

Ruthy Ballard Questions for Media

1. Why did you get interested in writing a series of books for middle graders, especially focused on science and fantasy?

Initially, when I first starting writing my children's books, I had no conscious intent or purpose. But in retrospect, I think there were a couple of driving forces. First, I was deeply troubled by the current global ecological crisis, which is a looming existential threat to our survival. And being a scientist by training, I took very seriously the gloomy scenarios my fellow scientists were predicting, and believed that widespread scientific literacy would be crucial in the coming decades. What better way to achieve that aim than writing entertaining, science-rich stories for children that would build that literacy while hooking kids into science who might otherwise find it intimidating? Second, my favorite book series as a child was C.S. Lewis' *The Chronicles of Narnia*. While those books weren't rich in science, they were full of fun, intriguing fantasy, and they heavily influenced my writing. If I was going to write children's books, I wanted the kids to be as captivated my books as I'd been by the Narnia series (which, even now, I read end-to-end every couple of years.)

2. Were you interested in science as a child? How so?

I was drawn to science as far back as I can remember. Even when I was three or four years old, I was fascinated by the Universe and wondered about my place in it. When I was five, I was captivated by a picture book about our solar system and a short book for early readers titled *You Will go to Mars*. Every birthday and Christmas, I asked my parents for a telescope, but because they were musicians, with virtually no interest in (or knowledge of) science, and my father thought women belonged in the home, I got piano lessons or "girly stuff" instead. I can recall clearly one Christmas morning, when I was about eight, when I was sure my parents were going to follow through. But my "big present" was a vanity table instead!

3. What books did you read as a middle grader?

I read *The Chronicles of Narnia*, and *Nancy Drew* (early editions written in the 1930s and 1940s). I can also remember reading the *Mrs. Piggle Wiggle* series, *A Wrinkle in*

Time (and other books in that series), and *The Phantom Tollbooth*. And, of course, any science books I could get my hands on.

4. *Frankie and the Gift of Fantasy* is the first title in the Tales by Moons-light series.

How did the protagonist Frankie develop?

I modeled Frankie (very loosely) after the son of a friend. My friend is a “helicopter parent” and worried that her unmotivated, laid-back pre-teen would amount to nothing. I saw something else in him—a lively imagination—and I felt sad that she didn’t recognize, or know how to nurture, his wonderful gift. As a child, I’d felt unseen and unappreciated by my musician parents, because I was a born scientist. I felt keenly for my friend’s son, and Frankie’s adventure is about his escaping the stifling shadow of his own oppressive parents, learning about and mastering his gift, and eventually living the life he was born to live, sharing his authentic self with the world. Along the way, his parents transform, too, and the rift between Frankie and his parents is healed. It’s a story of transformation and hope, and I suppose it’s what I wished had happened to me when I was young.

5. Climate change is a theme in your books. What do you say to the naysayers, and how do you think your middle grade readers will address this in the future?

I’ve found it difficult to talk to naysayers about “climate change” because many are repulsed by the term and their eyes glaze over. I’ve learned that you can’t remove, by logic, something that got into a person’s head another way, and I believe the resistance is rooted, in many, by an irrational fear of government control. I usually skip the phrase “climate change” and focus on more tangible problems like plastic pollution, emerging diseases, and mass extinction, which, in reality, are all different manifestations of the same global ecological melt-down. I can usually get some traction there. As for middle grade readers, I think it’s absolutely essential that they understand the power of science to solve the existential threat we face, to trust what the scientists are telling us about what’s happening, and to feel empowered and inspired to do something about it. My books are set on a distant planet called Urth, after a catastrophe that Urth people call “the Great Melt.” My stories are hopeful because Urth people have survived and thrived despite the calamity, but only by

taking sane, science-based steps to recover. They learned their painful lesson and now live simply and in harmony with nature.

6. Aside from being a children’s book author and illustrator, you are also a DNA specialist who took thirteen Sacramento State Students to Tanzania and Kenya to collect 1,000 saliva samples from native peoples. How did that come about?

In order to do DNA testing to help solve forensic (criminal) cases and do paternity testing, scientists need to understand the distribution and frequencies of the DNA “markers” so critical to the DNA typing process. This involves large-scale testing of populations around the world, because different population groups have different marker frequencies. I was aware of this when I climbed Mt. Kilimanjaro in 2001 (driven by an interest in scaling high peaks, not my work as a forensic scientist), but when I arrived there, I realized that Tanzania was a “virgin population” where no testing had ever been done. I loved the country and its people and I decided to embark on the needed study, but I faced a number of obstacles. One was getting permission from the Tanzanian government to sample its people (approval took almost two years), another was raising funds, and the third was deciding how best to go about the process since so many residents lived in remote, isolated villages where they spoke a variety of different tribal languages. I decided that saliva was the easiest, and safest, way to collect DNA from the people, and once I received my sampling permit, I arranged for a safari company to take my Sacramento State research students and me out into the bush so we could begin. The project took about three years to complete, and we’d traveled all over the country by the time we were done, collecting about 1,000 saliva samples overall. We called the adventure “Saliva Safaris” and eventually published our findings. Our work provided allowed Tanzanian scientists to use DNA testing, with confidence, to solve crimes and assign paternity.

7. What is the most important thing you hope your middle grade readers take away from reading your books?

Basic scientific literacy. I want them to love and trust science, and if they found it intimidating prior to reading my books, I want them to find science fun and accessible.

8. What is the next book in the series? Tell us a bit about it.

The next book is *Tales by Moons-light: Stories from before the Great Melt*. It's a collection of science-rich short stories, much like our Grimm's fairy tales, which children on my fantasy planet, Urth, read for fun (preferably in bed at night, under the covers, with a lantern). Every tale highlights one of the pillars of scientific literacy (e.g. knowing our place in the universe, understanding why genetic diversity is so important, appreciating our dependency on the web of life, etc.) and, like all good fairy tales, has a powerful moral. There are seven tales, and they can be read in order or individually (each story stands alone). The stories are a mix of fantasy and real science, and parents and teachers can use them to challenge kids to untwist the two, a key skill in the era of "fake news," a deep mistrust of science in some circles, and widespread magical thinking that threatened our species' survival.