Chris Hadfield
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THE POWER OF NEGATIVE THINKING

"HOW DO YOU DEAL WITH YOUR FEAR?"

It's one of the questions I'm asked most often. When people think about space exploration, they don't just picture Neil Armstrong stepping off the ladder of the Lunar Module and onto the Moon. They also remember the smoke plume etched in the sky after the Space Shuttle *Challenger* exploded shortly after launch, and the startling, fiery bursts of light as *Columbia* disintegrated on re-entry, raining down metal and human remains. These spectacularly violent images of space flight have been engraved on public consciousness as deeply as the joyfully triumphant ones.

Naturally then, when people try to imagine what it feels like to sit in a rocket with the engines roaring and firing, they assume it must be terrifying. And it *would* be terrifying if you were plucked off the street, hustled into a rocket ship and told you were launching in four minutes—and oh, by the way, one wrong move and you'll kill yourself and everybody else. But I'm not terrified, because I've been trained, for years, by multiple teams of experts who have helped me to think through how to handle just about every conceivable situation that could occur between launch and landing. Like all astronauts, I've taken part in so many highly realistic simulations of space flight that when the engines are finally roaring and firing for real, my main emotion is not fear. It's relief.

At last.

In my experience, fear comes from not knowing what to expect and not feeling you have any control over what's about to happen. When you feel helpless, you're far more afraid than you would be if you knew the facts. If you're not sure what to be alarmed about, everything is alarming.

I know exactly how that feels, because I'm afraid of heights. When I stand near the edge of a cliff or look over the railing of a balcony in a high-rise, my stomach starts tumbling, my palms sweat and my legs don't want to move even though the rising panic in my body insists that I get back to safety. Right now. That physical response doesn't bother me, though. I think everyone *should* be afraid of heights. Like fearing pythons and angry bulls, it's a sensible self-preservation instinct. But I recognize it seems incongruous for a pilot/astronaut to be afraid of heights. How can I possibly do my job when just being up high triggers primal fear?

The answer is that I've learned how to push past fear. Growing up on the farm, my brothers and sisters and I used to go out to our barn, where the grain was stored, and climb up to the rafters, then jump down into the grain, just to feel the way the dried kernels suddenly rushed up around our feet and legs, like deep, loose, rounded gravel. So long as we landed feet-first and balanced, we would come to a smooth stop. As we gained confidence, we leapt from higher and higher rafters, until we were jumping from two or three stories up, daring each other, daring ourselves. My fear was there always, strongly, but I wasn't immobilized by it. I always managed to make myself jump. I think I was able to do it because of the gradual buildup in terms of height, the progressive sense of confidence rooted in actual experience and the simple fact that practice made me more skilled.

But my fear of heights didn't go away. When I was a teenager, my dad used to take me flying in his biplane. In the summertime it was warm enough to take the canopy off and fly open cockpit, with nothing at all between us and the sky—or the ground, when my dad flew upside-down and did aerobatics. Initially, suspended headfirst, thousands of feet above the ground, restrained from falling only by a seat-belt, I was paralyzed by terror. My hands and my arms reflexively braced against the side of the cockpit, as if holding on would hold me in. Every muscle in my body was tensed, vibrating, and there was a rushing feeling, almost like a noise, going up and down the back of my skull.

Yet I didn't fall out of the plane. The seat-belt attached in five places and kept me pinioned, rock-solid, in my seat. My eyes told me that nothing was keeping me from plummeting to my death, but with experience, I started to be able to override that sensation with reason. I was actually just fine. I wasn't going to fall out of the plane. Eventually the fear that I *might* faded.

I'm still scared to stand at the edge of a cliff. But in airplanes and spaceships, while I know I'm up high, I'm also sure I can't fall. The wings and structure and engines and speed all succeed in keeping me up, just as the surface of the Earth holds me up when I'm on the ground. Knowledge and experience have made it possible for me to be relatively comfortable with heights, whether I'm flying a biplane or doing a spacewalk or jumping into a mountain of grain. In each case, I fully understand the challenge, the physics, the mechanics, and I know from personal experience that I'm not helpless. I do have some control.

People tend to think that astronauts have the courage of a superhero—or the emotional range of a robot. But in order to stay calm in a high-stress, high-stakes situation, all you really need is knowledge. Sure, you might still feel a little nervous or stressed or hyper-alert. But what you won't feel is terrified.

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1. Obviously, Chris Hadfield is talking about flying and we're talking about aging and death, and so some of what he says doesn't apply.

2. But we're talking about the *fear* of aging, and the *fear* of death. How many things can you find in this passage that do apply to how we handle ourselves as we grow older?