

Asher Miller

Introduction

Beginning at the age of four, I played baseball throughout the entire year. Baseball was a hobby that allowed me to take a break from my everyday life and go out and have some fun, whether it was just practicing by myself, throwing the ball around with my Dad, or competing with my teammates. I loved every part of baseball, from stepping onto the grassy field to throwing around the ball. For this project, I used optical microscopy to capture different perspectives of three components of the sport of baseball.

Blade of Grass

Aside from the base path, warning track, pitching mound and home plate circle, a baseball field is composed of grass. Over the past five years, I have played the majority of my games in the outfield, which is covered in grass. At high magnification, one can see the veins that travel the course of the blade. One can also see the numerous shades of green, which is often overlooked when we look at a patch of grass.



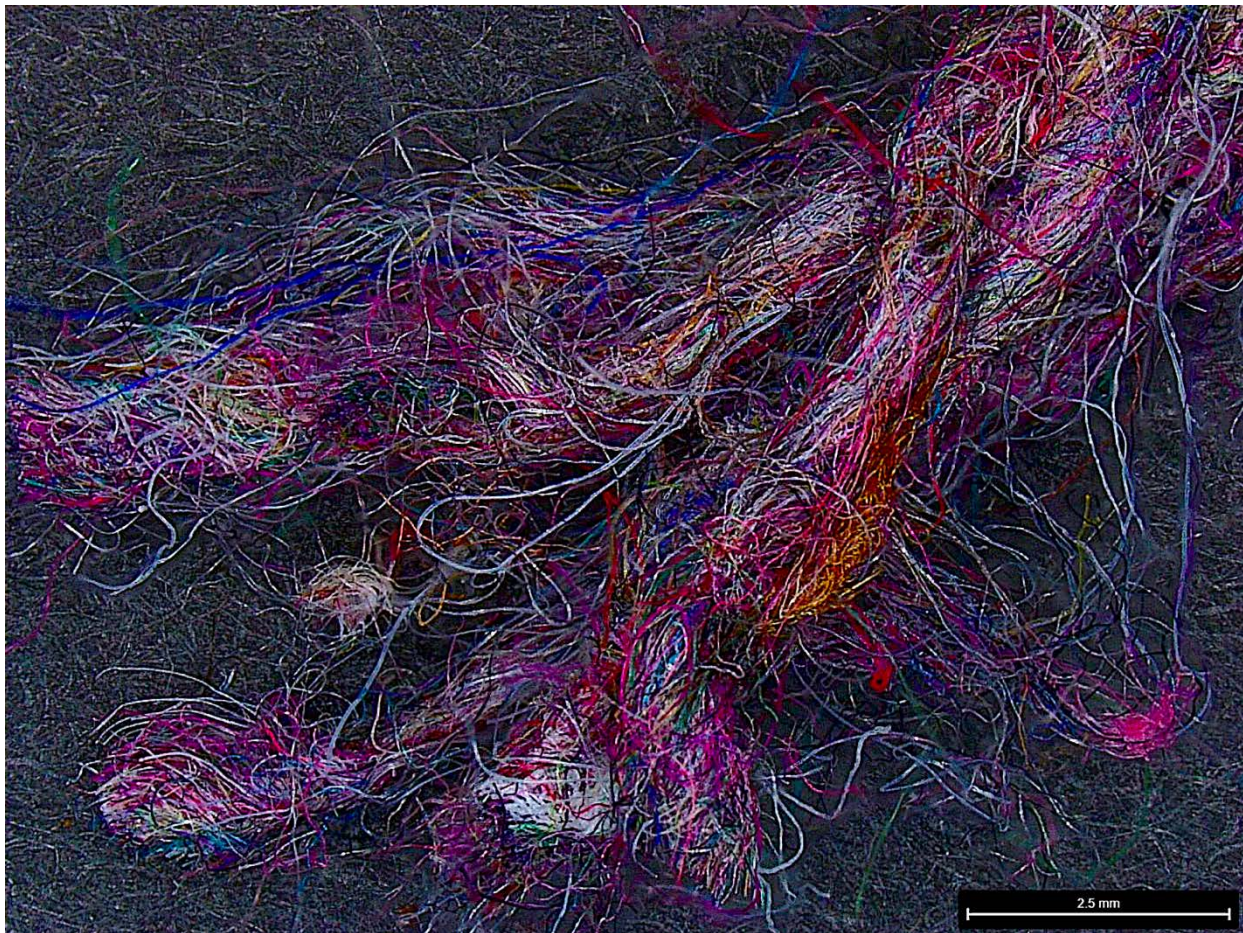
Leather

Another important aspect of baseball is the actual baseball, which has a leather exterior. Two figure 8 shaped pieces are sewn together with 88 red stitches to make the cover of a baseball. When observed at high magnification, one can see the black ink on the leather, and how the black does not cover every part of the leather. The texture of the leather can also be seen, which looks bumpy. This is in contrast with the smooth texture that one feels when they touch the leather on a baseball to throw it around a field.



Yarn

Within every baseball, there is yarn and string wrapped very tightly around a rubber core. Inside the covering of each baseball is 363 feet of 4-ply gray wool yarn, 135 feet of 3 ply white yarn, 159 feet of 3 ply gray wool, and around that 450 feet of cotton yarn. This particular sample is a piece of 4-ply gray wool yarn, which surrounds the rubber center of the ball. From the naked eye, the yarn looks grey with a bit of purple. At high magnification, however, it is obvious that the yarn consists of a variety of different color strands including: white, red, pink, blue, magenta, yellow, green colored strands and more.



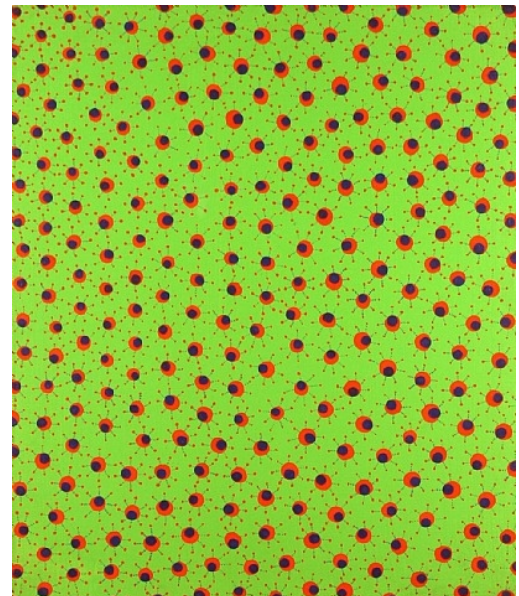
Art Imitates Life

Introduction

Ever since I arrived at UGA to embark on my first semester of college, I've found myself spending more time outdoors than ever before. Whether it be walking to class, seeking out a serene study spot, or just wanting to explore, I'll take any excuse to meander through the captivating natural beauty of our campus. Perhaps the most intriguing thing to me about this is that no matter where I look, I can see the influence of biological patterns, colors, and subjects in nature that are mirrored in artwork throughout history. Regardless of the time period, movement, or genre from which they arise, artists have perpetually expressed their keen interest in biological elements of nature. With UGA's campus in mind, I decided to explore this concept at the microscopic level.

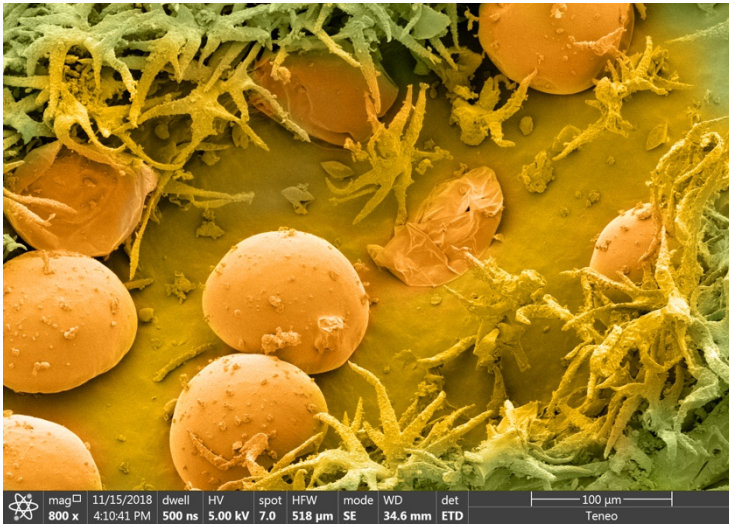
Green Seed vs. Yayoi Kusama's *Fields in Spring* (1988)

One day, I was passing time between classes in the Trial Gardens when a certain specimen caught my eye. The anemone flowers competed for my attention with their bright green centers, complimented by a polar array of small brown spikes. This uniform repetition immediately brought contemporary abstract artist Yayoi Kusama's *Fields in Spring* to mind. The rhythm of contrasting colors across a wash of vivid green in this piece bears uncanny resemblance to the seed, which I captured using an optical light microscope, and colorized to make the brown elements appear red.



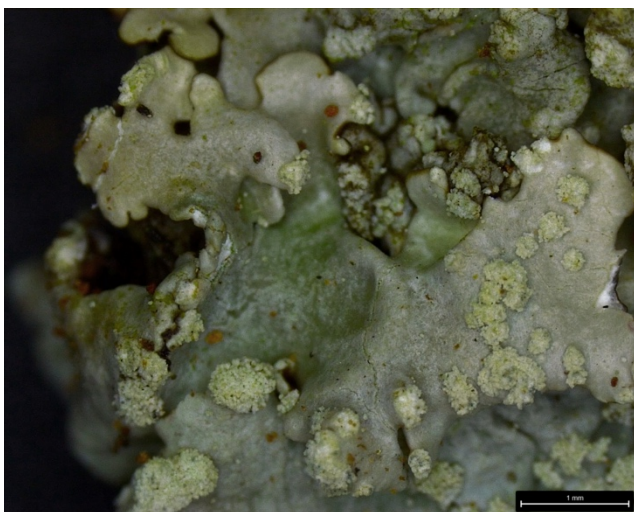
Lavender vs. Vincent Van Gogh's *Sunflowers* (1889)

The pouch of lavender that I keep in my dorm room already reminded me of several different artworks thanks to its deep violet hue, but in the end, it was the surface terrain as viewed under a scanning electron microscope that shone through. The branches of fiber splayed across the seed's surface immediately brought my mind to the wispy petals that Van Gogh painted in his rendition of sunflowers. Meanwhile, the bulbous oil glands that release the lavender's soothing fragrance resembled his flower's golden bulbs. I colorized the image, which is depicted at a scale of 100 micrometers, to be a lively yellow-green rather than soft purple.



Moss & Lichen vs. Arshile Gorky's *The Limit* (1947)

When I noticed a piece of decaying bark bearing a thick layer of moss, I knew that the complex patterns of lichen scattered across the sample would serve as excellent inspiration for an abstract art piece. This led me to none other than Arshile Gorky, who is often recognized as the father of abstract expressionism. The forest green tones and irregular growth of the moss and lichen, captured under an optical light microscope, bear much resemblance to the deep, atmospheric colors and elements in Gorky's emotional work, *The Limit*.



Spiky Leaf vs. Johan Laurentz Jensen's *Red Carnations* (1825)

After collecting endless samples at the Botany Greenhouses and viewing the resulting images, this scanning electron microscope view of an unidentified spiky leaf drew me in immediately. The spiraling growths on the surface of the leaf are dead ringers for roses or carnations. When considering these elements from an artistic perspective, it's only right to compare them with Johan Laurentz Jensen, who specialized in still life depictions of flowers. For this image, scaled at 20 micrometers, I colorized the blooming growths with the sanguine and magenta hues of Jensen's deftly painted carnations.



Kyndall Foster

Introduction

People endure negative experiences throughout life that result in the building up of walls. These walls act as a shield to prevent vulnerability and protect our feelings and pride. This idea is revealed in nature by plants and animals adapting to their surroundings in order to sustain life. Much like humans, objects in nature appear to have a means of protecting themselves from the harsh predators of this world.

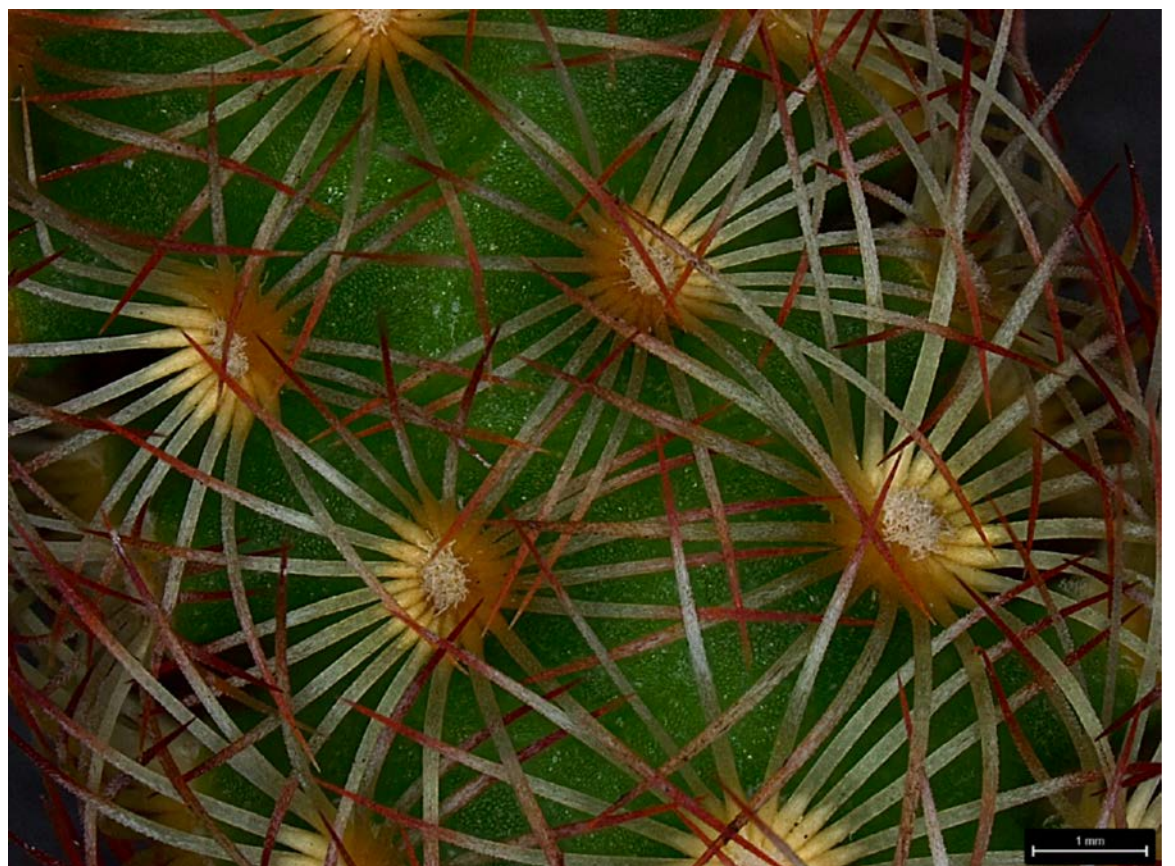
Acorn



This acorn has a tough outer shell. It is full of large amounts of proteins, carbohydrates, fats, vitamins, and minerals. Acorns are an important part of the diet for birds, mice, squirrels, and other rodents. This little guy is so loved and valued by his environment, yet he does not realize it. This acorn feels as though the surrounding take advantage of him rather than appreciate him, so he has put up this layer of protection in hopes that they will no longer treat him as merely a means of providing nutrients.

Cactus spines

Cactus spines are highly modified leaves which protect against herbivores, prevent water loss by reducing air flow close to the cactus, and provide minimal shade. The dry heat and small amount of water attempt to create feelings of vulnerability in this cactus. He has put up his spines to protect himself from these terrible conditions of the environment he lives in.



Pink Margin



This flower is appealing to the eyes and must protect her beauty from jealous predators in the community who will stop at nothing to diminish her attractiveness. She has these sharp thorns to prevent those who seek to destroy her image from doing so.

Reese Sullivan

FYOS Portfolio

Theme:

One thing runs the world today. Money. As a college student, I can for sure say I do not have as much as I would like, so I have definitely cherished my money more and more. This has caused me to notice the smaller details of this money. I had heard that our currency uses many small details which go unnoticed by the majority of people before coming into this project, so I wanted to explore some of these details with the microscope.

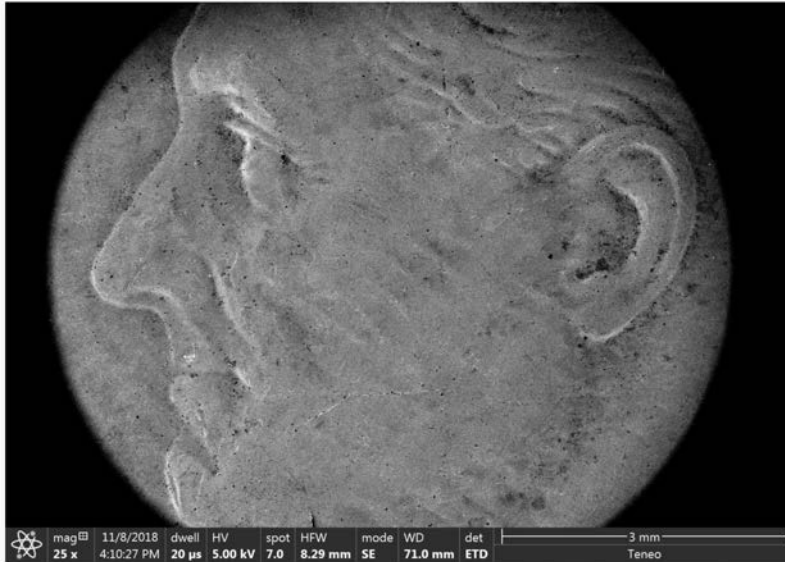
Back of \$50 Bill

This image comes from the back-side of a \$50 bill. When first looking at the back of a \$50 bill, one immediately sees the capital building. Upon a closer look with the microscope, I was able to discover people sitting on the steps of the capital, and thought it was definitely worth sharing.



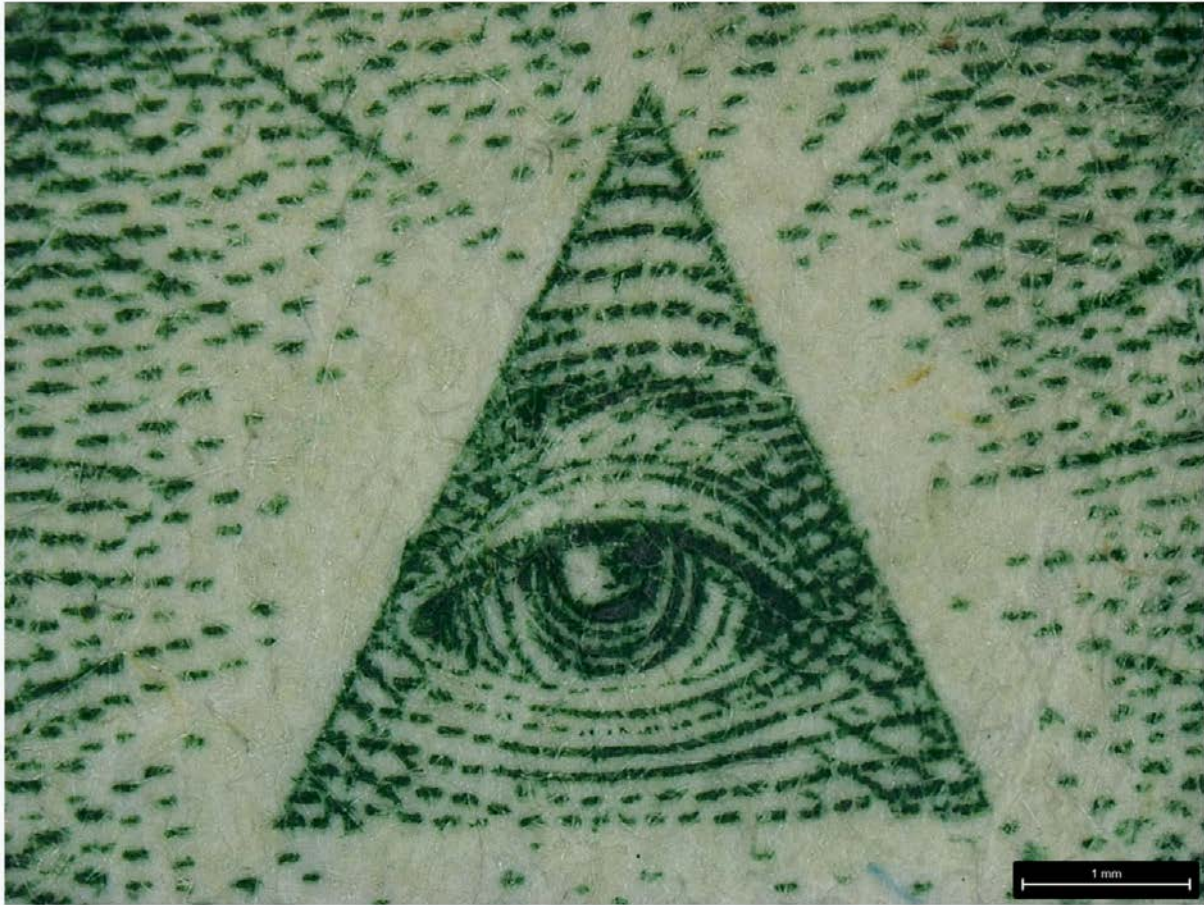
Front of a Dime

This image comes from the front of a dime. I thought this image was interesting because it shows how quickly our money can get dirty. This dime comes from 2013, and one can already see how dirty it really is. I thought the profile of Franklin Franklin Delano Roosevelt was very coll too.



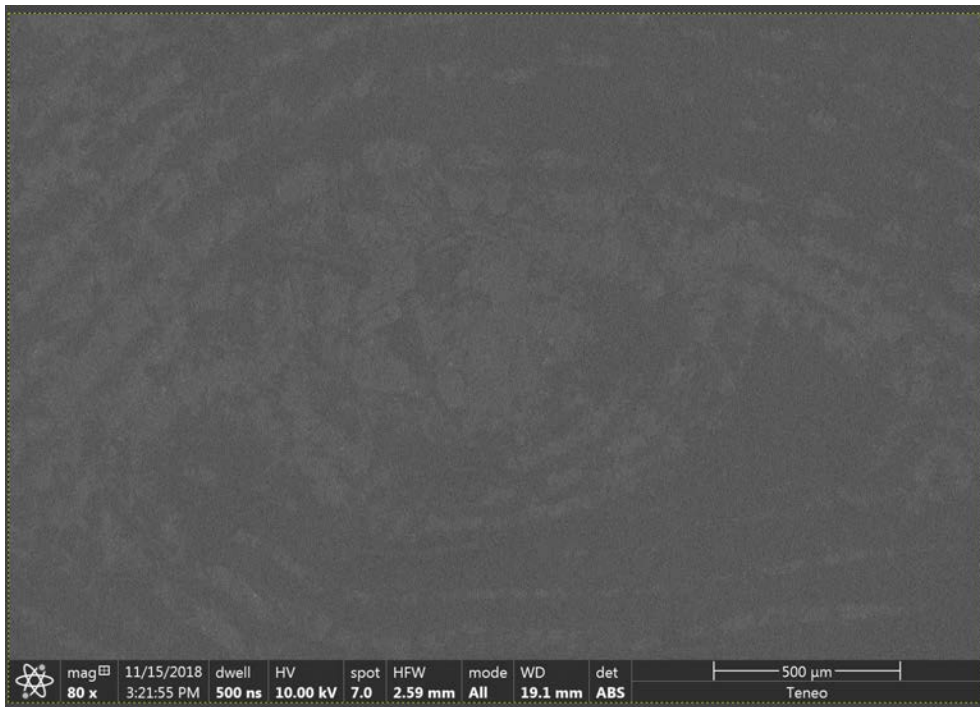
Pyramid Eye from the Back of a \$1 bill

I have always found the pyramid eye on the back of the \$1 bill to be very interesting. Conspirators consider it to be a sign of the famous Illuminati. I also found it interesting because to see the eye of currency somewhat magnified compared to very magnified like you will see in my next image.



Eye of the Front of a Penny

While it is somewhat hard to see what exactly this is, I found this to be probably my favorite work of my entire series. In this piece, one can see just how zoomed in this image really is and how much detail there is at such magnification. However, this only makes sense because our currency needs to be hard to be copied by counterfeiters.



mag	11/15/2018	dwell	HV	spot	HFW	mode	WD	det
80 x	3:21:55 PM	500 ns	10.00 kV	7.0	2.59 mm	All	19.1 mm	ABS

500 μ m

Teneo