The Left Stuff

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How the Left-Handed Have Survived and Thrived in a Right-Handed World

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For my lefty role models,

Mary Roth and Joanne Barry

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Author's Note

It was 1979, and I was in the middle of my adoption phase. My mom had just taken me to see *Annie*, and I was fairly sure she was getting ready to tell me my own past life story, the one about the orphanage and how she rescued me from all those hard knocks and loud kids. She must have thought it was a little odd the way I'd started courting all her friends, dragging them up to my room to show them my cartwheels and Cray-pas drawings. I was convinced these displays would make each of my "real moms" all the sorrier for leaving me as they did.

Psychologists will tell you that many kids go through an adoption phase, imagining a different life somewhere, where parents don't fight and dogs can sleep on your bed. My adoption phase was a little more scientific: I was sitting at Thanksgiving dinner, counting the number of forks I would need to round up for dessert duty, when I decided to count them again. Twenty-two people were gathered around my grandmother's table, and only one was using her left hand: me. My fifth-grade teacher, Mr. Burns, had just explained that there was no such thing as a "right" or "wrong" hand. Some of us are just born to be left-handed. It's passed down from our parents. My parents, and my grandparents, were all right-handed.

My kindergarten teacher, Mrs. North, regarded a left-hand preference as an act of defiance that needed to be scolded and shamed, along with biting and sand-eating. She had big, silver hair and an abrupt voice, but my only clear memory of her is the day she yelled my name across the sea of nap blankets. *"Muh-lisssa! What are you doing?!"* I was quietly coloring the Winter Wonderland mural with a crayon, but I was too scared to answer. "Why are you holding the crayon in *that* hand?"

Mrs. North was about the same age as my grandmother. When she was in school, the nuns tied my grandmother's left hand behind her back to break her of her "sinister" habit. She struggled with the early grades, all that emphasis on legible handwriting. Later on, there were some battles with the sewing machine and the iron, causing her sisters to worry about her marriage prospects. But she managed to become a strong student, a wife, and a brilliant general, brigadeering an army of seven kids and eighteen grandkids with the tactical skills of Napoleon (also a lefty). Of course, grandchildren struggle to decipher the right-handed notes she scrawls in our birthday cards. And in the fall of 2000, she contributed to the presidential election melee when she accidentally voted for Pat Buchanan. (She was an eighty-five-year-old switched lefty in a right-handed voting booth with a dyslexic butterfly ballot.) But when my grandmother first shared her own lefty tales with me, I stopped searching for my real parents. They were there the whole time, just being recessive. Or so I thought.

Vindication finally came ten years ago when I visited my first neurologist. The first question he asked, before I could tell him about my migraine headaches, was "Are you left-handed?" At *last*! I had found what I'd always suspected and secretly wished for: one all-encompassing alibi that explained everything, every headache and foul mood, all the bad luck and false starts. I was *left-handed*. "We don't know why," the doctor said, "but the left-handed are more likely to suffer from migraine headaches."

Six months later, when I discovered that simple changes in diet, sleep, water intake, and stress levels could ease my headaches, the same changes that seem to help right-handed migraineurs, I stopped accepting my doomed lefty fate and decided to look into this great mystery. After some research, I figured out what the doctor was talking about. It is described as the theory of the "left-hander syndrome." Captured in a controversial 1991 book by the same title, the theory claims that left-handedness is a "pathology," caused by prenatal conditions or birth stress that leads to a form of brain damage. It was a little bit more alibi than I was looking for, but it began the research that lead to this book.

Since then, I've spent several years staring at people's hands. I've also spent hours at the zoo, waiting for the apes to rummage for food. I've had conversations with yogis ("the left side of the body is female and lunar"), taxi drivers ("in my country, we sit on your hand,") and leg waxers ("you people, hairier left leg"). Recently, I was caught staring at a stranger's right temple, trying to imagine if his sentences were being formulated from there.

Along the way, I volunteered for brain-imaging experiments, genetic testing, hand analysis, career aptitude testing, and biomechanics studies. I've even asked mature friends to beg for autographs from suspected closet cases. I managed to stop short of digging up medieval graves to measure the lengths of right and left arm bones. Luckily, a group of British scientists was not so restrained.

I have, however, excavated decades worth of scientific studies, journal articles, comparative brain scan analyses, psychological tests, and left-handed lore. I've also interviewed neuroscientists, historians, geneticists, anthropologists, cognitive psychologists, primatologists, kinesiologists, and lefties of every stripe—they come in many.

My research has turned up hundreds of pages of valuable explanations and excuses. When I lose at Scrabble, it's because I'm left-handed (we *like* our words scrabbled). When I knocked a friend's $190 sunglasses into the ocean, it was my clumsy left hand's fault.

And when I had trouble tackling parts of this book, well . . . at least I didn't write it backward like da Vinci did.

While I am happy to share all the apologies and alibis in this book with other sinistrals—as the scientific literature likes to call us—the disordered status we might occasionally crave is not where my study *left* me. In fact, for all the bad news, insults, and obstacles that make up a lefty's life, being born left-handed may just be one of evolution's uncelebrated gifts.

1

The Left-Handed Renaissance

They pop up in studies of the dyslexic, the distressed, and the generally disordered. They are rumored to be at greater risk of immune problems and alcoholism. And according to one widely publicized study, they die several years before everyone else. So why are the left-handed suddenly doing so well?

Just a century ago, fewer than five percent of Americans were left-handed. Today, their rates have nearly tripled. Somewhere between eleven and fifteen percent of the United States population

qualifies as left-handed, according to researchers. Recently, a British scholar suggested that a gene that leads to left-handedness has been surging among Westerners over the last few generations, a statement that led the *Sunday Times* of London to declare a left-handed "renaissance."[1]

Few biases have survived as much history and crossed as many boundaries as those against the left hand. From the Bible to the Koran, from primitive tribes to advanced civilizations, from the dawn of recorded history to twenty-first-century American parents, fear and suspicion of the *sinister side* is so deeply ingrained few even notice its existence. It has been held up as a symbol of awkwardness, disobedience, even evil, and for centuries, few who preferred to use their left hand dared admit to it. Stories are plentiful of "caggie handers" trying to eat or to write, only to have their left hand whipped, scalded, sat upon, shouted at, and even balled into a stump with duct tape. A skilled left hand was even used as evidence of witchcraft, and sinistrals were sent to the village bonfire.[2]

Yet throughout recorded history, left-handedness has also been a subject of curiosity. It's a matter of human interest because it's a peculiar distinction found in a small minority. It is a matter of scientific interest because it's believed to provide important clues about the organization of the brain. The hands might look and feel identical, but they develop different talents, and this is a reflection of the differences between the two hemispheres of the brain.

Brains are a fundamental part of what makes us human, so exploring their organization also raises questions about what defines our humanity. The development of a language center in the brain, for example, has come to be regarded as a defining human characteristic, one that sets us apart from the other animal species. But so has right-handedness. Homo sapiens are believed to be unique in their specieswide tendency to favor the same side. And since the great majority of humans use their right hand for

fine motor skills, right-handedness has come to be viewed, in an oversimplified manner, as a characteristic unique to man.[3]

So where does that leave the left-handed?

Lore and the Lethal Lefty

"Do We Want a Left-Handed President?" the headline of a December 1988 *Washington Post* article inquired, just before the left-handed George Bush Sr. was to raise his right hand on Inauguration Day. It was the rise of the "weakest link" theory of left-handedness. Newspapers abounded with stories connecting left-handedness to accidents, illnesses, psychological disorders, and learning disabilities, ultimately leading to a shorter life span. The kickoff was a 1980 study of Canadians, led by psychologist Stanley Coren, which found a significant drop-off of lefties in older populations. A 1988 follow-up study of baseball records, also conducted by Coren, came to the same conclusion: southpaws disappear with age. "This left us with the macabre possibility," Coren told the *New York Times* in 1989, "that there is a smaller and smaller number of left-handers in the statistics because . . . they had died." [4]

Two years later, Coren published a book popularizing a theory that left-handedness was a sign of an underlying "syndrome," a red flag for a kind of early brain damage that predisposes a person to a palette of problems that could surface throughout his or her life. And sure enough, that very spring, when President Bush entered the hospital for an overactive thyroid gland, often caused by stress, one prominent medical expert instead offered this explanation for his condition: "People with left-handedness are more prone to auto-immune thyroid disorders." [5]

In the midst of all of this, lefties fought back using the best weapon at their disposal: name-dropping. This so-called syndrome, they argued, brought the world Alexander the Great, Charlemagne, Julius Caesar, Leonardo da Vinci, Napoleon, Michelangelo, Ben

Franklin, J.S. Bach, and Babe Ruth. Just before they could add centenarians George Burns and the Queen Mother, they were being dragged back into the public square, cowering beneath more ominous front-page headlines: "Left-Handers Die Younger" came out of Washington. "Leading with Your Left May Shorten Your Life" greeted Londoners at the breakfast table. "Is the World Really Safe for Lefties?" raised hackles in Los Angeles. [6]

Some lefties wrote to newspapers, asking how this new study might affect actuarial tables, and whether switching hands midlife could tack on a few years. Others snidely suggested a campaign against left-handedness, lumped in with other self-destructive behaviors such as smoking and drinking and driving. [7]

Shortened life span aside, the quandary persists for parents and teachers: can and should such leanings be squelched? Though the pressures to convert to right-handedness are no longer as systematic or coercive as they were before the 1950s, there are residual and newly inspired antipathies toward *that hand*. Psychologists have reported significant pressures against left-handedness in the current generation. In a 1998 survey, twenty-four percent of younger-generation lefties reported some attempts to switch their handedness, an intervention that can interfere with early development while leaving an anxious trace on temperament well into adulthood. [8]

Meanwhile, the shorter life span claim is still tossed around nearly two decades after it first surfaced. On this issue, the pro-left can be their own worst enemies, as was the case in the summer of 2000 when advocates on both sides of the Atlantic argued for special protection for the left-handed, claiming the group is at greater risk of premature death, and dredging up Coren's ominous findings. One of the United Kingdom's largest unions and a New York City councilman both earned international headlines, spurring a debate that spilled out into the op-ed pages of the London *Independent*. [9]

"Forgive me. I'd always thought that being left-handed was a minor personal foible, on a par with having dodgy eyesight . . . ," scoffed the

Independent's Adam Leigh. "To compare the minimal inconveniences of living in a right-hander's world with the practical difficulties experienced in everyday life by those with physical disabilities, or the sort of discrimination meted out to racial minorities, is to take political correctness to the most absurd lengths imaginable." [10]

"If a teacher shouted abuse at a child, and rapped her over the knuckles because she was dark-haired or short-sighted, there'd be a national outcry," shot back the paper's personal finance editor, Isabel Berwick. "But it was okay for my teachers to call me 'caggie handed' and hit me with a ruler when I smudged my schoolwork." [11]

Lost in the big debate was this: the studies that claimed lefties die prematurely turned out to be spurious, refuted by the National Institute on Aging, the United States Statistical Assessment Service, the American Academy of Actuaries, and investigators across the continents. [12]

Nevertheless, the "dying lefties" myth persists, adding another burden to those who have been labeled Satanic, Communist, dirty, and disobedient because of their hand preference. From their teachers to their parents to their employers, there is no shortage of modern-day slights and insults directed toward those "with their arms on backwards," as one teacher referred to her young student in the 1970s. Even within the exacting proofs of the scientific community, right-handedness is still considered a marker of a "normal" brain lateralization, and left-handedness is still referred to as a "risk." Adding insults to alleged injuries, lefties are excluded from many research studies; their variability renders them unpredictable, a screwball variable in the data set. [13]

While modern civilization has eliminated many of the more ominous threats to the left-handed,[14] the material world still conspires against them. The average lefties may not even notice, but in any given day, they may do battle with a hair dryer cord, get into a scuffle with a right-handed zipper, struggle while opening the lid of a jar, break a few pencils in the sharpener or smudge the ink of the pen resorted to as a result, tangle themselves up in a right-handed office phone cord while pushing buttons with their right hand, carve a

notebook spiral into their left wrist as they take notes, bump elbows with their boss over lunch, calculate an Excel spreadsheet using their right-handed keyboard, cut and paste with a right-handed mouse, videotape their daughter's soccer game with a righty camcorder. After driving with a right-handed stick shift down a right-sided street to their right-handed house, they might wrestle with the kitchen implements (ladles, peelers, can openers, corkscrews, serrated knives), appliances (microwave, coffee maker, refrigerator), and tools (screws and screwdrivers).

Despite the obstacle course laid out in their path, the left-handed appear to be having a heyday. While their numbers are gaining in the population at large, they also show up disproportionately in lists of newsmakers and record breakers. They include the richest woman in the world (Oprah Winfrey) and the richest man (Bill Gates), some of the most attention-getting leaders (Bill Clinton, John McCain, George Bush Sr., NYC Mayor Mike Bloomberg, George Pataki), film and TV stars (Julia Roberts, Nicole Kidman, Angelina Jolie, Sarah Jessica Parker), comedians (Jon Stewart, Jay Leno, Jerry Seinfeld), sports stars (Randy Johnson, David Wells, LeBron James), British royalty (Prince Charles, Prince William), the two surviving Beatles, a disproportionate number of Nobel Prize winners, half of *Forbes* magazine's top ten most powerful celebrities, nearly half of baseball's Hall of Famers, an eye-popping count of top military leaders, and four of the last six United States presidents—all can claim left-handed status. [15]

Why would so many of these mysterious, doomed lefties be dominating the news? Is it revenge? Some sort of compensation? Or is there something about living in a right-handed world that gives the left-handed an edge? If so, perhaps the clumsy, gauche southpaws have something to teach the world.

The truth is that the left-handed are not a dying breed. In fact, their numbers are on the rise. The corkscrews and camcorders, insults and indignations have frustrated and inconvenienced them throughout their lives, but some of the obstacles they face—both

physical and psychological—may actually give lefties an upper hand in life.

Recent advances in genetics, neuroscience, and anthropology have yielded new evidence that left-handedness is not an unintended consequence. It is one of Darwin's variations, a trait important enough to have survived at relatively stable rates since early man, perhaps even before. So it must offer advantages. What are they?

The Left Stuff takes an outside-in look at the many forces that shape—and are shaped by—handedness. It sheds light on the complexities of left-handedness, and the extent to which culture, human psychology, neuroscience, genetics, and evolution can explain what it means to be left-handed. Translating the latest science, *The Left Stuff* seeks to uncover the truth behind the many mysteries and myths that surround the embattled trait: if the left-handed do suffer so many problems, why have they survived? And if the world was designed to thwart them, why have so many of them thrived?

2

The Right-Wing Conspiracy: *The Historical Bias Against the Left Hand*

Then shall he say also unto them on the left hand, 'Depart from me, ye cursed, into everlasting fire, prepared for the devil and his angels.'

—Matthew 25:41, the Last Judgment

In Russia you might spot them at a checkout or in a restaurant, awkwardly gripping a pen in their right hand, scribbling a sloppy name on a bill, wincing like a teenager trying to forge a parent's signature. Fearing recriminations, they learn to use their unpracticed hand in public places, or else save writing tasks for when no one is watching. Tatyana Aparshina, a saleswoman outside of Moscow,

avoids writing anything in a post office or a bank, instead preparing all her documents before she arrives. Yet even the privacy of home is not always a sanctuary. Soon after she married, Tatyana was afraid to reveal her true handedness to her new husband. This was not Stalinist Russia; this was the late 1990s. But some stigmas are slow to die.

Vladimir Druzhinin, a Russian psychologist, counseled a man who wanted to convert his young son to right-handedness before putting the left-hander in charge of the family business. The man had read that the left-handed do not make good leaders—this despite the left-handedness of United States presidents who helped to end Communist rule. "The strict and rigid system of authoritarian upbringing demanded that all left-handers were forced to become right-handers," Druzhinin told reporter Will Englund of the *Baltimore Sun*. Well into the 1970s, in fact, Soviet bloc countries had strict policies against left-handedness, with teachers going so far as to tie heavy weights to the left hand to make it impossible to lift. Today left-handedness is permitted in the schools, but a prejudice endures. "Left-handers are different, and that makes them stand out, and that makes them worthy of suspicion and public comment," says Englund. For Aparshina, public comments have included, "Why haven't they taught you to write properly?" So she takes it underground. In the Russian language, doing something on the left means doing it under the table, illegally and hastily, which is what it must feel like when a lefty wants to write or eat in peace. [1]

As for Aparshina's secret, she discovered that her husband had one too. One day, a few years after they were married, he was caught peeling potatoes . . . with his left hand. She finally confessed.

Cultural biases against the left hand persist today around the world, and the force of prejudice can be powerful enough to influence the number of left-handers a society produces. Suspicions surrounding the trait may have been powerful enough over the years to limit the mating prospects of those who possessed it, leaving fewer of them among us at different points in history. In the early part of the twentieth century, for example, only two percent of Westerners were