

CHAPTER 1

Seeing Each Other

I spent the first twelve years of my life in Cleveland, Ohio, in an all-black world. My family, my neighbors, my teachers, my classmates, my friends—every person I had any meaningful contact with until that point was black. So when my parents announced we were moving to a nearly all-white suburb called Beachwood, I was excited about living in a bigger house but worried about how I would be greeted by my new middle school classmates.

I worried they would make fun of me—my brown skin, my wiry hair, my large dark eyes. I worried about my way of speaking—my cadence, my word choice, my voice.

Yet when I arrived that fall, white students went out of their way to welcome me. They introduced themselves. They invited me to eat with them at lunch. They showed me around the school and loaded me up with details on the dizzying array of activities now open to me. It was what my parents had always dreamed of. I could sing in the choir or act in a play. I could study sign language or learn gymnastics. I could try out for the volleyball team or run for a seat on the student council.

My classmates seemed genuinely interested in helping me transition to this new place. I was grateful, and yet I struggled to make new friends. I'd call students by the wrong name, walk past a classmate in the hall without speaking, fail to remember the girl I'd shared a lunch table with in the cafeteria the day before. They didn't seem to hold it against me. They understood that I was meeting people every day and it was a lot to take in. But I knew there was something more going on. Every day I was confronted with a mass of white faces that I could not distinguish from one another. I didn't know how to do it or even where to start.

I'd had no practice recognizing white faces. They all looked alike to me. I could describe in detail the face of the black woman I happened to pass in a shopping mall. But I could not pick out from a crowd the white girl who sat next to me in English class every day.

I found myself constantly seduced by the easiest way to sort people. I would hold on to the fact that the girl in the red sweater said this and the girl in the gray sweatshirt said that. This helped me to track a conversation in the moment, but I would be at a loss again the very next day.

I tried training myself to pay attention to features that I'd never needed to notice in my black neighborhood—eye color, various shades of blond hair, freckles. I tried remembering the most distinctive feature about each person I encountered. But all the faces would ultimately blend together again in my mind.

As time went on, I worried that my new friends would begin to drift away. Who would want to be friends with a girl who had to be reminded to whom she was talking from one day to the next?

Stripped of this most basic skill, I became a different person in my new neighborhood—awkward, uncertain, hesitant, withdrawn. I was afraid of making a mistake, of embarrassing myself or hurting the feelings of people I'd grown to like.

By springtime, whenever I saw girls whispering among themselves, I'd wonder whether their patience was finally wearing thin. *Are they talking about me?* I'd sidle over to try to join the conversation, but they'd fall silent whenever I showed up.

I was relieved when one of the popular girls invited me to lunch at a restaurant one weekend. When I walked in, she was sitting at a table with a group of girls I didn't recognize, until they all yelled out, "Happy birthday!" I scanned their faces and realized that these were the classmates I'd seen whispering in the hall, planning a surprise party for the new girl who still hadn't managed to get their names right.

They'd brought gifts that reflected touchstones in their lives, including albums by musicians I'd never heard of: Bruce Springsteen, Billy Joel. I was moved beyond words by the gesture; no one had ever planned a surprise party for me. But when we finished the cake, hugged good-bye, and parted ways, I still was not confident I could tell those faces apart.

The irony of that school year always troubled me. I worried about being ostracized because I wasn't one of them. But I was the one stumbling over our racial differences. They wanted to connect, and so did I. But I had suddenly acquired a deficiency that they were not aware of and that I did not understand.

Decades later, I would realize that I was not alone.

THE SCIENCE OF RECOGNITION

For nearly fifty years, scientists have been documenting the fact that people are much better at recognizing faces of their own race than faces of other races—a finding dubbed the "other-race effect."

It's a universal phenomenon, and it shows up in different racial groups across the United States and in countries all over the world.

It appears early and intensifies over time. By the time babies are three months old, their brains react more strongly to faces of their own race than to faces of people unlike them. That race-selective response only grows stronger as children move into adolescence, which suggests it is driven, in part, by the circumstances of our lives.

We learn what's important—the faces we see every day—and over time our brain builds a preference for those faces, at the expense of skills needed to recognize others less relevant. That experience-driven evolution of face perception skills remodels our brains so they can operate more efficiently.

Scientists see the other-race effect as a sign that our perceptive powers are shaped by what we see. That cringe-worthy expression “*They all look alike*” has long been considered the province of the bigot. But it is actually a function of biology and exposure. Our brains are better at processing faces that evoke a sense of familiarity.

I'd struggled to recognize my white classmates' faces because black faces were all I'd been routinely exposed to in the twelve years before I moved to the suburbs. My adolescent brain took some time to catch up to the new world I was navigating, but I would soon develop new skills to function in that world.

Race is not a pure dividing line. Children who are adopted by parents of a different race do not exhibit the classic other-race effect. For example, researchers in Belgium found that white children were better at recognizing white faces than Asian faces. But Chinese and Vietnamese children who'd been adopted by white families were equally good at recognizing white and Asian faces.

Age and familiarity with various age-groups can also be factors. In England, a study of primary school teachers found that they were better at recognizing the faces of random eight- to eleven-year-olds than were college students who spent most of their time around other

college students. And scientists in Italy found that maternity-ward nurses were better at telling infants apart by looking at their faces than were people from other professions—a proficiency that helps to ensure “mix-ups don't happen in the nursery,” the researchers suggest.

Our experiences in the world seep into our brain over time, and without our awareness they conspire to reshape the workings of our mind.

IMAGING RACE

I couldn't have known back in middle school that my own brain development played a part in my struggle to connect. But I was convinced that skin color had a role in the dislocation I felt. That's ultimately what drew me to the field of social psychology. It offered the perspective I needed to address a question fundamental to my own adolescent experience: *How does race shape who we are and how we experience the world?* That question is the starting point of bigger questions about identity, power, and privilege that have molded our country and roiled the world for centuries.

Today, I am a professor and a researcher at Stanford University, a campus nestled in Silicon Valley, the heart of the start-up economy and a magnet for bright, energetic young people eager to tap the rich vein of technology for scientific solutions to social problems. When I arrived at Stanford, I was enticed by the tools of neuroscience research and began exploring the ways that race might influence basic brain functioning.

The brain is not a hardwired machine. It's a malleable organ that responds to the environments we are placed in and the challenges we face. This view of the brain runs counter to what most of us learned in science class. In fact, the whole idea of neuroplasticity runs counter

to what scientists believed to be true about the brain for centuries. Only fairly recent advances in neuroscience have allowed us to peek inside the brain and track its adaptation over time. Slowly, we're beginning to understand the many ways the brain can be altered by experience.

For example, in the last several decades, we have learned that when someone becomes blind, the occipital lobe, typically dedicated to processing visual stimuli, can dedicate itself instead to processing other types of stimuli, including sound and touch. When someone has a stroke, they might be able to learn to speak again, despite massive damage to specific areas of the temporal lobe that are dedicated to processing language. We don't know yet the extent of this neuroplasticity. And some of the most intriguing lessons come not only from studying damaged brains but also from watching people with normal brain function acquire unusual skills.

Research has shown that something as simple as driving a taxi can offer lessons in how basic practice and repetition can retrain our brains to function differently. In 2000, not long after I arrived at Stanford, a team led by Professor Eleanor Maguire published a paper that caused quite a stir in the neuroscience community. They'd scanned the brains of London cabdrivers in an effort to examine how the hippocampus—a horseshoe-shaped structure in the medial temporal lobe—might grow in response to demands placed upon it by the taxing experience of driving through the London city streets day in and day out.

Maguire's team found that the brains of taxicab drivers—who had by necessity learned the structural layout of more than twenty-five thousand London streets—showed significant differences in the hippocampus, the part of the brain that plays a critical role in spatial memory and navigation. The taxi drivers' navigational expertise was associated with increased gray matter. They had enlarged posterior

hippocampal regions, in comparison with a control group of people who didn't drive cabs for a living. In fact, the longer the drivers had been on the job and the more experience they had, the larger their posterior hippocampus.

I found this all remarkable because it seemed to show not only how powerful our experiences must be to fundamentally change our brain but also how swiftly the transformation can take place. In the case of the taxi drivers, developing a deep structural knowledge of their environment forced a striking structural change in their brains. And that change happened not over hundreds of thousands of years but within a few years of an individual's life. Individual expertise, as it turns out, has its own neurobiological signature.

That revelation led me to pose another question, driven by both scientific curiosity and personal memories of my own adolescent lapse: *Because our experiences in the world are reflected in our brains, might our expertise in recognizing faces of our own race—and failing to recognize those of others—display its own neurobiological signature as well?*

Neuroscientists were initially skeptical about the prospect of race having an influence on something as basic, ancient, and important as how faces register in our brains. The act of perceiving faces is both critical and complicated, which may be why the task is distributed across multiple areas of the occipitotemporal region, stretching across two of four major lobes of the brain. The superior temporal sulcus—a trench-like structure in the temporal lobe that's vital to social competence—helps us to read the many different expressions that can suddenly emerge on someone's face, signaling us to approach, to smile, to share, to flee, or to quickly arm ourselves. A region known as the fusiform face area, buried deep near the base of the brain, helps us distinguish the familiar from the unfamiliar, friend from foe.

The fusiform face area, known as the FFA, is widely thought to

be both primitive and fundamental to our survival as a species. Affiliation is a basic human need. Without the ability to track the identity of those around us, we are left alone, vulnerable, and exposed.

The FFA has been studied extensively, yet despite decades of research there had been little attention paid to whether race might influence FFA functioning. From the narrow perspective of brain science, the primary function of the FFA is to detect faces. Race, most scientists felt, should have nothing to do with that.

Against that backdrop, I began working with a team of Stanford neuroscientists who specialized in human memory to look further into the matter. Together, we recruited dozens of white and black volunteers and subjected them to functional magnetic resonance imaging (fMRI) scans that allowed us to track the blood flow changes in the brain that illustrate neural activity.

As is common, our study participants had giant coils wrapped around their heads to transmit the images. We slid them into a tube-like scanner (a giant magnet, actually) and showed them a series of faces of black and white strangers. We monitored the process from a control room nearby, taking whole-brain pictures as each face appeared before their eyes. The stronger their response to a face, the more oxygen flooded the targeted part of their brain and the brighter our measuring sensors shined.

By tracking the activation of the FFA over multiple displays of strangers' faces, we found that the FFA was responding more vigorously to faces that were the same race as the study participant. That finding held true for both the black and the white people we scanned. We also found that the more dramatic the FFA response to a specific face, the more likely the study participants were able to recognize that stranger's face when they were shown the photograph again later, outside the scanner.

Ours was the first neuroimaging study to demonstrate that there is a neural component to the same-race advantage in the face-recognition process. It offered support for the emerging notion that the brain tunes itself to our experiences as we move through life. And we learned that race can serve as a powerful interpretive lens in that tuning process. Race, as it turns out, could exert influence over one of the brain's most basic functions. The FFA, with its bright colors on our imaging scans, provided us with a clear picture of how in- and out-group distinctions—set in motion by our relationship to the world around us—are mapped onto the inner workings of our brains.

THE PURSE SNATCHERS

Call it scientific progress or streetwise knowledge. But what took me decades to learn about the role of race in face recognition turned out to be common knowledge among an opportunistic band of young men on a crime spree in Oakland.

It was 2014 and I had just begun analyzing racial disparities in policing with the Oakland Police Department when the story made its rounds: Despite a substantial decline in crime across the city, the shopping district in Chinatown had registered an alarming rise in strong-arm robberies. Apparently, black teenage boys were roaming the streets, snatching the purses of middle-aged Asian women.

The police developed leads, made arrests, and even recovered some stolen property. But the cases fell apart before the suspects could be prosecuted, because even if a victim had seen the robber's face as he grabbed her purse and ran, none of the women could pick the culprits out of a police lineup.

"We would make stops on the suspect," recalled Captain Le-Ronne Armstrong from the police department. "Yet the victim could

not ID. Absent the ID, you couldn't charge the case. This made it impossible to prosecute."

As the young men began to figure out that Asian women couldn't tell them apart, it turned into a license to steal, Armstrong explained to me years later, after some of the crimes were solved and the robbers who were bound for jail had confessed the details. "When we'd ask, 'Why'd you focus in on this particular woman?' they'd say to us very openly, 'The Asian people can't ID. They just can't tell brothers apart.' They'd tell us, 'Like, this is our dream. That's why we go.'"

There was a clear pattern to whom the teens targeted and where and how they struck. They focused on a neighborhood crowded with female, middle-aged Chinese shoppers. They approached from behind, grabbed the purses, and fled, so the victim didn't have much time to study their faces. And sure enough, Armstrong said, in nearly 80 percent of the cases tracked by Oakland police, the Asian victims could not identify the young men who robbed them. Black women, on the other hand, could identify black robbery suspects at a much higher rate, even after a mere glance.

The challenges of cross-racial identification are as well known to law enforcement officials as they are to scientists. Research and real-life experience have shown that the chance of false alarms—of identifying someone as the culprit who is not—goes way up when the suspect is of a different race from the victim. That's the practical fallout of the other-race effect.

Oakland investigators worked to minimize the possibility of misidentification. They followed scientific guidelines on how to construct and use lineups with textbook precision. They even tried offering the victims training, directing them "to focus on anything at all that was distinctive," Armstrong told me. *Was his skin dark or light? Did he have gold teeth? Was his hair in dreadlocks or braids?* "We needed them to move

beyond the generic 'male black' description." But for the most part, the Asian women couldn't move beyond it. Even with all the training, they were still unable to distinguish one black teenager's face from another.

Ultimately, what did help put an end to the crime spree was technology. When cameras were placed outside the businesses that lined the busy streets of Chinatown, the risks of being caught suddenly shot up. The camera could capture what the women could not. The boys knew the jig was up.

Captain Armstrong's description of the situation led me to recall my own as a newcomer to Beachwood. I too tried the "remember what's distinctive" strategy. I failed and the Asian women failed, despite our strong desire to get it right. Yet the women's inability to remember those black male faces went beyond awkward moments and insecurities about conversations held in hushed tones. Their inability to remember those faces stymied the police and spread fear across the Chinatown community for months and months before the cameras were installed. These teenagers could rob them at will—even in broad daylight. They needed no mask. Their face was their mask.

CHAPTER 2

Nurturing Bias

The Asian women were easy targets. They were a group the robbers predicted would not resist: middle-aged, frail, unfamiliar with English, and unable to identify the black teenagers who snatched the purses from their arms. As a category, that made them ideal crime victims. To the women, the thieves became a category too. The women didn't know whether they were being robbed by Michael or Jamal; they knew only they were being robbed by a constant stream of young black men. And for these women, the robberies had a cost beyond the contents of their purses or the loss of their sense of safety in Oakland's insular Chinatown. Each frightening encounter with a lone black youth amplified an ambient stereotype the women might have previously felt free to ignore: black men are dangerous. This is how a toxic association is born.

The sort of categorization that allows such broad generalizations to somehow seem reasonable is a product not only of our personal experience and social messaging but also of our evolution as human beings. Categorization—grouping like things together—is not some abhorrent feature of the human brain, a process that some people engage in and

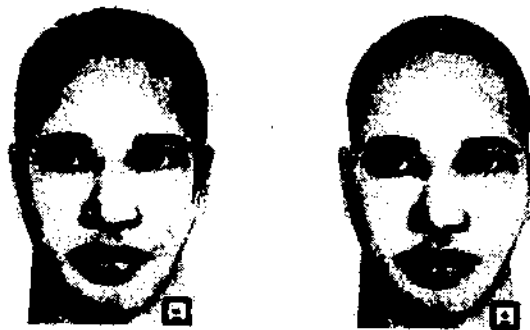
others do not. Rather, it is a universal function of the brain that allows us to organize and manage the overload of stimuli that constantly bombard us. It's a system that brings coherence to a chaotic world; it helps our brains make judgments more quickly and efficiently by instinctively relying on patterns that seem predictable.

But categorization also can impede our efforts to embrace and understand people who are deemed not like us, by tuning us to the faces of people who look like us and dampening our sensitivity to those who don't.

Our awareness of racial categories can determine what we see, and not just in the research laboratory but in the settings we find ourselves in every day. My college friend Marsha is African American and has a sister who is so fair-skinned she passed for white for much of her life as a young adult. Sometimes that sister worried that Marsha's presence might ruin her charade. She didn't want her friends or co-workers to realize she was black, so when she and Marsha were spotted together, she never mentioned they were related. And no one ever caught on. Marsha was always amused by the look of panic on her sister's face whenever a co-worker saw them simply standing near each other, but she never thought to "out" her. She understood the social dynamics that motivated her sister's choice. Because the co-workers thought of Marsha as black and presumed her sister was white, they were oblivious to the many physical resemblances—the same eyes, forehead, and nose—between the two women. To be honest, I don't know if I would have pegged them as sisters if I hadn't already known. Once we've decided on the category, our perceptual reality adjusts to suit the label we've settled on.

The effect is so strong that we can look at the same face and respond to it differently, depending on whether we believe that

person to be one of us or an out-group member. In one study conducted by researchers at the University of Texas in El Paso, Latino participants were shown a set of computer-generated faces designed (using a facial composite construction kit) to be racially ambiguous. The researchers displayed the same faces with hairstyles typically worn by African Americans or hairstyles typically worn by Latinos. When asked later which faces they recognized, the participants were better able to remember the ones with the Latino hairstyles—those faces that they perceived as belonging to their own group. Simply presenting them as in-group members allowed the study participants to remember their faces more readily than they remembered those same faces when the hairstyles suggested those people were black.



The impact categorization has on us is so strong that it too makes its mark on our neurons. For example, in one study I conducted with Brent Hughes, Nicholas Camp, and other colleagues at Stanford, we found that white participants exhibited less brain activity in brain areas that specialize in processing faces when shown black faces than when shown white faces. I was struck by the dampened response to black faces because it suggests the brain registered those faces in categorical terms.

When participants were presented with a series of different white faces, the neurons fired away, responding vigorously to each face. It was only when the participants were presented with the same white face over and over again that the neural response began to weaken. That's because the brain begins to disengage when confronted with stimuli that are not novel. It's as if our brain were telling us that because we have already seen this, there is no need to pay attention again. This weakened response to repeated exposure is known by neuroscientists as repetition suppression.

What is remarkable is that we observed repetition suppression even in response to black faces that the participants had never seen before. Although we were exposing the participants to faces of different black individuals one at a time, the white study participants appeared to be processing the faces categorically, as though they were all the same stimulus. Their brains were responding to the type of category that was being presented—a black face, another black face, another black face, the same thing, over and over again—rather than the individual, unique identity of each face. And once faces are categorized as out-group members, they are not processed as deeply or attended to as carefully. We reserve our precious cognitive resources for those who are “like us.”

To form categories is to be human, yet our unique cultures play a role in determining what categories we create in our minds, what we place in them, and how we label them. A fair-skinned person could be considered white in Brazil but black in the United States. People from Japan and China are lumped together as Asian in the United States but seen as distinctly different elsewhere. In some countries, people consider religion or social class a more important way to sort people than race. And even within one country, the rules for who is in what social category can change across decades.

In the United States, racial categories are so significant that knowing a person is black or white, for example, can shape how we see that person's facial features. Some years ago, my colleagues and I got interested not only in categorization but in the lay theories people use to explain others. From decades of research conducted by Carol Dweck and others, we know that some people believe human traits are fixed (people are either smart or dumb, they are responsible or irresponsible, they are mean or nice) whereas other people believe these traits are malleable (over time, a mean person can become nice). My colleagues and I wanted to know whether people's theories about others might affect how they perceived not only personality traits but physical traits as well.

If you are presented with a face that is racially ambiguous—the face could be that of a black or a white person—does knowing that the person identifies as black change how you see that person's face? And how might your own theories about others influence what you see?

To answer these questions, we had white Stanford undergraduates complete a survey designed to examine the extent to which they viewed the traits of others as fixed (for example, you can't teach an old dog new tricks) or malleable (for example, people can change even their most basic qualities). Later in the academic term, we invited those students to our lab to participate in a study individually. Each student viewed a computer image of a face that was racially ambiguous. Half of the study participants were told that the person was black, and the other half were told the person was white. We then asked them to take four minutes to draw the face they saw while the face remained on their computer screen to reference.

We found that study participants who believed that human traits are fixed were wedded to the racial label when they tried to duplicate the face. If they'd been told the person was black, they drew a face

that looked “more black” than the face on their computer screen. Likewise, those who had been told that the person on the screen was white drew a face that looked “more white” and was later recognized by other participants as white. Their perceptions moved to line up with the label assigned to the face.

But among the participants who thought of traits as malleable, the opposite occurred. Those who had been told the face was black drew a face that appeared more recognizably white. And if they had been told that the face was white, they drew a face that appeared more recognizably black. These people reacted against the stereotypical image the label suggested. Our findings show that what we perceive is influenced not only by the labels we are provided but by our own attitudes about the rigidity of categories. Although we tend to think

Ambiguous Target Face



“Black” Drawing



“White” Drawing



about seeing as objective and straightforward, how and what we see can be heavily shaped by our own mind-set.

In fact, the swirl of social judgments that flow from categorization is so strong it affects not only how we see others but how we perceive ourselves. That’s the premise of one of my favorite novels. The renowned playwright Arthur Miller wrote *Focus* in 1945. It was his first novel and one of the first books to focus on American anti-Semitism—in the wake of the Nazi regime’s systematic murder of European Jews. The story is set in New York City. World War II is drawing to a close. The protagonist, Newman, is a white Christian man charged with making sure that Jews who are attempting to pass as Christian are not hired at his company. He takes great pride in protecting the company from the scourge of Jews. In fact, he is one of the best in the business.

Then his eyesight begins to fail, rendering him less able to categorize people efficiently. At the urging of his boss, he purchases eyeglasses and gets back to work immediately. Yet the glasses create a much bigger problem for Newman: To the people around him, he suddenly resembles the sort of person he’s supposed to protect them from. His neighbors, his co-workers, people on the street—all begin to suspect that *he* is Jewish. He is mortified at the thought and responds by letting people know in every way he can that he certainly is not Jewish, not even a little bit. Yet the suspicion lingers. There is nothing he can say to dissuade people from how he is seen.

In fact, when he catches a glimpse of himself in the bathroom mirror with his glasses on for the first time, he sees the face of a Jew looking back. Alarmed, he snatches the glasses off, but he cannot undo what’s already been decided. Rumor has spread, and no one can un-see the Jewish identity that’s now assigned to him.

Newman's life becomes unhinged. He's forced to leave his job. He becomes a target of anti-Semitism at home, where neighbors and passersby throw garbage on his lawn and smear his house with racial epithets. His treatment by others eventually begins to affect how he views himself. The loathing he had for Jews turns into self-loathing. He has become the person he once prided himself on keeping out.

The novel shows the power of the gaze of others to define how you're seen in the world; it can shape the scope of your life and influence how you see yourself. But the story also illustrates the redemptive power of personal connections to break through the bias that categorization seeds. In the end, Newman's experience forces him to develop a nuanced understanding of and appreciation for Jewish identity. He sees Jewish people for the first time unaided by the stereotypes and attitudes that surrounded them, and thus breaks free from the narrow, negative imagery that had begun to define him.

It's been fifteen years since I read this story, but it continues to shape the way I approach thinking about all sorts of stereotypes and prejudices. The plague and power of bias are too consequential to let them go unacknowledged and unchecked. They can affect us in surprising ways.

THE MECHANICS OF BIAS

The social categories we use to sort people are filled with beliefs and feelings that may direct our actions. This is what Newman learns. Once he is categorized as Jewish, people make assumptions about him, they experience an aversion to him, and they begin to act on those assumptions and feelings. At its core, Newman's story shows us how categorization can be a precursor to bias.

But at the same time, categorization is a fundamental tool that our brains are wired to use. And the categorization process applies not just to people; it works on all things. Just as we place people into categories, we place other animals into categories. We place food into categories. We place furniture into categories. And we fill every category we develop with information and imbue it with feelings that guide our actions toward it.

Take the category "apples." This category contains our beliefs about how apples grow, where they grow, what varieties exist, what colors they come in, how large they are, what they feel like, what they taste like, when we should eat them, whether we should cook them or eat them raw, how healthy they are for us, and so on. We also may like or dislike apples, depending on our experience with them and what we've been told about them. And this feeling, along with the beliefs we have about apples, can dictate whether we will eat an apple that is offered to us, buy an apple in a grocery store, or pick an apple off a tree. Simply seeing one apple can bring to mind the feelings and thoughts associated with the entire category. In fact, the stronger those associations are, the faster those feelings and thoughts are brought to mind.

The categories we have about social groups work in a similar way. But in this instance, we label the beliefs we have about social groups "stereotypes" and the attitudes we have about them "prejudice." Whether bad or good, whether justified or unjustified, our beliefs and attitudes can become so strongly associated with the category that they are automatically triggered, affecting our behavior and decision making. So, for example, simply seeing a black person can automatically bring to mind a host of associations that we have picked up from our society: this person is a good athlete, this person doesn't do well in school, this person is poor, this person dances

well, this person lives in a black neighborhood, this person should be feared. The process of making these connections is called bias. It can happen unintentionally. It can happen unconsciously. It can happen effortlessly. And it can happen in a matter of milliseconds. These associations can take hold of us no matter our values, no matter our conscious beliefs, no matter what kind of person we wish to be in the world.

The concept of stereotypes dates back to the time of Plato, whose dialogues explored the question of whether one's perceptions correspond to the actual state of affairs. But the term didn't enter the popular discourse until the 1920s, introduced not by a scientist but by a journalist concerned that the news coverage of important issues was being filtered through the "preconceived notions" of both reporters and the public—a problem we still wrestle with today.

Walter Lippmann was considered one of the most influential journalists of the twentieth century. He spent more than fifty years as a newspaper columnist in New York and Washington, D.C., chronicling war, politics, social upheaval, and demographic change.

He applied the term "stereotype" to what he called "the pictures in our heads"—impressions that reflect subjective perceptions but stand in for objective reality. The word comes from the old typesetting process, in which a mold of a message is cast on a metal plate and replicated in the printing process again and again—mimicking the unchecked spread of ideas that we only presume to be true. Those ideas then dictate how we interpret what we see.

The stereotyping process was at work when the Oakland undercover officer mistook his own reflection for an armed-and-dangerous dude. To do his undercover work, the officer had to fit in with the criminals he pursued—scruffy and unkempt in raggedy clothes. But

that image was so at odds with his own sense of himself—valiant emblem of order and safety—that when he spotted himself in a mirrored window, he could not process the dichotomy. The picture in his head didn't match the image he saw.

Lippmann understood the role and influence of stereotypes. "For the most part we do not first see, and then define, we define first and then see," he wrote in his 1922 book, *Public Opinion*. "In the great blooming, buzzing confusion of the outer world we pick out what our culture has already defined for us, and we tend to perceive that which we have picked out in the form stereotyped for us by our culture."

His work led him to worry that Americans might make rash and illogical civic and political choices if stereotypes blinded them to information that didn't conform to what they already believed. And that is exactly what is happening now.

Psychologists today dub what worried Lippmann "confirmation bias." People tend to seek out and attend to information that already confirms their beliefs. We find such information more trustworthy and are less critical of it, even when we are presented with credible, seemingly unassailable facts that suggest otherwise. Once we develop theories about how things operate, that framework is hard to dislodge.

Confirmation bias is a mechanism that allows inaccurate beliefs to spread and persist. And these days there is no shortage of venues offering confirmation for whatever you believe. In the twenty-first century, we have access to more information than ever before through online sources shaped by specific perspectives and aimed at people who share the same views. This segregation of information removes from view those facts that are uncomfortable, inconvenient, and incongruous

to what we already believe and leaves us susceptible to “fake news” that supports our preconceived notions.

In Lippmann’s era, the problem was not too many sources of information, but so few that ignorance flourished. He opens *Public Opinion* with a story of British, French, and German men living peaceably on an island in 1914, unaware that their countries were at war. They were technically enemies, but they were living side by side comfortably because the pictures in their heads hadn’t evolved to match the progression of events in real time. The world had changed dramatically, yet these isolated men could live only according to their existing mental representations of the world.

Lippmann was not concerned with the idea of stereotypes as a precursor to prejudice nor as a rationalization for it. In fact, the attitudes he expressed toward racial and ethnic intolerance would brand him a bigot today. He seems to have been a hostage of his own stereotypical thinking: In 1919, he belittled upwardly mobile blacks who aimed to blend into white America, labeling them victims of “the peculiar oppressiveness of recently oppressed peoples.” He advocated for the “mass evacuation and mass internment” of Japanese Americans in California after the bombing of Pearl Harbor. And his advice to other Jews wrestling with anti-Semitism was to lie low, blend in, and not call attention to their own “sharp trading and blatant vulgarity.” The son of German Jewish émigrés, Lippmann was a Phi Beta Kappa graduate of Harvard who would later applaud a plan limiting Jewish admission and suggest that “too great a concentration” would be “bad for the immigrant Jews as well as for Harvard.”

Still, he clearly understood both the practical function that stereotypes serve and the power they hold to taint certain groups and protect the status quo.

“There is economy in [stereotyping],” he wrote. “For the attempt to see all things freshly and in detail, rather than as types and generalities, is exhausting. . . . We are not equipped to deal with so much subtlety. . . . [W]e have to reconstruct it on a simpler model before we can manage with it.”

The elements of that simpler model tend to rest on concepts of “us” and “them” and are driven by cultural, political, and economic forces to protect the status quo. Stereotypes help prop up the existing social order by providing us at least with the illusion of “an ordered, more or less consistent picture of the world,” Lippmann observed. It may not be the actual world, but we are comfortable there.

So comfortable that we ultimately adapt to and embrace stereotypes, rooting them so deeply that they’re passed along unquestioned to each new generation, over decades and centuries. Without our permission or even awareness, stereotypes come to guide what we see, and in so doing seem to validate themselves. That makes them stronger, more pervasive, and resistant to change.

The “fictions and symbols” they represent are the thought paths that lead to expressions of implicit bias. Yet, as Lippmann contends, we continue to “hold to our stereotypes when we might pursue a more disinterested vision” because they have become “the core of our personal tradition, the defenses of our position in society.”

Just like categorization, the process of stereotyping is universal. We all tend to access and apply stereotypes to help us make sense of other people. However, the content of those stereotypes is culturally generated and culturally specific. In the United States, blacks are so strongly associated with threat and aggression that this stereotypic association can even impact our ability to accurately read the facial expressions of black people. For example, a black man who is excited

might appear angry. Fear can be misread as outrage. Silence taken as belligerence.

To explore the power of those associations, social psychologists Galen Bodenhausen and Kurt Hugenberg asked white participants to sit at a computer screen and evaluate the expressions on a black face displayed over multiple frames, moving gradually from angry to friendly. Attitudes about race shaped participants' perceptions. When the face was black, they found that those participants who were high in racial prejudice perceived the angry expression as lingering longer than did those participants who were less prejudiced. Even as the black face settled into neutral, those high in prejudice were poised to see the facial expression as threatening. That result held true even when they were shown a racially ambiguous face and told it was black. The label exerted enough influence to shape their perceptions to conform to the stereotype.

I THINK IT'S FEAR

Stereotypes do not need to be explained to be understood or reproduced. My oldest son, Ebbie, reminded me of this one Thanksgiving when he was just six years old. I was busy preparing the turkey, pumping it up with fluids and spices, while he sat at the kitchen table. Out of the blue he asked, "Mommy, do you think people see black people as different from white people?" I was taken aback and asked him why he wondered about that. "Oh, I don't know. I just feel like there's something different." I prodded him on: "What do you mean?" He scrunched his forehead, as if to help himself think it through. "I don't know," he finally said. "I just feel like there's something different. Like there is something extra special in how people see black people."

I asked him for an example, and he sat quietly, deep in thought. He recalled an episode from our recent shopping trip: "Do you remember the other day when we were in the grocery store?" His tone had moved from uncertain and hesitant to eager and confident. "I remember there was a black guy who came in. It was like he had an invisible force field around him." My son was in his *Star Wars* period back then. "So when he walked in, people kind of stayed away from him a little bit. It was like they didn't want to get too close to him. And I remember when he stood in line, his line was the shortest line for a long time."

At the time, we lived in San Mateo, in a mostly white neighborhood midway between San Francisco and Stanford. Even at six, my son could recognize that shoppers in a neighborhood where few black people live were responding to this man as if he weren't one of them. I decided to probe further.

"What do you think it is?" I asked, in a voice I hoped was level and calm. I was bracing myself for what might come. He scrunched his forehead again. His confidence seemed to evaporate. But he continued to think it through. After a few minutes, his eyes widened, and he turned to look at me. And just as I was sliding the turkey into the oven, he said in a voice deeper than I had ever heard him use before, "I think it's fear." I was so startled that I burned my hand on the oven rack.

How could a first grader pick that up? It wasn't anything we ever discussed. I didn't think it was anything he'd heard or seen on television. That conversation led me to more fully appreciate how good children are at making sense of the world from the many signals they're given as they move through their days—at home, at school, on the playground, in the grocery store.

That is basically their job, to make connections and to see correlations: What goes with what? They're making meaning from things that might appear random and looking to adults to help them figure it all out. They watch us, how we move through the world, to make a determination of how we feel about each other, how we see our own social standing, how we evaluate others.

The scar from that burn stayed on my hand for over a year. And every time I looked at it, I thought about what my son said to me and wondered about the lessons he was learning, unbeknownst to me. That conversation would leave a mark long after the scar was gone.

THE TRANSMISSION OF BIAS

Even preschoolers are able to pick up on how adults view other people, and quickly too. Researchers from the University of Washington showed Seattle preschoolers videos of one adult greeting and engaging with two others. She greets one of the other adults by smiling, leaning toward her, using a warm tone of voice, and happily sharing a colorful toy. She greets the other adult by scowling, leaning away, using a cold tone of voice, and reluctantly handing over the colorful toy.

After watching the video, the preschoolers are asked to point to the adult they prefer. The researchers found that 75 percent of the time the children point to the adult who was treated well. They prefer her. When asked to whom they would like to give the toy, 69 percent of the time they chose the adult who was treated well. The calculus these preschoolers are using seems straightforward: if you are treated badly, you are a bad person. Upon watching just one thirty-

second clip of a negative interaction, preschoolers have seen enough to hold the target of bias responsible rather than the holder of bias. And these children make this known not only in their negative view of the adult treated less favorably but also in their desire to see that adult receive fewer resources.

The power of adults to shape that lens is heavily vested in parents. Unsurprisingly, studies confirm that biased parents tend to produce children who are biased as well. In one study, researchers measured bias in a group of mostly white parents in a midwestern town, using a survey gauging the extent to which they agreed with items like "African Americans are a physical threat to the safety of most Americans" and "African Americans get more from this country than they deserve." Then they asked the participants' fourth- and fifth-grade children to complete a survey aimed at measuring how strongly they identified with their parents. Finally, the researchers administered an implicit association test (IAT) to these children at a computer lab in their school.

The IAT is more involved than a standard survey. It is more sensitive and designed to measure associations that we don't even know we have. To administer the IAT, the researchers asked each child to sit in front of a computer screen where they were presented with a series of faces and words one at a time. The faces were of black and white people, and the words were good (for example, "joy," "peace") or bad (for instance, "nasty," "evil"). The IAT measures bias by tracking the speed at which study participants can categorize the faces as black or white and the words as good or bad.

Sometimes the children were told to push one computer key if they saw black faces or bad words and a different key if they saw white faces or good words. Other times the children were told to push

one key if they saw black faces or good words and a different key if they saw white faces or bad words. Their responses were timed. What researchers typically find is that people are faster to categorize the faces and words when they are using the same key to respond to faces that are black and words that are bad. But if they are using a single key to respond to faces that are black and to words that are good, their brains seem to bog down. It takes more effort to connect black and good, because black and bad are more strongly associated in our minds. The speed of response is a measure of that association.

In this case, researchers found that the more antiblack bias the parents exhibited on the survey, the more antiblack bias their children exhibited on the IAT. But only for children who identified more closely with their parents—children who reported that they frequently do what their parents tell them to do, want to grow up to be like them, want to make them proud, and enjoy spending time with them. As it turns out, their parents are not just sharing their time, love, and resources with their children; they are also sharing the bias they carry around in their heads.

Even dogs are exquisitely attentive to the behavior and emotions of the families they live with. Dogs are considered “best friends” to humans because of their unique ability to connect to us. They register the reactions of their owners to figure out how to read the social environment. Consistent with this idea, canine researchers in France found that dogs seize upon the subtle movements of their owners to determine how to react to approaching strangers. The researchers instructed the owners to take three steps forward at the sight of the stranger, take three steps back, or remain in place. When the owners stepped back, the researchers found that the dogs behaved in a more protective manner: They looked more quickly at the stranger, hovered

around the owner more, and were more hesitant to make contact with the stranger. With three small steps, the owners were telegraphing a message to their dogs: Beware.

Well-meaning human adults can also be influenced by the non-verbal behavior of others. Let's take media as an example. People typically assume that having black characters play more powerful, positive roles on television and in the movies will curb bias. Yet researchers have found that even in popular television shows that feature black characters playing such roles, white actors tend to react more negatively to black actors than to other white actors on-screen. This bias is exhibited through subtle, nonverbal actions—a squint, a slight grimace, a small shift of the body—yet it still has impact. It leads those viewers who tune in to those shows to exhibit more bias themselves.

The researchers—Max Weisbuch, Kristin Pauker, and Nalini Ambady—chose eleven popular television shows that have positive representations of black characters—shows like *CSI* and *Grey's Anatomy*, where black characters are doctors, police officers, and scientists.

They showed study participants ten-second clips of a variety of white characters interacting with the same black character, but with the sound muted and the black characters edited out of the frame.

Participants who were unfamiliar with the shows were asked to watch a number of these clips and to rate how much each unseen character was liked and was being treated positively by the white characters on the screen. Sometimes the unseen character was black, and sometimes the unseen character was white.

A consistent pattern emerged when the researchers pooled the ratings: participants perceived the unseen black characters in these

popular shows to be less liked and treated less positively than the unseen white characters.

And the television viewers were affected by this: The more negative the nonverbal actions directed at the unseen black characters, the more antiblack bias the study participants revealed on an implicit association test following the showing. That is, there was evidence for a type of "bias contagion." The researchers found this to be the case even though the study participants were unable to identify any consistent pattern in treatment of the white and black characters when asked to do so directly.

While this study was going on, more than nine million viewers tuned in to each of these shows across the United States every week. Altogether, the shows were viewed more than five billion times in a single year. It's easy to get absorbed in a story line and invest in characters. But even as we come to connect with the characters and their lives, we are absorbing their biases as well. Increasing positive representation of blacks in the media may be a step forward, but then again, it could wind up reflecting and spreading implicit bias rather than defusing it.

And just as bias leaks out between the words of scripted dialogue, it seeps out of all of us in our everyday lives, in ways that are difficult to name and evaluate.

Is clutching your purse when you see a black man a reflection of prejudice? Is presuming a Latino doesn't speak English logical or ignorant? Is it bias speaking when you ask a young black woman who was just admitted to Harvard whether "that's the one in Massachusetts"? Or when you compliment an Asian student on those high math scores? When you think a teenager's music is louder than it is, is that bias? What about asking for a different nurse because yours has tattoos?

How do we know when we are being insensitive or unfair? How much of who we are and how we feel is dictated by things outside our awareness or control? How often are we really the tolerant, fair-minded person we want to be? And how can we learn to check ourselves and mute the negative impact that bias can have?