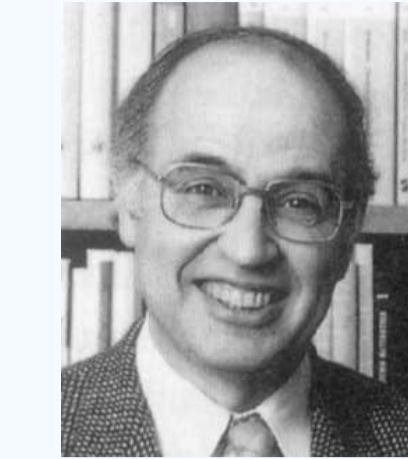# My Journey Of Mathematics

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In the broad light of day mathematicians check their equations and their proofs, leaving no stone un-turned in their search for rigour. But, at night, under the full moon, they dream, they float among the stars and wonder at the miracle of the heavens. They are inspired. Without dreams there is no art, no mathematics, no life.

Michael Atiyah

Sir Michael Francis Atiyah is a British mathematician specialising in geometry, who was awarded the Fields Medal in 1966, and the Abel Prize in 2004, which are regarded as greatest honors for mathematicians.
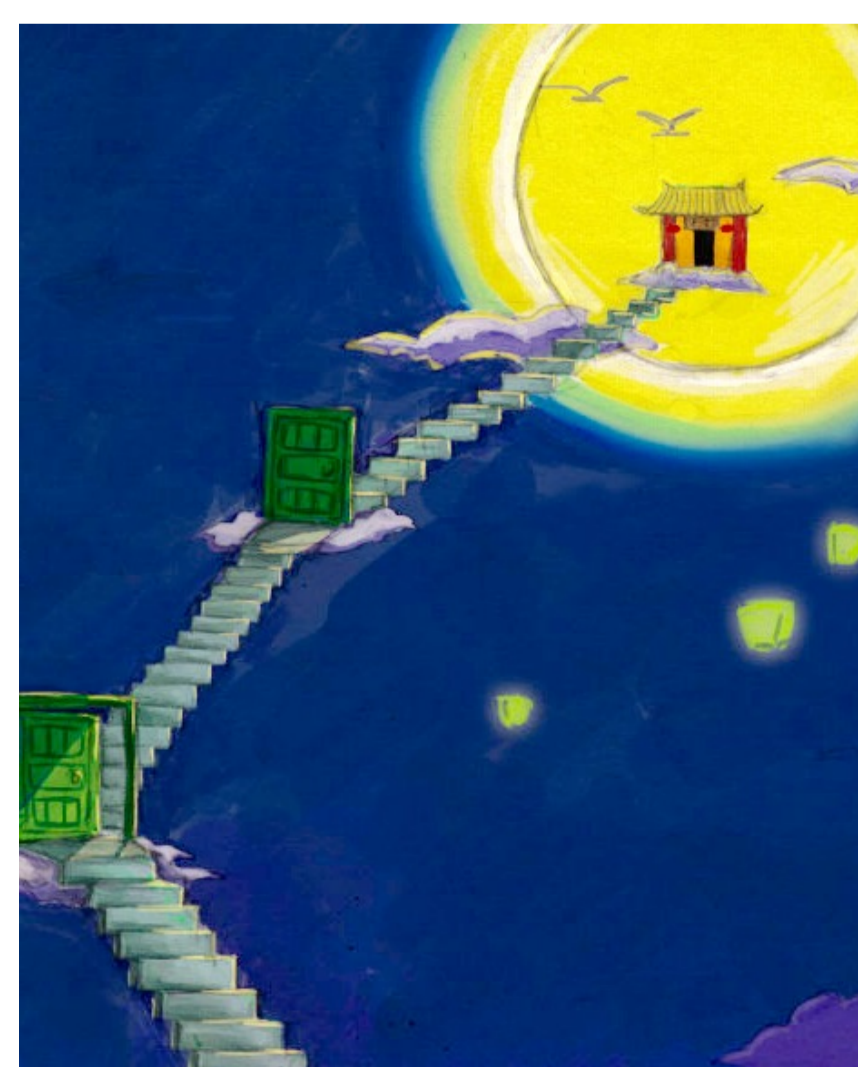
The begining

When I was in high school, I exhibited no extraordinary abilities in mathematics. I just figured that since I had all the time on my own, why not learn something to challenge myself intellectually?

At that time, math, to me, was nothing other than those sophisticated but cool concepts, such as "limits" and "infinity", and the fascinating background stories.

On The Way

In order to reach the forefront of math, I never stopped to equip myself with complex and abstract mathematical tools, which is a very challenging but dull journey.

At times, I was confused and I would even question the motive and essence of pursuing the path of math. Just to deal with difficulty and complexity? Or to solve those famous but demanding problems?
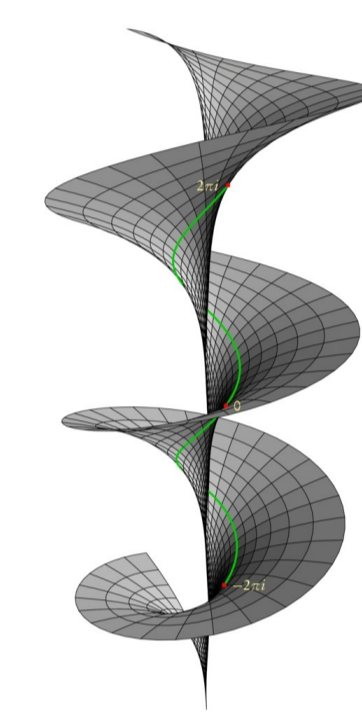
The Heart Of Math

It is only until recently have I gradually realized that mathematics does not only provide us with solutions, but is also a channel to self-express and record the beauty of reality. The unproven lemmas and theorems are the scattered pieces of a large jigsaw and mathematicians are able to utilize the jigsaw pieces to construct and display their magnificent world in front of us. What conjectures to mathematicians is what world jigsaws to us.
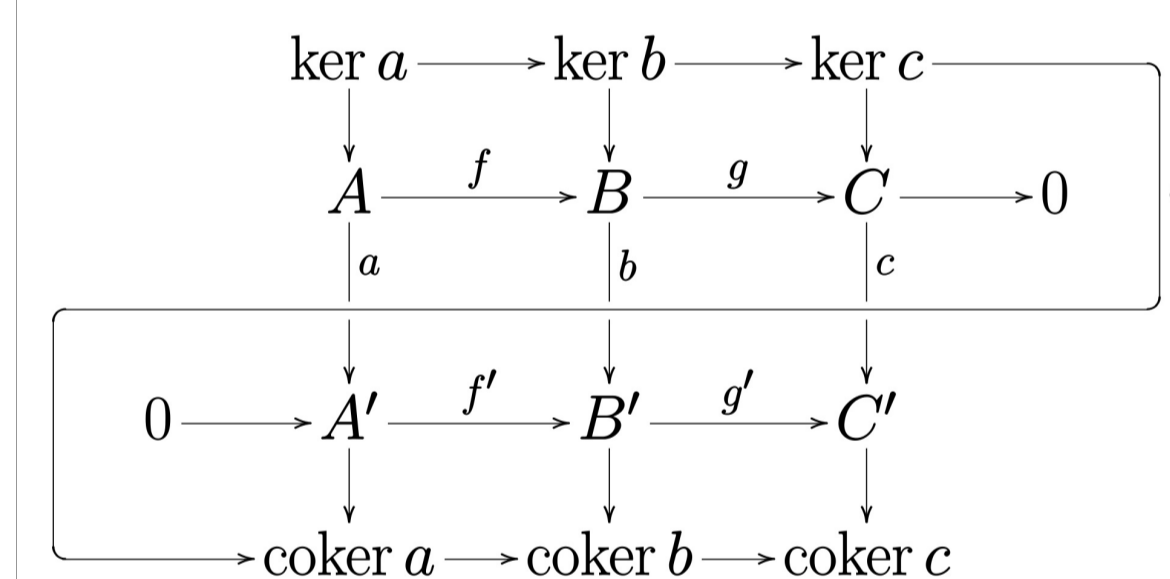
Mobius Strip

A Mobius Strip is a surface with only one side! In mathematics, people who are called topologists are interested in it and those similar objects which preserve their properties under deformation.

Riemann Surface

A Riemann Surface is also a surface but much more complex, and lots of interesting things happen in it.

Homological Diagram

$$\begin{array}{ccccc} \ker a & \to & \ker b & \to & \ker c \\ \end{array}$$

$$A \xrightarrow{f} B \xrightarrow{g} C \to 0 \qquad d$$

$$0 \to A' \xrightarrow{f'} B' \xrightarrow{d'} C'$$

$$\operatorname{coker} a \to \operatorname{coker} b \to \operatorname{coker} c$$

Homological diagrams are something developed in last century. In modern geometry, people use them to understand geometrical objects!

The Work Of Mathematics

With spectacular perseverance and courage, mathematicians have tried whatever they can, push the boundaries of human intellectual abilities over and over, and pave the path to our answers. Maths learning for me, is just on that way. What has once confused me may also have confused other maths explorers, and what I have suffered till now is not worth mentioning compared to what tens of thousands maths predecessors have ever struggled with.

It's My Turn And Yours

All the training and struggles prepare me with the weapons to step forward, to find my own jigsaws pieces, and to lead my own path. I will be waiting, at the limit beyond human intellectual capabilities and the boundaries of the universe, to welcome your arrival.

About the Author:

I am a M2 student of University of Paris-Sud 11 (located in the south of Ile-de France) currently, where M2 means the second year of Master. The standard way for a student to be a mathematician is to enroll as a PhD student in one mathematics institute, and M2 is a preparing year. Paris is a center of mathematics in the world, and University of Paris-Sud 11 and University of Pierre and Marie Curie are world famous, so it is a great chance to study here.

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