

That's Just Nuts! George Washington Carver: Textile Dye & Pigment Chemist

Eulanda A. Sanders and Chanmi G. Hwang
Iowa State University, USA

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The soils of Macon County have yielded to the great chemist's magic and given up many dyes and colors of gorgeousness and splendor. The blue, for instance, is made from red clay by oxidizing it intermittently far six successive operations, producing a color which is described as 70 times bluer than the bluest blue. (Moss, 1930, p. 58)

Dr. George Washington Carver (1864-1943) is known as an agriculturalist, botanist, chemist, and the developer of hundreds of by-products from peanuts. He is also recognized as a painter. However, there are only peripheral mentions of his natural dyestuff developments for textiles from clay, plants, and minerals by scholars (Hersey, 2006; Mackintosh, 1976; McLoone, 1998; & White, 1953). This research documented the following about Dr. Carver's work: (a) natural dyestuffs and pigments discovered, (b) names and hues of dyes that tested and investigated, (c) fibers and tested with his natural dyes and pigments and (d) impacts of the natural dyes and pigments Carver created on the coloration of textiles and paints today.

Dr. Carver's Dye and Pigment Investigations

In a variety of publications from diverse disciplines there are often references to Dr. Carver's extraction of dyes from natural sources. Statements about Dr. Carver's work such as: "tomato vines serve as a source of dyes for fabric" (Hersey, 2006, p. 252) and "dyes from the common clays of many states" (White, 1946, p. 270) attest to his use of sustainable materials to color textiles. Dr. Carver is also credited with rediscovering Egyptian blue dye a royal blue color extracted and oxidized from clay (Elliott, 1966 & Halvorsen, 2002).

Sources of Information, Overview of Findings and Significance

Sources included holdings of dyestuffs, pigments, textile samples, and documents written by Dr. Carver at the Carver Birthplace National Monument in Diamond, Missouri and the Tuskegee Carver Monument in Tuskegee Institute, Alabama. (Figure 1). Triangulation was achieved by analysis of primary and secondary sources and content analysis of the holdings.



Figure 1. Blue pigment rediscovered by Dr. Carver and textile samples dye with persimmon at Tuskegee Institute National Historic Site, photo courtesy of Curtis Gregory, Park Ranger, George Washington Carver National Monument

Dr. Carver extracted color pigments from clay soils for paints. In his laboratory at Tuskegee, Dr. Carver separated the clay according to color. (Figure 2). Clay was chosen since it was readily available and Carver could see deposits of multicolored clays (Halvorsen, 2002). Carver stated:

...clays are found in many sections of the country of a variety of colors, and by a proper choice of color there may be produced by the process of the invention a large variety of colors of pigments, fillers and stains for treating wood or other materials. (Carver, 1925, p.1)



Figure 2. Examples of Dr. Carver's clay and minerals at Tuskegee Institute National Historic Site, photo courtesy of Curtis Gregory, Park Ranger, George Washington Carver National Monument

The outcomes of this research are new documentation of Dr. Carver's contributions in the textiles area. Often the recognition of Dr. Carver's scientific contributions iconizes him as the "Peanut Man," and minimizes the depth of his research. Dissemination of his dyestuff and pigment applied research may inspire a new generation of sustainable conscious textile artists.

References

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