

# Introverts: A Defense

| Larry Dossey, MD |

Solitude is out of fashion. Our companies, our schools and our culture are in thrall to an idea I call the New Groupthink, which holds that creativity and achievement come from an oddly gregarious place. Most of us now work in teams, in offices without walls, for managers who prize people skills above all. Lone geniuses are out. Collaboration is in.... [This has led to] a colossal waste of talent, energy, and happiness.<sup>1</sup>

—Susan Cain, *Quiet: The Power of Introverts in a World that Can't Stop Talking*

What is an introvert? Generally, introverts are individuals who embrace solitude by spending time alone; process their thoughts in their head rather than talk them out; focus on depth and not superficiality; are less demonstrative emotionally and share personal data with a select few; prefer writing to talking; occasionally suffer from “people exhaustion” and need to retreat into aloneness in order to renew energy and clarity.<sup>2</sup> As poet and novelist Charles Bukowski put it, “People empty me. I have to get away to refill.”<sup>3</sup> Extroverts are polar opposites of introverts on every point. The major difference in introverts and extroverts, however, is how they respond to stimulation. Extroverts crave more outside stimulation than introverts in order to feel most alive, excited, and happy. Introverts feel more alive when they are in quieter environments.<sup>4</sup>

Soon after the terms *introvert* and *extrovert* were popularized by psychiatrist Carl Jung in the 1920s and later by the Meyers-Briggs Type Indicator personality test, a vigorous debate developed over which personality trait is “better.” Introversions was widely viewed as a character flaw. The tendency toward aloneness, it was claimed, limits one's ability to integrate and perform successfully in a competitive world. The American Psychiatric Association proposed adding “introverted personality disorder”

to their Diagnostic and Statistical Manual over 30 years ago. The World Health Organization has included a similar item in its manual for classifying diseases and related health problems. In short, extroversion has been considered advantageous; introversions needs to be fixed. The assumption is that introverts are lacking in extroversion; the possibility that extroverts might be deficient in introversions is considered absurd. Although introverts make up from one-third to half the American population, they have always been at a disadvantage in these arguments because, by their nature, they are less voluble and argumentative, more prone to listen than talk, and less likely to toot their own horn.

These two personality traits are generally believed to be uniquely human, but introversions and extroversion have been identified in almost every species of the animal kingdom, all the way down to fruit flies, one of the favorite subjects of geneticists. In actual experiments, there are fruit flies who sit still in place, as well as fruit flies that roam around and explore their environment. Some researchers believe these two types of behaviors constitute different survival strategies, each of which has value in certain situations. Because both can confer a Darwinian advantage, they have become widely distributed in the animal world, including humans.<sup>4</sup>

## THE GREAT CONTEMPORARY TERROR

Introverts are word economists in a society suffering from verbal diarrhea.<sup>5</sup>

—Michaela Chung

Today the tide is running against introverts more powerfully than ever, as social media has transformed our society into an extrovert's paradise. Not having a personal website presence is widely equated with being a nobody. The obsession with branding—the

aggressive social promotion of “me and mine”—is embraced by extroverts and has spawned a new marketing specialty, that of the personal branding consultant, for which a Google search yields over four million hits.<sup>6</sup> A related trend is the hiring of a personal life coach or trainer, who tries to help an individual stand out, meet one's life goals, and be happier. A Google search for “personal life coach” yields 80 million hits.<sup>7</sup> In the face of these developments, introverts cringe.

What fuels these trends? Author William Deresiewicz, who taught at Yale University from 1998 to 2008, probed these dynamics in an influential essay, “The End of Solitude,” published in *The Chronicle of Higher Education* in 2009<sup>8</sup>:

What does the contemporary self want? The camera has created a culture of celebrity; the computer is creating a culture of connectivity. As the two technologies converge—broadband tipping the Web from text to image, social-networking sites spreading the mesh of interconnection ever wider—the two cultures betray a common impulse. Celebrity and connectivity are both ways of becoming known. This is what the contemporary self wants. It wants to be recognized, wants to be connected: It wants to be visible. If not to the millions, on Survivor or Oprah, then to the hundreds, on Twitter or Facebook. This is the quality that validates us, this is how we become real to ourselves—by being seen by others. The great contemporary terror is anonymity ....

So we live exclusively in relation to others, and what disappears from our lives is solitude. Technology is taking away our privacy and our concentration, but it is also taking away our ability to be alone. Though I shouldn't say taking away. We are doing this to ourselves; we are discarding these riches as fast as we can.

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## LEADERSHIP

Leaders who take an approach that's kind of quiet, but coupled with a fierce will, can be incredibly effective.<sup>4</sup>

—Susan Cain

Ray Williams, a prominent executive coach and leadership trainer in Vancouver, examines how the introvert-extrovert divide influences our attitude toward leaders:

Movies, television and the news media have significantly influenced our popular images of leaders—from Clint Eastwood, to Jim Carey, Larry Ellison, and Donald Trump—for the past three decades. This stereotypical view of charismatic, extroverted individuals, often egocentric and aggressive, has been associated with what we want and expect in our leaders. Our culture, particularly in business and politics, seems to be in love with the charismatic leader—the guns blazing, no-holds-barred, center-of-attention leader, who is a super-confident if not arrogant, aggressively decisive leader of a band of star-struck followers .... The status and reputation of quiet, introverted leadership is undervalued and underappreciated. Despite decades of research on leadership pointing to other less demonstrative skills that are needed, extroverts are still favored in recruiting and promoting decisions. Yet recent research reveals that introverted, quiet leaders may be more suited for today's workplace. If you want an example of a successful introverted leader, you need look no further than Warren Buffett.<sup>9</sup>

Williams contends that extroverted leaders usually get the breaks; they tend to be valued more highly regardless of the reality of their performance. Yet, in his 20 years of work with senior business leaders, Williams has found that “most who get into trouble were extreme extroverts. Rarely did I encounter a highly respected introverted leader who shared the same fate.”

Research suggests that the success of an extroverted leader depends on the personality style of the employees who are being led. Studies by Francesca Gino of Harvard University and David Hofmann of the University of North

Carolina indicate that pairing extroverted leaders with extroverted employees who take the initiative and speak out can lead to conflict, whereas pairing an introverted leader with extroverted employees can be more successful. By the same token, extroverted managers are more successful leading employees who are introverted and not proactive. The researchers concluded that introverted and extroverted leadership styles can be equally effective, but with different kinds of employees.<sup>10</sup>

Author Susan Cain suggests another approach to leadership. She observes, “I have always been intrigued by leadership pairs that are really effective. For example, at Facebook you see Mark Zuckerberg, very introverted, working alongside Sheryl Sandberg, who is famously a people person, and that seems to be a very effective duo.”<sup>4</sup>

## A NEW VOICE

Cain, a former corporate lawyer and self-professed introvert, threw a bombshell into the introvert-extrovert controversy with her 2012 bestseller *Quiet: The Power of Introverts in a World That Can't Stop Talking*.<sup>11</sup> (Full disclosure: as a lifelong, unrepentant, unreconstructed introvert, I confess strong admiration for Cain's views.) She asserts that we live in a culture that is biased against introverts. They are widely considered to have a problem that needs curing. If only they would step forward, assert themselves, speak out, embrace teamwork, and network more—in other words, if they would become extroverts—their life would improve and they would be less annoying.

Introverts *are* often annoying. As singer-songwriter Björk says, “I spend a lot of time on my own and I shut off quite easily. When I communicate, I communicate 900 per cent; then I shut off, which scares people sometimes.”<sup>12</sup> Most introverts learn soon enough that they annoy others by their silence and not joining in. Novelist William S. Burroughs, a confirmed introvert who was an accomplished annoyer, stood his ground, saying, “Silence is only frightening to people who are compulsively verbalizing.”<sup>13</sup>

## EXTROVERTS IN SPACE

Extroverts can be oblivious to the possibility that *they* can be annoying. This fact has long been a concern of NASA. The space agency is funding research on how to put together the most compatible teams for long space voyages. Of particular interest is a future mission to Mars, which could take up to three years for a round trip. According to one report, “Extroverts tend to be talkative, but their gregarious nature may make them seem intrusive or demanding of attention in confined and isolated environments over the long term.”<sup>14</sup> Suzanne Bell, an associate professor of psychology at DePaul University and one of the researchers on the NASA study, said, “You're talking about a very tiny vehicle, where people are in very isolated, very confined spaces. Extroverts have a little bit of a tough time in that situation. It could actually get pretty annoying.” The researchers concluded that extroverts could potentially be a “liability” on these missions. Psychologist Shanique Brown, one of the researchers on the study, said, “People who are extroverted might have a hard time coping because they want to be doing a lot; they want to be engaged in a lot of things. And [on these missions], there won't be that much to do—things become monotonous after a while, and you're seeing the same people.” On one spacecraft simulation study, an extroverted team member was ostracized by two other members who were more reserved. Bell said, “They thought he was too brash, and would speak his mind too much, and talk too much.”

It is unlikely, however, that extroverts will be completely excluded from NASA's long-term missions. As Bell states, a team comprised solely of introverts is not the solution. “The question is, where's the balance, and once we find the balance, what can we do through training [to foster team compatibility]?”<sup>14</sup>

Jung would have been a good consultant to NASA. Although he started this personality spat, he never endorsed one personality type over the other, saying, “There is no such thing as a pure extravert or a pure introvert. Such a man would be in the lunatic asylum.”<sup>15</sup>

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If Jung is correct, you'd think that we, as a society, would have learned to value and accommodate both personality types, but we haven't. In fact, Cain says, "[Introverts have become] second-class citizens"<sup>16</sup>—as we shall see.

## THE WORK ENVIRONMENT

A good rule of thumb is that any environment that consistently leaves you feeling bad about who you are is the wrong environment.<sup>17</sup>

—Laurie Helgoe, *Introvert Power*

Cain shows how our workplaces, schools, and religious institutions have sold out to what she calls the New Groupthink, in which people are pooled, both psychologically and physically, to accommodate extroverts. (The original theory of "groupthink" was described by research psychologist Irving Janis of Yale University in the 1970s, to account for the errors made by groups when making collective decisions.) Cain reports, "Virtually all American workers now spend time on teams and some 70 percent inhabit open-plan offices, in which no one has 'a room of one's own.' During the last decades, the average amount of space allotted to each employee shrank ... from 500 square feet in the 1970s to 200 square feet in 2010."<sup>18</sup> A subsequent survey found that by 2012 the average amount of space per office worker in North America dropped to 176 square feet.<sup>18</sup> This lends new meaning to the complaint that the American worker is being squeezed.

When my book *Healing Words*<sup>19</sup> was published in 1993, dealing with evidence that prayer and spiritual practices might influence health and longevity, the religion editor of the *New York Times* invited me for an interview for an article later published in the newspaper.<sup>20</sup> We met in his office at the *Times* building in Manhattan. Following the interview, he offered to show me the *Times*' legendary newsroom, arguably the most famous in the world. His reverence for the place was obvious; to him it was a kind of *sanctum sanctorum*, a Holy of Holies. As we entered the vast area, I looked out on a sea of reporters in an enormous open-plan office that was the largest I had ever seen or imagined. The space was a cacophony of hundreds of voices and clacking typewriters, with people

scurrying everywhere. I was speechless. I could not imagine how the serious work of a great newspaper could get done amid what appeared to be sheer chaos, noise and confusion.

Quiet keyboards and silent computers have replaced the clacking typewriters, but the stereotypical image of a productive, creative worker endures. "When we think of a super busy person, we think of a ringing phone, a flood of e-mails, and a schedule that's bursting at the seams with major projects and side-projects hitting simultaneously," says Travis Bradberry, co-author of *Emotional Intelligence 2.0*.<sup>21</sup> "Such a situation inevitably leads to multi-tasking and interruptions, which are both deadly to productivity ... Being busy has somehow become a badge of honor. The prevailing notion is that if you aren't super-busy, you aren't important or hard working. The truth is, busyness makes you *less* productive."<sup>22</sup>

"Many introverts seem to know these things instinctively, and resist being herded together," says Cain. Their instincts are supported by evidence. Excessive stimulation impedes efficiency. In a study of 38,000 knowledge workers from various sectors, the simple act of being interrupted was found to be one of the biggest barriers to productivity.<sup>23</sup>

It's not that introverts are incapable of working within a group. "But it's one thing to associate with a group in which each member works autonomously on his piece of the puzzle; it's another to be corralled into endless meetings or conference calls conducted in offices that afford no respite from the noise and gaze of co-workers," Cain says. She reports studies showing that "open-plan offices make workers hostile, insecure and distracted. They're also more likely to suffer from high blood pressure, stress, the flu and exhaustion. And people whose work is interrupted make 50 percent more mistakes and take twice as long to finish it."<sup>24</sup> Moreover, open-office workers "argue more with their colleagues; they worry about their coworkers eavesdropping on their phone calls and spying on their computer screens. They have fewer personal and confidential conversations with their colleagues. They're often subject to loud and uncontrollable noise, which raises heart rates; releases cortisol, the fight-or-flight

'stress' hormone; and makes people socially distant, quick to anger, aggressive, and slow to help others."<sup>24</sup>

"Even multitasking," says Cain, "that prized feat of modern-day office warriors, turns out to be a myth. Scientists now know that the brain is incapable of paying attention to two things at the same time. What looks like multitasking is really switching back and forth between multiple tasks, which reduces productivity and increases mistakes by up to 50 percent."<sup>25</sup>

Microsoft decided to study the impact of interruption on their workers. They found that it took people an average of 15 minutes to return to their important projects, such as writing reports or computer code, every time they were interrupted by e-mails, phone calls, or other messages. They didn't spend the 15 minutes on the interrupting messages, either; the interruptions led them to stray to other activities, such as surfing the Web for pleasure. "I was surprised by how easily people were distracted and how long it took them to get back to the task," said Eric Horvitz, the research scientist behind the study. "If it's this bad at Microsoft, it has to be bad at other companies, too."<sup>26</sup>

The conflict over open-office versus privacy surfaced at Reebok International in 2000 when the company consolidated 1250 employees in their new headquarters in Canton, MA. The managers, in typical extroverted fashion, assumed that their shoe designers would prefer an office plan with plenty of access to each other so they could brainstorm. But when they consulted the shoe designers themselves, they found that what they actually wanted was peace and quiet so they could focus on their work.<sup>27</sup>

The twin of aloneness is solitude, a revered factor in any introvert's existence. There is little question as to its value. In one experiment, researchers found that people learn better after a quiet stroll through the woods or viewing pictures of nature than after a noisy walk down a city street.<sup>28</sup>

These findings do not come as a surprise to introverts. They wonder why businesses waste time and money doing experiments that prove what to them is obvious. And why would anyone need to justify privacy and solitude

by linking them to greater productivity or better performance? The need to “perform” is fingernails-on-the-blackboard for introverts. For true introverts, solitude is its own reward, no justification needed.

## EDUCATION

Everyone shines, given the right lighting. For some, it's a Broadway spotlight, for others, a lamplight desk.<sup>29</sup>

—Susan Cain

The New Groupthink has taken over our schools, Cain says. Elementary school classrooms are usually arranged in pods of desks, which are supposed to facilitate group learning. Math and creative writing are taught as committee projects. “In one fourth-grade classroom I visited in New York City,” Cain reports: “students engaged in group work were forbidden to ask a question unless every member of the group had the very same question.”<sup>1</sup>

Pod learning can be particularly discouraging for gifted students. “Gifted individuals are disproportionately introverted,” say research psychologists T.C. Bates and Andrew Rock.<sup>30</sup> And as neuropsychologist Nadia Webb states, “The child who is reading Harry Potter in the first grade will not appreciate it when asked to point out the letter ‘g.’”<sup>31</sup> How many introverted, gifted children have been bored senseless by confinement to learning pods geared to talkative, extraverted, average kids? As one teacher wryly put it, “Pods are appropriate for peas or killer whales, not for gifted students.”

Of course, solitude-killing pods at school are only one variety of the assaults on the privacy and alone time of children. Computers, tablets, smartphones, TVs, and game consoles also demand attention. Their attraction is practically irresistible because they offer enchanting worlds of information, skill building, and enjoyment for kids. But at what cost? As clinical psychologist Lucy Jo Palladino, author of *Parenting in the Age of Attention Snatchers: A Step-by-Step Guide to Balancing Your Child's Use of Technology*, says, “Our ‘always-on’ culture conditions children to feel restless unless they're highly stimulated. It sends them

a nonstop message that quiet time has no value when, in fact, the opposite is true. A child's growing brain needs quiet time to develop executive functions, especially voluntary attention.”<sup>32,33</sup> In short, our “always-on” culture has become an extrovert factory.

Children who never learn how to be alone are more likely to need constant stimulation and immediate gratification. What difference might these traits make in how their lives unfold? These questions led to a landmark experiment called “the marshmallow test” in the late 1960s and early 1970s by Stanford psychologist Walter Mischel.<sup>34</sup> He offered young children an immediate small reward, such as a marshmallow, but if they would wait 15 minutes they would receive twice the reward. Most of the children held out for an average of three minutes, but 30% of them waited the full 15 minutes for the double reward. Long-term follow-up until age 40 found that children who waited longer for their treats fared better in later life. This included better SAT scores, educational achievement, response to stress, long-term relationships, body mass index (BMI), and more. Palladino reports, “At every age, the marshmallow test of self-control predicted future success more accurately than any other measure, including IQ.”<sup>32</sup>

## CULTIVATING OUTSIDERS

The mantra of moms of generations past, “Go outside and play!” is a dying echo. In an understatement Palladino observes, “Children don't play much outside anymore.” She reports that during a power outage in her neighborhood lasting several hours, she heard the joyful sounds of children's laughter outside. The next day it was gone.<sup>32</sup> She cites author Richard Louv, co-founder of the Children & Nature Network, who, in his bestseller *Last Child in the Woods*, quotes a little boy: “I'd rather play inside where the electrical outlets are.”<sup>35</sup>

How to get kids outdoors? There are many programs designed to do this, but one of my favorites is HOFNOD, “Hooked on Fishing—Not on Drugs.” This program is aimed not just toward at-risk kids but children in general. Matthew Deakins, a 14-year-old kid in Washington State, came up with the idea. Matthew said he was too busy

fishing to fool around with drugs, and that fishing gave him time to “think things out.” Perhaps, he said, fishing might also help other kids stay off drugs.<sup>36</sup>

Spokane clinical psychologist Paul Quinnett took up Matthew's idea. Not only is Quinnett an avid fly fisherman but he is also an authority on substance abuse and suicide, with several books to his credit.<sup>37</sup> He is a member of the clinical faculty in the Department of Psychiatry and Behavioral Science at the University of Washington School of Medicine, and is the founder of Spokane's QPR Institute, whose goal is to save lives by preventing suicide.<sup>38</sup> Quinnett is also the author of *Pavlov's Trout*, which I admire because it is the only fly-fishing book I know that does not tell you how to catch a fish, and which maintains that “it is better to fish hopefully than to catch fish.”<sup>39</sup>

“[HOFNOD] may be the most exciting drug prevention effort ever devised for schools and communities,” Quinnett says. This highly successful program offers a kindergarten-through-12th-grade teacher's guide for fishing-related activities and lessons for kids of all ages. Quinnett adds<sup>40</sup>:

The goals are simple: Hook kids on a healthy, lifetime sport that teaches the principles of conservation, sportsmanship, ethical behavior and also reduces stress while it enhances relationships with others. Our schools offer only so many slots on the basketball and football teams, only a few kids play in the band, and only a few of the very cutest make the cheer-leading squad. Between the handful of attention-getting star performers at the top and the attention-seeking troublemakers at the bottom lies the great majority of children who pass through our schools, those without much recognition, attention, purpose, or passion. In some ways, these are our most at-risk children for drug experimentation, abuse and eventual addiction.

Why *fishing* for kids? Importantly, fishing can take place in the company of a trusted grownup who is a nonjudgmental role model. And, since fish don't like ugly places, fishing takes place in beautiful settings where there are no

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electrical outlets. Fishing engages both body and mind. A rigorous hike may be required to reach a pristine, crystalline stream or lake. This effort can evoke an enormous sense of accomplishment, particularly for urban children. What follows the hike is an exercise in solitude while fishing, through which kids acquire comfort in being alone. This pause teaches patience and therefore delayed gratification. Fishing engages kids in wonder and mystery; because you cannot see very far below the water's surface, the imagination is activated. Fishing exposes children to the beauty, rhythms, and cycles of nature. Success in fishing is not automatic; some level of expertise is required especially for beginners, so that the failure to catch a fish introduces kids to humility and the need for improvement. Some of them will intuit that, with discipline, it might be possible to increase their skills indefinitely, which can launch them into a lifelong pursuit that never, however, achieves perfection—another hallmark of mature learning. Fishing involves the frisson of hands-on contact with wild, riotously beautiful, nonhuman creatures. Catch-and-release often follows instinctively, which can be a channel for a youngster's respect for all living things. Some kids will learn the most important lesson about fishing—that actually catching a fish is a secondary consideration. There are endless additional nuances to fishing. As Quinnett says,<sup>38</sup>

Fish don't care if you're talented or in a wheelchair or blind or skinny or fat or tall or short or even what color you are. Fishing can be instantly rewarding for *any* kid. Angling gives everyone a level playing field and an equal chance .... Catching a fish won't produce a high equal to ... crack cocaine, but the *process* by which you "hook" a kid on fishing involves something which drugs can never replace ... a positive relationship with another human being. It is this relationship, not fishing per se, that can save a kid.

There are HOFNOD programs in around 20 states.<sup>41</sup> The success of these programs proves they can compete with any digital gadget yet devised in attracting kids' attention and in getting them outdoors into the bedazzlement of nature.

Physically demanding activities are simply crucial for kids—not just for their growing bodies but for their growing minds as well. In a 2013 study of fourth- through eighth-graders in the *Journal of Pediatrics*, aerobic fitness predicted higher standardized scores in math and reading.<sup>42</sup> And in a nationwide study of 5–18-year-old children diagnosed with attention problems, children exposed to natural settings after school and on weekends experienced a significant reduction of symptoms. Even walks in the park were associated with increased attention spans.<sup>43</sup>

### TERRA-ISTS AND TERRA-ISM

terra: Latin; literally *earth*

In our extroverted, "always-on" culture, too many children have become divorced from the silent, out-of-sight, gradually unfolding processes of nature. Some of the resulting blind spots are alarming. Ask any urban child where food comes from, and they are likely to say the supermarket. In a recent survey in the United Kingdom, 36% of 16–23-year-olds did not know bacon comes from pigs; 1 in 20 thought we get cheese from them. In all, 40% failed to link milk with an image of a dairy cow, with 7% linking it to wheat. In all, 33% were unable to link eggs to the image of a hen. Overall 5% believed strawberries grow inside the fridge, while 6 thought they grow on trees. Over a quarter, 28%, had no idea that carrots grow underground, while 9% believed they grow on a bush. Out of 10, 6 admitted that they didn't know lettuce grows on the ground, while 78% didn't know broccoli grows on a plant.<sup>44,45</sup>

Urban kids who are seldom encouraged to venture beyond asphalt or a city park, and whose attention is oriented to where the electrical outlets are, are unlikely to understand how the snow pack in remote mountain ranges impacts their water supply, or what a keystone species is. For them, the solution for a warmer world is likely to be better air conditioning. For too many children, "nature" is something that happens on slow-paced, boring television shows.

Those who become disconnected from nature as youngsters are less likely to become responsible citizens where environmental issues are concerned. We desperately need to educate our children in "terra-ism"—earth knowledge—and help them become "terra-ists"—earth lovers. For terra-ists, terra-ism is not just factual knowledge; it becomes internalized as a state of being, an ontological reality. Terra-ists know we cannot secede from the natural order, that we cannot fool Mother Nature. Terra-ists learn they are not observers of nature, but they *are* nature—environmentalist John Muir's realization that, "When we try to pick out anything by itself, we find it hitched to everything else in the Universe"—including ourselves.<sup>46</sup>

John Muir (1838–1914) deserves a pause in our examination of introversion. He was an exemplary terra-ist, whose passionate writings helped people understand the importance of wilderness. It is said that he embraced all of nature, "from mosquitoes to mountains."<sup>47</sup> Muir's earth wisdom—his terra-ism—was expressed as environmental activism. Muir saved Yosemite Valley in California and helped create the world's first national park system, which novelist-historian Wallace Stegner called "America's best idea."<sup>48</sup> Influenced by Muir's vision, President Theodore Roosevelt created 5 national parks, 18 national monuments, 55 national bird sanctuaries and wildlife refuges, and 150 national forests during his terms in office.

Muir was a highly introverted individual who was comfortable with solitude. He built a small cabin on Yosemite Creek in which he lived alone for two years. He designed it so that a section of the stream flowed through a corner of the room, so he could always enjoy the sound of running water.<sup>49</sup> On his hikes into the Yosemite backcountry, he traveled with "only a tin cup, a handful of tea, a loaf of bread, and a copy of Emerson," whose essays he read at night alone around his campfire under the stars.<sup>50</sup>

Muir was a brilliant advocate for the value of wild places, including their spiritual and transcendental qualities. Yet, he was no dreamy nature mystic, but was highly educated in science, especially in engineering, botany and

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geology. His activities became widely publicized and made him America's second best-known environmental celebrity after Thoreau, with whom he is often compared.

Ralph Waldo Emerson, whose writings Muir admired, once visited Yosemite with a number of academic friends from Boston and spent a day with Muir. Emerson offered him a teaching position at Harvard University, which Muir declined. He later wrote, "I never for a moment thought of giving up God's big show for a mere profship!"<sup>51</sup>

Though an introvert who preferred solitude in remote places, Muir was hardly a hermit. He co-founded the Sierra Club in 1892 and served as its president for 22 years until his death. Muir moved in political circles with great effectiveness. The high point was when President Theodore Roosevelt accompanied Muir on three-day camping trip to Yosemite in 1903. The president asked Muir to show him the real Yosemite. They set off largely by themselves into the backcountry, talking around campfires late into the night. On the third night they experienced a snowstorm that left them with five inches of fresh snow. Muir's three days and nights with Roosevelt have been called "the most important camping trip in US history."<sup>52</sup> It was an experience Roosevelt would never forget. Neither would the nation; Muir's influence on the president's subsequent environmental actions reverberates to the present day.<sup>53,54</sup>

The Muir-Roosevelt collaboration shows how fruitful combined leadership can be—Muir the confirmed introvert, Theodore Roosevelt the supreme extrovert.

## WORSHIP

He found that solitude was filled with the presence of God....  
—Rainer Maria Rilke, *Letters to a Young Poet*

The biblical injunction "Be still, and know that I am God" (Psalm 46:10, KJV) has gone into hibernation, as the New Groupthink has radically transformed religious ritual. "Many mega-churches feature extracurricular groups organized around every conceivable activity, from parenting to skateboarding to real estate, and expect worshippers to join in," Cain

says. "They also emphasize a theatrical style of worship—loving Jesus out loud, for all the congregation to see." Adam McHugh, an evangelical pastor and author of *Introverts in the Church*, told Cain, "Often the role of a pastor seems closer to that of church cruise director than to the traditional roles of spiritual friend and counselor."<sup>1</sup>

Introverts often find these animated experiences excruciatingly enervating. For them, these boisterous rituals can feel practically blasphemous, a brazen rejection of Jesus's admonition, "But thou, when thou prayest, enter into thy closet, and when thou hast shut thy door, pray to thy Father which is in secret; and thy Father which seeth in secret shall reward thee openly" (Matthew 6:6, KJV). These energetic ceremonies have arisen at least in part because of extroverts' need for outward stimulation—including, it seems, during worship.<sup>55</sup>

## THE LONE GENIUS

A wise man once said nothing.  
—Proverb

How would our most creative individuals respond to these trends? Some no doubt would be horrified. "Without great solitude, no serious work is possible," said Pablo Picasso. Sir Isaac Newton, the founder of classical physics, would surely have agreed; he was one of the most famous introverts of the Western scientific tradition. Albert Einstein, perhaps the best-known scientist in history, was also anchored in the solitary mode: "The monotony and solitude of a quiet life stimulates the creative mind."<sup>56</sup> Nikola Tesla, who vies with Thomas Edison as America's greatest inventor: "Originality thrives in seclusion free of outside influences beating upon us to cripple the creative mind. Be alone—that is the secret of invention: be alone, that is when ideas are born."<sup>57</sup> Emily Dickinson, one of America's most beloved poets, lived a famously reclusive, introverted life. J.K. Rowling, a classic introvert, came up with the idea of Harry Potter on a crowded train between Manchester to London. She recalls, "I had been writing almost continuously since the age of six but I had never been so excited about an

idea before. To my immense frustration, I didn't have a pen that worked, and I was too shy to ask anybody if I could borrow one...."<sup>58</sup> Moses, Jesus, and Buddha abandoned society, isolated themselves, and brought profound insights back to the community. Steve Wozniak, who unveiled his version of the computer to his friend Steve Jobs, offered this advice—"Most inventors and engineers I've met are like me ... they live in their heads. They're almost like artists. In fact, the very best of them are artists. And artists work best alone .... I'm going to give you some advice that might be hard to take. That advice is: Work alone ... Not on a committee. Not on a team."<sup>1,59</sup>

## INTROVERSION AND HEALTH

I would be healthier if everyone would stop telling me I'm not.  
—Jane Doe, an introverted research subject

The introversion-extroversion debate took a new turn in the first decade of the new century, as researchers began to correlate health outcomes with personality types.

In 2003, Margaret Kemeny and her colleagues at the UCLA Center for AIDS Research studied the effect of stress on viral replication in a group of 54 HIV-infected men, all of who were still in the early stages of the disease and in good health. Each possessed high T-cell counts with detectable levels of virus in the blood. The researchers put each subject through a series of lab tests to measure the response of their autonomic nervous system to stress, and gave them personality tests as well. After beginning antiretroviral drug therapy, the researchers tracked their viral loads and T-cell counts. "We found a strong linear relationship between personality and HIV replication rate in the body," the researchers said. "Shy people with high stress responses possessed higher viral loads." The antiretroviral drugs barely made a dent in the disease markers in the introverted subjects. In them, the HIV virus replicated 10 to 100 times faster as in other patients, and they continued to lose T-cells as well. The researchers speculated that these "treatment failures" were likely mediated by

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high levels of epinephrine in their blood, as a consequence of their exaggerated stress responses.<sup>60,61</sup>

In 2014 a research team from the University of Nottingham found that certain characteristics of genes that control immunity were correlated with an individual's degree of extroversion and conscientiousness. (Conscientiousness is often equated with introversion, and impulsiveness with extroversion.<sup>62</sup>) The study included 121 ethnically diverse healthy adults, 86 females and 35 males, with an average age of 24. The subjects completed personality tests that assessed their levels of extroversion, neuroticism, openness, agreeableness, and conscientiousness. Blood samples were taken from each individual to analyze gene expression. The results indicated that extroversion was significantly associated with an increased expression of genes that mediate immunity, and that conscientiousness was linked to a reduced expression of these genes. The implication is that the immune system of extroverts may be superior to that of introverts and individuals who are conscientious. However, the researchers were appropriately restrained in their interpretation of these findings, saying, "We can't however, say which came first. Is this our biology determining our psychology or our psychology determining our biology?"<sup>63</sup>

The blogosphere has not been as cautious. An example (one among many) is the article "The Health Risks of Failing to Cope with Introversion."<sup>64</sup> As the title implies, introversion should be "coped with," like any other pathological condition, or health problems may follow. The article is a rap sheet on introversion. The author refers to evidence purporting to show that introverts are more prone to bipolar disorder and depression; that 74% of depressed people are introverts; that, because introverts tend to isolate themselves, they fail to speak up about their health problems and drift into a worse standard of care; that introverts may become depressed simply because they perceive that other people view them as odd and less outgoing than most people; that introverts have a greater susceptibility to alcoholism and drug addiction; and that a

preponderance of people in methadone treatment programs are introverts. In fairness, this particular blogger appears genuinely concerned about introverts and offers helpful ways of "coping" with introversion, the subtext of which is to become more extroverted—"Maintain a large circle of friends, always consult a doctor when you feel under the weather and try not to stress too much about things and you will be able to lead a happy, fulfilling life. In order to get the most out of your career, you might also want to think about business coaching for introverts. That way, you will be able to achieve the highest level of success that you are capable of."

Similar articles such as "7 Tips To Make Networking Less Scary for Introverts"<sup>65</sup> and "15 Tips for Introverts Who Struggle at Networking Events"<sup>66</sup> are well-intended makeovers, but to introverts they can feel like the uninvented efforts of personality police, who are out of touch with the positive side of introversion as well as the negative side of extroversion. (Yes, there *is* a negative side!) For example, increasing extroversion raises the likelihood of hospitalization for accident or illness.<sup>67</sup> Extroverts are more likely to become involved in criminal or antisocial behaviors,<sup>68</sup> and they are more likely to get arrested.<sup>69</sup>

I know of no introvert who would choose an extrovert as the arbiter of her worthiness, or as an authority on how to get fixed.

## BRAINSTORMING

I think a lot, but don't say much.<sup>70</sup>  
—Anne Frank

In 1953 Alex Faickney Osborn, a charismatic advertising executive, introduced the concept of brainstorming in his book *Applied Imagination: Principles and Procedures of Creative Thinking*.<sup>71</sup> According to this technique, the answer for a specific problem can be reached by gathering a list of ideas spontaneously contributed by group members. Osborn maintained that groups almost always produce better ideas than individuals.

Brainstorming is an extroverted strategy *par excellence*, and it is in Cain's crosshairs. "Decades of research show that individuals almost always perform

better than groups in both quality and quantity," she states, "and group performance gets worse as the group size increases." Organizational psychologist Adrian Furnham agrees—"The evidence from science suggests that business people must be insane to use brainstorming groups. If you have talented and motivated people, they should be encouraged to work alone when creativity or efficiency is the highest priority."<sup>72</sup> Even so, "Participants in brainstorming sessions usually believe that their group performed much better than it actually did," says Cain. Thus, "After all these years of evidence that conventional brainstorming groups don't work, they remain as popular as ever."<sup>73</sup>

In order to understand why brainstorming fails, we must bear in mind the difference between introverts and extroverts. Most people in groups normally tend toward caution; they sit back and let others do the work. They also veer toward conformity, not wanting to go out on a limb or rock the boat. "They instinctively mimic others' opinions and lose sight of their own; and, often succumb to peer pressure," says Cain. Moreover, when introverts, who like to think first and talk later, are part of a brainstorming group, the ideas produced by the group come mainly from extroverted individuals, who tend to process their ideas by talking them out. One is reminded of Woody Allen's question to the loquacious Diane Keaton in *Annie Hall*—"Do you have no unuttered thoughts?" As a consequence of these dynamics, the ideas produced by brainstorming can largely be unfiltered, unprocessed, poorly thought out, and worthless. As Cain says, "There's zero correlation between being the best talker and having the best ideas."

Gregory Berns, a neuropsychiatrist at Emory University, offers further insight as to why brainstorming is of limited effectiveness.<sup>74</sup> Berns finds that expressing ideas that run contrary to group consensus involves what he calls "the unpleasantness of standing alone." He and his colleagues performed fMRI brain scans on individuals in a discussion group. Conformists manifested functional changes in the brain's occipital-parietal network, while nonconformists who took a stance

contrary to the group demonstrated activation of the amygdala, which is associated with psychological stress and the fear of rejection. Berns terms this “the pain of independence.” Thus there appears to be a psycho-neurological price to pay for nonconformity in groups. In order to avoid this unpleasantness and pain, introverts often adopt a “duck and cover” strategy of silence when required to participate in group work.

Brainstorming is not all bad. Cain acknowledges, “The one important exception to this dismal record is electronic brainstorming where large groups outperform individuals; and the larger the group the better.” This form of group interaction works for introverts because they can hide behind the screen. The screen protects; it mitigates “the unpleasantness of standing alone” and “the pain of independence.”<sup>1</sup>

## ALONE AND TOGETHER

The highest form of love is to be the protector of another person's solitude.<sup>75</sup>

—Rainer Maria Rilke

Love is essential, gregariousness is optional.<sup>1</sup>

—Susan Cain

As Cain observes, an increasing amount of collaborative scientific work is being conducted by individuals distant from one another. Colleagues are increasingly likely to be across the country than down the hall. The barriers of time zones, national borders, nine-to-five workdays and even languages are dissolving as we stay in touch electronically with co-workers, supervisors, and clients. This revolution in the way groups interact—“alone and together”—could be called “the revenge of the introvert,” a way of escaping “the noise and gaze” of co-workers that weigh heavily on introverts when large numbers of workers are compelled to work in groups or in open-plan office arrangements.<sup>1</sup>

As a result, Cain's disdained New Groupthink is being transformed, as workers are increasingly able to “disappear into personalized, private spaces when they want to be alone.” But we should not force the pendulum of participation to swing entirely to the

introverts' side; this would be equally problematic. The remedy for introverts is not to disenfranchise or marginalize extroverts. As in most things, balance is key. Cain—“Our schools should teach children to work with others, but also to work on their own for sustained periods of time. And we must recognize that introverts like Steve Wozniak need extra quiet and privacy to do their best work.”<sup>1</sup>

Perhaps the most important lesson is that we simply acknowledge the rich variety of the psyche, including the fact that personality types are never pure states. We must not yield to the temptation to demean those who by nature are different from ourselves. This applies not just to race, gender, sexual preference, politics, age, culture, and religion, but also to the more subtle issue of personality types.

It is early days and we are still at school. A more advanced understanding of human psychology will surely reveal that introversion and extroversion are crude measures of human personality, and that they contain granular subdivisions and subtleties we can hardly imagine.<sup>76</sup> As this realization proceeds, I can imagine that one day we will look back on our immature struggles with introversion and extraversion and smile.

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