
Preface

I think back to the formative moments in my youth when I became excited by mathematics. As a young teen in my 10th grade mathematics class, I recall our teacher assigning proofs of trigonometric identities as homework. I was bored with the assigned questions, so I tackled the toughest one in the text, which had a star next to it (which meant it was extra tough). The next day, the students were asked to present our homework on the board voluntarily, and I presented the solution to the starred exercise. While I wrote on the board, our math teacher said: “Oh, that one.”

Every mathematician is a person with a story. Each of them has memories from childhood or their teen years when things clicked for them mathematically. Many of them had teachers or family members who helped them progress in their academic career; some, however, had people discourage them from studying mathematics and persevered.

My goal when writing this book was to give a snapshot of exceptional mathematicians and to tell their stories through interviews. I set out to answer some key questions: Who and what were the influences that pointed them towards mathematics? Why do mathematicians devote their lives to discovering new mathematics? How do they see mathematics evolving in the future?

These are some of the questions I address with interviews from twelve of the world's leading mathematicians. These interviews were originally featured on my blog *The Intrepid Mathematician*. The interviews are popular features on my blog, which has received a total of 120,000 views from 75,000 unique visitors. The blog has been a labor of love. As evidence of its impact, in 2017 the blog was nominated for Science Borealis 2017 People's Choice Awards: Canada's Favorite Science Online.

I hope that the book will enlighten and inspire readers about the lives, passions, and discoveries of mathematicians. Maybe you are a mathematician yourself, or a student of mathematics. Or maybe you are a scientist or working in STEM, or simply a person curious about what makes mathematicians tick. This then is the book for you. The book is about mathematicians and mathematics, but it is written in accessible language, with only a limited amount of technical terms or formulas.

Experience tells me that readers would prefer to buy a physical book rather than click through a website. There is something special, talismanic even, about holding a book in your hands as you are now.

Why choose mathematicians as subjects? What about interviewing physicists or medical doctors or engineers? My response is another question: "Why not?" There is, after all, a growing interest in mathematicians in popular culture witnessed, for example, by the success of books and films such as *Hidden Figures*, *The Imitation Game*, and *The Man Who Knew Infinity*.

No other book has the exact premise of this one, although I recommend the books of Albers and Alexanderson, *Fascinating Mathematical People: Interviews and Memoirs* and *Mathematical People: Profiles and Interviews 2nd Edition*, published in 2011 and 2008, respectively. Both books include interviews, biographical text, and memoirs of mathematicians both living and dead. In contrast, this book has recent interviews from a broad swath of the current mathematical community.

Each of the twelve interviewees has their own unique story. I chose subjects with a view towards inclusion, diversity (both gender diversity and other kinds), and topic matter. Think of these dozen

subjects as a peek into my catalogue of living mathematical heroines and heroes. Each interview is a chapter, with brief opening text discussing the subject, along with biographical data and personal stories of mine about them. There are photos of the subjects and other images as well.

I do hope you enjoy the interviews. If you come away from reading the book with any insights into the limitless imaginations of mathematicians, then I've done my job well enough.

I would like to thank Ina Mette, Marcia Almeida, and the American Mathematical Society for their enthusiastic support of the project. My first two books were with the AMS, and it is always a pleasure to work with them. I'd like to thank all the dozen interview subjects for sharing their stories. A special thank you to the unwavering support of my spouse Doug, whose love itself is limitless.

I dedicate this book to all of my graduate students, past, present, and future. May the book guide, inspire, and uplift you.

Anthony Bonato