotape top tennis players and then digitize their movements, breaking them down frame by frame on a computer so that he knows, say, precisely how many degrees Pete Sampras rotates his shoulder on a cross-court backhand.

One of Braden's digitized videotapes is of the tennis great Andre Agassi hitting a forehand. The image has been stripped down. Agassi has been reduced to a skeleton, so that as he moves to hit the ball, the movement of every joint in his body is clearly visible and measurable. The Agassi tape is a perfect illustration of our inability to describe how we behave in the moment. "Almost every pro in the world says that he uses his wrist to roll the racket over the ball when he hits a forehand," Braden says.

things don't match. For example, if Mary said at the start of the evening that she wanted someone intelligent and sincere, that in no way means she'll be attracted only to intelligent and sincere men. It's just as likely that John, whom she likes more than anyone else, could turn out to be attractive and funny but not particularly sincere or smart at all. Second, if all the men Mary ends up liking during the speed-dating are more attractive and funny than they are smart and sincere, on the next day, when she's asked to describe her perfect man, Mary will say that she likes attractive and funny men. But that's just the next day. If you ask her again a month later, she'll be back to saying that she wants intelligent and sincere.

You can be forgiven if you found the previous paragraph confusing. It is confusing: Mary says that she wants a certain kind of person. But then she is given a roomful of choices and she meets someone whom she really likes, and in that instant she completely changes her mind about what kind of person she wants. But then a month passes, and she goes back to what she originally said she wanted. So what does Mary really want in a man?

"I don't know," Iyengar said when I asked her that question. "Is the real me the one that I described beforehand?"

She paused, and Fisman spoke up: "No, the real me is the me revealed by my actions. That's what an economist would say."

Iyengar looked puzzled. "I don't know that's what a psychologist would say."

They couldn't agree. But then, that's because there isn't a right answer. Mary has an idea about what she

who is the real me?

"Why? What are they seeing? Look" — and here Braden points to the screen — "see when he hits the ball? We can tell with digitized imaging whether a wrist turns an *eighth* of a degree. But players almost never move their wrist at all. Look how fixed it is. He doesn't move his wrist until long after the ball is hit. He thinks he's moving it at impact, but he's actually not moving it until long after impact. How can so many people be fooled? People are going to coaches and paying hundreds of dollars to be taught how to roll their wrist over the ball, and all that's happening is that the number of injuries to the arm is exploding."

Braden found the same problem with the baseball player Ted Williams. Williams was perhaps the greatest hitter of all time, a man revered for his knowledge and insight into the art of hitting. One thing he always said was that he could look the ball onto the bat, that he could track it right to the point where he made contact. But Braden knew from his work in tennis that that is impossible. In the final five feet of a tennis ball's flight toward a player, the ball is far too close and moving much too fast to be seen. The player, at that moment, is effectively blind. The same is true with baseball. No one can look a ball onto the bat. "I met with Ted Williams once," Braden says. "We both worked for Sears and were both appearing at the same event. I said, 'Gee, Ted. We just did a study that showed that human beings can't track the ball onto the bat. It's a three-millisecond event.' And he was honest. He said, 'Well, I guess it just *seemed* like I could do that.'"

Ted Williams could hit a baseball as well as anyone in history, and he could explain with utter confidence how to do it. But his explanation did not match his actions, just as

Mary's explanation for what she wanted in a man did not necessarily match who she was attracted to in the moment. We have, as human beings, a storytelling problem. We're a bit too quick to come up with explanations for things we don't really have an explanation for.

Many years ago, the psychologist Norman R. F. Maier hung two long ropes from the ceiling of a room that was filled with all kinds of different tools, objects, and furniture. The ropes were far enough apart that if you held the end of one rope, you couldn't get close enough to grab hold of the other rope. Everyone who came into the room was asked the same question: How many different ways can you come up with for tying the ends of those two ropes together? There are four possible solutions to this problem. One is to stretch one rope as far as possible toward the other, anchor it to an object, such as a chair, and then go and get the second rope. Another is to take a third length, such as an extension cord, and tie it to the end of one of the ropes so that it will be long enough to reach the other rope. A third strategy is to grab one rope in one hand and use an implement, such as a long pole, to pull the other rope toward you. What Maier found is that most people figured out those three solutions pretty easily. But the fourth solution — to swing one rope back and forth like a pendulum and then grab hold of the other rope — occurred to only a few people. The rest were stumped. Maier let them sit and stew for ten minutes and then, without saying anything, he walked across the room toward the window and casually brushed one of the ropes, setting it in motion back and forth. Sure enough, after he did that, most people suddenly said *aha!* and came up with the

pendulum solution. But when Maier asked all those people to describe how they figured it out, only one of them gave the right reason. As Maier wrote: "They made such statements as: 'It just dawned on me'; 'It was the only thing left'; 'I just realized the cord would swing if I fastened a weight to it'; 'Perhaps a course in physics suggested it to me'; 'I tried to think of a way to get the cord over here, and the only way was to make it swing over.' A professor of Psychology reported as follows: 'Having exhausted everything else, the next thing was to swing it. I thought of the situation of swinging across a river. I had imagery of monkeys swinging from trees. This imagery appeared simultaneously with the solution. The idea appeared complete.'"

Were these people lying? Were they ashamed to admit that they could solve the problem only after getting a hint? Not at all. It's just that Maier's hint was so subtle that it was picked up on only on an unconscious level. It was processed behind the locked door, so, when pressed for an explanation, all Maier's subjects could do was make up what seemed to them the most plausible one.

This is the price we pay for the many benefits of the locked door. When we ask people to explain their thinking — particularly thinking that comes from the unconscious — we need to be careful in how we interpret their answers. When it comes to romance, of course, we understand that. We know we cannot rationally describe the kind of person we will fall in love with: that's why we go on dates — to test our theories about who attracts us. And everyone knows that it's better to have an expert show you — and not just tell you — how to play tennis or golf or a musical instrument. We learn by example and by

direct experience because there are real limits to the adequacy of verbal instruction. But in other aspects of our lives, I'm not sure we always respect the mysteries of the locked door and the dangers of the storytelling problem. There are times when we demand an explanation when an explanation really isn't possible, and, as we'll explore in the upcoming chapters of this book, doing so can have serious consequences. "After the O.J. Simpson verdict, one of the jurors appeared on TV and said with absolute conviction, 'Race had absolutely *nothing* to do with my decision,'" psychologist Joshua Aronson says. "But how on earth could she know that? What my research with priming race and test performance, and Bargh's research with the interrupters, and Maier's experiment with the ropes show is that people are ignorant of the things that affect their actions, yet they rarely *feel* ignorant. We need to accept our ignorance and say 'I don't know' more often."

Of course, there is a second, equally valuable, lesson in the Maier experiment. His subjects were stumped. They were frustrated. They were sitting there for ten minutes, and no doubt many of them felt that they were failing an important test, that they had been exposed as stupid. But they weren't stupid. Why not? Because everyone in that room had not one mind but two, and all the while their conscious mind was blocked, their unconscious was scanning the room, sifting through possibilities, processing every conceivable clue. And the instant it found the answer, it guided them — silently and surely — to the solution.