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ALL THE DYE-NAMICS OF NATURAL DYE



Plants and vegetables have been used to produce natural dyes dating back for centuries. There are many different dyeing techniques that create patterns and designs when dyeing. Some types of dyeing techniques are shibori, resist dyeing and tie dyeing which are both similar in techniques. Shibori dyeing originated in Japan it is the techniques which pleats the fabric and is stitching is used to resist the dye. Resist and tie dyeing are achieved when the fabric is pinched, tied or twisted to create a pattern when the dye is applied. In addition to these pattern design techniques, mordants are used to create different variations of hues in the dye as it changes the oxidation in the dye. Mordants are also used to create color fastness, how well the color will attach and appear on the fabric, which is the main purpose. Some mordants can be salt, iron, alum baking soda and even urine. I experimented with the resist dyeing with onion and blueberries for my natural dye. Not only are these dyes great sources for natural dyes but they also have a backstory in where they were cultivated as well as how and what the colors were used for throughout history.

The history of blueberry dyes dating back many centuries. It was a part of native American traditions and was used for many different uses. Some of these uses were cough medicine, food preparation and natural dyes. Blueberries grew in north America particularly in northeast regions along with other berries such as blackberries and cranberries. Blueberries have been used as a natural dye as far back as the 1600s by pilgrims and native Americans. In addition to clothing, blueberries were used to dye baskets and household textiles as well. Blueberries were widespread making it easy to obtain and inexpensive. The color purple, which is one of the colors produced by blueberries, were subject to sumptuary laws. Sumptuary laws-controlled behaviors and put restrictions on things like the what people could wear including certain colors. In the 1300's poor or lower-class families were exempt from wearing the color purple. Purple was a sign of royalty

and therefore restricted from anyone from the lower class. In addition to the color purple, colors produced from blueberries range from blue to dark pink and magenta. When using salt as a mordant the color will result in a purple hue. Baking soda will produce blue tones and vinegar will result in a pink purple tone.

Onions are believed to originate in ancient Asia dating back to around 1600's – 1700 BC. Onions were also prominent in ancient Egypt. They were a revered item as it was viewed as a symbol of eternity due to its round ringlet shape (Mehta, 2007). Ancient Egyptians incorporated onions in their paintings with gods and royal lineage. Onions were used for cooking, home remedies and a source of natural dyes. During the middle ages' dyes were expensive during this time as it was used to pay bills, rent and exchange for goods (Mehta, 2007). onion dyeing was expensive during this time as it was an asset. Although the onion was revered in the earlier centuries, the colors that was produced from onions was primarily brown and was mainly a color worn by the lower class. The color was not subject to sumptuary laws, but it was not a color typically seen on the upper class. Depending on which mordant are used when producing onion dye, the color will produce different hues. Brown onion skins produce a range od colors from brown, beige, light yellow and orange. (Ren, 2013) vinegar tends to yield brighter brown colors, baking soda produces brighter yellow colors and salt darker brown.

To produce the purple and brown dyes I used a series of steps to complete the end result. First I made sure I had a 100% cotton t-shirt to get a better outcome when using natural dyeing. The technique I used for my pattern was a resist technique using knots and rubber bands

Step one: creating the resist technique



Take a t-shirt and twist around until it makes a tight coil

Next wrap rubber bands around the tee to add more resist patterns and hold it together in place

Wash tee with warm water and set aside. Washing the tee helps the tee to take the dye faster

Step two: creating the dye

Gather the materials for the dye. They included blueberries, salt, onion skins water and two pots.



In two separate pots I added 2 cups of water for each of the dyes one for blueberry and other onions

Bring them to a boil.



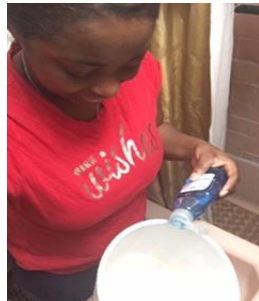
After 30 minutes, take them off the fire and let dye simmer on the stove to keep extracting color for another 30 minutes.

After an hour remove contents from dye

Step three: dyeing process



First I applied the tee in the pot with the onion dye and let it sit for 8 hours. After 8 hours I let the tee dye on the other side with the blueberry dye for another 8 hours



After I rinsed the tee out with cold water and rinsed it out in a bucket with mild soap until the water ran clear.

After making sure the water was clear I hung the tee and let it dry



Finding:

When I started the dyeing process, I did not expect both dyes to be very colorfast and rich. I expected the color to be light and not saturated. I observed that the longer the blueberries and onions stayed in the water to boil it yielded darker results. The results were even darker as it sat for an extra 30 minutes in the pot. Compared to the tutorial, the colors were very similar for the onion, but the blueberries were a much lighter color than the color produced in the tutorial. After the tee dried the color was more brown than the beige I anticipated. For the blueberry dye results I expected the dye to be a dark pink color as the color in the pot when boiled was a magenta color. I was pleasantly surprised to see the purple result when the dyeing was complete. Next time I will do two batches using different types of modarants to get more variations of hues.

Natural dying is a technique that extracts the color form a fruit, vegetable and insects through the process of boiling. Modarants are also used to change the color of the dye and to enhance color

fastness of the dye. Dyes itself has its own history from where it was first originated and the process to produce them. Availability of resources played a factor in the cost and depending on the color that was produced sumptuary laws were put into place to limit who was able to wear them. There were also many different techniques of dyeing to achieve the patterns and designs. Some of these techniques are shibori, resist and tie dye. All these techniques, although similar have different outcomes on the final product. Throughout the process of creating natural dyes, I thought the color of the product used to create the dye would duplicate that same color. For example, I believed avocados would produce a dark green dye and not a pink color. The same with blueberry dyes, when seeing the blue color, I was under the impression only blue dyes would be the outcome. It came as a surprise the variety of colors that blueberries were able to produce. Overall, I gained a better understanding of the process and the level of experimentation to achieve results. It requires a great level of patience and passion as it is time consuming but rewarding.



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