

Impact Statement

Piper Bangs, Grade 12.

Portrait of Sofya Kovalevskaya in the Grand Manner, 2020.

Oil on canvas, 40 x 30 Inches.

North East School of the Arts at Lee High School, San Antonio, TX

Unsung Hero: Sofya Kovalevskaya

What I find inspirational about Sofya Kovalevskaya is her perseverance in pursuing her education and career despite facing personal hardships and sexism. After finding it impossible to study at a university in Russia, she cleverly entered into a marriage that allowed her to travel abroad. The couple moved to Germany where she expected to be able to study; but, instead, she found public lectures inaccessible to women. Nonetheless, she demonstrated her persistence by studying privately with a tutor. She was awarded her doctorate in absentia from the University of Göttingen after submitting three papers (notably one on the rotation of a solid body around a fixed point) for her dissertation, making her the first woman to do so. Even with her credentials, she struggled to find employment in the male-dominated field of mathematics in academia. Eventually, however, her paper on partial differential calculus gained significant traction and she was appointed to a position of full professor at the University of Stockholm; this propelled her career as her research gained acceptance and she became a trailblazer for the visibility of women in scientific fields.

As a young woman in her senior year taking AP Calculus, I've realized I've taken the education I'm receiving for granted. I have a new appreciation for the opportunities I have available to me because of female leaders like Kovalevskaya who fought for their rights and triumphed against prejudice, destigmatizing education for women. I know now that I have the great privilege of pursuing any career that I'd like without worrying that my gender will prevent me from accomplishing it—and that I should be taking advantage of every minute of it. I know that I will look at the opportunities in front of me and pursue them with renewed vigor, remembering that many were not available to women in the past. Learning about her incredible perseverance in her career has shown me that we can all be capable of anything we set our minds to, and I'm confident I'll carry this lesson forward with me in the future.

In my creative interpretation, I hoped to shine a light on Kovalevskaya's accomplishments by depicting her in the Grand Manner style used by portrait artists of the 17th through 20th centuries. This style was meant to elevate its subjects and show their dignified status by portraying them honorably and with tokens of their nobility. In a similar vein, I included visual clues about Kovalevskaya's accomplishments in my painting: she stands proudly behind a professor's desk in an academic setting, with three framed diplomas and derivative and integral differential calculus formulae written on the blackboard behind her. Many novels and textbooks are stacked in the nearby bookshelf, meant to symbolize her avid writing in the latter part of her career. By painting her in the Grand Manner, I hoped I could show her as being in the canon of important historical figures where she rightfully should be.

I have shared my project with my community through social media and have created a website dedicated to sharing her story. The website can be found at <https://sites.google.com/view/sofya->

kovalevskaya/home. When I began this project, I knew that one thing I wanted to do was give a talk about her life and accomplishments; I had planned to present this to faculty and students in my school. But, because of recent school closures, I have decided to create a brief video instead. The video is on the homepage of my website and can also be found on YouTube at <https://youtu.be/RMtZ8uDTIqA>. I have also posted both the painting and the website on my public art account @piperbangs.art on Instagram, which can be found at <https://www.instagram.com/piperbangs.art/>.