

SHADOWGRAPHS

Silhouette portraits, sometimes called shadowgraphs, or shades, have been around for ages, but became wildly popular during the 18th century. The term “silhouette” was derived from the name Etienne de Silhouette, a penny-wise financial minister under King Louis XV. In an attempt to restore balance to the Kingdom’s finances, Silhouette devised a plan to tax the rich. For this he was criticized; it was thought that Silhouette was so *frugal* that the name Silhouette actually became synonymous with the word for “cheap.” Since shadow portraits were an inexpensive alternative to the more costly forms of portraiture, such as paintings and sculpture, the art form became known as *Portrait à la Silhouette*, or simply put, *cheap portrait*.

In the 18th century, a silhouette portrait could be created two different ways: traditionally, using the standard cut technique, where the paper *around* the silhouette was cut away (silhouette is positive space). Conversely, the hollow-cut technique, where the silhouette is *cut out* of the center of the paper, and the negative space forms the silhouette.

Prior to 1760, knives were used to cut silhouettes, as scissors were rare and expensive. Mass production techniques led to scissors becoming widely available after 1761, and scissors have since remained the choice tool for cutting silhouettes.

One of the greatest challenges to silhouette-making in the 18th century was the availability of black paper. Pre-dyed black paper was not produced until 1826, so for the traditional method, artists were tasked with blackening sheets of white paper. A number of materials were used to accomplish this- lamp black, burnt animal bones, homemade inks, etc. Indeed it was the lack of black paper that brought about the hollow-cut technique, wherein the silhouette is cut out of the center of a sheet of white paper, with the outline of the silhouette (negative space) left in the center of the page. The paper is then placed over top a piece of black cloth or other media to create the silhouette image.

In the 19th century, the mass availability of black paper revolutionized the silhouette industry. Production time and costs were greatly reduced, making the Silhouette trade more accessible, affordable, and ultimately more popular.

PANTOGRAPHS

Tracing the outline of a person's shadow produces a life-size image, but miniature silhouettes were extremely popular in the 18th century because they could be used in jewelry such as locket and cameos. In order to make a miniature silhouette, a scaling pantograph would have been used.

The invention of the pantograph is widely attributed to a German mathematician and scientist named Christoph Scheiner, but Leonardo da Vinci, Michelangelo, various ancient Greeks, and many others, used pantographs, or similar devices, long before Scheiner's time. Over the centuries, the pantograph has been improved, forgotten, and reinvented several times.

A pantograph consists of four rods arranged in a parallelogram and joined with pivoting hinges, at the points where the rods intersect. Tracing an image with a stylus inserted at one position in the pantograph device, causes a pen at a second position to move in tandem, reproducing the image in perfect proportion. The earliest precursor to a modern copy machine, the pantograph was used to reduce, enlarge, or copy an image in perfect proportion.

In 1803, a clever young Englishman named John Isaac Hawkins, in collaboration with Charles Willson Peale, manufactured and marketed a new version of the pantograph, which they dubbed the "copying machine." This new machine was comprised of as many as five pens held in place by a series of horizontal and vertical arms. Any movement of one pen was duplicated by the other four, so that up to four copies of a document could be made at the same time.

In his application for a British patent, Hawkins wrote that the device could be used to make multiple facsimiles of letters, drawings, and paintings; to rule sheets of paper with straight, parallel lines; to draw single or multiple portraits, landscapes, and images in perspective; to make enlargements and reductions; and to create "secret correspondence"- distorted script that could be rendered legible only by using a second machine to "retract" it.

Among Hawkins and Peale's earliest and most enthusiastic customers was Thomas Jefferson, who wrote in his diary, "I think [the pantograph] is the finest invention of the present age...as a secretary to copy for us what we write without the power of revealing it, I find it a most precious possession to a man in public business." Jefferson eventually owned so many pantographs that he is often credited with having invented the device.