

## **Drunk Tank Pink**

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### **PROLOGUE**

- After a full minute passed, the researcher asked the men to raise their arms in front of their bodies, while he applied just enough downward pressure to force their arms back down to their sides. While the men recovered their strength, the researcher jotted a few brief notes before repeating the experiment, first asking the men to stare at the other piece of cardboard and then repeating the strength test.
- The results were strikingly consistent. All but two of the men were dramatically weaker after staring at the pink cardboard, barely resisting the researcher's application of downward force. In contrast, the blue cardboard left their strength intact, regardless of whether it came before the first or second strength test. The color pink appeared to leave the men temporarily depleted. To prove the effect wasn't a fluke, Schauss conducted a second experiment. This time he used a more accurate measure of strength, asking the thirty-eight male participants to squeeze a measurement device known as a dynamometer. Without fail, one after another, all thirty eight men squeezed the device more weakly after staring at the pink cardboard.
- When United Way charity workers wore pink uniforms, donors reportedly gave up to two or three times as much as they usually did.

### **Part one: the world within us**

#### **Chapter 1: names, the birth of Nominative Determinism**

- Other renowned psychiatrists of the early twentieth century embarked on very different research programs, but as Jung explained, "Herr Freud (whose name means Joy in German) champions the pleasure principle, Herr Adler (Eagle) the will to power, Herr Jung (Young) the idea of rebirth." As far as Jung was concerned, the names we're given at birth blaze a trail that our destinies tread for years to come.
- Many years later, in 1994, a contributor to the Feedback column in the New Scientist magazine labeled the phenomenon nominative determinism, literally meaning "name-driven outcome."
- These rationales are easy to defend, but psychologists have shown that people tend to donate more often and more generously to causes that share their initials
- **As you** might expect based on the name-letter effect, people are drawn to hurricanes that share their initials. For example, people with K names donated 4 percent to all disasters before Katrina devastated New Orleans in 2005, but 10 percent of all Katrina donations came from K-named people, a 150 percent increase. You might be wondering whether people named Katrina, Kate, Katherine, Katie, or any other "Kat" names were responsible for the change. They weren't; the effect was just as strong when those people who shared more than just the first letter with Katrina were removed from the analysis. The same results were true for a range of hurricanes.
- One of the major differences between people with 'A' surnames and people with Z surnames is where those names fall on default alphabetical lists. For better or worse, teachers often call on students with 'A' surnames before they call on students with B surnames, and so on through the alphabet till the Zahns, Zolas, and Zuckermans are called on last.

- In fact, if you'd invested \$1000 in the ten most fluently named stocks between 1990 and 2004, you'd have come away with \$1,153 after just one week, a whopping 11 percent return on your initial investment. In contrast, if you'd invested the same \$1,000 in the ten most disfluently named stocks across the same period, you'd come away with just \$1,040, a much smaller 4 percent return on your investment
- Perhaps it's not surprising, then, that a 1979 study found that thirty-eight of the top two hundred U.S. brand names began with the dominant sounds K or C, and that a whopping ninety-three of them contained the K sound somewhere in their names.

## Chapter 2: labels, labels make a complex world simpler

### Labels Don't Just Resolve Ambiguity; They Change Outcomes

- Four years before Jane Elliott's classroom demonstration, in the spring of 1964, two psychologists began a remarkable experiment at a school in San Francisco. The study was the brainchild of Robert Rosenthal and Lenore Jacobson, who set out to show that the recipe for academic achievement contains more than raw intellect and a dozen years of schooling. The children attended a school in southern San Francisco identified as the "Oak School," a pseudonym chosen to protect them from the prying eyes of a public that remains fascinated with the study more than a half century later. Rosenthal and Jacobson kept the details of the experiment hidden from the teachers, students, and parents; instead, they told the teachers that the test was designed to identify which students would improve academically over the coming year—students they labeled "academic bloomers." In truth, the test was an IQ measure with separate versions for each school grade, and it had nothing to do with academic blooming. As with any IQ test, some of the students scored quite well, some scored poorly, and many performed at the level expected from students of their age group.
- The next phase of the experiment was both brilliant and controversial. Rosenthal and Jacobson recorded the students' scores on the test, and then labeled a randomly chosen sample of the students as "academic bloomers." The bloomers performed no differently from the other students—both groups had the same average IQ score—but their teachers were told to expect the bloomers to experience a rapid period of intellectual development during the following year. Spring became summer, and the students and teachers took a three-month vacation.
- When the new school year arrived in the fall of 1964, each teacher watched as a new crop of children filled the classroom. The teachers knew very little about the students, except whether or not they had been described as bloomers three months earlier. Because they were chosen arbitrarily, the bloomers should have fared no differently from the remaining students during the academic year of 1964-65. The students completed another year of school, and just before the year ended, Rosenthal and Jacobson administered the IQ test again to check whether the students' scores had changed since the previous year. The results were remarkable.
- The first and second graders who were labeled as bloomers outscored their peers by 10-15 IQ points. Four of every five bloomers experienced at least a 10-point improvement, but only half the non-bloomers improved their score by 10 points or more. Rosenthal and Jacobson had intervened to elevate a randomly chosen group of students above their relatively unlucky peers. Incredibly, their intervention was limited to merely labeling the chosen students "bloomers" and remaining silent on the academic prospects of the overlooked majority.

- Observers were stunned by these results, wondering how a simple label could elevate a child's IQ score a year later. Just as Princeton students perceived Hannah to be smarter when she was wealthier; the Oak School teachers subconsciously emphasized the students' strengths and overlooked their weaknesses. When the teachers at the Oak School interacted with the "bloomers," they were primed to see academic progress. Each time the bloomers answered a question correctly, the answer seemed to be an early sign of academic achievement. Each time they answered a question incorrectly, the error was seen as an anomaly, I swamped by the general sense that they were in the process of blooming. During the year, then, the teachers praised these students for their successes, overlooked their failures, and devoted plenty of time and energy to the task of ensuring that they would grow to justify their promising academic labels.
- In one classic experiment, people watched a series of car accidents from a Seattle Police Department driving safety video. After each video, the viewers estimated how fast the cars were traveling before the accident. Everyone saw exactly the same videos, but the questionnaire that they completed used one of five different terms to describe how the vehicles interacted. Some of the viewers were asked to estimate how fast the cars were going when they *hit* each other; others were asked how fast the cars were going when they *smashed*, *collided*, *bumped*, or *contacted* each other. Though everyone saw the same cars involved in the same accidents, their estimates differed widely.
  - Smashed 40.5
  - collided 39.3
  - bumped 38.1
  - hit 34
  - contacted 31.8
- But among those who had been told that the cars had smashed, almost one-third remembered seeing broken glass. For these students, the sensationalized "smashed" label had replaced reality with a false memory in which the cars spilled glass following the accident. More broadly, this disturbing result suggests that eyewitnesses to a crime or an accident are open to forming false or exaggerated memories depending on how others label the events. The moral of the story is that plaintiffs and defendants should never blithely adopt the descriptions offered by opposing counsel. An angry plaintiff's "smash" is a persecuted defendant's "nudge"
- The patient but anxious students stood immobile while a makeup artist applied a fake scar, and then showed them what the scar looked like in a mirror. The students stared briefly at this newly labeled version of themselves. They were essentially the same people, but it wasn't easy to anticipate how the students they were about to meet would respond to meeting a person with a prominent facial scar. After the students looked in the mirror, the makeup artist applied some cream to make sure that the scar would remain in place, and the students walked to another room, where they met their interaction partner for the first time.
- The students felt uncomfortable during their interactions, and they were convinced that their scars were attracting unwanted attention. In fact, they spent so much time worrying about the scar that they had no energy left to feign the sort of cool detachment expected of students when they meet one another for the first time. Other students who weren't made up with scars were told that their

interaction partner expected them to have an allergy, but allergies make for innocuous labels, and these students sailed through their interactions with ease.

- But the experimenters had devised a clever twist: when the makeup artists said they were applying a cream to ensure the scar wouldn't fade, they were actually removing the scar with makeup-removal cream. By the time the students began interacting with their partners, their faces were no more flawed than they had been when the experiment began. Still, the label had already done its work: the students were convinced that their partners couldn't stop staring at their scars, and in response their own behavior jeopardized the success of the interaction. The students' partners agreed: though they weren't told whether the student believed he had been scarred or merely described as allergy-prone, they were able to tell almost immediately which students were led to believe they were scarred. Even in the absence of a real physical blemish—a scar, in this case—people become paralyzed by the prospect that others will judge them for the label, and this anxiety is enough to hamper the progress of a fledgling friendship.

### **Chapter 3: symbols, symbols are magnets for meaning.**

- **After the students** were primed with the logos, they completed a task designed to measure creativity known as the unusual uses test. The test measures how many creative uses people can generate for an everyday mundane object, like a brick or a paper clip. Suggesting that a paper clip can be used to bind sheets of paper is uncreative, whereas suggesting that a paper clip can be used as an earring is evidence of creative thinking. (Suggesting that a paper clip can be used to fly you around the world, on the other hand, is both creative and nonsensical, and nonsensical responses aren't rewarded in this test.) As the researchers expected, students who were unwittingly exposed to the Apple logo seemed to think more creatively than their IBM-primed classmates; compared with the IBM-primed students, who generated an average of approximately six uses for the items, the Apple-primed students generated an average of almost eight uses for the same items, and those uses were rated by other students as more creative. Merely exposing people to a symbol that implies creativity for less than a tenth of a second can cause them to think more creatively, even when they have no idea that they've seen the symbol.
- Noting the critical role of money in our lives, marketing professors have examined the diverse range of responses that bills, coins, and other symbolic reminders of money inspire in everyday people. One of money's dominant functions, as Maugham implied, is freedom and independence, so the researchers expected people to behave more independently and selfishly when primed with symbols of money. In one study, students completed a difficult intellectual task that required them to manipulate twelve shapes to form a large square. The experimenter who explained the task offered to help them if they encountered difficulty, and then left the room so the students could work on the problem uninterrupted. For some of the students, a small pile of money from the board game Monopoly sat on the corner of their desk—a constant, subtle reminder of money. By the time four minutes had elapsed, almost 75 percent of the students who weren't reminded of the money had asked for help; in contrast, only 35 percent of the students who sat peering at the Monopoly money asked for help after four minutes. According to the researchers, the money reminded the students of their independence, delaying their quest for help and prompting them to persevere unaided for just a few more minutes.
- The students who counted the blank paper found the hot water quite painful—around six on the nine-point scale—whereas those who counted the bills rated their pain at the less severe score of

four. Those in the social pain task also felt the sting of ostracism less acutely when they counted money, rating their distress 50 percent less highly on a similar scale. Both physical and social pain seemed less painful when we're cushioned by symbolic reminders of money, even when the money isn't real or doesn't belong to us.

- Later, though none of the students claimed to have seen a face, those who were exposed to the Pope's face reported having a substantially poorer self-conception and a lower opinion of their own moral standing. Priming people with religious symbols has paradoxical consequences, because they tend to perceive themselves as relatively immoral beings while simultaneously behaving more honestly.
- In fact, part of the reason they preferred Pepsi was because it was slightly sweeter than Coke, and people respond positively to sweetness in small doses. Had the testers consumed an entire can of each product, as they did later, the results would have been quite different. What tastes pleasantly sweet after one sip becomes cloying after a dozen sips. Part of the reason people continued to buy Coke ahead of Pepsi was that they enjoyed drinking an entire can of Coke more than they enjoyed drinking an entire can of Pepsi.
- The train commuters spent very little time looking at the photocopied bill, but it still shaped their estimates of the bill's purchasing power. Those who completed the questionnaire featuring the real bill estimated they could purchase an average of twenty-two of the inexpensive items, whereas the adults who completed the questionnaire featuring the altered bill estimated they could purchase an average of only twelve of the items. That's a huge difference—and keep in mind that not a single person noticed that the fabricated bill wasn't real, even when the experimenter asked them whether they noticed anything strange about the bill. The symbol of money is very powerful—it can make us independent and selfish and insensitive to physical pain—but it's also quite fragile: as soon as you tweak currency, even subtly so people don't notice the difference, it starts to lose its symbolic association with value.

## **Part two: the world between us**

### **chapter 4: the mere presence of other people, it's in the eyes.**

- During a ten-week period, they displayed ten different pictures above the price list for one week each, alternating between images of a pair of eyes and images of flowers. The researchers measured how much milk was consumed as an index of coffee and tea consumption, and counted how much money was in the honesty box at the end of each week. The intervention was a remarkable success. When the image featured a collection of flowers, drinkers paid an average of only 15 pence per liter of milk consumed, whereas they paid 42 pence per liter when the image displayed a pair of eyes. The mere suggestion that someone was watching compelled drinkers to contribute nearly three times more cash to the honesty box.
- Drinkers contributed almost three times as much to an anonymous honesty box when the price just featured a pair of eyes (dark gray bars) rather than flowers (light gray bars).
- Two hundred miles south of Newcastle, the West Midlands police department was justifiably curious about the research. The department was responsible for policing Birmingham, the second-largest city in the U.K., and the Newcastle University intervention appeared to be both inexpensive and effective. Within months, the police department launched Operation Momentum, putting up a string of posters featuring a pair of piercing eyes with the slogan "we've got our eyes

on criminals.’ Local officers described the campaign as a great triumph, claiming a 17 percent reduction in robberies, and swiftly launched its sequel: Operation Momentum 2.

- As French philosopher Jean-Paul Sartre noted sixty years ago, as soon as we imagine we’re being watched, we start to notice how we’re behaving, and we begin to imagine how other people might respond if they were watching.
- Opower was founded in Virginia in 2007 by two longtime friends. The company promised to improve communication between power providers and consumers by harnessing the tools of behavioral science. As of 2012, Opower had contracts with more than fifty utility companies across twenty-two U.S. states. Each month, Opower sends a report to each household containing not just the standard consumption figures, but also a simple summary of the household’s electricity use compared with the rest of the population. The most important part of the report is the Last Month Neighbor Comparison, which features two pieces of information: how much energy you’re using relative to your efficient neighbors, and a description of your use as “more than average,” “good” or great.
- Consumers who achieve “greatness” by using considerably less electricity than their neighbors are rewarded with two smiling faces, whereas those who are merely good are greeted with a single smiling face. Opower has been incredibly successful, reducing power consumption in catchment areas by an average of 2.5 percent per person—a long-term saving of almost a billion kilowatt-hours across the United States since the company’s inception. What’s made Opower so successful is its recognition of two critical factors: first, that people don’t know how to evaluate their power without knowing how much electricity other households are consuming; and second, that people respond to the virtual acclaim and criticism that comes from simple social cues like smiling faces.
- In the early 1930s, psychologist Norman Maier began to wonder how people solve problems that require creativity. Maier brought sixty-one students into his lab at the University of Michigan, and asked them to find as many solutions as they could to a simple physical problem. Two cords of identical length hung from the lab’s ceiling, and Maier asked the students to tie the cords together. The room also contained a number of other items, including pliers; extension cords, a table, chairs, and poles. When the students grabbed one of the cords and tried to walk across to the other cord, they realized that they couldn’t quite reach the second cord without using the props in the room. Some of the solutions were simple, so most of the students described them without much difficulty. For example, the second cord could be anchored to a chair midway between the two cords, allowing the students to bring the first one over to the second. One of them could also be lengthened with the extension cord or pulled closer with the pole.
- The last remaining solution was much trickier, though, and only 39 percent of the students arrived at the solution without help: one of the cords could be converted into a pendulum if affixed to one of the smaller. Heavy objects in the room. The students could then swing the pendulum, grabbing the attached cord as it approached the second cord. When most of the students couldn’t solve the problem unaided, Maier gave them a subtle hint at the solution that became one of the first demonstrations of social learning. As time passed, he began pacing the room, occasionally grazing one of the ropes with his shoulder and setting it in motion. The rope swung gently, but Maier refrained from discussing the hint, and the students continued to ponder the problem. Less than a minute after witnessing Maier’s subtle hint, two-thirds of the students who hadn’t yet solved the problem jumped up and excitedly described the pendulum solution. Almost all of them

denied having seen that the experimenter jostled the cord, and even if he had brushed against it, they were sure that it hadn't prompted the solution. Instead, they were convinced that the solution came to them unaided, a product of mental effort rather than gentle prompting. Although Maier was more interested in problem solving than in social mimicry, he also concluded that people learn from subtle cues without recognizing that they're mimicking the behavior of others.

- Psychologists call this the chameleon effect. Chameleons primarily change color to signal their intent to mate or fight, and mimicry in humans appears to serve a similarly social purpose. In one classic series of experiments, two students visited a research lab to complete a simple task that required them to interact for a few minutes. Unbeknownst to one of the students, the other student was actually a member of the experimenter's team who was instructed to adopt a specific string of mannerisms. With some of the students she smiled, with others she refrained from smiling, and with some she rubbed her face several times, while with others she shook her foot incessantly. The students didn't notice these subtle behaviors (as they told the experimenter later), but a videotape of the interaction showed plenty of mimicry. When the trained actor smiled, the students smiled three times as often; when the actor rubbed her face, the students rubbed their faces twice as often; and when she shook her foot, they shook their feet twice as often. In another. Similar experiment, an actor either mirrored the students' behavior or opted neutral mannerisms that bore no resemblance to those of the students.
- Some athletes inhabit a Zen-like state before they run, but Bolt lives ;s to run in front of "audiences who love" him. While his competitors gaze myopically at the finish line. Bolt dances playfully before each big race (Bolt's tendency to warm to crowds may be one reason why he runs so fast at big events. Perhaps the first experiment ever conducted in the field of social psychology suggests that humans are often faster and stronger when they I test their speed and strength in the company of other people, rather than alone.
- In dozens of experiments he pushed cyclists to ride as fast as they could on stationary bikes, occasionally leaving them alone in the lab room and free from distraction, at other times pacing them against a motor driven cycle, and sometimes asking them to ride in the presence of other cyclists. Across his observations, Triplett noticed that the cyclists tended to ride faster when other cyclists rode nearby.
- He concluded that an audience enables people to "liberate latent energy" not normally available when they perform alone. Peering 110 years into the future, Triplett might have attributed Usain Bolt's remarkable performance to a combination of natural talent and—a critical special ingredient—the presence of a supportive, energy-liberating crowd
- Inconsistencies like these persisted for years, until social psychologist Bob Zajonc (pronounced like science with a leading z) proposed a solution: it all depends on the nature of the task. Audiences accentuate our instinctive responses and make it more difficult to override those responses in favor of more carefully considered alternatives. For Usain Bolt, there's nothing more natural than running, and the children in Triplett's experiment devoted little thought and attention to frantically winding the experimental fishing reel. In contrast, learning a maze is difficult, and it requires concentration. Pessin and Husband's maze learners were probably distracted by the knowledge that they were being watched, and feared making a mistake in front of an audience.
- We don't have answers to all of these questions yet, but psychologists have examined the relationship between SAT scores and the number of h test-takers in each venue. For each U.S. state, they calculated the number of students who were taking the SAT in 2005, and divided that

figure by the number of test-taking venues in the state. The outcome of that simple equation represented the average number of test-takers in each venue. After crunching the numbers, the researchers found that the students in states with more test-takers per venue tended to perform more poorly. In other words, the students scored better on the SAT when they were surrounded by fewer competitors.

- **This result might** seem surprising. Shouldn't people respond to more competition by putting in more effort? That simple relationship seems compelling, but when people are overwhelmed, their motivation wanes and sometimes they disengage completely
- Indeed, a similar process explains why people donate more money to charity when they focus on just one child in need, rather than the overwhelming need of millions of starving children.
- The tragedy unfolded in 2011, just before sunrise on a mid-April morning in Queens, New York. A man and woman who apparently knew each other fought with increasing venom and a homeless Guatemalan man named Hugo Alfredo Tale-Yax intervened to help the struggling woman. Her male companion turned on Tale-Yax and stabbed him several times in the torso. For ninety minutes, Tale-Yax lay in a growing pool of his own blood as dozens of passersby ignored him, took photos. Or stared briefly before continuing on their way. By the time firefighters arrived to help, the sun had risen and Tale-Yax had died.
- Their key insight was that the very feature that made the situation so shocking—that there were so many observers and not one of them intervened—ironically explained why the observers were so apathetic in the first place.
- As Darley and Latane observed, the responsibility to help is compelling when you're the only potential source of help, but that same sense of personal responsibility is much weaker when it's divided among several potential helpers.
- In a second experiment, Darley and Latane wanted to show that people interpret the inaction of others as a sign that there's no emergency at all.
- When the students sat in the room alone, they were quick to alert the experimenter to the thickening pall of smoke. But when they sat with other students, they glanced around nervously at one another and often failed to respond at all. You can imagine the scene: four students putting on a front of serene detachment as the room becomes so thickly filled with smoke that they can hardly see the questionnaires on their laps. Darley and Latane explained that the students weren't sure whether the situation was an emergency at all. It's a classic stalemate: no one wants to cry "emergency" when there's no emergency at all, so everyone continues to sit by coolly as the room fills with smoke.
- Why is it that people are able to withstand more pain when they are looking at pictures of loved ones?

## **Chapter 5: the characteristics of other people, the social motives**

- What is it about pretty women that distracts male chess grandmasters (and men more generally) from the job at hand? The inspiration for this research comes from a simple but staggering statistic: men are more than three and a half times more likely to die from all accidental causes than are women.
- Although the skateboarders completed more difficult tricks successfully in front of the attractive female experimenter, her presence nudged them to fail many more and abort far fewer tricks. In

the presence of an attractive female. Men were more willing to take risks and less willing to abandon a trick that approached failure. Immediately after the skateboarders complete their tricks, the experimenter collected and analyzed their saliva—a popular method of measuring testosterone levels. As expected, the men who performed in front of an attractive female had significantly higher testosterone levels, and the higher those testosterone levels, the more likely the man were to follow through with poorly executed tricks.

- This striking result suggests that our quest for safety, and our resulting fear of difference, has fostered a justice system that discriminates against black defendants. Put simply, under some circumstances a black man who looks “more black” is 33 percent more likely to receive the death penalty than is a black man who commits the same crime but looks less stereotypically black.
- First, users apply the Liquid Trust spray while they’re getting dressed before important meetings or social events. Second, when people encounter the wearer, they unconsciously inhale Liquid Trust. And third, those people unwittingly develop a strong feeling of trust for the wearer. Liquid Trust sounds like a creature of science fiction, but it’s both real and at least theoretically capable of synthesizing trust between two people. The mechanism that explains how Liquid Trust encourages bonhomie is supposedly grounded in science, and its adherents are convinced that it works as advertised. It contains a single active ingredient, oxytocin, which is the same chemical that compels mothers to care for their newborn babies.
- **The remaining** participants also invoked memories of the past but focused instead on pleasant memories from high school. The researchers reasoned that memories of high school are no more or less pleasant than fond memories of childhood, but they don’t evoke the same sense of innocence that diminishes as we enter adolescence. Later in the experiment, the researchers asked the participants whether they wanted to donate a chunk of their pay for completing the experiment to a charity for Japanese earthquake survivors. Many of the participants were generous, but overall they donated far more to the charity when they had earlier recalled childhood memories—40 percent of their pay, rather than just 4 percent when they had recalled memories of high school.
- In other studies, people who remembered their childhood were more willing to help the experimenter with a task after the experiment officially ended, and they also became more critical of immoral behavior in others—a sign that their own moral standards were elevated when they recalled the innocence of childhood.
- Meanwhile, the experimenter looked through one-way glass and counted how many of the students continued to work past the five-minute bell. The results were staggering: only 7 percent of the students who saw themselves in the mirror cheated. Whereas a massive 71 percent cheated when they weren’t forced to look at themselves as they decided whether to behave honestly. When people consider behaving badly, their mirror images become moral policemen.

## **Chapter 6: culture, seeing objects and places there were cultural lens**

- Americans take the virtues of liberty and individual freedom for granted, but since East Asians pay so much attention to collective wellbeing, culture researchers have questioned whether they might emphasize the values of harmony and conformity over uniqueness and independence.
- Mathematics and art seem to occupy opposite ends of the cultural spectrum—one universal and enduring, the other localized and always changing—but they also occupy considerable common

ground. Leonardo da Vinci the artist was also Leonardo da Vinci the mathematician, and his Mona Lisa and Last Supper paintings appeal to the eye in part because they obey certain mathematical laws of visual harmony. Like a number of classical East Asian sculptures and buildings, their proportions conform to the so-called golden ratio, where their longer side is approximately 1.618 times longer than their shorter side. The golden ratio, first proposed by Pythagoras in the fifth century BC, is supposed to hold universal aesthetic appeal, and dozens of cultures adopted golden proportions when designing buildings and producing art.

- Later studies suggested that the culture of honor leads to even graver ends, as Southerners are more likely to die young of accidental causes associated with risk-taking and machismo.
- Some of the consequences of cultural exposure en masse are perhaps unsurprising. When the American TV show Beverly Hills, 90210 debuted in France in 1993; it had a dramatic effect on child-naming practices. Three of the show's main characters were named Dylan, Brandon, and Brenda, names that were nonexistent in France before 1993. By the mid-1990s, all three names had mushroomed in popularity, and Dylan had become the sixth-most-popular boy's name in France. Another main character named Kelly had very little influence on naming practices, probably because that name had already grown popular when the American TV show Santa Barbara introduced a character named Kelly to French screens in 1985.

### **Part three: the world around us.**

#### **Chapter 7: colors, the police man's blues.**

- The researchers approached one such group and suggested an inexpensive, novel remedy: exposure to blue-green light. Blue-green light waves are the shortest visible light waves, and they trigger a range of biological functions that regulate circadian rhythm. Natural light is rich in these blue-green short waves, which is why sunlight is an excellent natural cure for jet lag. To test their theory, the researchers purchased a series of special lights that bathed the night-shift workers in a blue-green glow as they worked
- **Along the way**, he tried to strike another patient, and the attendants had to use all their strength to keep him restrained. As soon as the film began, Patient A became a different person. He spoke coherently and politely, enjoyed the film in silence, and claimed for the first time that he wanted to go home. When the film ended, only an hour after his earlier violent outbursts, he walked to his room quietly and without restraints.
- Auroratone went the way of so many other faddish therapies and fell out of favor.
- The 1950s, two psychologists noticed that a small group of schizophrenic patients responded peculiarly to two of the Rorschach plates. When shown images two and three, the patients went into a so-called color shock, sitting in dumbstruck stupor while the tester waited for a response
- While red environments elevate blood flow and nervous system responses inside our bodies, they also appear to change how we see the world looking outward. One researcher described how a woman suffering from cerebella disease struggled to walk upright. According to early observations, her gait was unsteady, she wobbled when she walked, and sometimes she became dizzy and fell over without the aid of a wall or another person. Sometimes her dizziness was debilitating, and at other times it wasn't as acute, enabling her to walk with relatively little difficulty. With the help of her physician, she came to realize that she was especially dizzy when she wore red dresses. When she wore green or blue, she was calmer and her symptoms subsided.

The same researcher described other similar cases, which convinced him that the color red was a genuine physical menace. Red similarly throws off physical judgment even in people without existing medical disorders. People appear to write more erratically in red light than in green light, and their writing becomes less coherent when they write with red ink rather than blue, black, or green ink. When asked to estimate the length and weight of sticks and other objects, people are far more accurate under green than red light. They tend to suffer from macropsia and micropsia—the illusion that objects are larger or smaller than they actually are.

- **The same red that** agitates people in a scientific laboratory also agitates them when they load web pages with red backgrounds. In one series of experiments, people felt more agitated while waiting for a red or yellow web page to load than when the same page had a blue background. This agitation made them impatient. So they believed that the yellow and red pages took longer to load than the blue page did, though both pages loaded at the same speed. Later they also claimed they would be less likely to recommend the site to a friend.
- Though he continued to focus on their color preferences (most of them liked the primary colors: red, yellow, and blue), he noticed something interesting about their drawings during the experiment's opening interaction. Instead of haphazardly drawing whatever came to mind. They seemed to draw very different objects with different colors. With black crayons, they almost always drew buildings, cars, and other inanimate objects, very rarely drawing people, animals, or natural scenes. With colored crayons, they drew people and animals, apparently associating vibrant colors with life.
- The women changed their shirts throughout the day, choosing randomly from a menu of black, white, red, yellow, blue, and green. Female drivers weren't particularly sympathetic, stopping only 5-9 percent of the time regardless of the color of the hitchhikers' T-shirts. Male motorists, on the other hand, were more considerate and more discerning: whereas only 12-14 percent of all male motorists stopped when the women wore black, white, yellow, blue, or green, 21 percent stopped when the women wore red shirts. Since only men were swayed by the color red, the researcher argued that red enhances romantic appeal specifically rather than platonic attraction more generally.
- Every two weeks the experimenter digitally altered the color of each woman's top, choosing from the same six colors available to the female hitchhikers in the earlier experiment. Then they watched and waited while the women recorded the e-mails they received from thousands of interested men. As in the hitchhiking study, the women were far more popular when their shirts were red. During the nine-month period, 14-16 percent of their e-mails arrived when they wore the black, white, yellow, blue, and green shirts—but 21 percent arrived when they wore the red shirt.
- **The differences** disappeared when heterosexual men rated the attractiveness of other men, and when heterosexual women rated the attractiveness of other women; in short, red shirts only made people seem more attractive to potential mates. The message here couldn't be simpler: if you're trying to attract a member of the opposite sex, red stresses and red shirts give you an ever-so-slight romantic advantage.
- Colored memories are better retrieved than black-and-white memories, but not all colors have the same effect on intellectual performance. Students learn to fear the presence of red ink on exams and assignments. And some U.S. and Australian states have even banned teachers from correcting academic work with red ink. Experts who prefer black or blue ink argue that red ink has become

inextricably linked with failure and criticism, so students are likely to disengage when they're faced with a page covered in red. Some quarters perceive this policy as needlessly paternalistic, and one conservative politician in the Australian state of Queensland described the policy as "kooky, loopy, loony, and lefty." The policy may indeed be loopy and lefty, but it also has strong support from a number of academic studies.

- Unfortunately, red ink is a double-edged sword, also causing students to perform more poorly in the first place. In a landmark series of studies. Students attained lower test scores when they were exposed to the color red, rather than black, green, gray, or white. In some studies, the students wrote an experiment's ID number in red, green, or black pen before completing fifteen anagram puzzles. The puzzles required the students to unscramble letter strings like NIDRK to form English words (in this case, DRINK). The students who wrote their ID number with a red pen answered an average of 22 percent fewer questions correctly than those who wrote their ID number in black or green pen.
- It's worth taking a moment to compare the magnitude of these effects with the subtlety of the color manipulations. Students study for days on end and parents pay thousands of dollars for professional tutoring, but even diligent students with wealthy parents would be delighted to find that their hard work and hard-earned cash yield test score improvements in the neighborhood of 37 percent. Meanwhile, these studies suggest that replacing your red pen with a black or green pen, or reprinting the red cover page of an exam in a different color, has similar effects.
- The same researchers also wanted to know why red hampers academic performance. It turns out that the color red activates the right hemisphere of the frontal cortex, a pattern of brain activity that typically indicates avoidance motivation. Avoidance motivation is the technical term for a state in which you're more concerned with avoiding failure than you are with achieving success
- In one study, for example, students were far more vigilant when proofreading text for errors and memorizing a list of words when those tasks were presented against a red background rather than a blue background. Here vigilance and avoidance were precisely the mental states that promoted success.
- To conclude, then, the color red inspires academic underachievement, but only when the task doesn't require vigilance or attention to detail. For those tasks, red enhances rather than impairs performance.
- According to one result, sometimes the difference between Olympic gold and no medal at all comes down to whether an athlete is randomly drawn to wear red or blue.
- Six athletes from the 2004 Athens Olympic Games—wrestlers Istvan Majoros, Artur Taymazov, and Jung Ji-Hyun, boxers Alexander Povetkin and Odlanier Solis, and tae kwon do competitor Moon Dae-Sung—shared two important features. All six remained undefeated and won gold medals in their respective events, and before each of their quarter final, semifinal, and final bouts, Olympic officials had randomly assigned them to wear red uniforms rather than the alternative blue uniforms. In the world of competitive sports, where superstitious athletes refuse to wash lucky underwear, it's hard to ignore the coincidence—and two anthropologists set out to show that the relationship between victory and the color red comes down to more than a random fluke.
- The researchers began by collecting the results of all the Greco Roman wrestling, freestyle wrestling, tae kwon do, and boxing matches at the 2004 Athens Olympic Games. For each of the 457 matches, they recorded whether the competitor wearing red beat the competitor in blue. The results were astonishing. In all four sports, the red competitors won more bouts than the blue

competitors, and red competitors won 55 percent of their bouts overall. The effect was especially strong when the competitors were evenly matched—when, theoretically, even trivial factors might tip the balance one way or the other. When the competitors were seeded identically, the red competitor won a staggering 62 percent of all matches. It's hard to escape the irony that the same sporting bodies that seek to eliminate performance-enhancing drugs also require one of the two competitors in each bout to wear a performance-enhancing red uniform

## **Chapter 8: locations, oppressive environment**

- Refugees invaded the structure and lived in hundreds of makeshift dwellings until the government built water pipes and tall concrete apartment blocks in the 1960s. The area, known as Kowloon Walled City, became an emblem for the plague of overpopulation. Many of the city's apartments were barely larger than an office desk, its alleyways were rarely more than a few feet wide, and most of the city was shrouded in perpetual darkness. Doctors and dentists established illegal practices, and Triad gangs opened brothels, gambling houses, and opium dens
- As expected, the autistic children rarely interacted with their playmates—but they also spent far more time nervously hugging the room's periphery when it was overpopulated. When joined by only three or four playmates, they spent an average of three minutes on the room's outskirts, but that number jumped to eight minutes when the room held more than a dozen children. The normal and brain-damaged children didn't fare much better in the densely populated room. They played happily for ten minutes in smaller groups, but only for five or six minutes when the room was overcrowded. Meanwhile, they spent little more than thirty seconds fighting and snatching toys when the room was sparsely populated, but up to four minutes bickering when the space was congested. Two of the children even had to be restrained from biting their playmates. After only minutes in an overcrowded room, the gregarious children became hostile, and the anxious children were doubly withdrawn.
- We're driven to preserve a measure of personal space, which is why people respond strongly to brief unintended physical contact. In one study, marketing expert Paco Underhill surreptitiously filmed shoppers as they browsed the aisles of a large department store. Some of the aisles were especially narrow, and the shoppers who stopped to browse in narrower aisles tended to be jostled by other customers who struggled to squeeze past them. Seconds later, the disturbed customers stopped browsing and often left the store altogether. When Underhill later questioned some of the shoppers, they had no idea they had been persuaded to leave the store because they were jostled—but the results were unambiguous and the prescription clear: customers are more likely to remain in stores if the aisles are wide enough to prevent even like collisions, or but brushes, as Underhill called them.
- Overcrowding also creates noise, and researchers have found that the constant hum of everyday life stifles creativity and learning.
- The researchers reasoned that children with poorer hearing are also less likely to engage in conversation and more likely to experience intellectual difficulties. And that's what they found: the children who had lived on the lower floors for many years also struggled to read relative to other children of their age. Most distressing, when the children had lived in the buildings for more than six years, the researchers could predict their reading scores with astonishing accuracy by asking just one question: "On which floor do you live?" Since the effect of the noise grew over time, the researchers were able to rule out the possibility that residents on the higher floors were

generally smarter, wealthier, or more dedicated to educating their children. Exposing children to cluttered noise for an extended period of time—even the background noise that comes with urban living—is enough to hamper their intellectual development.

- When the researcher looked at their recovery charts, he was struck by how much better the patients fared when their rooms looked out onto the trees rather than the brick wall. On average, those who faced the brick wall needed an extra day to recover before returning home. They were also far more depressed and experienced more pain. On average. Their nurses recorded four negative notes per patient—comments like ‘needs much encouragement’ and ‘upset and crying’—whereas those with a view of the trees warranted negative notes only once during their stay. Meanwhile, very few of the patients who looked out onto the trees required more than a single dose of strong painkillers during the middle part of their stay, whereas those facing the wall required two or even three doses. Apart from their view, the patients had received identical treatment at the hospital and were otherwise very similar. Each patient with a view of the trees was matched with a patient whose room looked out onto the brick wall, so that their age, gender, weight, status as smokers or nonsmokers, and attending doctors and nurses were controlled as tightly as possible. Since those factors were controlled, the only explanation was that patients who looked out at a stand of trees recovered more quickly because they were lucky enough to occupy rooms with a natural view.
- In one of those studies, two environmental psychologists approached 337 sets of parents who lived with their children in five rural communities in upstate New York. The researcher scored the “naturalness” of each family’s home, awarding points for natural views, indoor plants, and grass covered yards. Some of the children had experienced little stress growing up, rarely fighting or getting punished at school, but others were bullied and struggled to get along with their parents. When the researchers measured the happiness and well-being of the students in their study, they noticed that those who had experienced hardship were distressed and lacking in self-esteem—except when they lived in more natural environments. The presence of nature seemed to buffer them against the stresses that hampered other children who lived in predominantly man-made environments.
- The first is directed attention, which enables us to focus on demanding tasks like driving and writing. Reading a book also requires directed attention, and you’ll notice that you start to zone out when you’re tired, or you’ve been reading for hours at a time. The second form is involuntary attention, which comes easily and doesn’t require any mental effort at all. As James explained, “Strange things, moving things, wild animals, bright things, pretty things, words, blows, blood, etc.” all attract our attention involuntarily. Nature restores your mental functioning in the same way that food and water restore your body.
- In the experiment, we wondered whether dis-fluency might signal to people that the question demanded more mental effort, so half the students answered the questionnaire printed in a fluent font, whereas the other half answered the questionnaire printed in a smaller, gray, italicized text:
  - *A bat and a ball cost \$1.10 in total. The bat costs \$1 more than the ball. How much does the ball cost?*
  - As expected, people answered the three questions correctly more often when they were difficult to read. On average, they correctly answered 2.45 of the three questions correctly, whereas the students who read the questionnaire printed in a clear font

averaged only 1.90 correct answers to the three questions. Later, we showed the same effect with complex logic problems, again showing that people answered them correctly more often when they were printed in a disfluent font.

- This link between disfluency and riskiness probably explains why cognitive psychologist Danny Oppenheimer and I found that people began submitting increasingly revealing confessions on the website Grouphug.us in August 2008. The website invites people to share anonymous confessions in exchange for hugs from sympathetic readers. Some confessions are very revealing, whereas others are tame and barely warrant anonymity. Before August 2008, the site was formatted quite disfluently, with gray text against a similarly dark black background:
  - Then in August 2008 the site's creator had a change of heart. He decided to make the text darker and the background lighter—the standard black text on white background format:
  - Now the text on the site was far easier to read, and people who considered submitting their own confessions were greeted with a fluent mental experience. When Danny Oppenheimer and I combed the site for confessions, we found that the confessions were more revealing after the site's creator adopted the new, fluent format. In other studies, we found that people were more willing to disclose revealing personal flaws when prompted by a request that was printed in a clear font, rather than a light gray font on a white background.
- Each of the students completed the experiment in the same small room, but the room was brightly lit with twelve light bulbs for some of them, and more dimly lit with only four bulbs for others. The dimly lit room was still bright enough to allow the students to complete the task without difficulty, but it was noticeably darker than most rooms in an average university building. After five minutes had elapsed, the students told the experimenter how many problems they had answered correctly. And collected 50 cents for each completed problem. The students struggled regardless of the room's illumination, completing about seven problems during the five-minute period—but their claims varied greatly depending on the room's brightness. Students in the bright room were reasonably honest, reporting that they completed between seven and eight problems. Meanwhile, those in the dimly lit room inflated their scores by roughly 50 percent, claiming an average of more than eleven completed problems! Somehow, the students in the dimly lit room were liberated from the moral constraints of behaving honestly, a result that the authors attributed to the illusion that the darkness preserved their anonymity.
- Since 1982, when Wilson and Kelling proposed their theory, the second littering example has received plenty of experimental support. In one study, social psychologists placed flyers on 139 cars in a large hospital parking lot. They were curious about whether the cars' drivers would throw the flyers in the trash, or whether they would instead litter by leaving them in the parking lot. Before some of the cars' drivers emerged from the parking lot elevator, the researchers scattered discarded flyers, candy wrappers, and coffee cups throughout the parking lot. At other times, they removed every last cigarette butt and piece of trash from the parking lot floor, conveying the idea that littering was both unusual and inappropriate. Nearly half of all drivers littered when the parking lot was already covered in litter—what's one more piece of trash atop a foundation of garbage—but only one in ten drivers littered when the parking lot was spotless. The researchers added another twist, asking a stooge to conspicuously drop an unwanted flyer on the ground just as some of the drivers were exiting the elevator. This act drew the drivers' attention to

the existing state of the parking lot, either emphasizing that it was already full of litter, or highlighting how neat it was before the stooge callously cast aside his discarded flyer. When the stooge drew the drivers' attention to the state of the parking lot, only 6 percent littered in the clean parking lot, whereas a dramatically higher 54 percent littered in the already cluttered parking lot. The drivers adopted the behavior that seemed most appropriate given their understanding of the area's prevailing norms.

- During the Vietnam War, a combination of boredom and anxiety pushed many enlisted soldiers to try heroin and opium. In 1970, at the height of the epidemic, 40 percent of all enlisted men had tried at least one of the two drugs. When the U.S. government discovered that soldiers had been using heroin, they feared that the war's end would herald a public health crisis. Heroin relapse rates are as high as 90 percent in the short term, so the government had good reason to worry. The men returned from the war with many problems, but to the surprise of many drug experts, very few of them relapsed. Psychologists and doctors continue to debate the issue today, but most agree that the critical difference between most heroin users and the soldiers who used heroin in Vietnam was that the soldiers were forced to leave the location in which they had used the drug. Unlike most recovering addicts, who find themselves in locations that reinstate the drug-using context, few Vietnam vets found themselves in the tropical jungle setting that colored their original exposure to the drug.
- Wise teachers turn this fact on its head by telling students to study for exams in a situation that mirrors the exam context as closely as possible.

### **Chapter 9: weather and warmth, summertime war, wintertime love.**

- In one experiment, two social psychologists paid a female research assistant to sit in her car at a particular intersection in Phoenix, Arizona, for fifteen consecutive Saturdays, from 11:00 a.m. to 3:00 p.m. The temperatures during that period, from April to August, ranged between 84°F and 108°F (29°C and 42°C). The research assistant was paid to sit in her car, immobile, as the traffic light in the single-lane intersection turned green and cars piled up behind her. Meanwhile, a second observer sat nearby, just out of sight, timing how long it took the increasingly annoyed drivers to honk their horns. The hidden observer tallied how many times the cars honked, how long those honks lasted, and how long it took them to honk in the first place. As the researchers expected, the honks were more urgent, lasted longer, and were more frequent on warmer days, showing that road rage escalates as the temperature rises.
- The same logic explains why, in another study, male college students were more strongly attracted to a female researcher after crossing a precariously swaying suspension bridge than after crossing a wider, solid bridge. Like the overheated baseball players and drivers who confused physical excitement for anger, the fearful men on the rickety bridge mistook the rush of blood and adrenaline for sexual arousal.
- Ten years earlier and a thousand miles to the northwest in Tromsø, Norway, five medical researchers proposed a very different explanation for why men preferred to look at female bodies in the wintertime. They had measured the testosterone levels of 1,500 Norwegian men between 1994 and 1995, and their findings confirmed what many other researchers had claimed: men experience seasonal testosterone peaks in the winter months, and similar troughs in the summer months, producing about 30 percent more testosterone in the wintertime. The authors cleverly ensured that the men weren't merely drinking more beer in the summer months—which tends to

lower testosterone counts—and the effects persisted even when they excluded seasonal differences in exercise and body fat.

- In one experiment, students met an experimenter in the university's psychology department lobby. Together they rode in an elevator to the experimental lab on the building's fourth floor. During the ride, the experimenter asked the student to hold her cup of coffee just briefly, so she could quickly write down the student's name and experiment time. Half of the students held a cup of hot coffee, while the other half held a cup of iced coffee instead. About fifteen seconds later, when the elevator reached the fourth floor, they continued to the psychology lab, and the student completed a brief questionnaire. The questionnaire described an anonymous "Person A" as intelligent, skillful, industrious, determined, practical, and cautious, and the students were asked to rate Person A's personality on a range of scales. For example, did he seem generous or ungenerous, caring or selfish, attractive or unattractive, strong or weak? When the researchers looked at the results, they found that the students rated Person A as significantly warmer and friendlier (but not more attractive or strong) when they had earlier held the cup of hot coffee rather than the cup of iced coffee. The students confused the physical sensation of cradling a warm cup of coffee for the metaphorical sense that Person A was warm and friendly.
- There's a lesson for film studios buried in this research, which comes down to a question of timing. Building on the relationship between cold and loneliness, two marketing researchers turned their attention to romantic comedies, the cinematic equivalent of Harlow's cloth mother and a cup of warm coffee. The best romantic comedies place their central character in a cold, affectionless wasteland, before redeeming him (or, increasingly often, her) with a warm, newfound love interest. Since romantic comedies are designed to warm a frigid heart, in two experiments people who were handed a cup of iced coffee, or a cold therapeutic pack (rather than a cup of hot coffee or a heated therapeutic pack) were willing to pay an average of 20 percent more to see a romantic comedy film. They weren't willing to pay more for action films, comedies. Or thrillers, presumably because those films lacked the heartwarming I promise of romantic comedies. The experimenters concluded by looking at the film rental patterns of 2,500 U.S. residents, focusing on the relationship between daily temperatures and genre preferences. Even when they excluded Valentine's Day—a cold mid-February day that heralds a spike in romantic comedy rentals—they found that when the weather was colder, people rented more romantic comedies than films of other genres.
- The researchers explained that gloomy weather hampers our mood, which in turn makes us think more deeply and clearly. Humans are biologically predisposed to avoid sadness, and they respond to sad moods by seeking opportunities for mood repair and vigilantly protecting themselves against whatever might be making them sad.
- Roosevelt appealed to patriotic ideals, claiming that valuable fuel resources would be conserved if Americans spent more waking hours in daylight. And less time relying on electric lighting. In fact, decades of research have shown that the policy contributes to overconsumption, as people spend more of the day using power-hungry air conditioners and cooling devices that demand fewer resources during nighttime hours. More recently, researchers have shown that altering people's body clocks twice a year has its own significant costs, especially when they lose an hour of sleep in the spring. The day after daylight saving time begins thousands of driver's labor under a regional case of jet lag, and accident rates rise by 7 percent on that day. Even more

damaging, one anti-daylight saving researcher has claimed that students in daylight saving regions spend seven months of the year out of phase with their natural biorhythms.

- Consequently, when the researcher compared the SAT scores of students in Indiana counties that observe daylight saving time, he found that they scored sixteen fewer points than their fellow students in counties that chose to observe standard time all year long.
- Indiana is one of a few states where students who attend schools separated by county lines, no more than a few miles apart, spend seven months a year living in different time zones. Education policymakers devote millions of dollars each year to closing small SAT performance gaps that unfairly disadvantage one group of students relative to another, and these results suggest that eliminating daylight saving time might offer one relatively inexpensive solution.

Epilogue: Lorenz's Butterfly