

FROM DEVILS TO MATHEMATICS

It was not a usual Sunday morning. My family and I were gathered at the kitchen table, eating a delicious wine cake my grandmother had baked especially for this occasion. I had just blown out the eight little blue candles, when my mother handed me a birthday present. I sat next to her and told her she had to open it. The gift was so beautifully wrapped that I didn't want to rip it apart with my excited hands.

A colorful book appeared under all the green and purple wrapping paper. I had never read a book about mathematics. Nevertheless, I took it from my mother's hands, thanked everyone and ran upstairs to begin reading. Why I decided to leave my birthday party to read this book is a question that I can't answer truthfully. Perhaps what caught my attention were the vivid colors of the front cover, or the fact that it was the first book that someone had given me as a birthday present.

The book was called *The Number Devil: A Mathematical Adventure* and it was written by Hans Magnus Enzensberger, a German author. The story was about an extremely unusual devil, who began appearing in the dreams of a little boy called Robert. The devil, who was a skilled magician and a dexterous mathematician, enjoyed emerging in the middle of Robert's dreams. Every night, the devil transported Robert to a wonderland-like world which, like Alice's, was filled with animals and plants of absurd shapes and sizes.

The first night Robert entered the devil's world, he was dazzled by the shape his dream had acquired. He discovered that the gigantic trees and flowers in the landscape were made of numbers. However, when he looked closer at his surroundings, he discovered something even

more puzzling: everything was made of numbers. It became clear to him that he was not dealing with an ordinary devil.

Robert felt very disappointed. He disliked anything that had to do with numbers and calculations. He wanted to wake up, but the devil had him trapped in the dream realm. While I was reading, I felt compassion for Robert. I thought his dreams were going to become nightmares!

The second night, Robert decided to ask the devil why he was intruding in his dreams. The Number Devil explained to Robert that he had been sent by his superiors from Number Heaven to assist him and show him the wonders of the numerical world. He told him that in the numerical world, things beyond Robert's imagination were possible.

At the beginning, Robert didn't find the idea very appealing; and I didn't find it very appealing either. How could having math class in a dream be exciting? Images of me and my best girlfriend, chatting while the teacher wrote the tedious sums and multiplications we had to solve, came into my mind. I wondered if this book would turn into another boring lecture.

Notwithstanding, I wanted to know what happened to poor Robert. To my surprise, he accepted the Number Devil's invitation. That moment was a turning point. A journey of adventures was about to begin for Robert; and a journey of adventures was about to begin for me. The Number Devil was about to show Robert and me that mathematics could be fun.

I was inexplicably immersed in the book. Every night I would travel with Robert and the Number Devil to extraordinary places, such as jungles with flora made of Fibonacci numbers, beaches with sand grains shaped like the Greek letters, or lounges with sofas shaped like calculators. My fear of becoming uninterested in the book vanished. Moreover, the way I approached my classes in school changed.

I remember the day my math teacher was explaining how writing an exponent n , at the top right of another number, meant that you had to multiply the number by itself n times. While she was doing so, I tried to remember how the Number Devil had explained this concept to Robert. The devil had taken him to a farm with a rabbit population that grew exponentially. He had shown Robert how rapidly the number of members in the rabbit family increased and how, as the population became infinite, the farm exploded.

The way the devil taught mathematics was dazzling. I began going to school in the mornings to learn division, multiplication and exponents, and going back home eager to learn infinite series, Euclidian geometry and imaginary numbers. I was starting to find the magic behind science. A magic that was intensifying my scientific curiosity and my relationship not only with mathematics, but also with physics, descriptive geometry and chemistry.

Before reading the book, studying science was something I was bound to do if I didn't want my parents to be upset. However, after reading Robert's adventures, my motivation for studying changed. I had fallen in love with science.

Eleven years later, my approach to science has changed even more. For me, science is like climbing a tree. You must start by climbing the trunk. As you reach higher and higher you encounter more and more branches, and you have to decide which one you want to climb. However, once you reach the top, it doesn't matter if you chose the mathematics, the chemistry, the biology or the physics branch. Once you reach the top, the view is memorable.

Although I didn't pursue a mathematics career, the Number Devil helped me climb the trunk, MIT is helping me climb the physics branch, and in the coming years I will find more and more subbranches that, hopefully, will allow me to one day reach the top of the tree. I hope to become like the Number Devil. Not because I want to be red and hairy, but because I want to be

filled with the desire to share knowledge. For now, I will continue climbing, delighted and grateful for the opportunity of transitioning from devils to mathematics.

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