



A Primer on Victorian Buttons

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Photo by Lorryne Bailey

The button industry experienced a boom during Queen Victoria's long reign, with the advent of the industrial revolution and changes in fashions. This primer shows samples of button styles that were popular during various eras of her reign.

The Victorian Period refers to the reign of Queen Victoria in England from 1837 to 1901. Since England was a world power at that time, the influence of Victorian England was strongly felt by much of Europe and the United States.

Old buttons are defined by button collectors as those made prior to 1918. The majority were made in Europe and are usually less than 200 years old. That means that most old buttons are Victorian and a box of buttons from your grandmother might have a number of Victorian buttons in it.

In the eighteenth century, technology revolutionized the textile industry with a number of inventions. Advancements in machines, processes, and inventions continued in the nineteenth century which

resulted in making affordable buttons available to the enlarging middle class and increased the number of materials used for button making.

1837—1858

The European button manufacturers were mainly in England, Austria, Germany, and France. The well known button manufacturers in the United States, such as Waterbury (started 1812), Scovill (started 1802), and Lane (started 1840), were located in Waterbury, Connecticut. In 1842, button making was stimulated when the U.S. imposed a 30% tariff on imported buttons.

In the 1850's, skirts became fuller and often had yards of ribbon and ruffles on them. The mass production of sewing machines at this same time kept the new fashion affordable. Despite the availability of buttons in new materials, fabric buttons continued to be popular and, due to automated manufacturing processes, became more available.



upper left: pink velvet fabric with faceted paste center. **upper right:** black silk fabric, small black glass beads and brown thread in center (1 in). **lower left:** brown silk fabric, matching velvet and silk fabric over star shaped center mold. **lower right:** navy silk fabric with center brass escutcheon.

Glass

Glass buttons had existed for some time before the Victorian Era, but became popular at this time because of Queen Victoria. After her husband died, she remained in deep mourning for the rest of her life, wearing black clothes and jet jewelry and buttons. Jet is an expensive, coal-like mineral which was mined in Whitby, England. In order to be “politically correct”, many of Victoria’s subjects copied her example of wearing black buttons.

Since genuine jet was too expensive for most people, black glass provided the perfect substitute. A total of 14 steps, all done by hand, were required to create a glass button. The hot glass was pressed by hand into iron molds (which had been cut into intricate lacy patterns by skilled mold makers), then the edges of the buttons were ground smooth, polished, and optionally had gold or silver luster or iridescent finish brushed on and fired. Various formulas were used to create black looking glass, which when held up to a strong light may actually be dark blue-green, dark transparent brown, smoky opaque, amethyst, or dark red.

Bohemia, Germany, and Austria turned out millions of glass buttons in hundreds of designs. Competition was fierce, and if a pattern from one factory was successful, it was quickly copied by other factories, even

those in other countries. If you find a black glass button with the date of "Dec. 28, 1880" molded onto the back, it means it was made in the U.S. using an improved button making process which was patented on that date.

With just a little experience, you will soon be able to identify most glass buttons by looking at their edges and backs. When unsure, just tap the button against your teeth. Glass makes a distinctive "clink" sound and is cold to the touch.



upper left: Brown glass with gold highlights and a pattern resembling thread and crochet work (15/16"). **upper center:** Black glass with a garden and Oriental pagoda, backmarked "Pat'd Dec 28 1880" (1 1/4"). **upper right:** Black glass with fly (3/4"). **center left:** Clear glass with green paint filled channels on underside (5/8"). **center right:** Rectangular black glass with gold filled impressed floral design (7/16" x 3/4"). **lower left:** White glass with gold accented design and paisley center (3/4"). **lower center:** Black glass flower with mock thread looped border, all in silver luster (1 1/4"). **lower right:** White paperweight button with foil at the bottom and transparent green glass dots on top (5/8").

Brass

No button defines button collecting better than the brass picture buttons being produced during the Victorian era. Brass (an alloy of copper and zinc) was the most popular material used for making buttons. Button blanks were stamped from large, thin sheets of brass by steam driven presses and then attached to a brass back pierced by a twisted wire shank.



upper left: One piece copper fox hunting button, back marked "Neat & Modern Sept 1st, 1841 Sporting Designs." **upper right:** Two piece brass button called "St. Hubert's Hounds", a very popular design can be found in several materials with many different borders and background variants (1 5/16"). **lower left:** Two piece brass with fountain, child (possibly cherub or putti) and umbrella--note spout of fountain is a small face (1 3/8"). **lower right:** Multiple piece brass with wooden background called "Cupid Forging the Links of Matrimony", watched by the lovebird (1 7/16").

B. Sanders, a Danish manufacturer in England, had the idea of taking two thin metal disks and enclosing a thin piece of cloth or pasteboard by crimping the edges of the discs together. The front of these buttons could consist of several pieces and be combined with an accent of pewter, faceted steel, glass, fabric, or stamped metal picture.

Picture buttons are quite collectible, as they reflect the period in such a tangible way. The stamped pictures were sometimes put into multiple kinds of settings from very plain to quite elaborate. The layer of cloth or pasteboard between the front and back pieces of metal buttons means that such buttons need to be kept dry.

China Calico

Calico fabric was first brought to Europe in the seventeenth century from Calicut India. The fabric was cotton with very small designs of tiny flowers and leaves or little geometric designs of dots and lines. Calico became very popular in the United States, and by the 1840's small porcelain china buttons were being made with patterns and colors to complement the calico fabric designs.

Englishman Richard Prosser patented an inexpensive method of creating china buttons from china-clay powder. The buttons were then glazed and baked in a kiln. For calico patterns, freshly inked paper was laid on top of the glazed buttons and they were sent through the kilns a second time, where the paper burned away and the ink was fired

onto the button. The finished buttons were then hand sewn onto cards which could be cut apart to provide the exact number of buttons the customer wanted. Calico buttons were much more colorful than other available types of buttons and can be found in brown, lavender, black, green, orange, pink, and red. Over 300 calico button patterns are known.



Examples of china calico buttons. The larger white button shows how an undecorated china appears. At lower left is the bottom of a china button which has a yellow luster and shows the puckery, uneven glaze which is the clue that it is a china rather than a glass button (3/8" to 11/16").

At first, one person could make 25 china buttons per minute and a week's production of 2,850,000 buttons cost \$200 to make. Frenchman Jean-Felix Bapterosses developed a machine that formed 500 buttons at a time and he took the lead in innovation by developing lustered china buttons and using colored clay for the body of some china types. As of 1849, his factory

produced 1,400,000 buttons per day with 150 people in the factory and 400 women at home sewing buttons onto cards. The buttons sold for as little as 2 cents a dozen for undecorated buttons and 3 cents a dozen for decorated ones.

China buttons with their porcelain center and glass glaze appear similar to glass buttons. Look carefully at the underside of a china button: the unevenness of the glaze is the tip that you have a china button.

Rubber

The only major type of button manufactured solely in the United States was the rubber button.

Rubber, also called gum elastic, is a milky juice tapped from trees in a similar way to maple syrup. Christopher Columbus returned to Europe with rubber balls he acquired in the West Indies, but it was not until the 1820's, when rubber was used to create the water-proof McIntosh coat, that rubber began to become popular. While the coat functioned well in keeping one dry, the strong rubber smell sometimes caused passengers to be asked to leave public conveyances.

In the U.S., several companies put hundreds of thousands of dollars into manufacturing rubber goods. However, when summer arrived and those rubber goods melted due to the heat, or winter arrived and the rubber became brittle, the investment was lost. More extreme climates pointed out the flaws of natural rubber.

Charles Goodyear, a man more interested in invention than in money, began working on the rubber problem. One of the many times he was jailed for indebtedness, he asked his wife to bring him a rolling pin and a handful of rubber.



Charles Goodyear, c. 1891

He worked with the rubber in his cell to become familiar with its properties.

Five years and several jailings later, he finally discovered how to make rubber non-sticky and firm (vulcanization). Over the years, Charles invented ideas for over sixty patents using rubber, among them the patent for rubber buttons in 1849. Sadly, his business decisions were unwise and he spent most of his money defending his patents. He died \$200,000 in debt.

In 1851, Nelson Goodyear (Charles' brother) secured a patent for an improvement to the manufacture of rubber buttons which overrode the 1849 patent. Nelson Goodyear never made buttons himself, but companies paid for the right to use the process. Rubber buttons made between 1849 and 1875 have the "Goodyear" name on the back of the button and often have the patent date and the manufacturer.



left: "I.R.C.Co 1851 Goodyear" (1"). **center:** "D.H.R.Co. 1875" (9/16"). **right:** "Novelty Rubber Co. New-York. Goodyear's Patent. 1849-51." (1 1/8")

The rubber button companies were:

- Novelty Rubber Company (N.R.C.)
- India Rubber Comb Company (I.R.C.C.)
- Dickinson Hard Rubber Company (D.H.R.Co.)
- American Rubber Company (A.R.Co.)



left: Flowering plant with beaded rim backmarked "N.R.Co. Goodyear's P=T. May 6 1851" (1 1/8"). **right:** Boar's head backmarked "N.R.Co. Goodyear's P=T. 1851." (7/8"); four leaves backmarked "N.R.Co. Goodyear's P=T. 1851" (13/16"); geometric pattern backmarked "N.R.Co. Goodyear's P=T. 1851" (13/16")

Rubber buttons failed as an export product because it was said they had an unpleasant smell when damp or warm. Also, any designs flattened under heat or pressure, so rubber buttons were not popular at the time they were made. Regular clothing

buttons were made in plain, geometric, floral and animal designs.

There exist some advertising buttons, uniform buttons for the Army and Navy (including Berdan's Sharpshooters in the Civil War), political buttons from 1868 with Grant and Colfax as well as Seymour and Blair, and the dancing frogs button of the Greenback Party. Rubber buttons ranged from 1/4" to 1 3/4". Although typically black in color, one can find brown, dull red, black-speckled orange, and tan buttons.



Liberty head backmarked "N.R.Co. Goodyear's P=T May 6, 1851". (1 1/8")

1859—1880

Men's clothing dominated the button industry until the mid 19th century when women's fashions also began to use functional and decorative buttons. As men's clothing became more standardized in style, women's fashions became excessively ornamented and ostentatious. Because men usually dressed themselves and are typically right handed, their buttons are on the right of the garment. Women often had lady's maids to help with the dressing process, so their buttons were put on the left to make it easier for the maid.

Before the American Civil War (1861—1865), some ready-to-wear clothing could be purchased, such as coats, jackets, and undergarments. Most clothing was made by tailors or at home. At the start of the Civil

War, uniforms were made under contract to the government by workers in their homes. As military requirements grew, methods were found to allow uniforms to be made in factories and the concept of standard men's sizes was developed. After the war, the first commercial sizing scales for men were based on those standard sizes. The mass production of women's clothing was much slower and did not develop until twenty-five years later when women's mourning clothes became available as ready-to-wear.

When the American Civil War started, there was not a single button factory in the South, so buttons were scarce there. Buttons were bought in Europe, but due to the blockade of ships by the North, many button shipments never reached their destination. The Southern soldiers had to use what they could get—crudely manufactured or homemade buttons, sometimes even acorns. Buttons from dead or captured Union soldiers were reused when not melted down for making other items. In 1876 there was still a 30% import duty on most buttons, 10% for cloth woven buttons, 60% for silk cloth buttons, and 40% for glass buttons.

Satsuma Pottery

In 1854 the United States made a treaty with Japan to open Japanese ports for trade and Great Britain, France, and Russia quickly followed suit. The display of a giant enameled and gilded flower Satsuma vase at the Paris Exposition in 1867 and the Vienna Exposition in 1873 made Satsuma ware very

popular and soon potters began producing it in several areas of Japan.



Top: Floral button with elements outlined in gold, wear can be seen especially on the border where the gold is worn off. This button shows that red paint was used underneath areas that were later painted with gold (1 13/16"). **upper right:** Japanese geisha outlined in gold with gold and dark blue border, mounted in silver (3/4"). **lower left:** Bamboo outlined in gold with gold border (1 1/8"). **lower right:** Chrysanthemums outlined in gold with a greek key border (15/16").

Fortunately for us, although pottery buttons were not used in Japan, it was realized that the Satsuma technique would make wonderful buttons for export. Satsuma ware typically has a light straw color with a network of fine cracks and the buttons have a self shank. The early Satsumas have the best quality, with lovely painted designs, fine details, and gold lining. The size of these buttons can vary from 3/8" to over 2".

Vegetable Ivory

Another new button material, shown for the first time at the 1862 Universal

Exposition in Paris, was vegetable ivory. Made from the nuts of the corozo or tagua palm, the pale ivory color of the nut resembles ivory. This material is very dense, so dye only penetrates the surface layer and the interior remains uncolored. Embossing, stamping, carving, stenciling, and design transferring were all methods used to decorate these buttons. Designs were created by using heat and pressure. The presses used were typically run by women as the hot, wet nuts were delicate and women, with less upper body strength than men, were thought to ruin fewer nuts.

Vegetable ivory buttons are rarely over



left: Transfer design of trees and house (1"). **right:** Cup shaped with white metal escutcheon of berries (1").

an inch in diameter due to the small size of the nuts (left). If one looks closely at the back of the button, there is often a distinctive grain that looks something like wavy tree rings. These buttons (right) often have a self shank, so looking into the shank will show the ivory color which is under the surface. As it ages, vegetable ivory may dry and crack, especially



upper left: Dyed, stenciled design (9/16"). **upper right:** Dyed with pierced design (1/2"). **lower left:** underside of button showing natural color under a dyed surface (9/16"). **lower right:** machine carved design showing natural color under dyed surface. (9/16")

if it came from the center part of the nut. Vegetable ivory production peaked between 1870 and 1920.

1881—1901

In the 1880's the bustle returned in a smaller, lower version. Winter dresses were made with many pleats in heavier velvets, satins, and wools and could often weigh 20 pounds. Colors were darker and included bottle green, deep wine, navy blue, and black. Tight corsets, long boned bodices, tight sleeves, and high necks presented a very prim and proper look.

In the 1890's, the bustle was out with the revival of the 1830's hourglass figure. Tiny, boned waists with a point in front were emphasized by sleeves which grew to huge proportions. The tightly fitted coats of the past would not work with this look, so capes became popular.

Large metal buttons with flashy glass



Pierced brass button with faceted paste center, a circle of cut steels, and a leafy border (1 5/8").

centers became fashionable. These buttons are referred to as "Gay 90's" buttons and were worn on women's capes as a way to emulate the jewels of wealthy women. Cloth covered buttons continued to

be popular, perhaps because metal buttons rusted and pottery, glass, and shell buttons chipped and cracked. Hand-operated button making machines became popular for

dressmakers so that matching buttons could be made for their clothing.

Pearl

In the late nineteenth century, millions of beautiful ocean mother-of-pearl buttons were made from shells. Hand and machine processes were needed to carve these beauties. Steam-driven saws cut out cylinders from the shells. Geometric carvings were done by operators holding buttons under a steam-driven cutting wheel.



Dyed pearl with engraved and gold painted waterlilies, cattails, and dragonflies (5/8").

Hand and machine processes were needed to carve these beauties. Steam-driven saws cut out cylinders from the shells. Geometric carvings were done by operators holding buttons

Polishing was done by tumbling in a vat and by hand, while a drill press was used to drill holes. The United States was the first country to use abalone shells for buttons. The abalone came from the Baja Peninsula and Japan.

Fresh water pearl buttons do not have the same beauty as ocean pearls. Starting in 1884, clam shells from the Mississippi River



upper left: Two piece carved pearl (3/4"). **upper right:** Carved floral center with engraved and gold painted floral border (7/8"). **lower left:** Rectangular one piece carved geometric design. (7/8 x 1 5/16"). **lower right:** One piece carved floral design with four-sided cut steel center and six cut steels in border (7/8").

were used to make pearl buttons in Muscatine, Iowa, which went on to claim the title "Pearl Button Capitol of the World".



left: Large white pearl button with a pierced border and a floral engraved center (1 3/4"); **center top:** Ornate carved pearl with star pattern (1 1/4"). **center bottom:** Circle of star shaped cut steels with a wide swirl border (1 9/16"). **right:** large Floral motif with twisted border (2 1/4").

Horn

While horn buttons were made in the 18th century, most horn buttons found in old button boxes date from the 19th century. "Natural" horn buttons were



Horn button carved from solid horn (1/2" x 1 1/2").

cut from the solid parts of the horn and then shaped and polished (above). "Processed" horn buttons (right) were made from the hollow portion of the horn



Processed horn button dyed to resemble tortoise shell, with embedded pearl flowers, white metal leaves, and gold metal tendrils and dots (1 1/2").

which was cut into pieces and had moisture, heat, and pressure applied.

This processed horn was pressed into heated molds, so it is common to find a "pick mark" gouged into the back of the button where it was picked or pried out of the mold. This method has produced some amazingly detailed buttons. Horn is fibrous and this fibrous structure is often seen on the back of the button. Most horn buttons were dyed black, although after 1880 more natural colors were preferred.

"Processed" horn buttons are often damaged by a tiny beetle that lives inside the button. Irregular holes, a powdery residue or even eggs may be left behind.



upper left: Butterfly design of embedded silver and gold metal (3/4"). **upper right:** Dyed black, with overall geometric design, back marked "L.C.J. & F. Caen" (1 7/16"). **lower left:** Backside of a button showing natural horn striations, pick mark at left lower edge, and cavities around center holes indicate insect damage (1 3/16"). **lower right:** Dyed black with geometric design around two center holes (1 1/16").

Look carefully at newly purchased horn buttons for damage. If you get a suspicious button, wrap it in plastic and put it in the freezer for several days to kill any bugs and eggs. Handle it carefully while removing from the freezer and until it is completely thawed so that it is not damaged while brittle from the cold.

Pewter

Pewter is a soft white metal alloy, mainly of tin, which was out of fashion for men during the Victorian era. However, late in that age it appeared in ladies fashions. The pewter was often tinted with colored varnishes to enhance the design and better complement the clothing. After varnishing, a sharp tool could be used to gouge the surface and expose the bright metal. The quality of a pewter button can vary greatly depending on the amount of lead used in the alloy. Many pewter buttons of this period were not of high quality.



top: Geometric design with blue tint (1"); geometric design (7/8"); floral design, backmarked "Depose" (9/16"); varnished, with gouged design and molded (fake) cut steel center (9/16"). **bottom:** Floral design (1 1/8"); floral design with red tint (1 1/4"); geometric design with molded (fake) star shaped cut steel center (9/16"); geometric design, engraved pearl disc (5/8").

Celluloid

Celluloid (cellulose nitrate) was the first synthetic plastic and was developed in England in the 1850's. It began to be used commercially in 1868 when it was used as a replacement for ivory in billiard balls. It was also used to imitate horn, tortoise shell, marble, and jade. Buttons with celluloid parts appeared in the 1897 Sears & Roebuck catalog, but they were quite fragile.



upper left: Brass button with pierced celluloid background (1 3/8"). **upper right:** Brass button with brass design over celluloid background (1 1/4"). **center left:** Oval celluloid base with pearl veneer (1/2" x 3/4"). **center right:** Brass button with ivoroid (celluloid) bird and brass flower design (9/16"). **lower left:** Brass button with printed design under clear celluloid (7/8"). **lower right:** Brass button with brass design on celluloid background (1 5/16").

The earliest celluloid buttons are often mistaken for other materials, as the celluloid was used as a base upon which inlays or

veneers of pearl, tortoise shell, and horn were placed. While often beautiful, their fatal flaw is that they are flammable, so they never gained wide popularity. When stored with metal in an airtight container, deterioration can occur of both the celluloid, metal, and any nearby buttons. Ideally, celluloid buttons should be stored separately from other materials and have good air circulation.

Enamel

Unlike the low quality pewter buttons made at this time, enamel buttons were popular, luxurious and expensive. Sets were made and sold like jewelry in velvet-lined boxes. The techniques remained the same as for the past several hundred years—glass was ground to a fine powder and applied to the metal surface, then melted in a kiln which fused the glass to the metal with heat.



left: Brass button with painted enamel center and champléve border (13/16"). **middle:** Brass button with champléve enamel. **right:** pierced brass button with painted enamel and a cut steel border. (1 5/16")

The most common type of enamel was champlévé style in which the metal was stamped with a design and the glass powder applied to the hollows in that design. Hand painted portraits and floral designs were also popular.

Victorian Designs

While Queen Victoria may have had little influence on fashion, she had quite an impact on buttons. Many buttons of the period are found with a "V" design which stands for "Victoria", while her love of Scotland and Ireland generated lamb and thistle patterns and clover leaf designs.

The new science of photography produced tintypes so that pictures of a famous person or one's loved ones could be mounted on buttons and worn. The popular Kashmiri shawls from India introduced the paisley design and fans, buckles, and the circular nosegay of herbs and flowers called tussie-mussies were quite common.

Other aspects of the culture which are



One piece stamped brass with design resembling claws (1-9/16").

found in button designs include religion, mythology, the heavens, operas, operettas, children's fables, novels, famous landmarks such as the Eiffel Tower, famous people, the

grand tour, transportation, foreign lands and people, romantic medievalism, fairies, and plant and animal life. What can be a bit confusing is that subjects from previous periods, such as historical figures from the 17th and 18th centuries, were also depicted on buttons made from 1840—1900.

When the four-hole button was invented as an alternative to shank buttons, it minimized the decorative possibilities and buttons became much smaller. In the 1860's the young women in the U.S. began the fad of making charm strings, which were small buttons sewn onto black elastic bands or strings. The charm string was started with a larger button called the "touch" button. Other buttons, less than 5/8", were then added.

These buttons had to be acquired as a gift or in an exchange of buttons. Both married and unmarried ladies made charm strings, as a long charm string indicated a popular woman. For a single young lady, adding the thousandth button on the charm

string meant that Prince Charming would soon appear.

The types of buttons on these charm strings included glass swirl backs (a swirl of glass can be seen around the metal loop shank which was twisted as it was inserted into the still soft glass), small vest buttons (glass set in metal), pearl, china, vegetable ivory, and military uniform buttons.

Enjoy your buttons and keep an eye out for these little pieces of art which go undetected by most people!

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Vintage 200-button string found at an estate sale.

Bibliography

- [1] *About Buttons*. Peggy Ann Osborne. Schiffer Publishing, Ltd., 1994. ISBN: 0-88740-555-X.
- [2] <http://www.wikipedia.org>
- [3] “Victorian Picture Buttons.” Kathleen J. Vocelle. National Button Society Article http://www.nationalbuttonociety.org/NBS_Articles.html
- [4] *Haute Couture & Pret-A-Porter Mode 1750 – 2000*. Waanders Publishers, Zwolte Gemeentemuseum Den Haag, 1998.
- [5] *The Encyclopedia of World Costume*. Doreen Yarwood, Bonanza Books, 1986. ISBN: 0-517-61943-1.
- [6] http://www.goodyear.com/corporate/history/history_story.html
- [7] <http://museum.nist.gov/exhibits/apparel/history.htm>
- [8] <http://victorian.squarespace.com/history-of-buttons/>
- [9] “Goodyear Rubber Buttons.” Jill Gorski. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [10] Compulsively Collecting Calico China Buttons by Janet White. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [11] “Give Swirlbacks a Whirl.” Elaine K. Baur. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [12] “A Charming Tale,” Linda Kelly National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [13] “Pewter Buttons.” Suzanne Marsh. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [14] “Tussie-Mussies.” Ann Abarno. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [15] “Japanese Satsuma Buttons.” Nancy Bank Allen National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [16] “Victorian Black Glass Buttons.” Kathleen J. Vocelle. National Button Society Article. http://www.nationalbuttonociety.org/NBS_Articles.html
- [17] “Button Bytes Light.” <http://www.tias.com/articles/buttons/dictionary1.html>
- [18] *All Because of a Button*. Ellaraine Locke. St. Johann Press, Haworth, NJ, 2000. ISBN 1-878282-20-4.
- [19] Excellent pictures of rubber buttons: <http://www.vintagebuttons.net/rubber2.html>
- [20] “Ugly Buttons that Have Charm -- Goodyear Rubber.” Ginny Flis. <http://www.vintagebuttons.net/rubber3.html>
- [21] “Hard Rubber, Gutta Percha & Look-Alike Button Materials from Early Plastics.” Sylvia Katz. <http://www.vintagebuttons.net/rubber.html>
- [22] *The Collector's Encyclopedia of Buttons*. Sally C. Luscomb. Schiffer Publishing Ltd., 1999. ISBN: 0-7643-0889-0.
- [23] *Button Materials A-Z: Identification Guide*. by Jocelyn Howells JossButtons, Portland, Oregon 2006.
- [24] *From Nut to Button*. Pat & David Fields. Unique Antiques & Collectibles, Aiken, S.C. 2001.
- [25] *Buttons*. Diana Epstein and Millicent Safro. Harry N. Abrams, Inc., Publishers, 1991. ISBN: 0-8109-9059-8.
- [26] *The Big Book of Buttons*. Elizabeth Hughes and Marion Lester. Boyertown Publishing Company, Boyertown, Pennsylvania, 1993. ISBN: 0-9629046-0-0
- Virginia Knowles was inspired by a creative mom, and started sewing doll clothes by hand at an early age. These days she is busy sewing wearable art, collecting sewing buttons, and exploring the artistic possibilities of polymer clay and gourds. Virginia is a member of the Santa Clara Valley Button Club, [California State Button Society](#), [Western Regional Button Association](#), and the [National Button Society](#).*