'Elegant and persuasive. *Beginners* changed the way I understand my own limitations' **Malcolm Gladwell**

'A pleasure to read' ***Guardian***

Tom Vanderbilt

Beginners

The Joy and Transformative Power of Lifelong Learning

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PROLOGUE

THE OPENING GAMBIT

One Sunday morning in a crowded room in New York City, I sat down to a chessboard with my heartbeat elevated and my stomach on the boil.

My opponent and I shook hands, as is the custom. Apart from stating our names, which we duly jotted in our notation pads, we exchanged no words. While I set the time on the clock—twenty-five minutes for each player—he methodically centered each piece on its square.

Nonchalantly, as if to appear faintly bored, I did the same. I tried to arrange my pieces even *more* symmetrically, as if seizing some minute advantage (a ploy undermined by momentary panic that I'd incorrectly placed the bishop and knight). An expectant hush fell about the room as we waited for the tournament director to give the start signal.

As we sat, I tried to size my opponent up. He idly rolled a pencil between his fingers. His eyes drifted to the neighboring tables. I peered at him with what I hoped looked like remorseless pity. I was trying to project as much feral menace as one could while sitting in a library chair. I wanted to channel a feeling that had been described to me by Dylan Loeb McClain, the former chess columnist for *The New York Times,* when, in 1995, he'd played the then world champion, Garry Kasparov, in an exhibition game.

"I didn't feel like he wanted to beat me," McClain said. "I felt like he wanted to reach across the board and strangle me." He intuited that Kasparov, hunched like an angry bear and channeling "unbelievable psychic ferocity," would not be happy gaining some minor positional

advantage, or even simply winning. Something "more personal, more disturbing" seemed to be driving him.

This is a common sensation in the world of chess. "I like the moment when I break a man's ego," the mercurial champion Bobby Fischer once put it.

I looked again at my opponent. Could I, through tactical finesse and the withering power of my merciless gaze, slowly dismantle the core of his being?

Just then, a woman appeared at his side, bearing a small carton of chocolate milk. She kissed him on the head, said, "Good luck," and flashed me an owlish smile. Ryan, my opponent, was eight years old. With admirable composure, and an occasional sniffle, he dispatched me somewhere after the thirtieth move. I congratulated him, and as I went to inform the tournament director of the result, I saw him in the hallway, ego intact, proudly relaying the news to his mother.

Ryan and I were among those gathered for a Sunday morning "Rated Beginner Open" at New York City's Marshall Chess Club. Occupying several floors of a historic town house on one of Greenwich Village's most handsome blocks, the Marshall is a delightful anachronism, a relic of the days when any number of chess teams, collegiate and otherwise, battled across the region, their exploits recorded in the sports sections of newspapers.

That it exists here today, nestled amid some of the most expensive real estate in the country, is only thanks to a plot twist worthy of Dickens.

In 1931, at the height of the Depression, a group of wealthy benefactors, chess enthusiasts all, bought the building on behalf of the club's namesake, Frank Marshall. A grandmaster and U.S. champion who'd once operated an oceanfront chess emporium in Atlantic City —where he sometimes played passersby for money—Marshall had for decades piloted his eponymous club through a number of iconic Manhattan locales, from Keens Chophouse to the Chelsea Hotel. The Marshall now had a home for life.

The place has lost a bit of its old-school luster—there are no longer jacketed waiters to serve coffee or tea—but playing chess at the Marshall today, you still feel you're in some Gilded Age temple to the Game of Kings. History envelops you: busts of famous

grandmasters; vintage photographs of team champions; the very table that Magnus Carlsen, the current world champion, sweated over as he defended his title against Sergey Karjakin in 2016.

The Marshall is no museum, though. Entering the place on a weekend, during a big tournament, is like walking into a human-powered data center: rows and rows of processors, silently calculating, thrumming with intensity, generating heat and a persistent tang of nervous perspiration.

The Sunday Beginners tournament was strictly small stakes, for players rated under 1200, or having no rating at all. Most grandmasters have ratings above 2500; I had the newbie rating of 100.

My day had started promisingly. Against my first opponent, John, a gray-haired man with the look and quiet gravity of a scholar, I'd initially fallen behind on "material," as pieces are called in chess. As the game drew on, he tried to press his advantage. And yet I kept fighting, finding inventive obstacles to his victory. To each of these he would respond with a small, tired sigh. I could feel his discomfort, and with each sigh I seemed to grow in strength.

Then, with my own king nearly surrounded, I spotted the chance for a checkmate. I just needed him to not see it. There is an old expression in chess that the winner is the player who makes the next-to-last mistake. And indeed, my opponent played offense when he needed to be playing defense, moving a pawn toward what he assumed was my demise. As I slid my rook into position, trapping his king along the "A file" (the first vertical row on a chessboard), a slow, queasy realization spread across his face.

My next opponent, Eric, was a serviceman on leave from Afghanistan, where he spent a lot of downtime playing online chess. He knew he'd be coming through New York on a visit stateside and had dedicated time for a Marshall pilgrimage. He looked a bit like the actor Woody Harrelson: buzz cut, grizzled, with a thousand-yard stare. Our match was tense and close fought, until he captured one of my rooks with a bishop pin. After I resigned, he looked relieved and said I had played much better than my rating would indicate—the first words he had uttered.

That morning's grouping, everyone from U.S. Army Rangers to AARP members to fidgety kids, was typical of the Marshall's

Beginners tournament. The age range at the Marshall must have spanned six decades, but we were all, in the eyes of chess, beginners.

There is a wonderful purity to chess's rating system, which renders distinctions like age largely irrelevant. Chess is one of the few skilled endeavors in which children can acquire a proficiency on par with adults—or above. There are twelve-year-olds who will innocently skin you alive.

There was one child in the Sunday tournament at the Marshall in whom I had a particular interest: my own daughter. We weren't paired against each other—though that moment would come—and we took very different paths that morning. She placed near the top and collected a check for eighty-four dollars, money that was immediately plowed into Beanie Babies and glitter putty at the corner toy shop.

And as I heard her gleefully report to her grandparents on the phone, later that day, "My dad finished, like, fortieth." Out of fifty-one.

What had I gotten myself into?

*

One day a number of years ago, I was deep into a game of holiday checkers with my daughter, then almost four, in the small library of a beachfront town. Her eye drifted to a nearby table, where a black-and-white board bristled with far more interesting figures (many a future chess master has been innocently drawn in by "horses" and "castles"). "What's *that*?" she asked. "Chess," I replied. "Can we play?" she pleaded. I nodded absently.

There was just one problem: I didn't know how. I dimly remembered having learned the basic moves as a kid, but chess had never stuck. This fact vaguely haunted me through my life. I would see an idle board in a hotel lobby, or a puzzle in a weekend newspaper supplement, and feel a pang.

I had picked up a general *awareness* of chess. I knew the names Fischer and Kasparov. I knew that the game had enchanted historical luminaries like Marcel Duchamp and Vladimir Nabokov. I knew the cliché about grandmasters being able to look a dozen moves ahead. I knew that chess, like classical music, was shorthand in movies for

genius—often of the evil variety. But I knew chess the way I "knew" the Japanese language: what it looks like, what it sounds like, its *Japaneseness,* without actually comprehending it.

I decided I'd learn the game, if only to be able to teach my daughter. Learning the basic moves was easy enough. It took a few hours, hunched over my smartphone at kids' birthday parties or waiting in line at Trader Joe's, to get a feel for the basic moves. Soon, I was playing, and sometimes even beating, the weakest computer opponents (the ones with catastrophic blunders abundantly programmed in). Yet it soon became apparent that I had little concept of the larger strategies.

I didn't want to try to teach what I knew only poorly. And yet how to learn? The number of chess books was dauntingly huge. Sure, there was *Chess for Dummies.* But beyond that, the chess literature was enormous. It was filled with algebraic-looking thickets of chess notation, a quasi-language that itself had to be learned.

And the books were achingly specific: for example, *A Complete Guide to Playing 3 Nc3 Against the French Defence.* That's right: an *entire* book devoted to the permutations of a *single* move—a move that, I should add, has been regularly played for a century. Yet people were still figuring out, one hundred years and many chess books later, 288 pages of new things to say about it.

A well-traveled fact one hears early in chess is that after only three moves there are more possible game variations than there are atoms in the universe. And, indeed, I felt cosmically stupefied as I tried to figure out how to boil down this exponentially complex game to someone whose favorite show was *Curious George.*

So I did what any self-respecting modern parent does: I hired a coach. The twist was that I wanted someone to teach my daughter and me at the same time.

Through some internet sleuthing, I'd found Simon Rudowski, a Brooklyn-based Polish émigré. He had an air of old-world formality, and a hint of tough-love sternness, that lent what I thought was an appropriate gravity to the task. When playing, he would move pieces with an emphatic, almost operatic flair. Simon, vegetarian, thin and hyperalert, preferred that the house be quiet, save for classical music playing quietly in the background. There were cups of tea and my

wife's fresh-baked pastries, which she had served to him during the first lesson out of politeness.

This meant-to-be-occasional treat had soon hardened, and even intensified, into an almost comic ritual. "We need to make pastries for Simon," she would urgently announce the morning of the lesson (store-bought cookies would only be nibbled at, in a subtle sign of displeasure). The music, along with the refreshments and the intrinsic elegance of the board and pieces, turned our house, or so I liked to imagine, into a sort of feverish, caffeinated Viennese salon, filled with the heady ferment of chess theory.

*

Although it scarcely occurred to me at the time, my daughter and I were also embarking on a cognitive experiment, with a sample size of two: We were two novices, attempting to learn a new skill.

We were starting from the same point, but separated by some four decades. So far, in her young life, I'd been the expert—in knowing what words meant or how to ride a bike—but now we were on curiously equal footing, at least in theory. Would one of us get better faster? Would we learn in the same way? What were our respective strengths and weaknesses? Who would prevail in the end?

I soon stopped attending the lessons. My presence, for one, seemed distracting; I was getting between her and her teacher. Also, in the beginning at least, she was picking it up much more slowly. Simon and I would sometimes grin at each other, secret confidants, when she was on the verge of discovering a difficult move on a crowded board.

I drifted to the background. I regularly played online, struggled through YouTube videos that analyzed tournament matches, and leafed through books like *Bent Larsen's Best Games.* And then my daughter and I, each armed for battle in our own way, would come together, at the kitchen table, over the chessboard.

Early on, I seemed to be doing better with the game, if only because I was more serious about it. I had an attention span, I had decades of experience with other games, I had my adult pride. When we played, she would sometimes flag in her concentration, and to

keep her spirits up, I would commit disastrous blunders and hope she would see them. In the larger chess world, I was a patzer—a hopelessly bumbling novice—but around my house at least I felt like a sage, benevolent elder statesman.

Week by week, though, she improved. She would calmly explain to me some hidden intricacy in a puzzle, or tell me why the online game I was certain I was going to win was actually likely to end in a draw. She'd learned strategies and rules of thumb that were new to me. She'd started playing in tournaments: at first, small gatherings in the basement of the local library and, eventually, the big citywide competitions. She collected trophies and landed fairly high up on the list of the country's top one hundred female players for her age. I suddenly had to work to beat her, and sometimes could not.

One reason, in retrospect, was obvious. Where I was just playing online game after online game, hoping to get better through sheer exposure—attributing wins to my talent and losses to bad luck—she was being drilled in opening theory and endgame tactics by Simon. When she lost a game, she would have to analyze, in painstaking detail, why she lost. Importantly, this often took longer than the actual match.

In the eyes of the psychologist Anders Ericsson, the man behind the now-familiar, often-misunderstood ten-thousand-hour rule, she was engaging in "deliberate practice."

I, on the other hand, was settling for "mindless repetition," trying to get better through brute force, without tangible goals. I was trying, in a way, to play like Alpha-Zero, DeepMind's celebrated artificial intelligence engine. Given no more than the basic rules of chess, AlphaZero had mastered the game after playing itself forty-four million times.* It learned as it went along the whole way through, without the aid of a coach, becoming the most formidable opponent in the world.

But I didn't have that much time or that much brainpower. "If you want to improve in chess," wrote Ericsson, "you don't do it by playing chess. You do it with solitary study of the grandmasters' games." In my crowded life, it was usually easier to play a five-minute blitz game while riding the subway.

In any case, my attention had largely shifted to her. She was the talent to be nurtured; she was winning the trophies. Her improvement was more important than mine. I had become the archetypal Chess Dad, waiting through the typical five or six hours of a scholastic tournament.

The experience is a bit like being stranded in a second-tier airport during a flight delay. You try to find a comfortable place to kill time, but you end up with the dust bunnies on the power-waxed tile floor, on some windowless lower level of a school, huddled near an electrical outlet to keep your devices alive. You graze Goldfish crackers scavenged from the parent-run concession stand and breathe stale air. You try to work, but you are hopelessly jittery and distracted.

Waiting for my daughter to return from a match, anxious about the result, I'd glance down the hall every few minutes, my senses so attuned that I could tell within a millisecond's glance whether she'd won or lost. Each scenario—a bounding, smiling run or a stoop-shouldered shuffle often accompanied by tears—had the tendency to break my heart.

During those moments of tears, I would sometimes wonder why I was putting her—and, to be honest, me—through it all. What had started as a simple, playful exploration had become something more serious. But to what end? I'd mostly bought into the societal image that equates chess with intelligence and academic success, even though I knew, rationally, that the evidence was inconclusive. The studies were typically small, often filled with motivated chess players fully aware they were being studied, and often undertaken by chess organizations themselves. There was a big "direction of causality" problem: Did chess make kids smarter, or did smarter kids gravitate to chess? If chess were so tied to intelligence, one might think better chess players would be generally smarter than lesser players or non-chess players. Again, there's no strong evidence.

Still, I tried to convince myself that there were tangible positives. I thought that chess, "as a way to teach thinking," as one educator put it, was a useful proxy for the rigors of school—concentrating, solving, memorizing, applying—dressed up in a game.

As for those tear-inducing losses, I imagined that chess tournaments, with their poignant, mostly meaningless results, might

be a good place to rehearse the larger challenges of life. And maybe the results weren't so meaningless. Three times out of four, by my rough estimation, she was playing a boy. Despite efforts at change, an attitude of gender superiority persists in chess. Male players' ratings tend to be higher, which may simply be, it's been suggested, a statistical artifact of there being so many more male players.

But there's something more to the story. A study looking at scholastic chess tournaments found that when female players played male players, they seemed to under-perform. As the researchers wrote, "*Girls lose to boys at a rate that cannot be explained in terms of initial ratings strength.*" The reason, they hypothesized, is the phenomenon of "stereotype threat": Female players were battling not only male opponents but the perception that they weren't as good. What's more, female players who didn't do as well as their rating would predict played in fewer tournaments the next year—an effect not seen in boys.

Life was going to be full of these vicious cycles, I reasoned. Let us tackle them head-on, right now. And, undoubtedly, my proudest moment as Chess Dad was when, at a big tournament, I overheard a boy telling his compatriots, all wearing the purple T-shirts of the elite Hunter College Elementary School chess squad, to "watch out for the girl in the pink bunny shirt."

*

When my daughter first began competing in scholastic tournaments, I would chat up other parents. Sometimes, I'd ask if they played chess themselves. Usually, the reply was an apologetic shrug and a smile.

When I volunteered that I was learning to play, the tone was cheerily patronizing: *Good luck with that!* I thought, "If this game is so good for kids, why are adults ignoring it?" Seeing someone playing *Angry Birds,* I wanted to tap them on the shoulder and say, "Why are you having your kids do chess while you do that? This is the Game of Kings! There are chess games recorded from the fifteenth century!"

At chess tournaments, I saw a dynamic that was all too familiar from the world of children's activities: kids doing the activity, adults like me staring into their smartphones. Sure, we parents had work to

do, work that we allowed to spill into weekends, work that helped pay for the lessons our kids were enjoying (or enduring).

But I also wondered if we, in our constant chaperoning of these lessons, were imparting a subtle lesson: that learning was for the young.

Strolling down the hall during one tournament, I looked into a classroom and saw a group of parents, with what I took to be an instructor. *They were playing chess!* Just then, as if on cue, a group of kids passed me, peering in on the same scene. "Why are adults learning chess?" one asked, in a vaguely mocking tone, to the collective amusement of the group. They marched on while I slowly died in front of a cheery bulletin board.

I was tired of sitting on the sidelines. I wanted in. And that is how I got a membership card from the U.S. Chess Federation and started joining my daughter, not at the scholastic tournaments—where I would have cut an odd figure—but at the Marshall.

Early on, I was nervous, even though I really had nothing to lose, save my pride. "A master can sometimes play badly," as one grandmaster put it, "a fan never!" And fan I was: the somber rituals, the pulse-pounding encounters, the tense atmosphere. It was three hours of sustained concentration and intense thinking, with my phone turned off. It felt like a gym for the brain.

The most striking thing was how hard it was to play against people. Playing online, at home, you were just moving pixels. In a real-life tournament, you were sitting across from a human, in all their humanness: their eyes, their scent, their body language, the strange sounds emanating from their deepest inner recesses.

This was an early lesson in learning: It is *context dependent.* You want to get good at online blitz? Play lots of online blitz. You want to get good at chess tournaments? Play at chess tournaments, against warm bodies.

And you never knew who was going to sit across from you on any given Sunday. I played—to a draw—a young girl with blue-framed eyeglasses who had the disconcerting, perhaps involuntary, habit of commenting under her breath on my moves as I made them ("thank you for bringing my king into the endgame"). There was the older man with shaking hands who set a towering, sloshing twenty-four-

ounce cup of hot coffee on the table as he sat down to play me, drawing alarmed looks from the neighboring players, positioned mere inches away; rattled, I nearly threw the game away and only salvaged a draw because my opponent was unsettled by his dwindling clock. I sent an earnest kid in a charter school uniform to his doom—it took more work than I would have liked—and felt obliged to tell his father, who was watching a movie on his smartphone, how well his son had played. I checkmated a lank-haired, somewhat eccentric man I had seen there on many occasions, wondering, a bit darkly, how long he had dwelled in the "Beginners" section. I was paired against my daughter, who coolly delivered a back-rank checkmate, trapping my helpless king on the last row.

I was nearing fifty and getting beat by kids. I loved it.

* In terms of Ericsson's formulation, assuming an average time of ninety minutes per chess match, this would entail some *sixty-six million hours* of experience for a human.

CHAPTER ONE

A BEGINNER'S GUIDE TO BEING A BEGINNER

A man . . . progresses in all things by making a fool of himself.*

—GEORGE BERNARD SHAW

BEGIN, AGAIN: A MANIFESTO

Beginners is a book for anyone who ever started out, who was unsure, who was afraid to ask a question in a roomful of people who all seemed as if they knew what they were doing. It's for anyone who had to be shown the ropes, however many times, who didn't know what they were doing but did it anyway. It's for anyone who entered a race they weren't even sure they could finish. It's a catalog of errors, a celebration of awkwardness. To paraphrase the movie *Repo Man,* it's about spending your life not avoiding tense situations but getting *into* tense situations.

It's a handbook for the clueless, a first-aid kit for the crushed ego, a survival guide for coping with this most painful, most poignant stage: the awkward, self-conscious, exhilarating dawning of the novice. It's not a "how to do" book as much as a "*why* to do" book. It's less about making you better at something than making you feel better as you try to learn. It's about small acts of reinvention, at any age, that can make life seem magical. It's about learning new things, one of which might be *you.*

*

For me, it had all begun with the chess experiment. Something had been awakened in me, thanks, ultimately, to my daughter.

Becoming a first-time parent is one of the more fundamental experiences of being a beginner. You sail into the process having chatted with friends and maybe read a few books, and on day one you're on the bunny hill of life.

"Perhaps you think that you can know what it's like to have a child, even though you've never had one, because you can read or listen to the testimony of what it was like for others," writes the Yale University professor of philosophy L. A. Paul. "You are wrong."

It is, she writes, "an epistemically unique" experience. Meaning: You don't know shit.

You barely know how to hold this breathing, blinking thing. You struggle to interpret its actions. You lie awake grappling with weird decision trees—forward- or rear-facing car seats? You wrestle with strollers. Life becomes a constant process of racing to the internet to watch You-Tube videos (a subject I'll revisit later in the book). You find yourself talking to strange new people—those heretofore ghostly figures you would pass on the street known as parents—swapping information as you rapidly scramble toward some kind of expertise.

Being a good parent, like any learning process, requires thoughtful practice. Novice parents, to the extent that there's any research on the subject, can certainly be found wanting. In one study, novice parents shown a sample household environment failed to identify *half* the child hazards that were present. Even something as basic as the way you speak to your young child can be done in a way that will ultimately make them more verbally proficient.

Beginner parents also become beginner *teachers.* And because we no longer remember, or have much access to, how we ourselves learned something, we may not be the best instructors. Playing catch with my daughter, I struggled to give more compelling instructions than "Throw the ball to me." Could I write out instructions? That wouldn't really do. Step one: Take ball. Step two: Throw ball. Maybe I could use metaphor or imagery, often so effective in sports instruction? *Imagine that you're throwing the ball. To me.*

We have to learn how to teach. Sometimes we have to relearn what we are trying to teach. I made the mistake—as I now firmly

believe it to be—of having put my daughter, at age three, on a bike with training wheels. She began happily riding around the park, until she took a corner too fast and tipped over.

Rather than teaching the actual skill needed in riding a bicycle, training wheels simply impart misplaced confidence. Such "errorless learning" may make the learner feel better, but it eliminates the huge part of learning that comes from mistakes. Like water wings in swimming, training wheels take away from the actual feeling of riding a bike.

So I took off the training wheels, stripped the pedals, and, presto, it was a "balance bike." She had some wobbles, but those wobbles were more instructive than her seemingly steadier performance on the training wheels. A few weeks later, with a starting push from me, she was off.

Like any parent, I suddenly found myself surrounded, in a way I could scarcely remember, by the process of learning. It wasn't just the chess. There was piano. Soccer. Tae kwon do. Choir. Skateboarding. Intro to Coding. Track and field. Indoor climbing. Not all of these things would "stick," but it scarcely seemed to matter. They're kids. They're exploring. We should let them try as many things as possible. It's good for them.

But something began to gnaw at me. As I became the full-time supervisor of my daughter's learning career, as I sat in any number of waiting areas while she improved, I wondered, what new skills had *I* learned?

Each of us, of course, is constantly learning new things, in endless, small ways. "As adults," write the authors of *The Scientist in the Crib,* "we at least sometimes retain our childlike ability to learn." You just rented a car at the airport? Take a minute to learn the new cockpit configuration. You're walking on a sidewalk that's not usually covered in ice, or going down an unfamiliar set of wooden stairs in your socks? You've just subtly recalibrated your proprioception—that "sixth sense" of your body in the world—or you fell. Just switched from Android to iPhone? You're going to have to retrain your fingers.

Had I, though, acquired any more substantial skills? In my job as a journalist, I am constantly learning new *information.* I am a "perpetual novice," constantly helicoptering into some world I barely

know of (nuclear waste, watchmaking) and meeting the key players, soaking up the terminology, reading the weird trade magazines—did you know the world of shipping pallets has *two* leading journals?—and otherwise geeking out. I still puff with pride when someone says, "You've really done your homework." And then it's on to the next thing.

I am brimming with *declarative knowledge,* or what is called "knowing that." I have a lot of "knowing that"; hell, I was on *Jeopardy!* (I lost, to someone who knew more of "that.")

But what about *procedural knowledge,* or "knowing how"? I was a quick study when it came to facts, but what had I actually learned to *do* lately? Compared with my daughter, I seemed to be coasting along on my professional plateau, fixed firmly in my comfort zone of competence.

This was brought home to me when, one day, her school featured a "Talent Day," in which parents were asked to demonstrate some skill in front of a room of twenty-five first graders. I racked my brain. What talent did I have? I didn't think the kids would be dazzled by the grace of my prose under deadline. I am, on the other hand, a pretty mean whistler. Or should I take them outside for a crack parallel-parking demonstration?

A thought began to emerge: I would try to learn, along with chess, a number of skills at once. Rather than just sitting on the sidelines while my daughter learned, I would join her—sometimes, as with chess, in the very same pursuit. This is a strangely novel notion. Type "learn with your child" into Google, and you get a lot of results on how to improve *their* learning. You are a foregone conclusion.

But what did I want to try to learn? Seeking inspiration, I posted an inquiry online: "What new tricks should this old dog learn?"

The first response came quickly: "Have you tried writing classes?"

Was the universe trying to tell me something?

*

In my quest to acquire skills, I had some rough criteria mapped out. First, I had to be a beginner in the activity. There were things I had

done a bit of, and certainly wouldn't mind getting better in (making pizza, fixing my bike), but I wanted real novelty.

Second, they had to be things I could learn in New York City. That semester at "gelato university" in Italy, suggested by a friend, was out (a decision not made easily), as was the mountain climbing course in Alaska.* Luckily, in a city of nine million, if you can imagine it, someone is teaching it.

The skills, furthermore, should not be too difficult or time-consuming. Learning Mandarin or how to fly a plane was out. Last, they should be things I actually really wanted to learn—not things that I felt I *should* learn.

The suggestion came several times to take coding classes. Coding is a fine enterprise, but I wanted to spend less, not more, time in front of a screen. I wasn't necessarily looking for skills that represented some kind of professional development, as worthy as that endeavor is. I had a job; I wasn't looking for another, or anything that much felt like work. More than looking to make myself more marketable to employers, I wanted to make myself more marketable to *me*.

I wanted the skills to be substantial. There are plenty of micro-skills out there—building a fire, driving a manual transmission—that are totally worthwhile and we're all constantly tackling. I am all in favor of this "micro-mastery," as it's been called: Learning little things can embolden you to learn bigger things. But most of these skills are easily achievable. I wanted things that you never finished learning.

And I wanted to stick to a small number of skills. There were all sorts of people on the internet who had embarked on self-reported quests to pick up one new skill every month, or every week, or every day; one guy had the beginner's hubris to play Magnus Carlsen after a month of learning chess. This is the Magnus who routinely defeats people who have been playing chess *every day of their lives since age five.* Not surprisingly,* the would-be challenger was handily dispatched.

I applauded the bravado spirit of such endeavors, and thought there were things I could certainly learn from them, but I wasn't looking for bucket-list items to tick off. I wasn't interested in rapidly "hacking" skills, Silicon Valley–style, so I could boast about them on

social media and move on to the next one. I wanted things I could grow into slowly, taking time to appreciate the skill and how it is learned, to measure its impact upon my life. Why not just *one* skill? you might be asking. I worried about picking something I would not like. Because I was interested in the starting stages of things, tackling more skills simply meant I would be a beginner more often.

I eventually settled on a group of pursuits I'd long wanted to learn. In addition to chess, I chose singing, surfing, drawing, and *making* (in this case, a wedding ring to replace the ones I'd lose surfing). Oh, and juggling—as much for the thing itself as for the brain research that's been done around it, which offers a fascinating window onto learning. There were all sorts of tempting things—free diving, improv theater—I put on a possible to-do list for the future.

I didn't think I was going to master any of these things. I didn't have a spare ten thousand hours—the suggested baseline of deliberate practice required to achieve mastery in a field—for anything; I'd be lucky to have *a hundred* hours for any one skill. In place of mastery, I was hoping for distributed competence.

In trying to bolster my "life résumé," I was, in some ways, trying to reach back into the past, to try to learn things that had eluded me. We often use our children as proxies for this. Under what's called "symbolic self-completion theory," parents are often suspected of trying to vanquish their own failed ambitions via their children's accomplishments.

But I was trying to use my own accomplishments to "compensate," as Jung put it, for what was unfulfilled in my past life. Sometimes, these just happened to coincide with my daughter's accomplishments. I was wary, and perhaps guilty, of trying to create my own "mini-me"—a process psychologists call enmeshment—at the expense of my daughter's own self. I wanted us to have some shared learning experiences, but not wholly overlapping ones. She urged me to learn the popular game *Magic: The Gathering,* for instance—as a former *Dungeons & Dragons* nerd, I thought it looked pretty fun—but I invented excuses. I wanted her to have her own domains in which I was the clueless adult.

I also sensed I was preparing for the future. As a somewhat older father, I wanted to make sure I would be in fighting trim—physically

and mentally—for what I hoped would be many years of shared adventures with my daughter. Climbing life's little learning curves together would, I hoped, not only bring us closer but keep me feeling younger.

I knew that I would struggle. That I would fall. But I felt it would be good for me. I would have beginner's mind; I would have beginner's *body.* My brain and muscles would forge new paths.

And I had a feeling it would be good for my daughter, too. In one fascinating experiment, researchers demonstrated, to different infant subjects, the act of retrieving a toy from a container. One adult model struggled with the process, while another adult did it quickly. The infants who saw the adult struggle tried *harder* when it was their turn to try to retrieve the toy. The ones who saw the adult do it more easily didn't want to try as much.

In learning along with our children, by tackling things together as beginners, sharing the pratfalls and little triumphs, we can actually teach them one of the most valuable lessons of all: Just because you're not immediately good at something does not mean you won't eventually get it.

THE JOY AND PAIN OF STARTING OUT

No one is born a master. We are all, at one time or another, beginners.

Being a beginner is hard. It feels better to be good at something than to be bad. People in various domains give beginners special, not complimentary names. In surfing, you're a "kook." In cycling, a "fred." In chess, a "patzer." In the military, you're a "boot" (supposedly for your freshly shined footwear*). Or simply: "noob" or "rookie" or "greenhorn." The word "novice" itself? "Beginner monk."

Beginners ask the same obvious questions, suffer from the same misconceptions, make the same mistakes. Every field has its nervous beginners. Beginner archers grip the bow too hard and aim too long. Beginner auto mechanics spill oil, snap lug nuts, strip Phillips head screws. Novice sailors run over their dinghy lines, get hair and jewelry tangled in jib sheets, and forget "how much deep and shallow water look the same."

In chess, novices, like Tolstoy's happy families, are all alike: They move their pawns too much, they bring out the queen too early, they trade pieces too readily,* they move without seeming to consider the motives for their opponent's last move. And they lose. Except when, sometimes, they beat other beginners, often from pure dumb beginner's luck.

Beginners fall down, slip up, and get hurt. It's the rookies getting woozy and dehydrated in 10K races. In snowboarding, the majority of injuries are suffered by novices. In equestrian sports, novices are eight times more likely than professionals to get hurt. In skydiving, an endeavor with particularly high consequences for error, beginner jumpers are up to twelve times more likely to be injured than someone who has jumped *at least once.*

For all the bumps and bruises, the gaffes and blunders, what I'm going to try to show you here, across the course of this book, is that being a beginner can be a wonderful thing. I hope to reveal to you something that I've become convinced of: that there is magic to the early stages.

In the beginnings of a love affair, we are in what has been called an "extreme neurobiological state": The brain is jacked on a supersized hyper-caffeinated energy drink of dopamine and stress hormones (the good kind). Our language often reverts to a fragile, childlike babble, as if we were born anew. It will all eventually calm down.

Learning a new skill is curiously similar. Your brain is in a state of hyperawareness, bathing in novelty, and almost overwhelmed as it tries to understand why the three-point shot you just unleashed and thought was perfect was actually an air ball (these moments are dubbed prediction errors).

As you plunge into learning some art or skill, the world around you appears new and bursting with infinite horizons. Each day brims with new discoveries as you take your tentative first steps, slowly pushing the bounds of exploration. You make mistakes, but even these are empowering, because they are *mistakes you have never made before.*

You're freed from the worries of "impostor syndrome"—that anxiety of not being the expert you're cracked up to be—because no

one actually expects you to be any good. You're liberated from expectation, from the weight of the past. In Zen Buddhism, this state is referred to as beginner's mind. Your mind is ready for anything, open to everything. "In the beginner's mind there are many possibilities," writes Shunryu Suzuki. "In the expert's mind there are few."

This will not be comfortable. Like a Zen pilgrimage, being a beginner means undertaking a journey of not knowing. Not only will you not know; you will not even *know* what you don't know. You will feel as if everyone were looking at you, waiting for you to make a mistake, like those loudly advertised "student drivers" you see on the road. You will wear a scarlet *B*.

As you learn new things, however, you will learn new things about yourself. You seem to make progress by leaps and bounds. You can sense exactly *how* you are improving. The novelist Norman Rush described love as like entering a series of new rooms, and each time, even though you've done this sort of thing before, you're surprised. "You never intend to go from one room onward to the next—it just happens. You notice a door, you go through, and you're delighted again." That's what learning feels like, especially in these early stages.

You should cherish this moment: The gains you make early will far exceed those you make later.

The meaning of a "steep learning curve" is often misconstrued as something that's dauntingly hard. A skill may or may not be difficult to learn, but the steepness of the learning curve is actually just a graphical representation of time versus progress. *A steep learning curve means you're climbing faster.* And the steepest learning curves come right away.

*

A few years ago, I took my daughter snowboarding. At nearly fifty years old, I was entirely new to the sport, as was she. On the drive to the mountain, I tried to approach it with the spirit of beginner's mind. I had no expectations about the activity. I might hate it, or it might be my new favorite thing. It didn't matter if I was good at it or not; I

would simply try to embrace the experience. I had no goals other than avoiding the hospital. I just wanted to enter a new "room." In all this I think I was in sync with my daughter, who had little more in mind than having fun.

After a few hours, and more than a few falls and scrapes on the icy slopes, something had happened. I had become a *snowboarder.* A bad snowboarder, to be sure, and everyone will tell you snowboarding is easier early but gets harder (with skiing, it's the opposite).

But a metamorphosis had happened: I went from a person who had never been on a snowboard in his life to one who had successfully ridden one down a large hill, if not yet a mountain. I'd sailed up the learning curve, and it's unlikely I'll ever see such a single jump in snowboarding improvement again. "Hold on to this," I thought.

For most of us, the beginner stage is something to be gotten through as quickly as possible, like a socially awkward skin condition. But I want to suggest that even if we're only passing through, we should pay particular attention to this moment. For once it goes, it's hard to get back.

Think of a time when you first visited a new, distant place, one with which you were barely familiar. Upon arrival, you were alive to every novelty. *The smell of the food in the street! The curious traffic signs! The sound of the call to prayer!* Flushed from the comfort of your usual surrounds, forced to learn new rituals and ways to communicate, you gained sensory superpowers. You paid attention to everything because you didn't even know what you needed to know to get by. After a few days, as you became more expert in the place, what seemed strange began to become familiar. You began noticing less. You became safer in your knowledge. Your behavior became more automatic. The burst of neural activity you experienced at the outset subsided.

As a sometime travel writer, I have a strategy: Take the most notes on the first day. That's when you see the most. In the clumsily self-conscious early stages of skill learning, it can be hard to remember to take note of your surroundings. But *progress will come.* Just enjoy the moment; take it all in.

Even as your skills and knowledge progress, there is a potential value to holding on to that beginner's mind.

In what's come to be known as the Dunning-Kruger effect, the psychologists David Dunning and Justin Kruger famously showed that on various cognitive tests the people who did the worst were also the ones who most "grossly overestimated" their actual performance. They were "unskilled and unaware of it."

This can certainly be a stumbling block for beginners. But additional research later showed the only thing worse than hardly knowing anything was knowing *a little bit more.* This pattern appears in the real world: Doctors learning a spinal surgery technique committed the most errors not on the first or second try but on the *fifteenth;* pilot errors, meanwhile, seem to peak not in the earliest stages but at around eight hundred hours of flight time.

I'm not suggesting experts have much to fear from beginners. Experts, who tend to be "skilled, and aware of it," are much more efficient in their problem-solving processes, more efficient in their movement (the best chess players, for example, tend also to be the best speed chess players). They can draw upon more experience, more finely honed reflexes. Beginner chess players will waste time considering a huge range of possible moves, while grandmasters zero in on the most relevant options (even if they then spend a lot of time calculating which of those moves are best).

And yet, sometimes, the "habits of the expert," as the Zen master Suzuki called it, can be an obstacle—particularly when new solutions are demanded. With all their experience, experts can come to see what they expect to see. Chess experts can become so entranced by a move they remember from a previous game that they miss a more optimal move on a different part of the board.

Or consider an experiment involving a group of London taxi drivers, an oft-studied class with super-proficient navigational skills. They were asked to plan a route in a fictitious town whose layout they'd just learned. They did this quite well—much better than people who didn't drive taxis. But when they were asked to plan a route in a new, fictitious area that was grafted onto the London they knew, their

performance suffered. The London they knew—the "overlearned" London—was getting in the way.

This tendency for people to default to the familiar, even in the face of a more optimal novel solution, has been termed the *Einstellung* effect (after a German word that means "set").

In the famous "candle problem," people are asked to attach a candle to the wall using nothing more than a box of matches and a box of tacks. People struggle to solve it because they get hung up on the "functional fixedness" of the box as a *container* for tacks, not as a theoretical *shelf* for the candle. There is one group, it turns out, that tends to do pretty well on the candle problem: five-year-olds.

Why? The researchers who found this suggest that younger children have a more fluid "conception of function" than older children or adults. They are less hung up on things being *for* something, and more able to view them simply as things to be used in all sorts of ways. Small wonder they conquer new technology so handily; *everything* is new for them.

Children, in a very real sense, have beginners' minds, open to wider possibilities. They see the world with fresher eyes, are less burdened with preconception and past experience, and are less guided by what they know to be true. They are more likely to pick up details that adults might discard as irrelevant. Because they're less concerned with being wrong or looking foolish, children often ask questions that adults won't ask.

Take the curious case, reported in *The New York Times,* of a funeral home that had accidentally placed the wrong body in a casket.

At the funeral, the grieving adults had noted how the deceased, a beloved relative who had died of cancer, looked strangely different from the woman they remembered. But they all found ways to explain the difference. The chemo had changed her hair. Time on a respirator had changed the way she looked. The adults, used to living in an ordered, rational world, did not consider the possibility of such a colossal mistake. They used all their knowledge and wisdom to deceive themselves. It took a ten-year-old boy among them to raise the preposterous suggestion,* only later confirmed to be the startling truth: The body before them was not their relative.

No one wants to stay a beginner. We all want to get better. But even as our skills improve, and our knowledge and experience grow, what I hope to encourage throughout this book is the preservation, even cultivation, of that spirit of the novice: the naïve optimism, the hypervigilant alertness that comes with novelty and insecurity, the willingness to look foolish, and the permission to ask obvious questions—the unencumbered *beginner's mind.*

What the chess master Benjamin Blumenfeld advised a century ago applies as much to life as to chess: "Before you make your move, look at the position like if you were a beginner."

YOU'RE NEVER TOO OLD TO BE A BEGINNER (TERMS AND CONDITIONS MAY APPLY)

Being a beginner can be hard at any age, but it gets harder as you get older.

For children, it's practically their job to be beginners. Their brains and bodies are built for doing, failing, and doing again. We applaud virtually anything they do, because they are trying.

Parents know well the phenomenon of "toddler helping," in which the child wants to, say, help "clean" the kitchen, an act that itself usually requires a second, more thorough cleaning by the parent. We allow it because the extra cleaning feels better than telling them they can't do something.

With adults, it's more complicated. The phrase "adult beginner" has an air of gentle pity. It reeks of obligatory retraining seminars and uncomfortable chairs. It implies the learning of something that you should have perhaps already learned.

There is safety in sticking with what we're already good at. "It's hard to be old and bad at something," as a friend, returning to hockey after many decades, put it. We can be so put off by being a beginner that we forget we were once beginners in all sorts of things, until we were not.

Even children sometimes prefer to dwell in this cocoon of competence. When one of my daughter's friends turned down an invitation to go snowboarding, his father explained, a bit sheepishly,

"He kind of only likes to do things he's good at." I wanted to shout, *How does he know? He's only gone once!*

Adult beginners face their own kind of "stereotype threat," the one that says it's harder to learn when you're older. There's a pernicious, goading little voice: *You've started too late. Why bother?* One day, at her swim lesson, I was impressed to see my daughter "flip turn" at the end of the lane while doing a backstroke. This is not something I can do. "How'd you learn to do that?" I asked. "You have to be a kid," she responded matter-of-factly.

As I was finding out, this kind of idea is deeply ingrained in chess.* There seems to be a relation between the age at which you first learned the game and your later success in tournaments. This idea is so pervasive that Magnus Carlsen, the current number one, is held as a fascinating outlier. "At five years old," one account marvels, "an age by which any aspiring grandmaster should at least have made a start—Magnus Carlsen showed little interest in chess."

Sitting down against younger opponents, I tried to keep in mind a bit of advice gleaned from Stephen Moss's book *The Rookie:* Just face them the way you would anyone else.

This could be hard. The way they played just threw me. In the face of my agonized dithering, they would launch fast, brute-force attacks—sometimes effective, sometimes foolhardy. "Children just kind of go for it," Daniel King, the English grandmaster and chess commentator, told me. "That kind of confidence can be very disconcerting for the opponent."

Young children, for example, have been shown to be faster and more accurate at tests involving "probabilistic sequence learning"—the sort in which people must guess which triggers will lead to what events (for example, if you press button A, event X will happen).

After age twelve, this ability begins to decline. As researchers suggest, people start relying more on "internal models" of cognition and reasoning, instead of what they see right in front of them. In other words, they over-think things. In chess games, where my adult opponents often seemed to battle unseen internal demons, the kids just seemed to twitch out a series of moves.

I was buying into the stereotype threat. If I lost to an adult, I would chalk it up to my own stupid errors; if I lost to a child, I would

suddenly imagine them as some incipient genius against whom I never had a chance.

When I asked Simon, our chess coach, about what it was like to teach adult chess beginners versus child chess beginners, he thought for a moment and said, "Adults need to explain to themselves why they play what they play." Kids, he said, "don't do that." He compared it to languages. "Beginner adults learn the rules of grammar and pronunciation and use those to put sentences together. Little kids learn languages by talking."

The analogy goes deeper than we might think.

My daughter was, in effect, learning chess like a *first* language, whereas I was learning it like a second language. Even more important, she was learning it young. Language is one of those endeavors (like music, and perhaps chess) that seems to flourish best if learned during a so-called sensitive period in which, as one researcher described it, "neural systems are particularly responsive to relevant stimuli, and are more susceptible to change when stimulated."

By contrast, because I am an adult, expert speaker of English, my brain may be so "tuned" to the sounds of my native language that it is harder for me to take on new grammar. What I know already gets in the way of what I want to learn. Kids, by knowing less, can actually learn more (the cognitive scientist Elissa Newport calls it the "less is more hypothesis").

Harder does not mean impossible. "Sensitive" periods are not "critical" periods, and the science, in any case, is not conclusive. The skill of having perfect pitch, for example, which not only is exceedingly rare but has long been thought to be impossible outside a narrow band of childhood, can, as research from the University of Chicago has shown, be trained—if to not quite as high a level as those possessing "true" perfect pitch—in some adults.

Kids often make more progress simply because they are *kids,* with lives built largely around learning, having few other responsibilities, and with eager parents to cheer them on. They are also motivated: If you were dropped into an entirely new setting, the way infants are, and found that you couldn't communicate, *you'd* probably learn pretty quickly.