

Aerial Roots: How circus has helped me grow as an ecologist

By Samantha Rose Schwab



I was an artsy, creative type up through high school, and still consider myself equal parts artist and scientist. There's an intriguing dichotomy between my current self, a third year graduate student in Ecology and Evolution, and my younger self, with her fear of and disinterest in nature. Whenever I was forced to go on outdoor excursions with my Girl Scout troop, I'd cry and complain during most of the trip about the bugs, the dirt, and the lack of running water. Then, when I was fifteen, my friend Connor took me on a tour of the woods by our high school. He encouraged me to kneel down and examine the marvelous biodiversity in a tiny patch of the forest floor. For the first time, ants didn't make me cringe; they were an equal, integral part of the world that spit me out too after millions of years of evolution.

Since I didn't uncover my fascination with the natural world until I was halfway through high school, I felt like I was too far behind my science-oriented peers to seriously consider pursuing science. When I began college, I planned to major in theatre, and was too intimidated to take any biology courses, despite my interest in the subject. Then, during a family trip to Sedona, Arizona during my freshman year, my curiosity about ecology and evolution was reinvigorated when I wandered a few yards off the rocky trail and sat down at the base of a small juniper tree. As I ran my fingers through the red, dusty soil, I discovered what felt like a treasure trove of rocks and fallen juniper sprigs and berries. The awe that overcame me, and the intense curiosity about how these things had come to be, reminded me of visiting the woods with Connor, and put my passion for ecology back into focus. Inspired and galvanized by my experience in Arizona, I mustered up the courage to take introductory biology as a sophomore. I tentatively planned to minor in environmental science, and then considered a major in environmental policy. After gradually upping the ante on my scholastic commitment to science, I graduated with a unique double major in biology and theatre.

I spent the first semester of my senior year of college studying wildlife ecology in a study abroad program in rural Kenya. This was a huge accomplishment for me; it proved how serious I was about pursuing ecology, and that I was capable of living with bugs, dirt, and discomfort, and thoroughly enjoy (nearly) every minute of it. Back on campus, I saw a flyer for an introductory workshop in aerial circus arts. I had seen Cirque du Soleil as a teenager and was awestruck at the strength, grace, and beauty of the performers; I never even considered that I could attempt the same feats. Still exhilarated by my success in living through my fears in Kenya, I decided to try facing my other fears of heights and being upside down.

I remember my first aerials classes vividly. When the instructor put a secure knot in the fabric just a foot off the mat, helped me into it, and flipped me upside down for the first time, I screamed in terror, cried, and flailed my limbs like an overturned cockroach. I didn't know

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which way was up or down or how I would ever get my feet back on solid ground again. A week later, when I first hung by my knees on the trapeze bar, I fully expected to fall the two feet to the mat and crack my skull open. I didn't trust myself at all, and couldn't conceive that I was, or ever could be, capable of the strength and courage required of an aerial circus artist. Nonetheless, I left each class feeling a little bit stronger, and the elation of having done something I thought impossible kept me coming back for more.

After graduating from college, I spent a few years working as an environmental educator, while also training at the circus school a few times a week. At first, I felt completely unqualified to teach kids about nature and get them excited about science. As I gained more experience, made embarrassing mistakes, and learned how to say, "Great question! I have no earthly idea," I realized that, despite my self-doubts, I had become an effective and enthusiastic educator. After having spent so much time outside amidst the uninhibited curiosity of children, I now wanted to study the natural world in greater depth. I studied hard for the GRE, took it twice for good measure, and applied to numerous Master's programs in ecology and conservation biology. Because I still doubted my scientific ability, I didn't initially apply to any PhD programs. However, by the end of my first year in graduate school, I had excelled in my courses and deepened my passion and fascination of ecology, so I switched from the master's track to the PhD track.

Meanwhile, I was slowly progressing in my aerials classes and gaining confidence in my strength. It took me over a year to move up from the beginner level, partially because I was still learning to trust myself on the apparatuses, but I was dedicated and persistent. I began learning drops: tricks that involve climbing up high, wrapping yourself in the apparatus, then letting go with whatever body part is keeping you from falling, so you dive, plummet, or pinwheel towards the ground until the wraps stop you, or you grab back on in just the right way and at just the right moment. When I was first learning drops, my teacher would help me wrap for a drop, tell me to go ahead, that I was perfectly secure, but I would remain suspended in terror, stuck in the moment just shy of trusting myself enough to let go. Sometimes I would remain in the uncomfortable pre-drop position for a few minutes before letting go, with the rope pinching my skin and squeezing the breath out of me. Over time, I learned to trust in my own competence, count to three, and drop.

During these first few years of my PhD program, I have been surprised to realize that the toughest part of graduate school (so far) is having the confidence to ask questions, offer alternative explanations, and propose research ideas. When I have something to say during a class or meeting, I sometimes feel like I've climbed to the top of the rope and prepared for a drop; my heart rate accelerates, my body tenses up, and I become temporarily paralyzed by my perceived inadequacy. During these moments, I have learned to remind myself that I'm strong enough to not fall to my death during circus class, and also tough enough to overcome the fear of my own incompetence. I then take a deep breath and offer my idea, feeling like I'm in that moment of free-falling limbo when I've let go for a drop, but haven't finished it yet and regained my bearings. As I've become more confident as an ecologist, I've begun to really enjoy this free-fall as I discover how my ideas interact with discussions, perspectives, and research initiatives.

After three years in my program, there are moments when I still struggle to maintain the confidence that I can and will offer important contributions to my field, but I've grown more adept at taking chances on myself, even if that means occasionally voicing an idea that falls flat, or falling off the apparatus onto the mat. I know that completing my degree and having a successful career as an ecologist won't be easy, and neither will improving my aerials skills, but I relish overcoming the challenges.

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