

The Color of Money

The story of how a search for artificial quinine produced a purple dye that made a fortune.

MAUVE

How One Man Invented a Color That Changed the World

By Simon Garfield

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By Marcia Bartusiak

MAUVE is an elusive hue, its description can easily shift from the realm of a pale violet to the depths of a purplish red. Occasionally embraced by *couturiers* and interior decorators, the color is more often maligned. Arriving at the O. J. Simpson trial in a new suit, Johnnie Cochran told reporters to characterize it as blue. "Just don't call it mauve," he said. "Mauve," by Simon Garfield, could change that attitude.

This engaging and airy history shows how the development of mauve, the first mass-produced artificial dye, ignited a 19th-century revolution in applied science. Chemistry, once an ivory-tower pursuit of gentlemen-scholars, was transformed into a commercial enterprise aimed at reinventing nature in a test tube.

The "one man" referred to in Garfield's subtitle is William Henry Perkin, born in London in 1838, the son of a well-to-do carpenter. While studying at the Royal College of Chemistry, he attempted to synthesize quinine from coal tar, a byproduct of coal gas production that is rich in carbon, hydrogen, oxygen and nitrogen. Artificially synthesizing the antimalarial quinine would have been a boon to an empire-building nation. But, working in his home, Perkin managed to concoct only a dark oily sludge. He didn't just throw the black muck away but further processed it and found that part of the residue was useful as a dye.

Staining a silk cloth with his new discovery, Perkin saw that the light purple color didn't fade with washing or exposure to light. For centuries, a very limited palette of dyes was derived from shellfish, insects, vegetables and plant matter. By the turn of the 20th century, because of Perkin's novel idea, dye makers had 2,000 synthesized colors at

Marcia Bartusiak's most recent book is "Einstein's Unfinished Symphony."

their disposal. Today, the digital palette contains more than 16 million shades.

Although Garfield does not make a direct comparison, the delight of this book is seeing the parallels to present-day trends in technology. An 18-year-old boy devises a new product that his elders initially dismiss, he persists by searching for venture capital, and then, battling litigation for patent infringement, he founds an industry that creates a new world scientific order. Luck helped, especially when Queen Victoria wore mauve to a royal wedding and Empress Eugenie of France, the era's chief arbiter of fashion, decided that Perkin's mauve matched her eyes. But more critical was the lure of the economic potential of taking science to the marketplace. "Perkin's discovery affected the whole nature of scientific investigation," Garfield writes. "For the first time, people realized that the study of chemistry could make them rich." So rich that Perkin retired to a life of private research at the age of 36. He spent his time devising artificial scents for perfume, among other things, and was finally knighted in 1906, a year before his death.

Once Perkin's work became known, following his example, chemists began to synthesize products from the hydrocarbons of coal tar (and later petroleum), expanding nature's inventory. Pharmaceuticals could now be designed by humans (aspirin was derived from a dyestuff intermediary), as well as antiseptics, plastics, fibers, hair color, photographic emulsions and explosives. Garfield doesn't ignore the health hazards and pollutants that also came with the new industry.

Garfield's chronicle of Perkin's life and the ultimate fruits of his labors is straightforward and clear. Only occasionally do some flash-forwards to concerns of modern chemistry jolt us away from its pleasant air of Victorian coziness.

Perkin's official portrait depicts him as Santa-like, with a white beard, standing in his lab holding a skein of mauve wool. Formerly hung in the National Portrait Gallery in London, the painting is now stored in a crate. Perkin was a revered scientist 100 years ago, now his burial plot in a country cemetery cannot be located. Garfield has inspired me to wear a bit of mauve this spring to honor this inventive man. □