The Talent Code

GREATNESS ISN’T BORN.
IT’S GROWN. HERE’S HOW.

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In December 2006 I began visiting tiny places that produce Everest-size amounts of talent.* My journey began at a ramshackle tennis court in Moscow, and over the next fourteen months it took me to a soccer field in São Paolo, Brazil, a vocal studio in Dallas, Texas, an inner-city school in San Jose, California, a run-down music academy in New York’s Adirondacks, a baseball-mad island in the Caribbean, and a handful of other places so small, humble, and titanically accomplished that a friend dubbed them “the chicken-wire Harvards.”

* The word *talent* can be vague and loaded with slippery overtones about potential, particularly when it comes to young people—research shows that being a prodigy is an unreliable indicator of long-term success (see page 223). In the interest of clarity, we’ll define *talent* in its strictest sense: the possession of repeatable skills that don’t depend on physical size (sorry, jockeys and NFL linemen).
Undertaking the journey presented me with a few challenges, the first of which was to explain it to my wife and four young kids in as logical (read: un-harebrained) a way as possible. So I decided to frame it as a Great Expedition, sort of like those undertaken by nineteenth-century naturalists. I made straight-faced comparisons between my trip and Charles Darwin’s voyage aboard the Beagle; I sagely expounded how small, isolated places magnify larger patterns and forces, sort of like petri dishes. These explanations seemed to work—at least for a moment.

“Daddy’s going on a treasure hunt,” I overheard my ten-year-old daughter Katie patiently explain to her younger sisters. “You know, like at a birthday party.”

A treasure hunt, a birthday—actually that wasn’t too far off. The nine hotbeds I visited shared almost nothing except the happy unlikeliness of their existence. Each was a statistical impossibility, a mouse that had not only roared but that had somehow come to rule the forest. But how?

The first clue arrived in the form of an unexpected pattern. When I started visiting talent hotbeds, I expected to be dazzled. I expected to witness world-class speed, power, and grace. Those expectations were met and exceeded—about half the time. For that half of the time, being in a talent hotbed felt like standing amid a herd of running deer: everything moved faster and more fluently than in everyday life. (You haven’t had your ego truly tested until an eight-year-old takes pity on you on the tennis court.)

But that was only half of the time. During the other half I witnessed something very different: moments of slow, fitful struggle, rather like what I’d seen on the Clarissa video. It was as if the herd of deer suddenly encountered a hillside coated with ice. They slammed to a halt; they stopped, looked, and
thought carefully before taking each step. Making progress became a matter of small failures, a rhythmic pattern of botches, as well as something else: a shared facial expression. Their taut, intense squint caused them to take on (I know this sounds weird) an unaccountable resemblance to Clint Eastwood.

Meet Brunio. He’s eleven years old, working on a new soccer move on a concrete playground in São Paolo, Brazil. He moves slowly, feeling the ball roll beneath the sole of his cheap sneaker. He is trying to learn the elastico, a ball-handling maneuver in which he nudges the ball with the outside of his foot, then quickly swings his foot around the ball to flick it the opposite direction with his instep. Done properly, the move gives the viewer the impression that the player has the ball on a rubber band. The first time we watch Brunio try the move, he fails, then stops and thinks. He does it again more slowly and fails again—the ball squirts away. He stops and thinks again. He does it even more slowly, breaking the move down to its component parts—this, this, and that. His face is taut; his eyes are so focused, they look like they’re somewhere else. Then something clicks: he starts nailing the move.

Meet Jennie. She’s twenty-four years old, and she’s in a cramped Dallas vocal studio working on the chorus of a pop song called “Running Out of Time.” She is trying to hit the big finish, in which she turns the word time into a waterfall of notes. She tries it, screws up, stops, and thinks, then sings it again at a much slower speed. Each time she misses a note, she stops and returns to the beginning, or to the spot where she missed. Jennie sings and stops, sings and stops. Then all of a sudden, she gets it. The pieces snap into place. The sixth time through, Jennie sings the measure perfectly.

When we see people practice effectively, we usually describe it with words like willpower or concentration or focus. But
those words don’t quite fit, because they don’t capture the ice-climbing particularity of the event. The people inside the talent hotbeds are engaged in an activity that seems, on the face of it, strange and surprising. They are seeking out the slippery hills. Like Clarissa, they are purposely operating at the edges of their ability, so they will screw up. And somehow screwing up is making them better. How?

Trying to describe the collective talent of Brazilian soccer players is like trying to describe the law of gravity. You can measure it—the five World Cup victories, the nine hundred or so young talents signed each year by professional European clubs. Or you can name it—the procession of transcendent stars like Pelé, Zico, Socrates, Romário, Ronaldo, Juninho, Robinho, Ronaldinho, Kaká, and others who have deservedly worn the crown of “world’s best player.” But in the end you can’t capture the power of Brazilian talent in numbers and names. It has to be felt. Every day soccer fans around the world witness the quintessential scene: a group of enemy players surround a Brazilian, leaving him no options, no space, no hope. Then there’s a dancelike blur of motion—a feint, a flick, a burst of speed—and suddenly the Brazilian player is in the clear, moving away from his now-tangled opponents with the casual aplomb of a person stepping off a crowded bus. Each day, Brazil accomplishes something extremely difficult and unlikely: in a game at which the entire world is feverishly competing, it continues to produce an unusually high percentage of the most skilled players.

The conventional way to explain this kind of concentrated talent is to attribute it to a combination of genes and environment, a.k.a. nature and nurture. In this way of thinking, Brazil is great because it possesses a unique confluence of fac-
tors: a friendly climate, a deep passion for soccer, and a genetically diverse population of 190 million, 40 percent of whom are desperately poor and long to escape through “the beautiful game.” Add up all the factors and—voilà!—you have the ideal factory for soccer greatness.

But there’s a slight problem with this explanation: Brazil wasn’t always a great producer of soccer players. In the 1940s and 1950s, with its trifecta of climate, passion, and poverty already firmly in place, the ideal factory produced unspectacular results, never winning a World Cup, failing to defeat then-world-power Hungary in four tries, showing few of the dazzling improvisational skills for which it would later become known. It wasn’t until 1958 that the Brazil the world now recognizes truly arrived, in the form of a brilliant team featuring seventeen-year-old Pelé, at the World Cup in Sweden.* If sometime during the next decade Brazil should shockingly lose its lofty place in the sport (as Hungary so shockingly did), then the Brazil-is-unique argument leaves us with no conceivable response except to shrug and celebrate the new champion, which undoubtedly will also possess a set of characteristics all its own.

So how does Brazil produce so many great players?

The surprising answer is that Brazil produces great players because since the 1950s Brazilian players have trained in a particular way, with a particular tool that improves ball-handling skill faster than anywhere else in the world. Like a nation of Clarissas, they have found a way to increase their learning

* Soccer historians trace the moment to the opening three minutes of Brazil’s 1958 World Cup semifinal victory against the heavily favored Soviet Union. The Soviets, who were regarded as the pinnacle of modern technique, were overrun by the ball-handling skills of Pelé, Garrincha, and Vavá. As commentator Luis Mendes said, “The scientific systems of the Soviet Union died a death right there. They put the first man in space, but they couldn’t mark Garrincha.”
velocity—and like her, they are barely aware of it. I call this kind of training deep practice, and as we’ll see, it applies to more than soccer.

The best way to understand the concept of deep practice is to do it. Take a few seconds to look at the following lists; spend the same amount of time on each one.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>ocean / breeze</td>
<td>bread / b_tter</td>
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<tr>
<td>leaf / tree</td>
<td>music / l_rics</td>
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<td>movie / actress</td>
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<td>gasoline / engine</td>
<td>chi_s / salsa</td>
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<td>high school / college</td>
<td>pen_il / paper</td>
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<tr>
<td>turkey / stuffing</td>
<td>river / b_at</td>
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<td>fruit / vegetable</td>
<td>be_r / wine</td>
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<tr>
<td>computer / chip</td>
<td>television / rad_o</td>
</tr>
<tr>
<td>chair / couch</td>
<td>l_nch / dinner</td>
</tr>
</tbody>
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Now turn the page. Without looking, try to remember as many of the word pairs as you can. From which column do you recall more words?

If you’re like most people, it won’t even be close: you will remember more of the words in column B, the ones that contained fragments. Studies show you’ll remember three times as many. It’s as if, in those few seconds, your memory skills
suddenly sharpened. If this had been a test, your column B score would have been 300 percent higher.

Your IQ did not increase while you looked at column B. You didn’t feel different. You weren’t touched by genius (sorry). But when you encountered the words with blank spaces, something both imperceptible and profound happened. You stopped. You stumbled ever so briefly, then figured it out. You experienced a microsecond of struggle, and that microsecond made all the difference. You didn’t practice harder when you looked at column B. You practiced deeper.

Another example: let’s say you’re at a party and you’re struggling to remember someone’s name. If someone else gives you that name, the odds of your forgetting it again are high. But if you manage to retrieve the name on your own—to fire the signal yourself, as opposed to passively receiving the information—you’ll engrave it into your memory. Not because that name is somehow more important, or because your memory improved, but simply because you practiced deeper.

Or let’s say you’re on an airplane, and for the umpteenth time in your life you watch the cabin steward give that clear, concise one-minute demonstration of how to put on a life vest. (“Slip the vest over your head,” the instructions say, “and fasten the two black straps to the front of the vest. Inflate the vest by pulling down on the red tabs.”) An hour into the flight, the plane lurches, and the captain’s urgent voice comes on the intercom telling passengers to put on their life vests. How quickly could you do it? How do those black straps wrap around? What do the red tabs do again?

Here’s an alternate scenario: same airplane flight, but this time instead of observing yet another life jacket demonstration,
you try on the life vest. You pull the yellow plastic over your head, and you fiddle with the tabs and the straps. An hour later the plane lurches, and the captain’s voice comes over the intercom. How much faster would you be?

Deep practice is built on a paradox: struggling in certain targeted ways—operating at the edges of your ability, where you make mistakes—makes you smarter. Or to put it a slightly different way, experiences where you’re forced to slow down, make errors, and correct them—as you would if you were walking up an ice-covered hill, slipping and stumbling as you go—end up making you swift and graceful without your realizing it.

“We think of effortless performance as desirable, but it’s really a terrible way to learn,” said Robert Bjork, the man who developed the above examples. Bjork, the chair of psychology at UCLA, has spent most of his life delving into questions of memory and learning. He’s a cheerful polymath, equally adept at discussing curves of memory decay or how NBA star Shaquille O’Neal, who is notoriously terrible at shooting free throws, should practice them from odd distances—14 feet and 16 feet, instead of the standard 15 feet. (Bjork’s diagnosis: “Shaq needs to develop the ability to modulate his motor programs. Until then he’ll keep being awful.”)

“Things that appear to be obstacles turn out to be desirable in the long haul,” Bjork said. “One real encounter, even for a few seconds, is far more useful than several hundred observations.” Bjork cites an experiment by psychologist Henry Roediger at Washington University of St. Louis, where students were divided into two groups to study a natural history text. Group A studied the paper for four sessions. Group B studied only once but was tested three times. A week later both groups were tested, and Group B scored 50 percent
higher than Group A. They’d studied one-fourth as much yet learned far more. (Catherine Fritz, one of Bjork’s students, said she applied these ideas to her schoolwork, and raised her GPA by a full point while studying half as much.)

The reason, Bjork explained, resides in the way our brains are built. “We tend to think of our memory as a tape recorder, but that’s wrong,” he said. “It’s a living structure, a scaffold of nearly infinite size. The more we generate impulses, encountering and overcoming difficulties, the more scaffolding we build. The more scaffolding we build, the faster we learn.”

When you’re practicing deeply, the world’s usual rules are suspended. You use time more efficiently. Your small efforts produce big, lasting results. You have positioned yourself at a place of leverage where you can capture failure and turn it into skill. The trick is to choose a goal just beyond your present abilities; to target the struggle. Thrashing blindly doesn’t help. Reaching does.

“It’s all about finding the sweet spot,” Bjork said. “There’s an optimal gap between what you know and what you’re trying to do. When you find that sweet spot, learning takes off.”*

Deep practice is a strange concept for two reasons. The first reason is that it cuts against our intuition about talent. Our intuition tells us that practice relates to talent in the same way that a whetstone relates to a knife: it’s vital but useless without a solid blade of so-called natural ability. Deep practice raises an intriguing possibility: that practice might be the way to forge the blade itself.

* Good advertising operates by the same principles of deep practice, increasing learning by placing viewers in the sweet spot at the edge of their capabilities. This is why many successful ads involve some degree of cognitive work, such as the whiskey ad that featured the tag line “…ingle ells,…ingle ells… The holidays aren’t the same without J&B.”
The second reason deep practice is a strange concept is that it takes events that we normally strive to avoid—namely, mistakes—and turns them into skills. To understand how deep practice works, then, it’s first useful to consider the unexpected but crucial importance of errors to the learning process. In fact, let’s consider an extreme example, which arrives in the form of a question: how do you get good at something when making a mistake has a decent chance of killing you?

**EDWIN LINK’S UNUSUAL DEVICE**

In the winter of 1934 President Franklin Roosevelt had a problem. Pilots in the U.S. Army Air Corps—by all accounts the military’s most skilled, combat-ready airmen—were dying in crashes. On February 23 a pilot drowned when he landed off the New Jersey coast; another was killed when his plane cartwheeled into a Texas ditch. On March 9 four more pilots died when their planes crashed in Florida, Ohio, and Wyoming. The carnage was not caused by a war. The pilots were simply trying to fly through winter storms, delivering the U.S. mail.

The crashes could be traced to a corporate scandal. A recent Senate investigation had exposed a multimillion-dollar price-fixing scheme among the commercial airlines contracted to carry the U.S. mail. President Roosevelt had swiftly responded by canceling the contracts. To take over mail delivery, the president called upon the Air Corps, whose generals were eager to demonstrate their pilots’ willingness and bravery. (They also wanted to show Roosevelt that the Air Corps deserved the status of a full military branch, equal to the Army and Navy.) Those generals were mostly right about Air
Corps pilots: they were willing, and they were brave. But in the harsh winter storms of 1934, Air Corps pilots kept crashing. Early on the morning of March 10, after the ninth pilot died in twenty days, FDR summoned General Benjamin Foulois, commander of the Air Corps, to the White House. “General,” the president said fiercely, “when are these airmail killings going to stop?”

It was a good question, one that Roosevelt might have directed at the whole enterprise of pilot training. Early pilot training was built on the bedrock belief that good pilots are born, not made. Most programs followed an identical procedure: the instructor would take the prospective student up in the plane and execute a series of loops and rolls. If the student did not get sick, he was deemed to have the capability to become a pilot and, after several weeks of ground school, was gradually allowed to handle the controls. Trainees learned by taxiing, or “penguin-hopping” in stubby-winged crafts, or they flew and hoped. (Lucky Lindy’s nickname was well earned.) The system didn’t work too well. Early fatality rates at some Army aviation schools approached 25 percent; in 1912 eight of the fourteen U.S. Army pilots died in crashes. By 1934 techniques and technology had been refined but training remained primitive. The Airmail Fiasco, as Roosevelt’s problem swiftly became known, raised the question pointedly: was there a better way to learn to fly?

The answer came from an unlikely source: Edwin Albert Link, Jr., the son of a piano and organ maker from Binghamton, New York, who grew up working at his father’s factory. Skinny, beak-nosed, and epically stubborn, Link was a tinkerer by nature. When he was sixteen, he fell in love with flying and took a $50 lesson from Sydney Chaplin (half brother of the movie star). “For the better part of that hour we did
loops and spins and buzzed everything in sight,” Link later re-called. “Thank heaven I didn’t get sick, but when we got down, I hadn’t touched the controls at all. I thought, ‘That’s a hell of a way to teach someone to fly.’”

Link’s fascination grew. He started hanging around local barnstormers, cadging lessons. Link’s father didn’t appreciate his interest in flying—he briefly fired young Edwin from his job at the organ factory when he found out about it. But Link kept at it, eventually purchasing a four-seat Cessna. All the while his tinkerer’s mind kept circling the notion of improving pilot training. In 1927, seven years after his initial lesson with Chaplin, Link went to work. Borrowing bellows and pneumatic pumps from the organ factory, he built a device that compressed the key elements of a plane into a space slightly roomier than a bathtub. It featured stubby prehensile wings, a tiny tail, an instrument panel, and an electric motor that made the device roll, pitch, and yaw in response to the pilot controls. A small light on the nose lit up when the pilot made an error. Link christened it the Link Aviation Trainer and put up an advertisement: he would teach regular flying and instrument flying—that is, the ability to fly blind through fog and storms while relying on gauges alone. He would teach pilots to fly in half the time of regular training and at a fraction of the cost.

To say that the world overlooked Link’s trainer wouldn’t be accurate. The truth was, the world looked at it and issued a resounding and conclusive no. No one he approached seemed interested in Link’s device—not the military academies, not private flying schools, not even barnstormers. After all, how could you learn to fly in a child’s toy? No less an authority than the U.S. Patent Office declared Link’s trainer a “novel, profitable amusement device.” And so it seemed destined to
become. While Link sold fifty trainers to amusement parks and penny arcades, only two reached actual training facilities: one he sold to a Navy airfield in Pensacola, Florida, and another he loaned to the New Jersey National Guard unit in Newark. By the early 1930s Link was reduced to hauling one of his trainers on a flatbed truck to county fairgrounds, charging twenty-five cents a ride.

When the Airmail Fiasco hit in the winter of 1934, however, a group of Air Corps brass grew desperate. Casey Jones, a veteran pilot who had trained many of the Army pilots, recalled Link’s trainer and persuaded a group of Air Corps officers to take a second look. In early March, Link was summoned to fly from his home in Cortland, New York, to Newark to demonstrate the trainer he’d loaned to the National Guard. The appointed day was cloudy, with zero visibility, nasty winds, and driving rain. The Air Corps commanders, by now familiar with the possible outcomes of such hazards, surmised that no pilot, no matter how brave or skilled, could possibly fly in such weather. They were just leaving the field when they heard a telltale drone overhead in the clouds, steadily descending. Link’s plane appeared as a ghost, materializing only a few feet above the runway, kissed down with a perfect landing, and taxied up to the surprised generals. The skinny fellow did not look like Lindbergh, but he flew like him—and on instruments, no less. Link proceeded to demonstrate his trainer, and in one of the first recorded instances of nerd power trumping military tradition, the officers understood its potential. The generals ordered the first shipment of Link trainers. Seven years later, World War II began, and with it the need to transform thousands of unskilled youth into pilots as quickly and safely as possible. That need was answered by ten thousand Link trainers; by the end of the war, a half-million
airmen had logged millions of hours in what they fondly called “The Blue Box.”* In 1947 the Air Corps became the U.S. Air Force, and Link went on to build simulators for jets, bombers, and the lunar module for the Apollo mission.

Edwin Link’s trainer worked so well for the same reason you scored 300 percent better on Bjork’s blank-letter test. Link’s trainer permitted pilots to practice more deeply, to stop, struggle, make errors, and learn from them. During a few hours in a Link trainer, a pilot could “take off” and “land” a dozen times on instruments. He could dive, stall, and recover, spending hours inhabiting the sweet spot at the edge of his capabilities in ways he could never risk in an actual plane. The Air Corps pilots who trained in Links were no braver or smarter than the ones who crashed. They simply had the opportunity to practice more deeply.

This idea of deep practice makes perfect sense in training for dangerous jobs like those of fighter pilots and astronauts. It gets interesting, however, when we apply it to other kinds of skills. Like, for instance, those of Brazil’s soccer players.

**Brazil’s Secret Weapon**

Like many sports fans around the world, soccer coach Simon Clifford was fascinated by the supernatural skills of Brazilian soccer players. Unlike most fans, however, he decided to go to Brazil to see if he could find out how they developed those

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* The military’s regard for the efficacy of Link’s trainers apparently went only so far. Link was permitted to sell hundreds of his devices to Japan, Germany, and the USSR in the years leading up to World War II, creating a situation where both sides in many dogfights were, training-wise, evenly matched.
skills. This was an unusually ambitious initiative on Clifford’s part, considering that he had gained all his coaching experience at a Catholic elementary school in the soccer non-hotbed of Leeds, England. Then again, Clifford is not what you’d call usual. He’s tall and dashingly handsome and radiates the sort of charismatic, bulletproof confidence one usually associates with missionaries and emperors. (In his early twenties Clifford was severely injured in a freak soccer accident—suffering internal organ damage, kidney removal—and perhaps as a result he approaches each day with immoderate zeal.) In the summer of 1997, when he was twenty-six, Clifford borrowed $8,000 from his teachers’ union and set out for Brazil toting a backpack, a video camera, and a notebook full of phone numbers he’d cajoled from a Brazilian player he’d met.

Once there, Clifford spent most of his time exploring the thronging expanse of São Paulo, sleeping in roach-infested dormitories by night, scribbling notes by day. He saw many things he’d expected to find: the passion, the tradition, the highly organized training centers, the long practice sessions. (Teenage players at Brazilian soccer academies log twenty hours per week, compared with five hours per week for their British counterparts.) He saw the towering poverty of the favelas, and the desperation in the players’ eyes.

But Clifford also saw something he didn’t expect: a strange game. It resembled soccer, if soccer were played inside a phone booth and dosed with amphetamines. The ball was half the size but weighed twice as much; it hardly bounced at all. The players trained, not on a vast expanse of grass field, but on basketball-court-size patches of concrete, wooden floor, and dirt. Each side, instead of having eleven players, had five or six. In its rhythm and blinding speed, the game resembled basketball or hockey more than soccer: it consisted of an
intricate series of quick, controlled passes and nonstop end-to-end action. The game was called *futebol de salão*, Portuguese for “soccer in the room.” Its modern incarnation was called *futsal*.

“It was clear to me that this was where Brazilian skills were born,” Clifford said. “It was like finding the missing link.”

Futsal had been invented in 1930 as a rainy-day training option by a Uruguayan coach. Brazilians quickly seized upon it and codified the first rules in 1936. Since then the game had spread like a virus, especially in Brazil’s crowded cities, and it quickly came to occupy a unique place in Brazilian sporting culture. Other nations played futsal, but Brazil became uniquely obsessed with it, in part because the game could be played anywhere (no small advantage in a nation where grass fields are rare). Futsal grew to command the passions of Brazilian kids in the same way that pickup basketball commands the passions of inner-city American kids. Brazil dominates the sport’s organized version, winning 35 of 38 international competitions, according to Vicente Figueiredo, author of *History of Futebol de Salão*. But that number only suggests the time, effort, and energy that Brazil pours into this strange homemade game. As Alex Bellos, author of *Futebol: Soccer, the Brazilian Way*, wrote, futsal “is regarded as the incubator of the Brazilian soul.”

The incubation is reflected in players’ biographies. From Pelé onward virtually every great Brazilian player played futsal as a kid, first in the neighborhood and later at Brazil’s soccer academies, where from ages seven to around twelve they typically devoted three days a week to futsal. A top Brazilian player spends thousands of hours at the game. The great Juninho, for instance, said he never kicked a full-size ball on
grass until he was fourteen. Until he was twelve, Robinho spent half his training time playing futsal.*

Like a vintner identifying a lovely strain of grape, a cognoscente like Dr. Emilio Miranda, professor of soccer at the University of São Paolo, can identify the futsal wiring within famous Brazilian soccer tricks. That *elastico* move that Ronaldinho popularized, drawing the ball in and out like a yo-yo? It originated in futsal. The toe-poke goal that Ronaldo scored in the 2002 World Cup? Again, futsal. Moves like the *d'espero, el barret, and vaselina*? All came from futsal. When I told Miranda that I’d imagined Brazilians built skills by playing soccer on the beach, he laughed. “Journalists fly here, go to the beach, they take pictures and write stories. But great players don’t come from the beach. They come from the futsal court.”

One reason lies in the math. Futsal players touch the ball far more often than soccer players—six times more often per minute, according to a Liverpool University study. The smaller, heavier ball demands and rewards more precise handling—as coaches point out, you can’t get out of a tight spot simply by booting the ball downfield. Sharp passing is paramount: the game is all about looking for angles and spaces and working quick combinations with other players. Ball control and vision are crucial, so that when futsal players play the full-size game, they feel as if they have acres of free space in which to operate. When I watched professional outdoor games in São Paolo sitting with Dr. Miranda, he would point out players who had played futsal: he could tell by the way they held the

* For a vivid demonstration of futsal’s role in developing the skills of two-time world player of the year Ronaldinho, see www.youtube.com/watch?v=6180cMhkWJA.
ball. They didn’t care how close their opponent came. As Dr. Miranda summed up, “No time plus no space equals better skills. Futsal is our national laboratory of improvisation.”

In other words, Brazilian soccer is different from the rest of the world’s because Brazil employs the sporting equivalent of a Link trainer. Futsal compresses soccer’s essential skills into a small box; it places players inside the deep practice zone, making and correcting errors, constantly generating solutions to vivid problems. Players touching the ball 600 percent more often learn far faster, without realizing it, than they would in the vast, bouncy expanse of the outdoor game (where, at least in my mind, players run along to the soundtrack of Clarissa tootling away on “The Blue Danube”). To be clear: futsal is not the only reason Brazilian soccer is great. The other factors so often cited—climate, passion, and poverty—really do matter. But futsal is the lever through which those other factors transfer their force.

When Simon Clifford saw futsal, he got excited. He returned home, quit his teaching job, and founded the International Confederation of Futebol de Salão in a spare room of his house, developing a soccer program for elementary- and high-school-age kids that he called the Brazilian Soccer School. He constructed an elaborate series of drills based on futsal moves. His players, who mostly hailed from a rough, impoverished area of Leeds, started imitating the Zicos and Ronaldinhos. To create the proper ambience, Clifford played samba music on a boom box.

Let’s step back a moment and take an objective look at what Clifford was doing. He was running an experiment to see whether Brazil’s million-footed talent factory could be grafted to an utterly foreign land via this small, silly game. He was betting that the act of playing futsal would cause some
glowing kernel of Brazilian magic to take root in sooty, chilly Leeds.

When the citizens of Leeds heard of Clifford’s plan, they were mildly entertained. When they actually witnessed his school in action, they were in grave danger of laughing themselves to death at the spectacle: dozens of pale, pink-cheeked, thick-necked Yorkshire kids kicking around small, too-heavy balls, learning fancy tricks to the tune of samba music. It was a laugh, except for one detail—Clifford was right.

Four years later Clifford’s team of under-fourteens defeated the Scottish national team of the same age; it went on to beat the Irish national team as well. One of his Leeds kids, a defender named Micah Richards, now plays for the English national team. Clifford’s Brazilian Soccer School has expanded to a dozen countries around the world. More stars, Clifford says, are on the way.