

INTRODUCTION

MISSION IMPOSSIBLE

THE WINDOWS OF A SPACESHIP casually frame miracles. Every 92 minutes, another sunrise: a layer cake that starts with orange, then a thick wedge of blue, then the richest, darkest icing decorated with stars. The secret patterns of our planet are revealed: mountains bump up rudely from orderly plains, forests are green gashes edged with snow, rivers glint in the sunlight, twisting and turning like silvery worms. Continents splay themselves out whole, surrounded by islands sprinkled across the sea like delicate shards of shattered eggshells.

Floating in the airlock before my first spacewalk, I knew I was on the verge of even rarer beauty. To drift outside, fully immersed in the spectacle of the universe while holding onto a spaceship orbiting Earth at 17,500 miles per hour—it was a moment I'd been dreaming of and working toward most of my life. But poised on the edge of the sublime, I faced a somewhat ridiculous dilemma: How best to get out there? The hatch was small and circular, but with all my tools strapped to my chest and a huge pack of oxygen tanks and electronics strapped onto my back, I was square. Square astronaut, round hole.

The cinematic moment I'd envisioned when I first became an astronaut, the one where the soundtrack swelled while I elegantly pushed off into the jet-black ink of infinite space, would not be happening. Instead, I'd have to wiggle out awkwardly and patiently, focused less on the magical than the mundane: trying to avoid snagging my spacesuit or getting snarled in my tether and presenting myself to the universe trussed up like a roped calf.

Gingerly, I pushed myself out headfirst to see the world in a way only a few dozen humans have, wearing a sturdy jetpack with its own thrusting system and joystick so that if all else failed, I could fire my thrusters, powered by a pressurized tank of nitrogen, and steer back to safety. A pinnacle of experience, an unexpected path.

Square astronaut, round hole. It's the story of my life, really: trying to figure out how to get where I want to go when just getting out the door seems impossible. On paper, my career trajectory looks preordained: engineer, fighter pilot, test pilot, astronaut. Typical path for someone in this line of work, straight as a ruler. But that's not how it really was. There were hairpin curves and dead ends all the way along. I wasn't destined to be an astronaut. I had to turn myself into one.



I started when I was 9 years old and my family was spending the summer at our cottage on Stag Island in Ontario. My dad, an airline pilot, was mostly away, flying, but my mom was there, reading in the cool shade of a tall oak whenever she wasn't chasing after the five of us. My older brother, Dave, and I were in constant motion, water-skiing in the mornings, dodging chores and sneaking off to canoe and swim in the afternoons. We didn't

have a television set but our neighbors did, and very late on the evening of July 20, 1969, we traipsed across the clearing between our cottages and jammed ourselves into their living room along with just about everybody else on the island. Dave and I perched on the back of a sofa and craned our necks to see the screen. Slowly, methodically, a man descended the leg of a spaceship and carefully stepped onto the surface of the Moon. The image was grainy, but I knew exactly what we were seeing: the impossible, made possible. The room erupted in amazement. The adults shook hands, the kids yelled and whooped. Somehow, we felt as if we were up there with Neil Armstrong, changing the world.

Later, walking back to our cottage, I looked up at the Moon. It was no longer a distant, unknowable orb but a place where people walked, talked, worked and even slept. At that moment, I knew what I wanted to do with my life. I was going to follow in the footsteps so boldly imprinted just moments before. Roaring around in a rocket, exploring space, pushing the boundaries of knowledge and human capability—I knew, with absolute clarity, that I wanted to be an astronaut.

I also knew, as did every kid in Canada, that it was impossible. Astronauts were American. NASA only accepted applications from U.S. citizens, and Canada didn't even have a space agency. But . . . just the day before, it had been impossible to walk on the Moon. Neil Armstrong hadn't let that stop him. Maybe someday it would be possible for me to go too, and if that day ever came, I wanted to be ready.

I was old enough to understand that getting ready wasn't simply a matter of playing "space mission" with my brothers in our bunk beds, underneath a big *National Geographic* poster of the Moon. But there was no program I could enroll in, no manual I could read, no one even to ask. There was only one

option, I decided. I had to imagine what an astronaut might do if he were 9 years old, then do the exact same thing. I could get started immediately. Would an astronaut eat his vegetables or have potato chips instead? Sleep in late or get up early to read a book?

I didn't announce to my parents or my brothers and sisters that I wanted to be an astronaut. That would've elicited approximately the same reaction as announcing that I wanted to be a movie star. But from that night forward, my dream provided direction to my life. I recognized even as a 9-year-old that I had a lot of choices and my decisions mattered. What I did each day would determine the kind of person I'd become.

I'd always enjoyed school, but when fall came, I threw myself into it with a new sense of purpose. I was in an enrichment program that year and the next, where we were taught to think more critically and analytically, to question rather than simply try to get the right answers. We memorized Robert Service poems, rattled off the French alphabet as quickly as we could, solved mind-bending puzzles, mock-played the stock market (I bought shares in a seed company on a hunch—not a profitable one, it turned out). Really, we learned how to learn.

It's not difficult to make yourself work hard when you want something the way I wanted to be an astronaut, but it sure helps to grow up on a corn farm. When I was 7 years old we'd moved from Sarnia to Milton, not all that far from the Toronto airport my dad flew in and out of, and my parents bought a farm. Both of them had grown up on farms and viewed the downtime in a pilot's schedule as a wonderful opportunity to work themselves to the bone while carrying on the family tradition. Between working the land and looking after five kids, they were far too busy to hover over any of us. They simply expected that if we

really wanted something, we'd push ourselves accordingly—after we'd finished our chores.

That we were responsible for the consequences of our own actions was just a given. One day in my early teens, I drove up a hedgerow with our tractor a little too confidently—showing off to myself, basically. Just when I got to feeling I was about the best tractor driver around, I hooked the drawbar behind the tractor on a fence post, breaking the bar. I was furious at myself and embarrassed, but my father wasn't the kind of father who said, "That's all right, son, you go play. I'll take over." He was the kind who told me sternly that I'd better learn how to weld that bar back together, then head right back out to the field with it to finish my job. He helped me with the welding and I reattached the bar and carried on. Later that same day, when I broke the bar again in exactly the same way, no one needed to yell at me. I was so frustrated about my own foolishness that I started yelling at myself. Then I asked my father to help me weld the bar back together again and headed out to the fields a third time, quite a bit more cautiously.

Growing up on a farm was great for instilling patience, which was necessary given our rural location. Getting to the enrichment program involved a 2-hour bus ride each way. By the time I was in high school and on the bus only 2 hours a day, total, I felt lucky. On the plus side, I'd long ago got in the habit of using travel time to read and study—I kept trying to do the things an astronaut would do, though it wasn't an exercise in grim obsession. Determined as I was to be ready, just in case I ever got to go to space, I was equally determined to enjoy myself. If my choices had been making me miserable, I couldn't have continued. I lack the gene for martyrdom.

Fortunately, my interests dovetailed perfectly with those of the Apollo-era astronauts. Most were fighter pilots and test pilots;

I also loved airplanes. When I was 13, just as Dave had and my younger brother and sisters would later, I'd joined Air Cadets, which is sort of like a cross between Boy Scouts and the Air Force: you learn about military discipline and leadership, and you're taught how to fly. At 15 I got my glider license, and at 16, I started learning to fly powered planes. I loved the sensation, the speed, the challenge of trying to execute maneuvers with some degree of elegance. I wanted to be a better pilot not only because it fit in with the just-in-case astronaut scenario, but because I loved flying.

Of course, I had other interests, too: reading science fiction, playing guitar, water-skiing. I also skied downhill competitively, and what I loved about racing was the same thing I loved about flying: learning to manage speed and power effectively, so that you can tear along, concentrating on making the next turn or swoop or glide, yet still be enough in control that you don't wipe out. In my late teens I even became an instructor, but although skiing all day was a ridiculously fun way to make money, I knew that spending a few years bumming around on the hills would not help me become an astronaut.

Throughout all this I never felt that I'd be a failure in life if I didn't get to space. Since the odds of becoming an astronaut were nonexistent, I knew it would be pretty silly to hang my sense of self-worth on it. My attitude was more, "It's probably not going to happen, but I should do things that keep me moving in the right direction, just in case—and I should be sure those things interest me, so that whatever happens, I'm happy."

Back then, much more than today, the route to NASA was via the military, so after high school I decided to apply to military college. At the very least, I'd wind up with a good education and an opportunity to serve my country (plus, I'd be paid to go to school). At college I majored in mechanical engineering, thinking

that if I didn't make it as a military pilot, maybe I could be an engineer—I'd always liked figuring out how things work. And as I studied and worked numbers, my eyes would sometimes drift up to the picture of the Space Shuttle I'd hung over my desk.



The Christmas of 1981, six months before graduation, I did something that likely influenced the course of my life more than anything else I've done. I got married. Helene and I had been dating since high school, and she'd already graduated from university and was a rising star at the insurance agency where she worked—so successful that we were able to buy a house in Kitchener, Ontario, before we even got married. During our first two years of wedded bliss, we were apart for almost 18 months. I went to Moose Jaw, Saskatchewan, to begin basic jet training with the Canadian Forces; Helene gave birth to our first child, Kyle, and began raising him alone in Kitchener because a recession had made it impossible to sell our house; we came very close to bankruptcy. Helene gave up her job and she and Kyle moved to Moose Jaw to live in base housing—and then I was posted to Cold Lake, Alberta, to learn to fly fighters, first CF-5s, then CF-18s. It was, in other words, the kind of opening chapter that makes or breaks a marriage, and the stress didn't decrease when, in 1983, the Canadian government recruited and selected its first six astronauts. My dream finally seemed marginally more possible. From that point onward, I was even more motivated to focus on my career; one reason our marriage has flourished is that Helene enthusiastically endorses the concept of going all out in the pursuit of a goal.

A lot of people who meet us remark that it can't be easy being married to a highly driven, take-charge overachiever who

views moving house as a sport, and I have to confess that it is not—being married to Helene has at times been difficult for me. She’s intimidatingly capable. Parachute her into any city in the world and within 24 hours she’ll have lined up an apartment, furnished it with IKEA stuff she gaily assembled herself and scored tickets to the sold-out concert. She raised our three children, often functioning as a single parent because of the amount of time I was on the road, while holding down a variety of demanding jobs, from running the SAP system of a large company to working as a professional chef. She is an über-doer, exactly the kind of person you want riding shotgun when you’re chasing a big goal and also trying to have a life. While achieving both things may not take a village, it sure does take a team.

This became extremely clear to me when I was finishing my training to fly fighters and was told I’d be posted to Germany. Helene was very pregnant with our second child, and we were excited about the prospect of moving to Europe. We were already mentally vacationing in Paris with our beautifully behaved, trilingual children when word came down that there had been a change of plans. We were going to Bagotville, Quebec, where I’d fly CF-18s for the North American Aerospace Defense Command (NORAD), intercepting Soviet aircraft that strayed into Canadian airspace. It was a great opportunity to be posted to a brand-new squadron, and Bagotville has much to recommend it, but it is very cold in the winter and it is not Europe in any season. The next three years were difficult for our family. We were still reeling financially, I was flying fighters (not a low-stress occupation) and Helene was at home with two rambunctious little boys—Evan was born just days before we moved to Bagotville—and no real career prospects. Then, when Evan was 7 months old, she discovered she was pregnant again. At the time, it felt to both of us less

like a happy accident than the last straw. I looked around, trying to picture what life would be like for us at 45, and thought it would be really hard if I continued to fly fighters. The squadron commanders were working their tails off for not much more money than I was already making; the workload was enormous, there was very little recognition and there was nothing even vaguely cushy about the job. Aside from anything else, being a fighter pilot is dangerous. We were losing at least one close friend every year.

So when I heard Air Canada was hiring, I decided it was time to be realistic. Working for an airline would be an easier life for us, one whose rhythms I already knew well. I actually went to an initial class to get my civilian pilot ratings and then Helene intervened. She said, “You don’t really want to be an airline pilot. You wouldn’t be happy and then I wouldn’t be happy. Don’t give up on being an astronaut—I can’t let you do that to yourself or to us. Let’s wait just a little bit longer and see how things play out.”

So I stayed on the squadron and eventually got a tiny taste of being a test pilot: when an airplane came out of maintenance, I would do the test flight. I was hooked. Fighter pilots live to fly, but while I love flying, I lived to understand airplanes: why they do certain things, how to make them perform even better. People on the squadron were genuinely puzzled when I said I wanted to go to test pilot school. Why would anyone give up the glory of being a fighter pilot to be an engineer, essentially? But the engineering aspects of the job were exactly what appealed to me, along with the opportunity to make high-performance aircraft safer.

Canada doesn’t have its own test pilot school, but usually sends two pilots a year to study in France, the U.K. or the U.S. In 1987, I won the lottery: I was selected to go to the French school, which is on the Mediterranean. We rented the perfect house there, which came complete with a car. We packed our things, we had

goodbye parties. And then, two weeks before we were to wrangle our three kids onto the plane—Kristin was about 9 months old—there was some sort of high-level dispute between the Canadian and French governments. France gave my slot away to a pilot from another country. To say it was a big disappointment personally and a major setback professionally is to understate the case. We were beside ourselves. We'd hit a dead end.



As I have discovered again and again, things are never as bad (or as good) as they seem at the time. In retrospect, the heartbreaking disaster may be revealed as a lucky twist of fate, and so it was with losing the French slot in the spring. A few months later, I was selected to go to the U.S. Air Force Test Pilot School (TPS) at Edwards Air Force Base, and our year there changed everything. It started out perfectly: we headed to sunny Southern California in December, just as winter gripped Bagotville. Unfortunately, we couldn't go into base housing until the moving van arrived with our furniture. Fortunately, that took several weeks, and in the meantime, we got to spend Christmas at a hotel in Disneyland.

The next year, 1988, was one of the busiest and best of my life. Test pilot school was like getting a Ph.D. in flying; in a single year we flew 32 different types of planes and were tested every day. It was incredibly tough—and incredibly fun: everyone in the class lived on the same street, and we were all in our late 20s or early 30s and liked to have a good time. The program suited me better than anything I'd done to that point, because of its focus on the analytical aspects of flying, the math, the science—and the camaraderie. It was the first time, really, that I'd been part of a group of people who were so much like me. Most of us wanted

to be astronauts, and we didn't need to keep our desire a secret anymore. TPS is a direct pipeline to NASA; two of my classmates, my good friends Susan Helms and Rick Husband, made it and became astronauts.

It wasn't at all clear, though, if test pilot school would be a route to the Canadian Space Agency (CSA). When, or even whether, the CSA would select more astronauts was anyone's guess. Only one thing was certain: the first Canadian astronauts were all payload specialists—scientists, not pilots. By that point, though, I'd already committed to trying to follow the typical American path to becoming an astronaut. Maybe I'd wind up with the wrong stuff for the only space agency where I had the right passport, but it was too late to change tack. On the plus side, however, even if I never became an astronaut, I knew I'd feel I was doing something worthwhile with my life if I spent the rest of it as a test pilot.

Our class toured the Johnson Space Center in Houston and visited other flight test centers, like the one in Cold Lake, Alberta, and the Patuxent River Naval Air Station in Maryland, where I ran into a Canadian test pilot who was there as part of a regular exchange program. This guy casually mentioned that his tour was going to end soon and he'd be heading back to Cold Lake, so he guessed someone would be sent to replace him but he wasn't sure who, yet. When I told Helene about this later, she gave me an are-you-thinking-what-I'm-thinking look.

I was. Pax is one of the few major test centers in the world. They have the resources to do cutting-edge work such as testing new types of engines and new configurations for military aircraft, not just for the U.S. but for many other countries, from Australia to Kuwait. Not surprisingly, given the relative size of the Canadian military, Cold Lake tests many fewer planes and focuses on

modifications, not on expanding the planes' fundamental capabilities. We had loved living in Cold Lake while I was training to fly fighters, but we'd be spending many years there after I finished test pilot school—why not try to get a stint at Pax first? And yes, there was something else, too: we had become accustomed to warm winters. So I called my career manager (a military officer whose job it is to figure out which billets need to be filled and who could best fill them) and said, "Hey, it would save the Forces about \$50,000 if, rather than move us all the way back up to Cold Lake and some other family down to Pax River, you just moved us straight out to Maryland." He was unequivocal: "No way. You're coming back." Oh well, it had been worth a try. But the fact of the matter was that the Canadian government had spent about a million dollars to send me to test pilot school. They had every right to tell me where to go.

We started getting ready to move again. But a month later, I got a phone call from the career manager: "I've got a great idea. How about I send you straight to Pax River?" It probably didn't hurt my case that I was the top graduate that year at TPS and had led the team whose research project got top honors. That was a big deal for me, personally, and I took some nationalistic pride in it, too—a Canadian, the top U.S. Air Force test pilot graduate! I was even interviewed by a reporter for the Cold Lake newspaper. No one at the paper could think of a title for the article, though, so they called out to the test center, and whoever answered the phone said, "Just call it 'Canadian Wins Top Test Pilot' or something to that effect." A friend mailed me a copy of the article, which was a nice keepsake as well as a reality check for my ego. The headline that ran? "Canadian Wins Top Test Pilot or Something to that Effect."

Helene and I decided to make a family vacation out of our move to Pax River, so in December 1988, we packed up our light

blue station wagon with fake wooden side panels, a hideous looking vehicle we called The Limo, and drove from California to Maryland. We were a young couple with three little kids, seeing the southern states for the very first time: we went to SeaWorld, explored caves, spent December 25 in Baton Rouge—it was a great adventure.

So was our time at Pax. We rented a farmhouse instead of living in base housing, which was a nice change for everyone. After a while Helene got a job as a realtor because the hours were somewhat flexible; Kyle, Evan and Kristin all eventually started school. And I tested F-18s, deliberately putting them out of control way up high, then figuring out how to recover as they fell to Earth. At first I was pretty tentative, because I'd spent my life trying to control airplanes, not send them ripping all over the place, but as I gained confidence I started trying different techniques. By the end I was hooked on the feeling: just how far out of control could I get the plane to go? In that program we developed some good recovery techniques, counterintuitive ones that wound up saving planes as well as pilots' lives.

Meanwhile, I was still thinking about what qualifications I would need if the CSA ever started hiring again. An advanced degree seemed like a must, so I worked evenings and weekends to complete a master's degree in aviation systems at the University of Tennessee, which had a great distance learning program. I only had to show up to defend my thesis. Probably my most significant accomplishment at Pax River, though, was to pilot the first flight test of an external burning hydrogen propulsion engine, an engine that would make a plane fly far faster than the speed of sound. The paper that Sharon Houck, the flight test engineer, and I wrote about our research won The Society of Experimental Test Pilots' top award. For us, it was like winning an Oscar, not least

because the ceremony was held in Beverly Hills and the audience included legendary pilots like Scott Crossfield, the first person in the world to fly at Mach 2, twice the speed of sound.

To cap it all off, I was named the U.S. Navy test pilot of the year in 1991. My tour was drawing to a close and I'd achieved the American dream—citizenship notwithstanding. My plan was to relax a bit and enjoy our final year in Maryland, spend more time with the kids and play a little more guitar. And then the Canadian Space Agency took out an ad in the newspaper.

Wanted: Astronauts.



I had about 10 feverish days to write and submit my resumé. Helene and I set about making this thing the most impressive document ever to emerge from rural Maryland. Certainly it was one of the most voluminous: there were pages and pages, listing everything I'd ever done, every honor and award and course I could remember. This was back in the day of the dot matrix printer, so we decided we should get it professionally printed, on high quality paper. Then Helene decreed it should be bound, too. That would catch their eye! A professionally bound resumé, approximately the size of a phone book. But we didn't stop there: I had a francophone friend translate the entire thing into perfect French, and we had that version separately printed and bound. We proofed both documents so many times that at night I was dreaming about errant commas, and then we seriously debated driving to Ottawa so we could be 100 percent certain my application got there on time. Reluctantly, I agreed to trust a courier—then called the CSA to be sure the package had actually arrived. It had, along with 5,329 other applications. That was January 1992.

What followed was the least comfortable five-month period of my life. I kept trying to do everything right but there was no feedback and no way to tell if I was succeeding or not.

We heard nothing for weeks, but finally a letter arrived: I'd made it to the top 500 round! The next step was to fill out some psychiatric evaluation forms. I did, and the response was, "You'll hear from us, yes or no, within a few weeks." The "few weeks" came and went. Radio silence. Another week dragged by. Had I come off as so psychologically unbalanced that they were concerned to tell me I was a "no"? Eventually I couldn't stand the uncertainty any longer and phoned the CSA. The guy who answered said, "Wait a minute, let me look at the list. Hadfield. Hmmm . . . Oh yeah, here's Hadfield. Congratulations, you've made it to the next level." Not for the last time, I wondered whether this whole process was in fact a cunningly designed stress test to see how applicants coped with uncertainty and irritation.

By this point, there were 100 of us left. I was asked to go to Washington, D.C., for an interview with an industrial psychologist, who met me in the lobby of a hotel and announced, "I didn't rent a hall or anything, we'll just talk in my room." As we headed up there, all I could think was that if I were a woman, I really would not be feeling good about this at all. When we got to his room, he invited me to make myself comfortable, and I hesitated: bed or chair—which would say the right thing about me? I opted for the chair and answered some questions that were fairly obviously intended to reveal little more than severe psychoses. If I remember correctly, he asked whether I'd ever wanted to kill my mother.

More weeks of waiting, but the phone did finally ring: 50 of us had been given the nod to go to Toronto for more interviews.

Fifty! At this point I did allow myself to believe I had a chance of being selected, and decided it was time to tell my career manager what I was up to. In the U.S., the military pre-selects applicants; you apply to your service and they decide whose names to put forward to NASA. But in Canada, the military had no role in the process, and I think they were rather confused when I called and said, “Thought I should let you know that I’ve applied to be an astronaut, so you might need to replace me at Pax River a little earlier than planned—or not.”

Nothing was much clearer to me after Toronto, where I had initial medical tests to make sure I was basically healthy, as well as a lengthy panel interview with a few CSA people, including Bob Thirsk, one of the first Canadian astronauts. I went back to Maryland, where Helene was excited and confident, and I tried to lead my normal life but could not forget for a moment what was hanging in the balance. For so long, becoming an astronaut had been a theoretical concept, but now that it was really happening—or not—it was horribly nerve-wracking. Would the 9-year-old boy achieve his dreams?

Then I made the final round. Twenty candidates were being summoned to Ottawa at the end of April for a week, so they could get a really good look at us. I was already exercising and eating carefully, but now I really got serious. I wanted to be sure my cholesterol was low—I knew they’d put us under the microscope, medically speaking—and that I was the picture of good health. I figured out the 100 things they might ask me and practiced my answers. Then I practiced them in French. When I got to Ottawa my first thought was that I had some serious competition. The other 19 applicants were impressive. Some had Ph.D.s. Some were military college graduates like me. Some had reams of publications to their names. There were doctors and scientists and

test pilots, and everyone was trying to project casual magnificence. Of course, the set-up could not have been more anxiety inducing. No one even knew how many of us might make the final cut. Six? One? I was trying to appear serenely unconcerned while subtly implying that I was the obvious choice, with all the qualifications they were looking for. I hoped.

It was a busy week. There was a mock press conference, to see whether we were skilled at public relations or could be trained to do it. There were in-depth medical exams involving many vials of bodily fluids and a great deal of poking and prodding. But the real make-or-break event was an hour-long panel interview, which included CSA bigwigs, PR people and astronauts. I thought about it all week: How to stand out, yet not be a jerk? What were the best answers to the obvious questions? What should I not say? I'm pretty sure I was the last interview of the week, but in any event the panel members were clearly accustomed to one another's interviewing styles and in the habit of deferring to Mac Evans, who later went on to head the CSA. When it was time to answer a question, they'd say, "Mac, you want to take this one?" I felt I'd bonded a little with these people over the past week, and when someone asked me a really tough question, it just popped out of my mouth: "Mac, you want to take this one?" It was a gamble and could have come off as arrogance, but they laughed uproariously, which bought me another minute to think up a decent answer. However, there was no actual feedback. I had no idea whether they liked me more or less than anyone else. I headed back to Maryland having no clue whether they were going to choose me or not.

In parting, we'd been told that on a particular Saturday in May, all 20 of us would get a phone call between 1:00 and 3:00 p.m. to confirm whether we'd been selected or rejected. When that

Saturday finally arrived, I decided the best thing to do to make the time pass more quickly would be to go water-skiing with friends who had a boat, so that's what we did. Then Helene and I went back to the house to eat lunch and watch the clock. We figured they'd call the people they wanted to hire first, so if someone declined, they could move on to the next name on the list. We were right: shortly after 1:00 the phone rang, and I picked it up in the kitchen. It was Mac Evans, asking if I wanted to be an astronaut.

I did, of course. I always had.

But my main emotion was not joy or surprise or even huge enthusiasm. It was an enormous rush of relief, as though a vast internal dam of self-imposed pressure had finally burst. I had not let myself down. I had not let Helene down. I had not let my family down. This thing we'd worked toward all this time was actually going to happen. Mac told me I could tell my family, as long as they understood it needed to be kept entirely under wraps, so after Helene and I absorbed the news—insofar as we could—I called my mother and swore her to secrecy. She must have started phoning people as soon as she hung up. By the time I got my grandfather on the line, it was old news.

In the subsequent months, there would be excitement, a secret meeting with the other three new astronauts, then hoopla and publicity, even some pomp and circumstance. But the day I got the call from the CSA, I felt as though I'd suddenly, safely, reached the summit of a mountain I'd been climbing since I was 9 years old, and was now looking over the other side. It was impossible, yet it had happened. I was an astronaut.

Only, as it turned out, I wasn't yet. Becoming an astronaut, someone who reliably makes good decisions when the consequences really matter, takes more than a phone call. It's not

something anyone else can confer on you, actually. It takes years of serious, sustained effort, because you need to build a new knowledge base, develop your physical capabilities and dramatically expand your technical skill set. But the most important thing you need to change? Your mind. You need to learn to think like an astronaut.

I was just getting started.