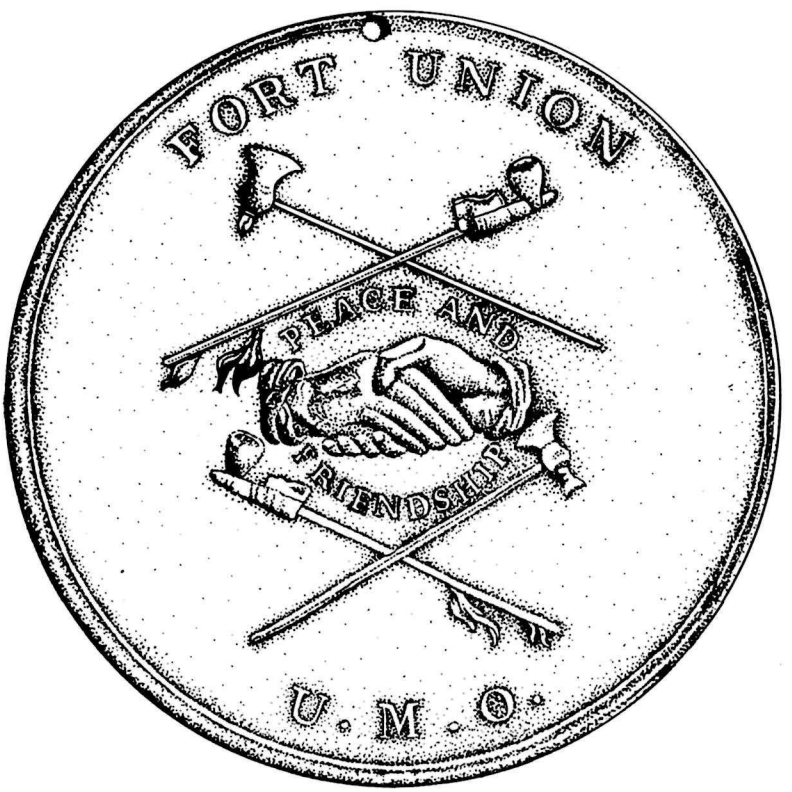
FORT UNION TRADING POST
NATIONAL HISTORIC SITE
32W117

Material Culture Reports



Fort Union Trading Post National Historic Site (32WI17)
Material Culture Reports, Part V:
Buttons As Closures, Buttons As Decoration:
A Nineteenth Century Example from Fort Union

by

William J. Hunt, Jr.

United States Department of the Interior
National Park Service
Midwest Archeological Center
Lincoln, Nebraska

1986

FOREWORD

This report is one of a series which describes the results of National Park Service archeological excavations at Fort Union Trading Post National Historic Site from 1968 through 1972. Although a preliminary report describing the extent and nature of the excavations was produced shortly after the close of each season's fieldwork, until recently the extensive collection of artifacts and other materials recovered during that work has remained largely unanalyzed and unreported for want of sufficient funding.

A systematic effort to analyze and report all classes of material in the Fort Union collection was initiated in 1978 under the direction of Dick Ping Hsu with assistance from Leslie A. Perry. When Hsu transferred from the Midwest Archeological Center in 1981 and Perry left the National Park Service in 1982, this work was continued by William J. Hunt, Jr. These efforts have resulted in a series of manuscript reports, each focusing on a particular aspect of the 1968-1972 work at Fort Union. The series, entitled "Fort Union Trading Post National Historic Site (32WI17) Material Culture Reports," consists of a volume (Part I) by Hunt which critically assesses the fieldwork accomplished during the four seasons of work at the site; four volumes, with sections authored by Hunt or Perry or both, which describe the food-related artifacts (Part II); personal and recreational materials (Part III); the firearms, trapping and fishing equipment (Part IV); and the buttons (Part V) recovered from the site. Another volume (Part VI), by Carole A. Angus and Carl R. Falk, summarizes information about the vertebrate faunal remains from the Fort Union excavations. As more classes of material in this large and important collection are analyzed, more descriptive reports will be completed in this series.

Because of the size and number of these reports, only a limited number of paper copies have been produced for distribution to active researchers in fur trade archeology. Microfiche copies of these reports may be obtained from the Midwest Archeological Center, Federal Building, Room 474, 100 Centennial Mall North, Lincoln, Nebraska 68508-3873.

Cover illustration: The cover illustrates the reverse of a silver trade medal produced for the Upper Missouri Outfit of the American Fur Company in the early 1830s.

ABSTRACT

Between 1829-1865, Fort Union served as the administrative center of the Upper Missouri Outfit of the American Fur Company. After becoming a National Historic Site in 1966, the U.S. National Park Service sponsored four excavations there. Among the thousands of objects recovered were several hundred buttons. In the past, archeologists have been content to describe such mundane without attempting to analyze artifacts; e.g., place them within a social and functional contexts. This paper attempts to use buttons as a means of determining the kinds of clothing worn at the fort, the cultural contexts in which they were variously used, and whether general classes of clothing used there were imported as ready mades or produced at the fort itself.

Table of Contents

List of Figures

List of Tables

I. INTRODUCTION/HISTORIC BACKGROUND

In 1827, John Jacob Astor's American Fur Company made an agreement to join forces with the Columbia Fur Company, one of "The Company's" greatest rivals. This created the Upper Missouri Outfit of "The Company's" Western Department. Kenneth McKenzie was charged with the construction of a new trading post, an impressive edifice which would suitably reflect its intended function; i.e., the administrative center of the Company's regional fur trade. He built Fort Union (Figure 1) in 1829 at the confluence of the Missouri and Yellowstone Rivers (Figure 2). This location provided access into the depths of the rich Rocky Mountain fur areas via water routes and a transportation route for supplies furs to and from St. Louis. The power of the Company was quickly consolidated by the construction of numerous forts on the Upper Missouri. In 1834 the aging Astor sold the Western Department to Pierre Chouteau, Jr. who operated it under the name "Pierre Chouteau and Company."

Until about 1850 Fort Union served as a focus of economic power and wealth beyond that which the American fur trade had seen before or would ever see again. But the decade of the 1850's was one of slow decline in the fur trade and by the Civil War the commercial situation had certainly become gloomy.

Among the most important elements in Fort Union's decline was the advance of the frontier accompanied by the strengthened Sioux nation. By 1863, the Sioux had become so troublesome that William Dole, Commissioner of Indian Affairs, recommended to the Secretary of the Interior that military posts be established in the Upper Missouri region. In 1864, General Alfred Sulley's expeditionary force moved up the Missouri River. Company I of the Wisconsin Volunteers was assigned to Fort Union to protect the important river transport and the migrants on their way westward. A number of the members of this company arriving in 1865 were Confederate prisoners of war who had been offered the option of serving in a frontier post or prison. These were the so-called "Galvanized Yankees" (Brown 1963).

Whatever the contributing factors, Fort Union's reduced economic standing was critical and political pressures placed upon the company during the war exacerbated its

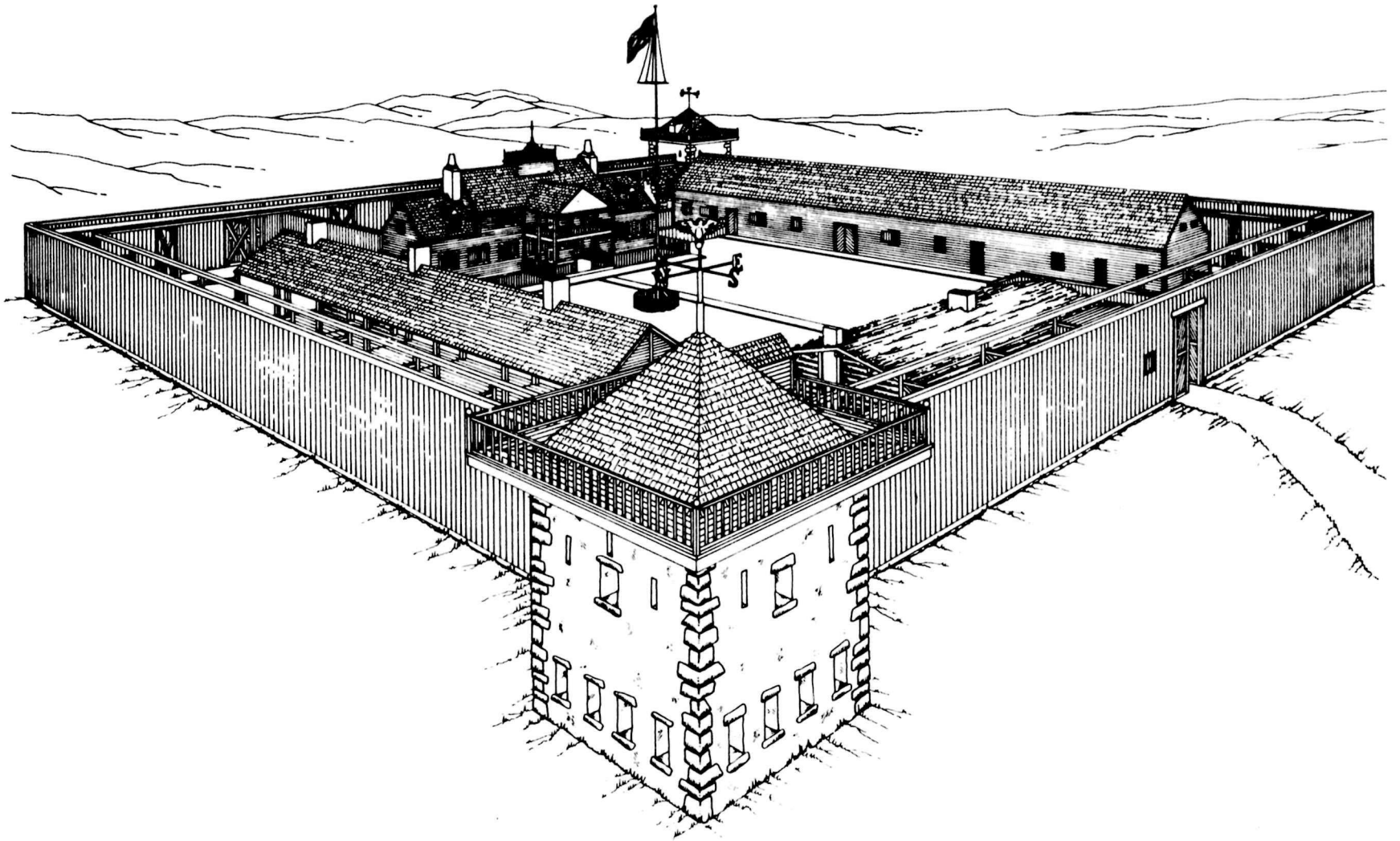


Figure 1. Fort Union Trading Post as it may have appeared in 1851.

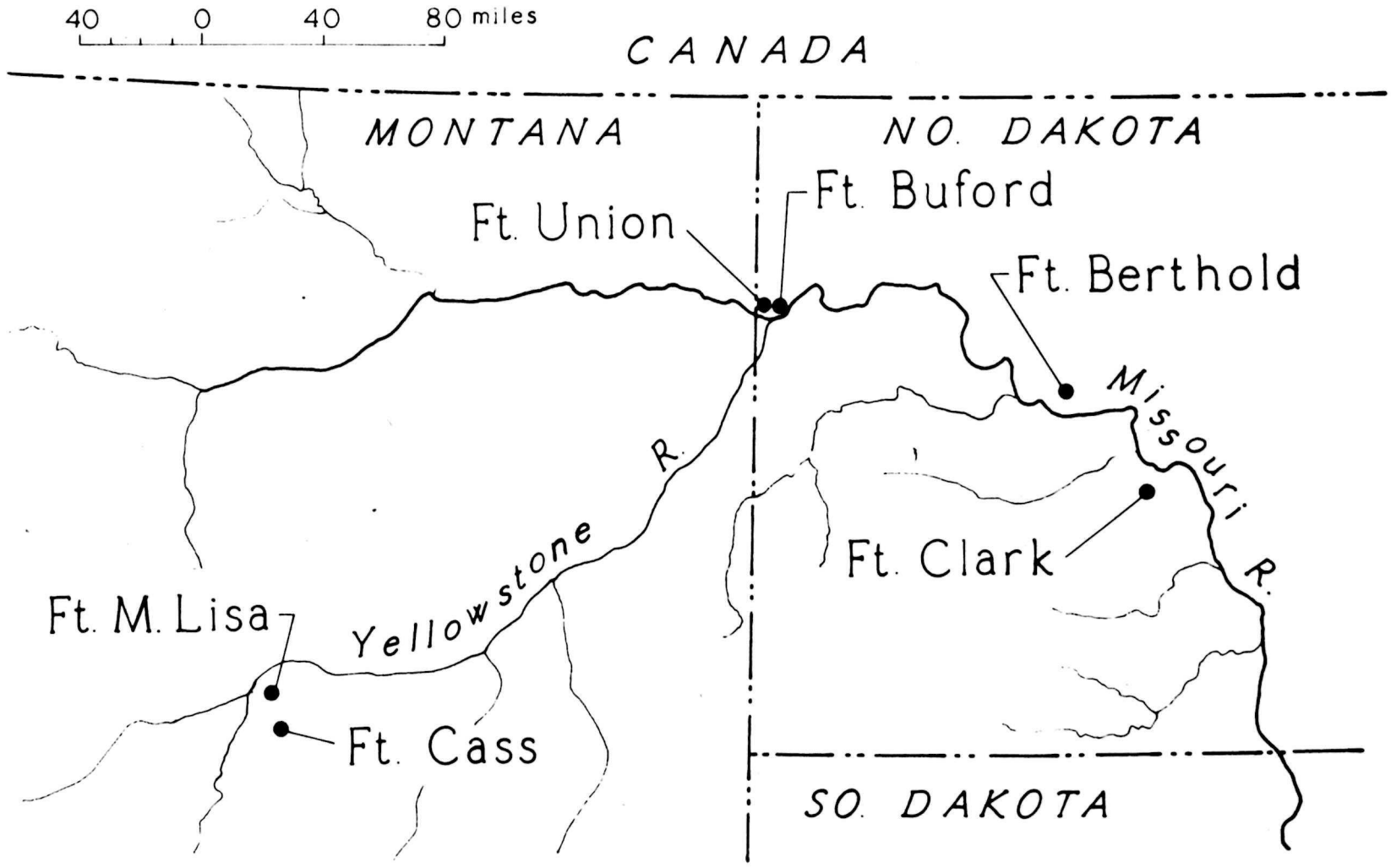


Figure 2. Location of Fort Union Trading Post National Historic Site.

economic problems. Officials in Washington considered Pierre Chouteau, a St. Louis slave owner, to be a Confederate sympathizer and suspicion severely weakened his company's lobbying efforts in Congress. In 1865 Chouteau's company surrendered and the fort was sold to the North Western Fur Company. Soon after, Fort Union was sold once again, this time to the U.S. Government which torn it down for building materials.

In 1961, Congress made the site a National Historic Landmark which led to its designation as Fort Union Trading Post National Historic Site five years later. The National Park Service was charged with site protection and public education via interpretative displays and narratives. To meet this mandate an architectural history was quickly completed (Thompson 1968) coinciding with the commencement of a series of archeological investigations (Moore 1968; Husted 1970, 1971; Gillio 1973). Artifacts described in this report were recovered during the course of that fieldwork.

II. METHOD AND DEFINITIONS

Of the 643 buttons recovered from Fort Union, 631 relate to the site's fur trade. These are divided into six classes according to their raw material (bone, shell, metal, ceramic, glass, and rubber) and types are established in each according to method of manufacture or means of attachment. Varieties are generally distinguished according to decorative characteristics. Descriptive terminology follows Luscomb (1967) and Albert (1969). Proveniences are provided for all specimens in Appendices at the end of this paper according to their assigned class, type, variety, and pattern. Button size groupings are inferred by plotting button diameter distributions. These are presented by type, variety and frequency in Tables 2-6 in the 'Discussion' portion of this paper.

Although the button is composed of various parts (Figure 3), it is basically divided into the body and the shank. The body may be manufactured of one or more elements with the anterior surface called the "face" and the opposite or posterior being the "back". The face is often decorated and the back occasionally displays manufacturing marks. Features of the face are somewhat more varied morphologically and include:

well - a depressed area in the center (often where the holes are).

rim - the space between the edge and the well.

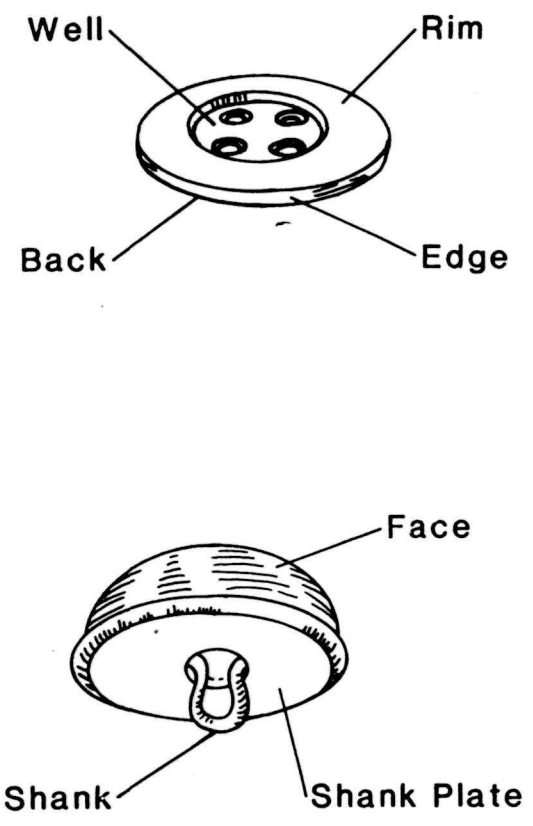


Figure 3. Common features of sew-thru and shanked buttons.

ring - narrow, concentric ridge(s) which are usually located on the rim.

Buttons were attached to material by means of sew-thrus or shanks. Sew-thrus are holes for running thread through to attach them to a garment and individual specimens from Fort Union may display from one to five. Shanks generally consist of metal loops added as a means of attachment which are often inserted through the back or shank plate of multi-piece buttons. Shank plates may be constructed of metal, bone, or wood. Shank variations identified at Fort Union include:

alpha - hand-drawn wire brazed onto the back of a cast or hand wrought one-piece button during the 18th century. Shank ends were not bent at the attachment point (Luscomb 1967:3).

omega - like an alpha shank but with the ends bent to make footings providing a more secure attachment to the button back. One of the first machine-manufactured buttons and primarily made between ca 1800-1850 (ibid.:141).

cone - a loop shank whose ends lie within a reinforced cone-shaped piece of metal (ibid.: 46).

flexible - patented in 1825 by B. Sanders, Jr., this consisted of a piece of canvas or cloth which protruded through the back of the button. The material served as the shank for attachment (ibid.:17, 75).

Sanders - these were buttons manufactured (ca 1830 to present) by driving face and back blanks into dies. The shank plate pressed in a second die to fasten an omega-shaped shank through the back (ibid.:17; Olsen 1963:552).

expansion shield - these were attached to a button blank by drilling out its back such that the resulting hole was larger inside than at the aperture. A wire shank was then forced through the aperture and pounded to fill the larger interior hole diameter (Albert 1947: 26-27).

Buttons have traditionally been measured using a unique system called the "line scale" or "ligne scale," originally French linear units of measure varying from 2.26 to 2.95 mm (Ross 1983:77-79) depending upon the nature of the material being measured. To what extent this system of measurement was used by other European nations is unclear but by 1840 it

had spread beyond France and was adopted by American manufacturers. By the turn-of-the-century, the line or ligne was standardized at 40 to the inch (e.g., Montgomery Wards & Co. 1969:85). This system was not used to describe buttons in this paper but are provided where applicable in the tables and figures.

III. CLASS I, BONE (n=156 specimens).

Bone buttons were usually made by boiling and cleaning cattle bone afterwhich it was cut into strips. Disk-shaped blanks were then cut out from along the length of the strips (Luscomb 1967:25). Nearly all of the examples from Fort Union have sew-thrus for attachment and range in color from blond through dark brown. The only exception is a single globular, shanked specimen. Fort Union's buttons appear to be factory-produced imports for the most part. The few that appear to be home-made take the form of plain, flat disks with one or more holes and occur in four sizes.

Types were defined according to their mode of attachment. Three fragmentary or aberrant specimens were not placed into one of these. Provenience and metric information for each specimen may be found in Appendices A1-3. One is broken with only portions of two sew-thru holes remaining. A second button is aberrant in that the four sew-thru holes are irregularly placed in a linear arrangement from the center of the well to the button edge. The third specimen has been modified by cutting away the well to form a doughnut-shaped object (bone bead?).

Type A, Five-hole (n=44 specimens).

This type is characterized by a central hole with four peripheral holes (Figure 4a-g). South (1964:121) has noted their presence in Florida for 1800-1865 archeological contexts and a corresponding absence in 18th century sites in that state. Carlson (1979:57, 186-187) recovered specimens similar to Varieties 2 and 3 at Fort Atkinson in Nebraska, a military post dating to 1820-1827. Curiously, no buttons of this type were recovered from the HBC post Fort Pelly (1824-1856) which was Fort Union's nearest northern competitor (Klimko 1983).

Variations include presence or absence of concentric rings on the face, and size and form of the well. Rims tend to be rounded rather than flattened and backs are nearly flat. Varieties are defined on the basis of presence or absence of wells and other modes of decoration.

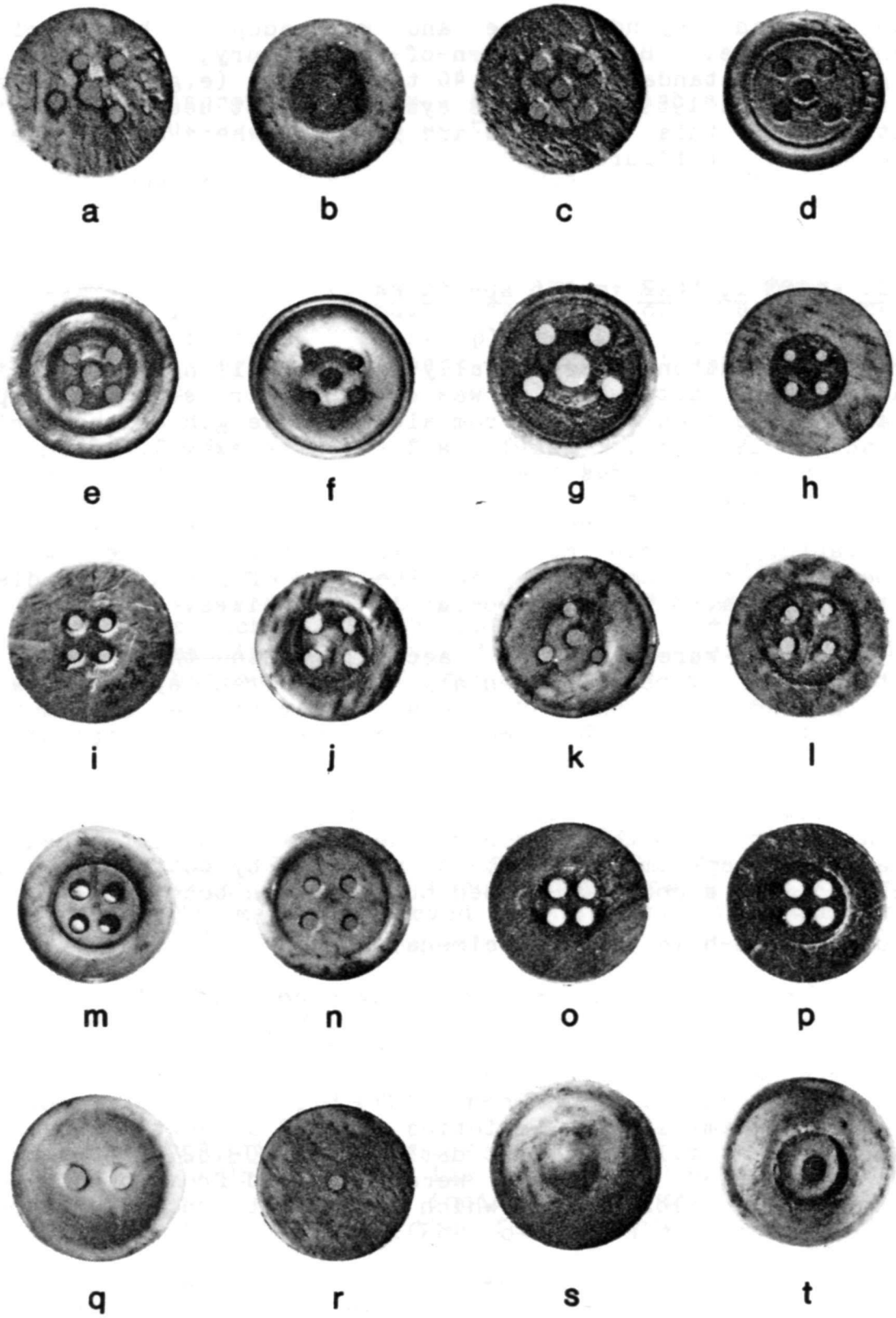


Figure 4. Class I (bone) button types: a-g, Type A (five-hole); h-p, Type B (four-hole); q, Type C (two-hole); r, Type D (one-hole); s-t, Type E (loop shank) obverse and reverse sides. Illustrations are not to scale.

Variety 1 - the single specimen has no well and irregularly placed sew thrus (Figure 4a) which suggest that the button was made by hand rather than by machine.

Variety 2 - simple well. Three have asymmetrical peripheral holes and all but three have slightly to strongly cone-shaped wells (Figure 4b-c). It occurs in three sizes.

Variety 3 - a simple raised ring at the well/rim juncture. Two subvariants and four sizes are noted. Subvariety 3a has a narrow (ca .01"/.03 cm) ring (Figure 4d) and is represented in four sizes. Subvariety 3b displays a wide ($\geq$ .08"/.20 cm) ring which in all cases but one is raised and rounded (Figure 4e). The exception has a flattened band.

Variety 4 - narrow raised ring at the outside rim (Figure 4f) and occurs in two sizes.

Variety 5 - well diameter is nearly as great as the entire button. It has a narrow raised band at the well edge and a wide raised band around the central hole (Figure 4g).

Type B, Four Hole (n=88 specimens).

Many buttons of this type follow the general morphological forms described for Type A. Sew-thru placement tends to be the same as for five hole buttons with the deletion of the hole in the well center. An aberrant specimen has a central hole and three peripheral sew-thrus. Most have bit marks (small conical depressions) in the center of their faces and a number of specimens have faint cross-marks on their backs which apparently served as guides for cutting the button blank and/or finishing the shape of the back. Specimens similar to this type have been recovered from sites dating from the Colonial period to the early 1900s (McLeod 1983:223).

Variety 1 - simple wells of relatively small diameter accompanied by wide flat rims and rounded backs (Figure 4h-i). Four sizes are represented.

Variety 2 - raised ring at the well margin (Figure 4j). The two smaller specimens have very flat backs, quite narrow well edge rings, and excurved rim faces. The diameter distribution suggest that three sizes are present.

Variety 3 - narrow raised ring at the rim edge and a central sew-thru surrounded by three

holes placed equidistant from one another. The back is flat and the rim face is slightly rounded (Figure 4k).

Variety 4 - wells are nearly as wide as the face and backs are rounded to subconical. They appear to be present in four sizes. Two patterns are distinguished on the basis of their facial shape. Pattern 4a has a flat rim face (Figure 4l) while Pattern 4b has a rounded rim face (Figure 4m-n).

Variety 5 - an "offset well". Overall, it resembles Variety 1 of this type except for the form of its back. This is very flat with the middle having a raised flattened disk opposite the well (Figure 4o-p). Two sizes are in the collection.

Type C, Two Hole (n=1 specimen).

This type is dish-shaped in cross-section with two holes placed one on each side of the well center (Figure 4q). In form it is much like Type A, Variety 5 and Type B, Variety 4 in that the well is extremely broad with respect to the overall size of the button.

Type D, One Hole (n=19 specimens).

Morphologically, this is very a uniform group following that of Type A, Variety 1 except that they are thinner in cross-section and have only a single hole in the middle of a flat, disk-shaped blank. The type is quite plain in appearance with no well or other decorative feature (Figure 4r). Four sizes are inferred.

One-hole bone buttons were recovered from Fort Moultrie along with scrap left from their manufacture (South 1974:188-195). Those from a largely 19th century context (ca 1794-ca 1812) occur in approximately the same size range as specimens from Fort Union. Fort Moultrie's 19th century buttons tended to be both smaller and larger than those of the previous century although some slight overlap with earlier specimens occurred. On this basis South (ibid.) suggested a possible correlation between size and chronology. Similarities between late specimens from Fort Moultrie and those of Fort Union, a 1829-1867 occupation, supports his observation. Further credence is lent by the recovery of similar buttons of a nearly identical size range from Fort Atkinson, a 1820-1827 military post in Nebraska (Carlson 1979:57, 184-185). South goes on to compare the one-hole button sizes with metal military buttons and concludes that they may have functioned as closures for undergarments and other clothing worn beneath waistcoats and

uniforms.

Type E, Loop Shank (n=1 specimen).

This type is acorn-shaped with a raised rib around its middle and a rounded knob on top (Figure 4s-t). The shank and shank plate are missing.

IV. CLASS II, SHELL (n=101 specimens).

Shell used to manufacture buttons is derived from ocean and freshwater sources. The results are often referred to as "pearl" buttons (Luscomb 1967:177-178). Freshwater shell can generally be distinguished by its luster; i.e., they are less brilliant when new and dull rapidly as they age. These are usually manufactured into plain, utilitarian closures. Button makers derived such shell from local rivers and streams and many of these buttons were manufactured in the United States. Production occurred as a cottage industry along the Mississippi and Missouri Rivers during the first half of the 19th century. After that time the industry was rapidly transposed into manufacture via factory and machine (Switzer 1974).

Seashell buttons have a relatively high luster which is retained for a relatively longer period. Commonly decorated with carved or cut designs (and somewhat less often with dyes, paint, or transfer printed designs), these are better grade buttons whose raw materials vary both in color and quality. They are derived from sources the world over though nineteenth century manufacture tended to occur in Europe and particularly in England.

Fort Union's inventories taken at the end of trading years 1829-51 (Missouri Historical Society, Chouteau Collection) list two kinds of shell buttons which were kept on hand; e.g., pearl shirt and pearl coat. Pearl and imitation pearl buttons were offered by Montgomery Ward & Co. (1969:85) and Sears, Roebuck & Co. (1969a:940) around the turn of the century in a number of sizes for use on dresses, shirts, cloaks and jackets.

Three specimens of this class are not categorized as to type and have been place in the "Miscellaneous" category. One is curated at the FOUS Visitors' Center and has not been inspected by the author. The remaining specimens are featureless shell disks and may be button "blanks" representing manufacture at the fort. Provenience and metric data are provided for each specimen in this class in Appendices B1-3.

Type A, Four-hole (n=81 specimens).

This type is characterized by four peripheral holes. Rims tend to be flattened to beveled and backs are flat to excurved. Edges have been ground smooth.

Variety 1 - no well and square to beveled facial edges (Figure 5a). Two sizes are apparent.

Variety 2 - small, simple wells with flat to somewhat cone-shaped faces. As a general rule, the thicker the button, the greater the facial angularity. Wells vary from slightly circular, extremely shallow indentations to well-defined depressions and tend to be bowl- or rectilinear-shaped in cross-section (Figure 5b). Four size groupings have been identified. This variety generally conforms to South's (1964:115-121) Type 22 from Fort Fisher's 1800-1865 component. It is also similar to sub-types 4.1 and 4.3 recovered from a ca 1835-1870 Metis farm in Manitoba (McLeod 1983:231-3).

Variety 3 - like bone button Type B2 (Figure 5c-d) except that they occur in only a single size. A similar style of button, sub-type 4.2, was recovered at a ca 1835-1870 Metis farmstead (McLeod ibid.).

Variety 4 - engraved buttons displaying geometric designs. In a general way, these conform to the decorative buttons described in turn-of-the-century catalogs as "Pearl Shirt Buttons" (Sears, Roebuck & Co. 1969a; Montgomery Ward & Co. 1969). Similar specimens are included in South's (ibid.) Type 22 which he dates ca 1800-1865.

Two sizes seem to be apparent and five patterns have been identified. The most common of these (4a) consists of a design whose major element is a star-shape executed using a series of semicircular lines (Figure 5e-f). Variations include six-pointed stars (4a1), eight-pointed stars within a border of small straight lines (4a2), and ten-pointed stars between two plain concentric bands (4a3). Pattern 4b is a star rendered by rectilinear lines radiating from the center of the button (Figure 5g-j). Three specimens have broad wells and twelve short, broad lines (4b1). Other variations consist of long narrow lines in the star (4b2), the use of ten lines in the star (4b3), and creating the star

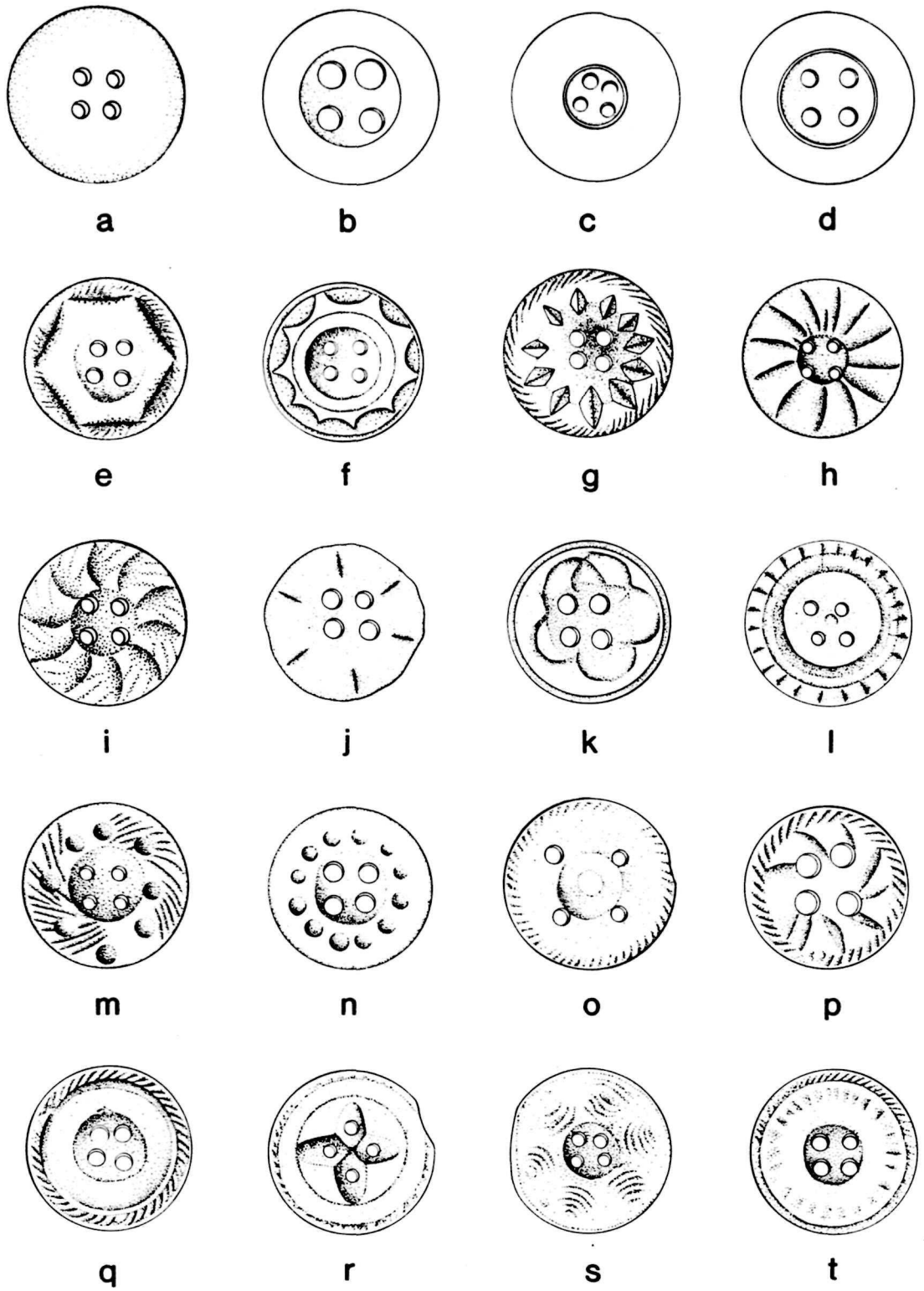


Figure 5. Class II (shell) buttons, Type A (four-hole): a, Variety 1; b, Variety 2; c-d, Variety 3; e-t, Variety 4. Illustrations are not to scale.

pattern with six lines and no well (4b4). A number of these incorporate a "rope" design consisting of small straight lines oriented at an angle on the rim border. Pattern 4c uses curvilinear lines to produce a six-petal "flower" (Figure 5k). One of these has a plain band at the button edge. Pattern 4d has a shallow well and a face decorated with two concentric bands. The rim edge displays 24 short notches (Figure 5l). Pattern 4e has indented dots on the button rim variously occuring as twelve dots on a plain background (Figure 5m) or eight dots over a background of curvilinear designs radiating in a spiral from the well (Figure 5n). Unique designs which have not been formally classified as patterns incorporate scallops, straight and curvilinear incising, raised faces, and "rope" borders (Figure 5o-t).

Type B, Three-hole (n=4 specimens).

One size grouping is inferred for this type.

Variety 1 - simple well and a face in the form of a short truncated cone (Figure 6a).

Variety 2 - engraved with design elements which include recessed rim/edge bands, bands of short lines, raised well, well ring, and notches. Each button demonstrates a unique combination of elements to form individualized patterns (Figures 6b-d). Cross-sections vary from rectangular to slightly conical.

Type C, Two-hole (n=6 specimens).

Three sizes have been inferred for this type.

Variety 1 - simple well. Buttons similar to this were offered at the turn of the century by both Sears, Roebuck & Co. (ibid.) and Montgomery Ward & Co. (ibid.) in three grades and six sizes. Prices in 1895 were 8-20 cents per dozen depending upon the color and size. The same buttons could be purchased much more cheaply, though in a smaller range of sizes, by 1902; e.g., 2 1/2-6 cents per dozen. The 1927 Sears, Roebuck catalog (1970:249) calls these "cup shape" and notes that they are "Just the button for shirtwaists and undergarments." The variety (Figure 6e) probably relates to Mondak, a nearby community established well after the fur trade period.

Variety 2 - broad well; e.g., the well is almost as wide as the button itself. Specimens

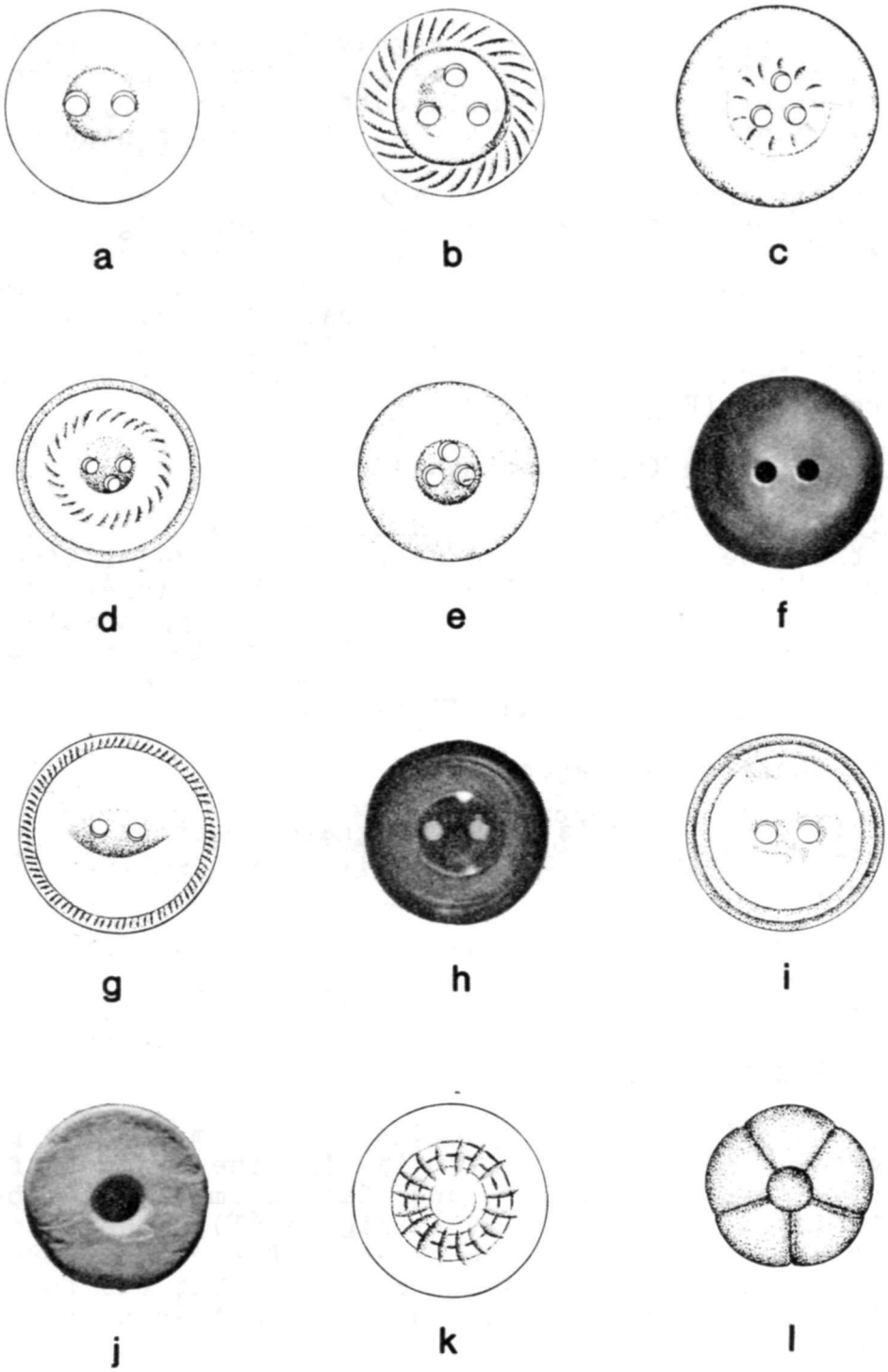


Figure 6. Class II (shell) button types: a-d, Type B (three-hole); e-i, Type C (two-hole); j, Type D (one-hole); k-l, Type E (shanked). Illustrations are not to scale.

are dish-shaped rather than flat with excurved backs (Figure 6f).

Variety 3 - engraved, each specimen displaying a unique design. One appears to be identical to a two-hole button offered by in 1895 by Montgomery Ward & Co. (ibid.) for nine cents the dozen or 95 cents per gross. It has a lens-shaped "fish eye" well and recessed rim/edge band decorated with a "rope" border (Figure 6g). A two-tone button has a brown recessed rim/edge band and white center (Figure 6h). It has a small well bordered by a wide raised band. The last specimen has no well, a shallow dome-shaped face, and two narrow, stepped rim/edge bands which are recessed (Figure 6i).

Type D, One-hole (n=3 specimens).

This type has a single hole drilled through the center but otherwise displays no well or other decorative feature (Figure 6j). A single size group has been inferred for this type. Its simplicity, relative crude appearance, and the presence of similarly sized "blanks" in the collection suggest manufacture at the fort. These probably date to the same period as button Class ID (see above).

Type E, Shanked (n=4 specimens).

This type consists of engraved buttons with at least two kinds of shank attachments. Two general sizes seem apparent.

Variety 1 - flat faces engraved with four concentric circles and straight lines radiating from the centermost circle (Figure 6k). The backs are excurved and one specimen retains its brass shield-type shank.

Variety 2 - a conical button made of a poor grade of shell. It is in the shape of a five-petalled flower and has a small black bead imbedded in its center (Figure 6l). The face is gilded and there are traces of a red pigment on the back. The shank is missing but the form of the hole in the back suggests that an alpha type loop shank was utilized.

V. CLASS III, METAL (n=153 specimens).

Provenience, metric, and other data are provided for each specimen in Appendices C1-4.

Type A, One Piece (n=48 specimens).

One-piece buttons include all specimens whose bodies were manufactured from a single piece of metal. The occasional addition of shank loops is not considered a second piece in this analysis. Varieties are distinguished primarily by the means of attachment and patterns are distinguished according to presence or absence of decorative elements or promotional legends and designs.

Variety 1 - four sew-thru holes. Specimens occur in three sizes and vary in cross-section from somewhat flat to having offset wells. One button has a ring of dots at the edge of its well and another has four concentric rings on its face (Figure 7a). These appear identical to South's (1964:115, 124) Type 32 recovered from an 1835-1865 context. They are also like Type K buttons recovered from the 1820-1827 military post Fort Atkinson (Carlson 1979:56, 184-185). The specimen with concentric rings corresponds with McLeod's (1983:228) Sub-type 3.3 recovered from a ca 1835 to 1870 Metis farmstead in Manitoba. Plain-cast whitemetal or lead, four-hole buttons were commonly used on both civilians' and soldier's trousers between 1812 and 1865 (Olsen 1963:552-553).

Variety 2 - alpha or omega shanks. These are combined because the solder used to attach them to the backs often obscures their actual form. As Alpha shank buttons were made in the eighteenth century (Olsen ibid.), most of the examples from Fort Union probably have Omega shanks. Specimens demonstrate a trimodal size distribution and bodies are generally flat with the exception of two which are convex.

A common term for the buttons of this variety is "gilt." These are machine-made brass buttons manufactured between 1800 and 1865, many having had extremely thin coats of gold applied to their surfaces which often quickly wore away. Only plain buttons were manufactured between 1800 and 1830 after which these continued to be the standard for use on men's coats. The lack of

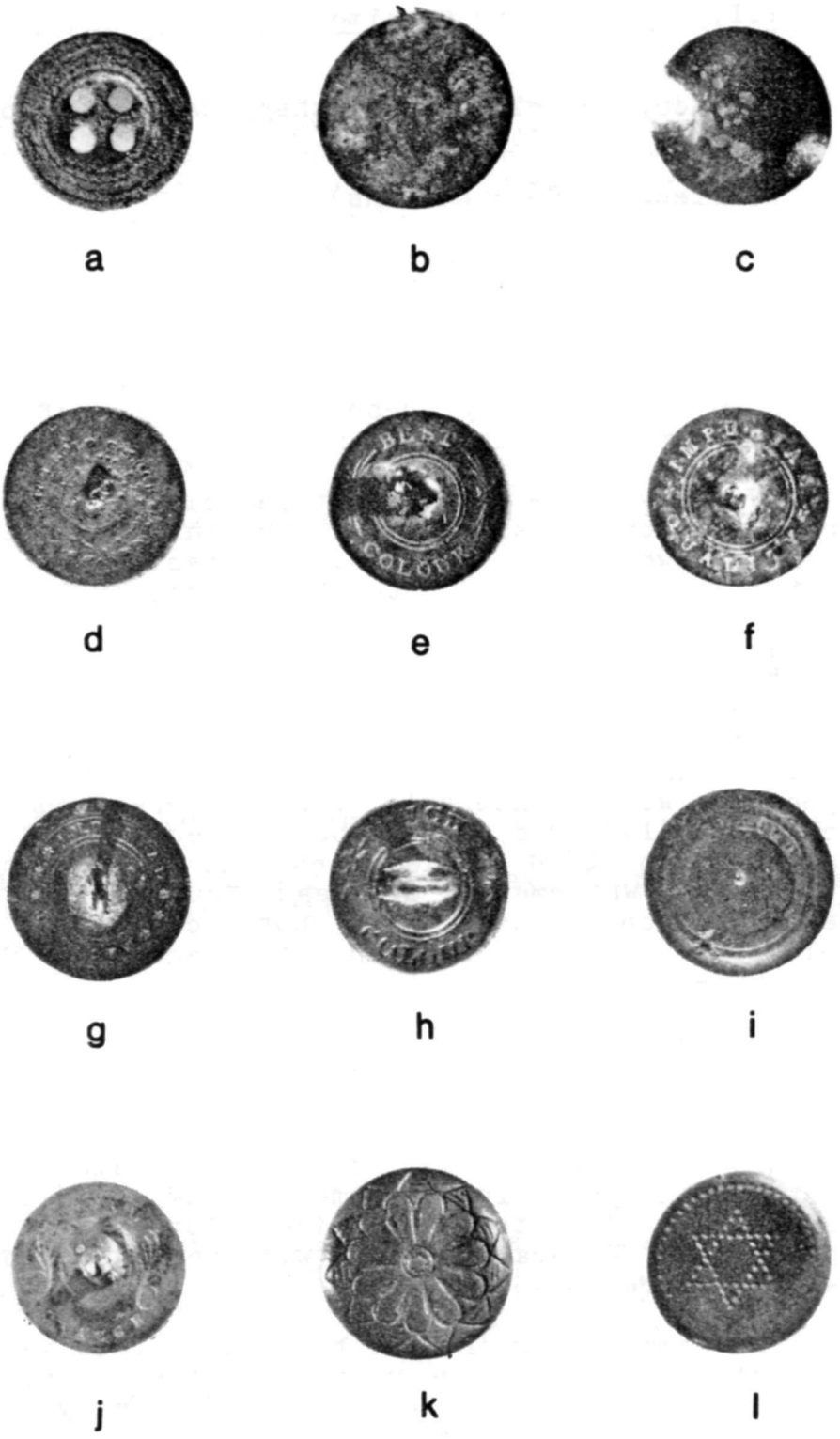


Figure 7a. Class III (metal) buttons: a, Type A (one-piece) Variety 1 (four-hole); b-t, Type A Variety 2 (alpha/omega shank); u-x, Type B (two-piece) Variety 1 (four-hole). Illustrations are not to scale.

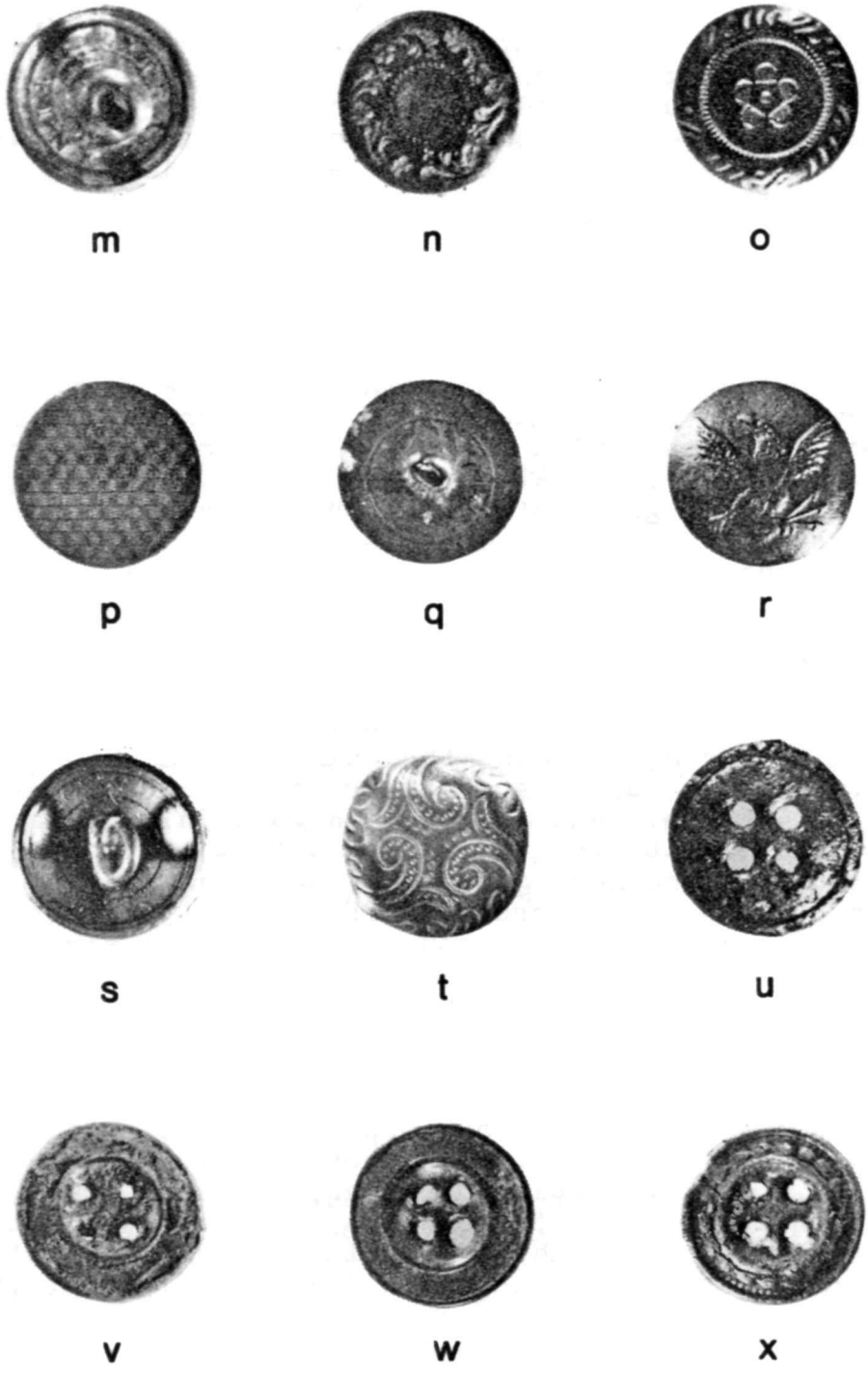


Figure 7b. Class III, (metal) buttons, Type A. Illustrations are not to scale.

ornamentation focused attention upon their color which was often referred to as "orange" and serves to identify "Orange Coat" buttons listed in the 1845, 1847 and 1849 Fort Union inventories (Chouteau Collection, Missouri Historical Society). The accent upon color often resulted in back-stamping buttons with a label such as "Rich Color", "Double Gilt", "Rich Orange", etc. This practice became common after 1820. Following 1830, decorative stamping was applied to the button fronts as well (Luscomb 1967:78-79).

Three patterns are recognized, the first (2a) being plain on both surfaces. All but one have flat bodies, the exception being a small convex button (Figure 7b-c). Three specimens appear to be coated with an unknown substance that has a very dark purple cast to it. Pattern 2b displays back stamps with single specimens bearing "RICH/ORANGE", "PLATED", and "BEST/COLOUR" (Figure 7e,i,j). A group of buttons have nearly identical backstamp legends. The design on four large specimens (diameters of .94-.97"/2.39-2.46 cm) consists of two concentric rings around the shank bounded by a wreath of olive branches tied together at the center and the words "RICH GOLD COLOUR" (Figure 7d). A smaller (.52"/1.32 cm) button has an obvious Omega shank. On its back are two rings around the shank beyond which is a circle made up of a short wreath, "RICH", another short wreath, and "COLOUR" (Figure 7h). This may be a vest button which goes with the larger coat buttons. Another group of buttons displays two rings with the words "IMPERIAL/QUALITY" between the rings and the button edge. The two words are separated by four dots in a diamond pattern on smaller buttons and three stars on the larger (Figure 7f,g).

Pattern 2c has decorated faces which are often accompanied by promotional backstamps. Seven face designs are present; i.e., the Star of David, a five-petalled flower, a basket weave, an eleven-petalled flower, a depressed center surrounded by eight flowering plants, a stylized floral design, and an eagle (Figure 7k,l,n-p,r,t). Back impressions include "EXTRA FINE", "....METAL....", and a plain double ring (Figure 7m,s). A button backstamped with a spread eagle and "**DOUBLE GILT**" appears to be a restruck plain button (Figure 7q). The restriking is identified by a split anvil seam on the button's back (Olsen 1963:552-3). The specimen with the eagle device on its face is from a U.S. Army Corps

of Artillery uniform used subsequent to an order of March 27, 1821 and worn through 1830 (Johnson 1948:41; Albert 1969:56-57).

Variety 3 - cone shanks conforming to the general description for spun back buttons date from the late eighteenth century to well into the nineteenth century (Olsen ibid.; South 1964:117; Luscomb 1967:46; McLeod 1983:228). Specimens have disk-shaped bodies, flat to slightly excurved faces, and occur in two size ranges. All are of brass except for isolated examples made of iron or a heavy, non-ferrous white metal (pewter?). Metal used in the shanks conforms to that used in the bodies. Two brass buttons appear to have remnants of a silver plate on their faces and backs. The pewter(?) specimen's back is decorated with concentric circles within irregularly criss-crossing lines of dots and eight-sided stars.

Type B, Two-Piece (n=102 specimens).

Two-piece buttons are manufactured using two circular metal blanks with the larger piece wrapped around the margins of the smaller. Specimens recovered from Fort Union were variously manufactured of ferrous metal alone, brass faces with ferrous backs, or are of brass alone. Some have shank holes which suggest that they may have had flexible shanks at one time. Five sizes are inferred and two varieties are distinguished on the basis of their means of attachment. These are variously decorated with stamped designs, fabric covering, black japanning, and gilt.

Variety 1 - four sew-thru holes. These were manufactured using a stamped metal front with a wood back or two pieces of stamped metal. In each case, the edges of the face were folded and crimped over the margins of the back. In general, these are similar to "two piece, pressed steel" buttons which Olsen (1963:553-554) dates as 1870 to the present. They are also identical to specimens recovered from earlier archeological contexts; e.g., South's (1964:115, 121) Type 21, suggested to be early 19th century, and McLeod's (1983:230) sub-type 3.5 derived from a ca 1835-1870 Manitoba Metis farmstead. Three sizes are apparent in the distribution and two patterns are distinguished based upon the metals used in their manufacture and decorative variations.

Pattern 1a is of ferrous metal (Figure 7u) and occasional specimens retain elements of japanning. Metal and wood specimens occur though

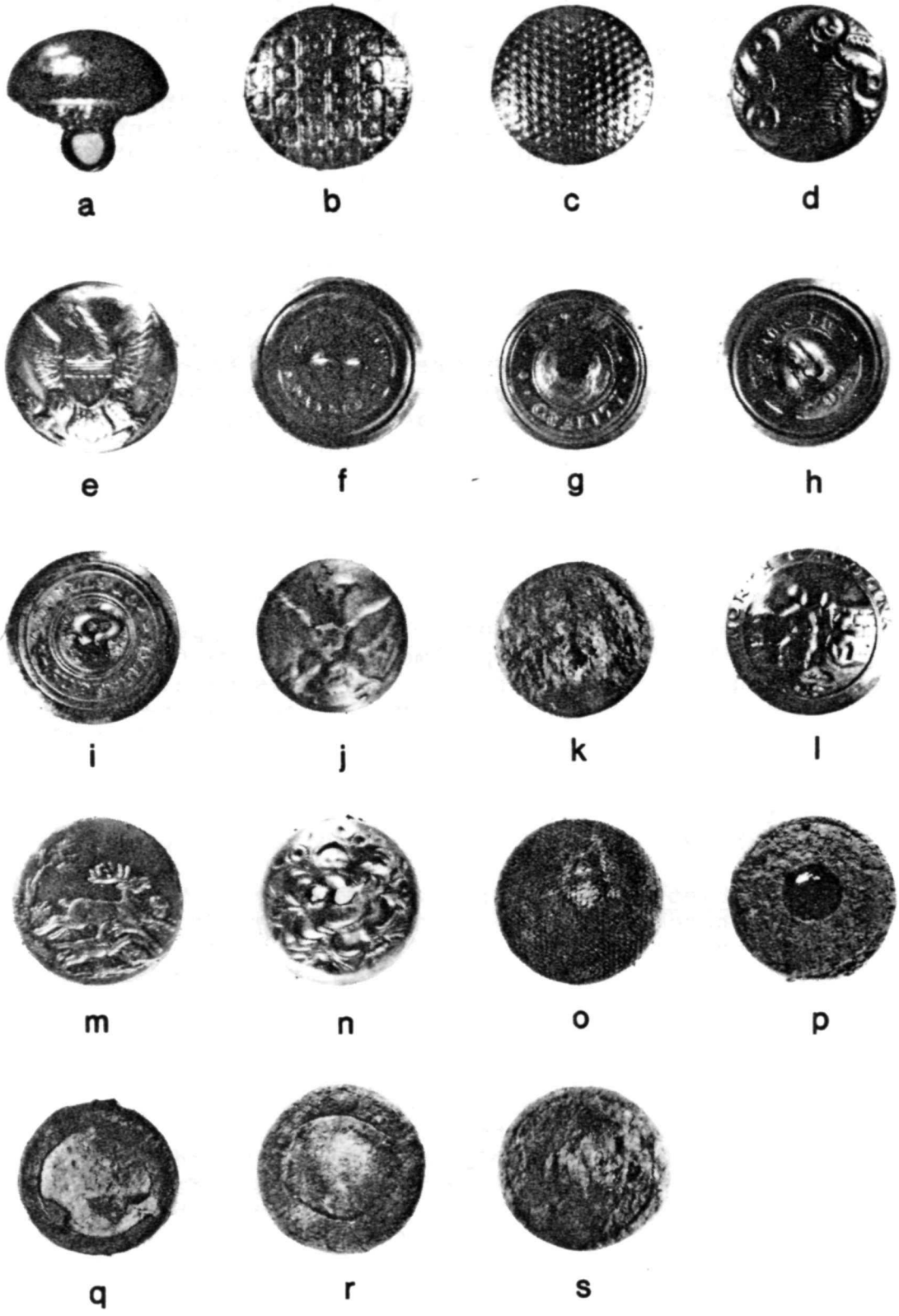


Figure 8. Class III (metal) buttons: a-q, Type B (two-piece) Variety 2 (loop shank); r-s, Type C (three-piece). Illustrations are not to scale.

all metal buttons are the most prominent (60.0%; n=21). All have concave faces and convex backs.

Pattern 1b is of brass and has stamp decorated faces with both two-piece metal construction and wooden backed specimens noted. Each button has a ring at the well edge and rim with a unique design in between, including four triangles alternating with diamonds, a fine mesh design, and a circle of leaves bordered by a circle of dots (Figure 7v-x).

Variety 2 - loop shanks with three patterns distinguished according to button form and the presence or absence of decoration.

"Bullet" buttons (Pattern 2a) are plain, globular-shaped, brass closures (Figure 8a) which occur in a fairly uniform size grouping. These were first manufactured during the course of the War of 1812 and continued to be used after that time by many organizations and military bands. Although early manufacturers did not practice back-stamping, these marks became common by 1820 (Olsen 1963:552-553). Fort Union's specimens have backs of ferrous metal or brass and display no back-stamping.

Pattern 2b has brass convex faces decorated in geometric and pictorial subpatterns. Geometric designs (2b1) include lines of dots, a checkerboard with biased lines with dots in the center of each square, and a barred center with a ten-element foliage border (Figure 8b-d). Two have brass backs and one has a ferrous metal back. The latter is similar to South's (1964:122) Type 25 derived from a 1837-1865 context. Two size ranges have been inferred.

Pictorial representations (2b2) occur exclusively on buttons which probably relate to Fort Union's military occupation in the 1860's. Three general size groups were identified for this subpattern. Six U.S. Army General Service buttons display a spread eagle which Albert (1969:39-40) lists as "with lined shield" (Figure 8e). Enlisted men were required to wear these uniform buttons as of January 20, 1854 and they continued in use until 1875 (ibid.). Two sizes are present and backstamps appear on three specimens; i.e., "SCOVILL MFG Co/WATERBURY", "EXTRA QUALITY", and "WATERBURY BUTTON CO.*". The two companies identified were in operation ca 1850 to present and 1849, respectively (Robert Shuhi-Books

1979:16, 18).

Three buttons have an 'A' or 'I' on the eagle's shield. The specimen with the 'A' (for "artillery") has a ferrous back and the eagle faces to the left (Figure 8i). This is similar to Albert's (ibid.:56-57) type "AY 68", a variation of a pattern initiated in 1821 (ibid.). It differs from that type in having a recessed shield and the arrows in its left claw rather than its right. Buttons with 'I' (for "infantry") are similar to Albert's (ibid.:37-38) type "GI 88A", a pattern specified for officers in 1851. One has no back stamp and the other has "SCOVILLS & Co/SUPER FINE" (Figure 8j-k). This company was in operation between 1840 and 1850 (Albert and Kent 1971:218) becoming the Scovill Manufacturing Co. in 1850. The use of the earlier company's backstamp on a button manufactured after 1851 suggests the continuing use of earlier dies past the date of company reorganization.

A military-style button identical to Albert's (ibid.:214-215) type "NC 1" has the Great Seal of the State of North Carolina with "NORTH CAROLINA" above the seal on its face (Figure 8l). There is no backstamp. The seal is the Antebellum design as only Confederate buttons displayed this device with no stars on their faces. During the post-war Reconstruction the seal was apparently changed by adding stars to the face (Johnson 1948:138). It is suggested that this specimen relates to the presence of Company B of the 1st U.S. Volunteer Infantry Regiment; a company composed largely of captured Confederate soldiers, the "Galvanized Yankees" which arrived at Fort Union in May 1865 (Brown 1963; Thompson 1968:116).

Pattern 2c is disk-shaped, displays a stamped brass face with a ferrous metal back, and occurs in a single size. One specimen displays a so-called "Tally Ho" design; e.g., a hunting scene showing a dog chasing a stag (Figure 8m). Another is a gilt button with a six-petalled flower in the center bordered by six small flowers (Figure 8n). Its center has been modified by two small holes converting it to a sew-thru. Such buttons were manufactured largely between 1830 and 1850 though production continues to the present (Switzer 1972; Luscomb 1967:79).

Pattern 2d appears similar to Type A, Variety 2a differing only in its two-piece construction. All are disk-shaped with plain faces and

manufactured using ferrous face and back, brass face and ferrous back, or brass face and back. Like 2c, it occurs in a single size. Shank fragments are present on three specimens and one ferrous button has a large hole in its back through which either a wire or flexible shank may have protruded. The interior of this specimen retains fabric impressions from the filler used to keep it in shape. A brass button has a wooden plug as a filler. Though there is no evidence remaining on any of the ferrous button faces, some may have been fabric covered since they are morphologically similar to those of Pattern 2e (see below). Two ferrous specimens were japanned.

Pattern 2e is similar in form to Pattern 2d ferrous buttons with the exception of having their faces covered with cloth (Figure 8o). Unlike the latter, it occurs in two sizes. Fabrics used are predominantly tightly woven cottons(?) though occasionally corduroy is present. All but two specimens are disk-shaped with flat to slightly excurved faces and excurved backs. Exceptions include one convex-faced specimen and a button with a hat-shaped face (Figure 8p). The latter has a flat (unfilled) concave body with a small bubble-shaped "crown" in the center. All specimens generally display large circular or squarish holes in their backs though one has a keyhole-shaped opening. Large loop and flexible shanks were used with fabric-covered buttons both of which utilized such openings (Luscomb 1967:69, 70). Though it is impossible to tell which were used in this instance, similar specimens from a ca 1835-1870 Manitoba Metis site had loose loop shanks (McLeod 1983:230).

Pattern 2f consists of a distinctive face of stamped brass, a ferrous back (Figure 8q), and occurs in a single size range. Some specimens retain fragments of heavy ferrous loop shanks. Faces are hat-shaped with a raised circular center and flattened rim. Some have a groove and raised ring at the juncture of the "crown" and "brim". Filler consists of a composite disc in the center with a larger ferrous plug below. These may be what South (1964:131) refers to as a light, brass-covered "mold button" which were manufactured by hammering thin metal to fit the contours of a wood or bone mold. Their presence at Fort Union corresponds with the 1851 inventory in which 4 gross "Coat Moulds" were noted in the fort store (Chouteau Collection, Missouri Historical Society).

Type C, Three Piece (n=3 specimens).

These were manufactured using a rim band to hold the back and face together. All are of a single size, have been manufactured out of a ferrous metal, and are fabric covered (Figure 8r,s). Two have remnants of an indeterminate type of wire shank.

VI. CLASS IV, CERAMIC (n=223 specimens).

Ceramic buttons are not listed in Fort Union's inventories though they represent a substantial proportion (34.7%) of the collection. They are commonly referred to as "small chinas" by collectors and most were made during the 1860's. Luscomb (1967:183-184) gave their size range as .38"/.97 cm to .75"/1.90 cm, but specimens from Fort Union are somewhat smaller being .28-.61" (.71-1.55 cm) in diameter. In general, they are quite similar to the white, blue and green specimens recovered from Fort Fisher in a 1800-1865 component (South 1964:122). Appendices D1-4 provides provenience and metric data for each specimen in this class.

Type A, Four-hole Sew-thru (n=216 specimens).

These buttons demonstrate a fairly wide range of decorative variation with solid colors, two color combinations, transfer printing, and raised molded designs being common. Varieties and patterns are recognized on the basis of these differences. The type as a whole demonstrates a remarkable homogeneity with regard to size as 189 (92.2%) of the 205 measureable specimens fall between .36" (.91 cm) and .47" (1.19 cm) with the modal peak at .44" (1.12 cm). Remaining specimens assigned to this type demonstrate a second low modal peak at .55" (1.40cm).

Variety 1 - plain white buttons with convex faces, convex backs, and square edges (Figure 9a). They often possess simple wells some of which have very tiny "knobs" in their centers. Similar buttons were recovered from a Metis farmstead in Manitoba (McLeod 1983:225) occupied ca 1835 to at least 1870.

Variety 2 - identical to Variety 1 with the exception of color though one specimen differs slightly in that it has a truncated cone-shaped face. Colors noted include light blue, blue, navy blue, dark green, tan, brown, black, and purplish pink. Surfaces appear very slick except on the backs at the sew-thrus. These locations are mottled and rough and may reflect the surface the

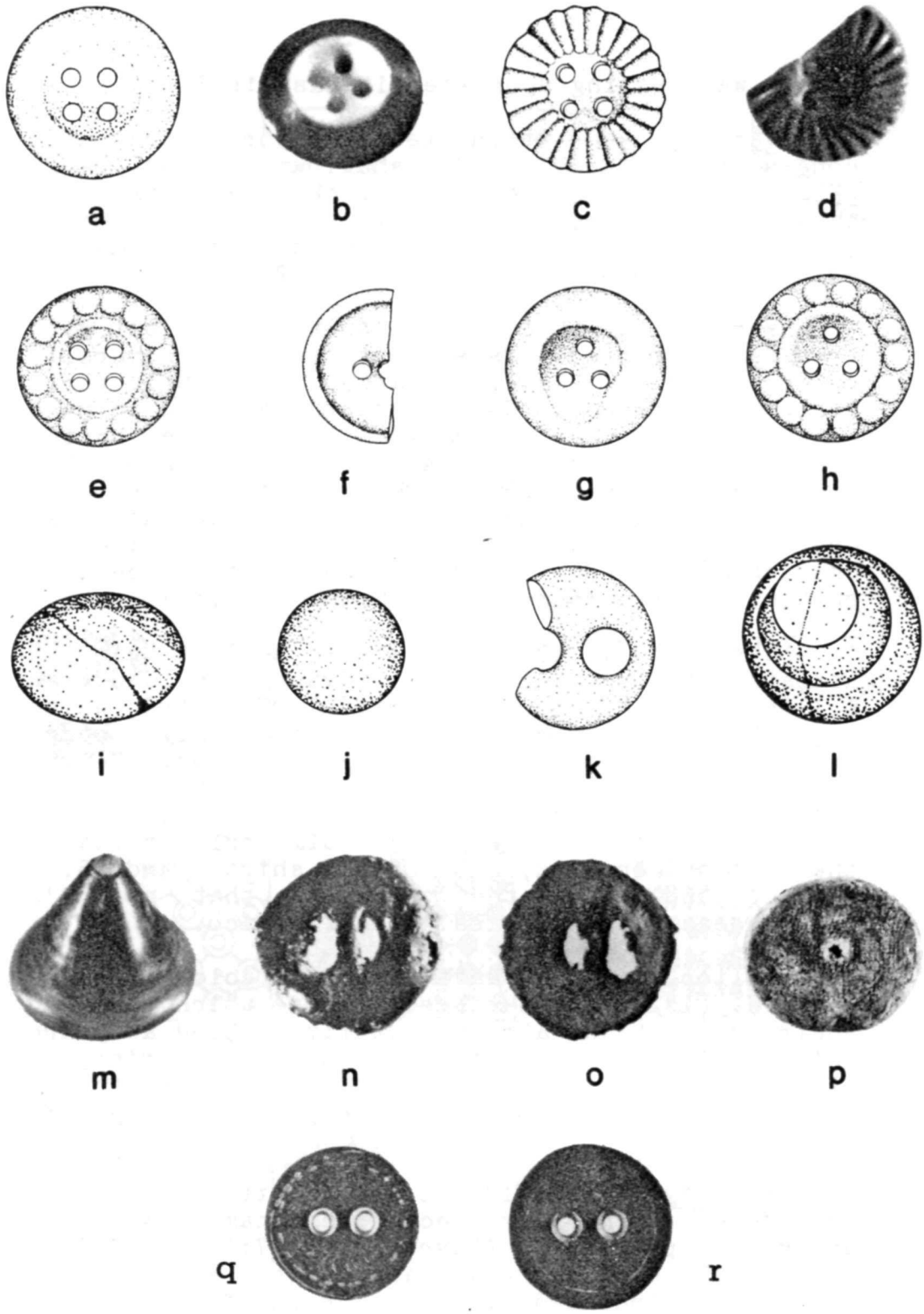


Figure 9. Classes IV-VI and miscellaneous buttons: a-f, Class IV (ceramic) Type A (four-hole); g-h, Class IV Type B (three-hole); i-j, Class IV Type C (loop shank); l-m, Class V (glass); n-o, Class VI (rubber) Novelty Rubber Co. two-hole sew-thru (obverse and reverse); p, Class VI self-shanked(?); q-r, lacquered leather or composition button back (obverse and reverse).

button was resting upon when it was fired.

Variety 3 - truncated, bicolor buttons with cone-shaped faces and shallow rounded backs (Figure 9b). The wells and backs are white while the rims are reddish orange or blue. Similar specimens have been recovered from the ca 1835-1870 Garden site (McLeod 1983:227).

Variety 4 - identical to Variety 1 but with transfer printed faces, these are generally referred to as "calico" after the fabric their designs imitated. Calico cloth was used to make clothing for the entire family in the United States during the 1840s and buttons often matched the fabric patterns. They were manufactured primarily in England and France though at least one company produced them in the States; e.g., Charles Cartledge & Co. manufactued ceramic buttons between 1848-1856 (Luscomb ibid.:31).

The popularity of calicos at Fort Union is attested to in the 1829-1851 inventories (Chouteau Collection, Missouri Historical Society) which suggest that calico cloth was increasingly stocked as a trade item over that 22 year period. Only 5 pieces of "Fancy Calico" remained in stock at the end of the trading season in 1831 but by 1851 this had grown to 435 1/2 yards. Similarly, 62.1% of the shirts on hand, (260 of 419 shirts) and 15.5% (9 of 58) of the vests in that period's end-of-season inventories were of calico.

Calico buttons have variously colored prints over a plain white face. Those which have had their decoration almost totally rubbed away are quite difficult to distinguish from Variety 1 buttons. Eighteen different designs are present (Figure 10) seven of which occur on more than one specimen.

Variety 5 - mold decorated buttons occurring in three generally recognized named and one unnamed pattern (Luscomb 1967:173, 183). "Sawtooth" buttons (5a) are white and have a border of indented lines which run from the well to the button edge (Figure 9c). "Bias Sawtooth" (5b) is similar except that the molded lines are slanted and the buttons are blue in color (Figure 9d). "Hobnails" (5c) have a raised ring at the well margin and a border of raised dots on the edge (Figure 9e). Pattern 5d is unnamed and represented by a white button with a subconical face and a raised ring at the rim edge (Figure

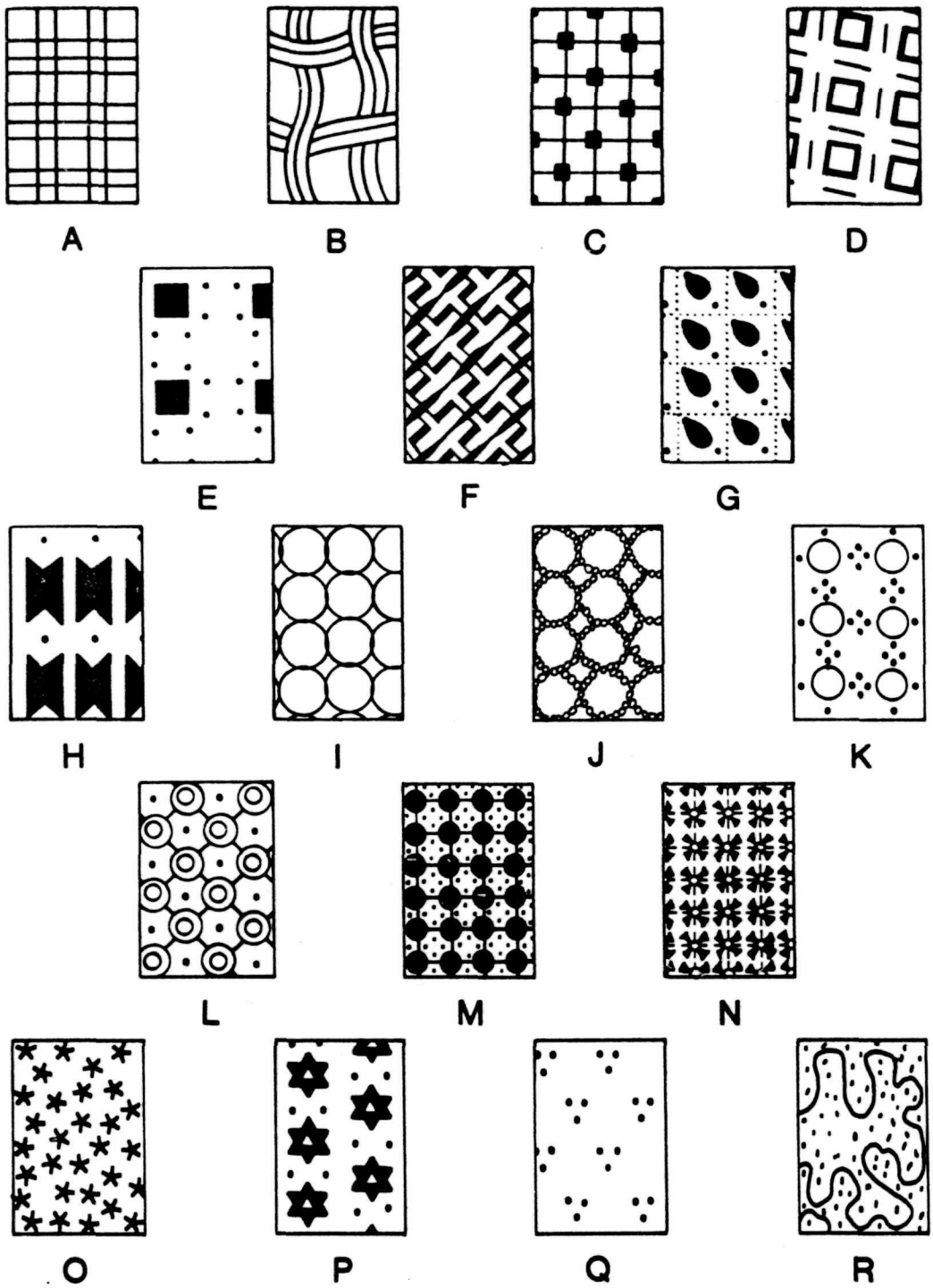


Figure 10. Transfer print designs applied to calico buttons.

9f).

Type B, Three-hole Sew-thru (n=4 specimens).

Similar to Type A, these vary only in the number of sew-thru holes present and in their tendency to be somewhat smaller. Two are white with simple wells and one is black. The fourth button is white and has a raised design similar to "hobnails" (Figure 9g-h)).

Type C, Loop Shank (n=3 specimens).

Loop shanks are indicated by two small holes in otherwise solid backs. Faces are either conical- or dome-shaped and occur in blue, green, or as white with a red band at the rim (Figure 9i,j). The latter variant is identical in form and design with buttons called "bull's-eye" (Luscomb ibid.:28). They are also similar to "sub-type 2.4 Coloured (convex/shank)" described for a ca 1835 to 1870 Metis site (McLeod 1983:227).

VII. OTHER MATERIALS

Class V, Glass (n=5 specimens).

Although glass buttons are not mentioned in the 1829-1851 inventories, several are in the Fort Union archeological collection (see Appendix D4). These include a bone-colored, two-hole sew-thru button with no well, several hat-shaped blue buttons (one with an intact loop shank) and red cone-shaped specimens (Figure 9k-m). The more complete of the latter style has a white glass tip, a decorative technique known as "overlay trim". This is identified by glass which is fused to the front of the button. The particular form of overlay used on these buttons is called "hylas" or "dot trim"; e.g., glass buttons, usually dome- or cone-shaped, decorated with glass dots and/or line trim in contrasting colors (Luscomb 1967:83, 101).

Class VI, Rubber (n=4 specimens).

Two types of rubber button were recovered (see Appendix D4). The first, and most elaborated, of these is a two-hole machine-made button with no well. Its face is decorated with a lightly inscribed circle and four plume-like scrolls turning in toward the center. The back is marked with a circle of dashed lines overlaying two concentric circles with the legend "NOVELTY RUBBER CO/NEW YORK" in the outside circle and "GOODYEARS PATENT/1849-51" in the inner (Figures 9 n,o). A larger button with an identical legend was recovered from Fort Berthold II in North Dakota (Smith 1972:159). This fort was in operation by the Opposition during 1858, by the American Fur Company ca 1862-1866, and

by others subsequently until it was torn down in 1874 (ibid.:119-120). The Novelty Rubber Company was located at New Brunswick, New Jersey and manufactured buttons between 1855 and 1870 (Luscomb 1967:140).

The remaining rubber buttons are melon-shaped and much more crudely cut out (Figure 9p). All have a slit in their middle where self-shanks were inserted and display a rounded hole on the opposite side.

Miscellaneous (n=1 specimen).

The raw material for one button fragment (Appendix D4) remains unidentified preventing it from being placed in any of the above classes. It appears to have a leather or composition body and has had a black lacquer applied. It is uncertain as to whether the specimen is from the button face or back. It is somewhat domed and has two double convex sew-thrus (Figure 9q).

VIII. DISCUSSION

Chronology

A subjective comparison of Fort Union's button materials, styles, and sizes with those of other 19th century sites (South 1964; Smith 1972; Carlson 1979) suggests that the range of the buttons recovered from Fort Union is typical of American fur trade and military posts of this period. Similar specimens have been recovered from: a) the 1800-1830 occupation at Brunswick Town and a 1837-1865 component of Fort Fisher in Florida (South 1964); b) Fort Atkinson, a 1820-1827 military fort in Nebraska (Carlson 1979); c) Fort Berthold, a 1858-1874 fur trade post in North Dakota (Smith 1972); and d) the Garden site, a mid-1830s to ca 1870 Metis farmstead in Manitoba (McLeod 1983). They appear to be quite disimilar to those of a nearby contemporary HBC post, however (Klimko 1983:189-195). The degree to which this may be attributable to the source of acquisition or other factors is uncertain at this time, but the variation is certainly interesting.

An adaptation of South's (1972) Mean Ceramic Formula to dated button specimens (Table 1) yields a mean date of 1846.4 which is only 1.6 years less than the actual centerpoint (1848) of Fort Union's occupation (1829-1867).

Function

Though buttons often serve both as fasteners and decoration, it is clear that the decorative function can be the primary one in some cases. This was generally the case for the American Indian whose clothing typically did not use

Table 1. Approximate Temporal Ranges for Fort Union Buttons and the Site's Mean Button Date (adapted from South 1972).

BUTTON CLASS	DATE RANGE	MEDIAN DATE	X	SPECIMEN COUNT	PRODUCT	COMMENT
IA	1800-1865	1832.5		44	80630.0	
IB	1770-1920	1840.0		88	161920.0	
ID	1794-1827	1810.5		19	34399.5	
IIA2	1800-1870	1835.0		45	82575.0	
IIA3	1835-1870	1852.5		1	1852.5	
IIA4	1800-1910	1855.0		30	55650.0	
IIC1	1890-1930	1910.0		1	1910.0	
IIC2	1890-1910	1900.0		3	5700.0	
IID	1794-1827	1810.5		3	5431.5	
IIIA1	1812-1870	1841.0		5	9205.0	
IIIA2a	1800-1865	1832.5		15	27487.5	
IIIA2b	1815-1865	1840.0		12	22080.0	
IIIA2c	1830-1865	1847.5		7	12932.5	
IIIA2c	1821-1830	1825.5		1	1825.5	FOUS 5234
IIIA3	1794-1920	1857.0		8	14856.0	
IIIB1	1810-1963	1886.5		38	71687.0	
IIIB2a	1812-1820	1816.0		15	27240.0	
IIIB2b1	1837-1865	1851.0		3	5553.0	
IIIB2b2	1854-1875	1864.5		6	11187.0	General Service
IIIB2b2	1821-1850(?)	1835.5		1	1835.5	Artillery
IIIB2b2	1851-1875(?)	1863.0		2	3726.0	Infantry
IIIB2b2	1865	1865.0		1	1865.0	C.S.A.

Table 1 (continued):

BUTTON CLASS	DATE RANGE	MEDIAN DATE	X	SPECIMEN COUNT	PRODUCT	COMMENT
IIIB2c	1830-1850	1840.0		2	3680.0	
IIIB2d	1800-1870	1835.0		10	18350.0	
IIIB2e	1800-1870	1835.0		11	20185.0	
IIIB2f	1851	1851.0		12	22212.0	
IVA1	1835-1870	1852.5		153	283432.5	
IVA2	1835-1870	1852.5		20	37050.0	
IVA3	1835-1870	1852.5		2	3705.0	
IVA4	1840-1860	1850.0		33	61050.0	
IVC	1835-1870	1852.5		3	5557.5	
VI	1855-1870	1862.5		1	1862.5	
		TOTAL		595	1098633.0	

Mean date = 1098633.0 divided by 595 = 1846.4

buttons for fastening. Watercolors executed by Karl Bodmer in 1833 illustrate this situation quite well. In his portrait of a Siksika Blackfoot chief, Ihkas-Kinne (The Low Horn) is wearing otter skins decorated with shell pendants and gilt buttons. Similarly, Bodmer's portrait of Mehkskehme-Sukahs (The Iron Shirt) was painted while he wearing a buckskin shirt ornamented with gilt buttons and beadwork (Thomas and Ronnefeldt 1976:134, 141).

For the Euro-American and Metis, however, buttons functioned either as simple closures or in a dual role where they also served as important decorative elements in the costume. Among other things, the balance between utility and decoration varied according to the material from which it was manufactured and the kind of clothing that it was attached to. For instance, 19th century bone and wooden buttons were utilized almost exclusively as closures particularly when found on everyday work clothing, such as pants and coats. The presence or absence of attractive decorative features (e.g., color, molding, or reflective qualities) also played a major role. Both the Euro-American and Metis commonly used buttons as clothing fasteners but the Metis men were particularly well known for their distinctive capots which exhibited "conspicuous brass buttons" (Havard 1880:319).

Inferences About Clothing

Three sources were consulted for analogies between button type/variety and the clothing to which they were most characteristically attached. Four turn-of-the-century catalogs (Sears, Roebuck & Co. 1968, 1969a, 1969b; Montgomery Ward & Co. 1969) suggested that button raw material, decoration and size correlate with clothing type. Though ceramic/porcelain buttons are not represented in these catalogs, illustrated specimens of white "agate" (glass) buttons appear visually similar to white ceramic buttons by this time. For this reason the author is assuming that ceramic/porcelain buttons have similar clothing relationships; i.e., both served as fasteners on underwear, dresses, and shirts. The role of minor button classes (glass other than white "agate" and rubber) have been inferred from the size, decoration and clothing relationships of the major classes.

The 1829-1851 Fort Union inventories served as a second source of information. The varieties named in these inventories, when compared with the archeologically derived samples, allow a number of additional size/function relationships to be determined, especially for bone and metal buttons.

A third analog is provided by modern button specimens. Fly and suspender button sizes were apparently standardized

by 1900 as implied in the catalogs' consistent listing of pants buttons in "small or fly size" and "large" or "suspender size." Modern metal fly buttons are .55" (1.40 cm) and suspender buttons are .65" (1.65 cm).

A summary of the conclusions drawn from these three sources as they relate specifically to Fort Union button size/function is presented in Figure 11 and Tables 2-6.

The diameter range for the collection as a whole is substantial varying from .27" (.69 cm) to 1.23" (3.12 cm). Graphing this (Figure 12) produces a distribution with three major modal peaks indicating three prominent sizes; i.e., ca .36-.46"/.91-1.17 cm, .64-.71"/1.63-1.80 cm, and .52-.58"/1.32-1.47 cm, respectively in their order of importance. Comparison of the inferred clothing associations with modal button sizes at Fort Union suggests that buttons were kept on hand primarily for coats, shirts/shirtwaists, and pants with a small number for vests and dresses.

A review of the fort's clothing inventories (Chouteau Collection, Missouri Historical Society) reveals a singular lack of women's apparel, though some childrens' clothing (primarily hats and coats) was kept on hand. One must therefore assume that dresses, shirtwaists, etc., were not stocked in any appreciable quantity (if at all) in the post's stores. Similarly, post inventories list no feminine clothing buttons whereas they are common for mens wear; e.g., shirt and pants buttons. One may therefore assume that buttons of shirt/shirtwaist size were primarily stocked for use on shirts and pants with dress-size buttons probably intended for use on vests. This does not exclude their use on women's and children's clothing, of course, but it does suggest one or more things regarding the demography of the fort and/or women's clothing fashions.

First, one might expect to see the conditions described above if the population consisted primarily of single men. Journals and letters of the inhabitants and visitors indicate that women were always present in numbers. Unfortunately, the lack of specific information prevents the determination of the relative sexual mix of the population residing at any one time at Fort Union. Neither is it possible to identify very many individual women according to their specific ethnic affiliation. Journals and documents usually deal with the activities of the men with women and children mentioned only as an aside. This doesn't mean that few of these individuals were present, however. They more likely reflect the journalists' concepts of important persons, occasions, and situations; i.e., they may have assumed that women and childrens' activities were unworthy of noting. This is a problem which has no solution at present given the available documentation.

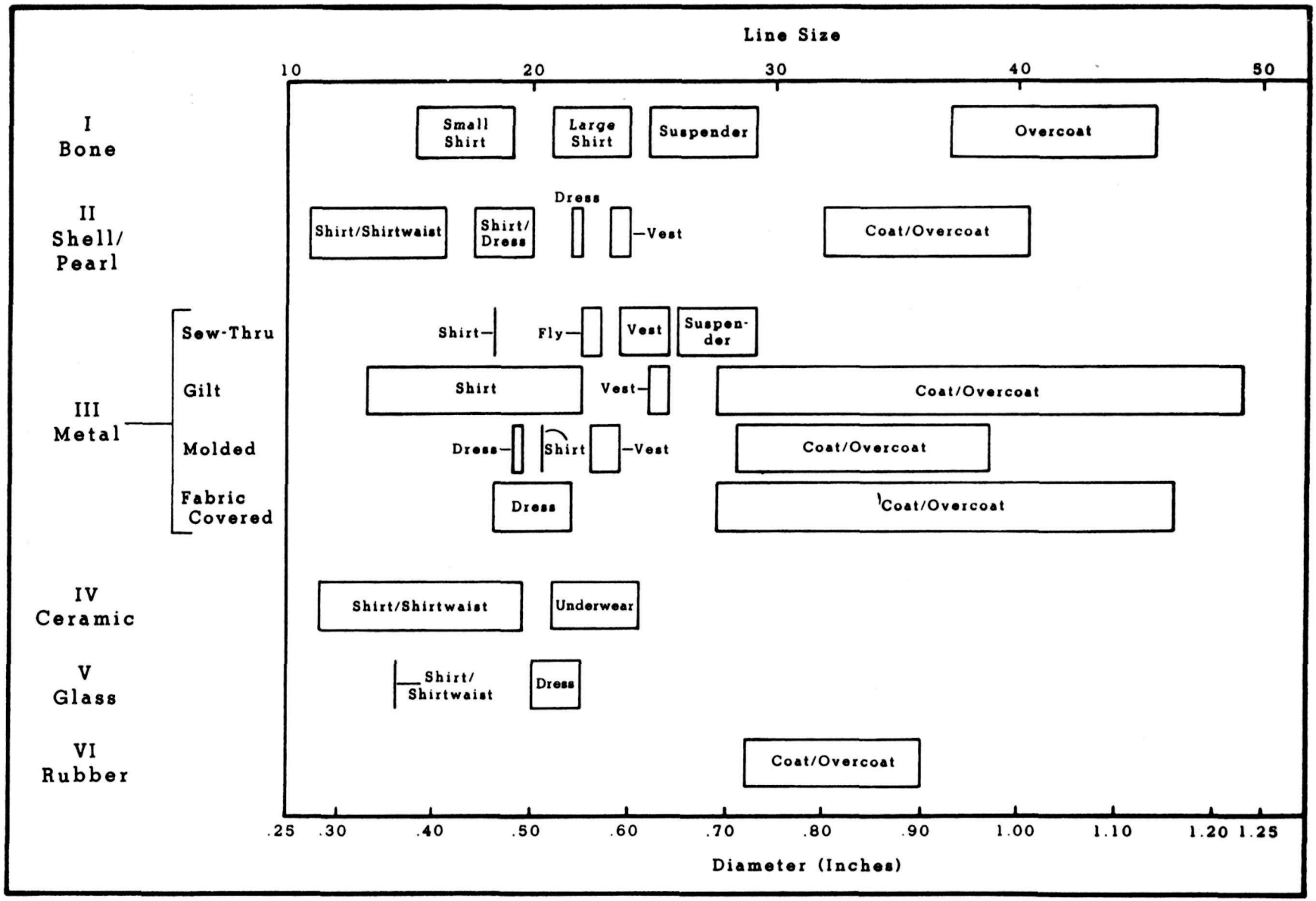


Figure 11. Inferred button functions according to size and raw materials.

Table 2. Bone Button Functional Assignments by Type.

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
SHIRT (SM.)	.39-.42	A3	3	6.8	1.9	
	.39	A4	1	2.3	0.6	
	.43	B1	1	1.1	0.6	
	.42	B2	1	1.1	0.6	
	.47-.48	B4	4	4.5	2.6	
	.38-.46	D	6	31.6	3.8	
	.36	E	1	100.0	0.6	
	Subtotal		17		10.9	2.7
SHIRT (LG.)	.57	A2	1	2.3	0.6	
	.54	A3	1	2.3	0.6	
	.52-.55	B1	6	6.8	3.8	
	.52-.58	B4	2	2.3	1.3	
	.56	B5	1	1.1	0.6	
	.53	D	1	5.3	0.6	
	Subtotal		12		7.7	1.9
SUSPENDERS	.68	A1	1	2.3	0.6	
	.62-.73	A2	9	20.5	5.8	
	.62-.71	A3	21	47.7	13.5	
	.64-.70	A4	3	6.8	2.6	
	.66	A5	1	100.0	0.6	
	.64-.70	B1	50	56.8	32.1	
	.66	B2	1	1.1	0.6	
	.64	B3	1	1.1	0.6	
	.62-.71	B4	13	14.8	8.3	
	.66-.67	B5	3	3.4	1.9	
	.64	C	1	100.0	0.6	
	.60-.72	D	11	57.9	7.1	
	.65-.67	Misc.	2	66.7	1.3	
	Subtotal		117		75.0	18.3

(continued next page)

Table 2 (cont.)--

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
COAT	1.08-1.12	A2	2	4.5	1.3	
	.93	A3	1	2.2	0.6	
	1.11	B1	1	1.1	0.6	
	1.14	B2	1	1.1	0.6	
	1.00-1.06	B4	2	2.3	1.3	
	Subtotal		7		4.5	1.1
MISSING DATA	N/A	B1	1	1.1	0.6	
		D	1	5.3	0.6	
		Misc.	1	33.3	0.6	
	Subtotal		3		1.9	
	TOTAL		156		100.0	24.4

Table 3. Shell Button Functional Assignments by Type.*

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
SHIRT/ SHIRTWAIST	.28-.40	A1	3	3.7	3.0	
	.27-.40	A2	37	45.7	37.4	
	.32-.41	A4	29	35.8	29.3	
	.29-.38	B	4	100.0	4.0	
		C3	1	50.0	1.0	
	.32-.39	D	3	100.0	3.0	
	.31-.40	Misc.	2	66.7	2.0	
	Subtotal		79		79.8	12.3
SHIRTWAIST/ DRESS	.44-.50	A2	4	4.9	4.0	
	.47	A4	1	1.2	1.0	
	.45	E	1	25.0	1.0	
	Subtotal		6		6.0	0.9
DRESS	.54	A2	2	2.5	2.0	
	.55	A3	1	1.2	1.0	
	.54	C2	1	50.0	1.0	
	Subtotal		4		4.0	0.6
VEST	.59-.60	A1	2	2.5	2.0	
	.58	C2	1	50.0	1.0	
	.60	C3	1	50.0	1.0	
	Subtotal		4		4.0	0.6

(continued on next page)

* One specimen from each of Types C1 (FOUS 6851) and C3 (FOUS 2421) have been deleted from this analysis as they clearly post-date the fur trade occupation.

Table 3 (cont.)--

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
COAT	.80-.90	A2	2	2.5	2.0	
	.99-1.01	E	3	75.0	3.0	
	Subtotal		5		5.0	0.8
MISSING DATA	N/A	Misc.	1	33.3	1.0	0.2
	TOTAL		99		99.8	15.4

Table 4. Metal Button Functional Assignments by Type.

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
PANTS (fly)	.55-.57	B1	9	8.9	5.9	1.4
PANTS	.67	A1	1	2.1		
(suspender)	.65-.73	B1	27	26.5		
	Subtotal		28		18.3	4.4
SHIRT/SHIRTWAIST						
Civilian	.46	A1	1	2.1		
	.44-.55	A2a	6	12.5		
	.52	A2b	1	2.1		
Military	.33-.51	B2a	15	14.7		
	.51	B2b2	1	1.0		
	Subtotal		24		15.7	3.7
VEST	.58-.61	A1	3	6.2		
	.62-.64	A3	2	4.2		
	.59-.60	B1	2	2.0		
	.64	B2misc.	1	2.1		
	Subtotal		8		5.2	1.2
DRESS	.48-.49	A2c	4	8.3		
	.56	B2b1	2	4.2		
	.46	B2e	1	1.0		
	.54	C	3	100.0		
	Subtotal		10		6.5	1.6

(continued on next page)

Table 4 (cont.)--

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
COAT						
Civilian	.73-.99	A2a	9	18.8	5.9	
	.73-.97	A2b	11	22.9	7.2	
	.71-.90	A2c	4	8.3	2.6	
	.71-1.06	A3	6	12.5	3.9	
	.86	B2b1	1	1.0	0.7	
	.74-.97	B2c	2	2.0	1.3	
	.69-1.23	B2d	10	9.8	6.5	
	.69-1.06	B2e	10	9.8	6.5	
	.73-1.06	B2f	10	9.8	6.5	
Military	.76-.88	B2b2	8	7.8	5.2	
	Subtotal		71		46.3	11.1
VEST/COAT SLEEVE(?) (Military)	.59	B2b2	1	1.0	0.6	0.2
MISSING DATA	N/A	B2f	1	1.0	0.7	
		B2 misc.	1	1.0	0.7	
	Subtotal		2		1.4	0.3
	TOTAL		153		100.1	23.9

Table 5. Ceramic Button Functional Assignments by Type.

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
SHIRT/ SHIRTWAIST	.36-.47	A1	131	86.2	58.7	
	.41-.44	A2	16	80.0	7.2	
	.42-.44	A3	2	100.0	0.9	
	.41-.49	A4	32	96.7	14.3	
	.38-.46	A5	9	100.0	4.0	
	.28-.40	B	4	100.0	1.8	
	.36-.42	C	3	100.0	1.3	
	Subtotal		197		88.3	30.7
SHIRTWAIST/ DRESS	.52-.61	A1	12	7.9	5.4	
	.61	A2	2	10.0	0.9	
	.53	A4	1	3.0	0.4	
	Subtotal		15		6.7	2.3
MISSING DATA	N/A	A1	9	5.9	4.0	
		A2	2	10.0	0.9	
	Subtotal		11		4.9	1.7
	TOTAL		223		100.0	34.7

Table 6. Glass, Rubber, and Miscellaneous Button Functional Assignments.

GLASS BUTTONS

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
SHIRT/ SHIRTWAIST	.37	N/A	2	N/A	40.0	
SHIRTWAIST/ DRESS	.50-.55	N/A	3	N/A	60.0	
	TOTAL		5		100.0	0.8

RUBBER BUTTONS

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
COAT	.72-.90	N/A	3	N/A	75.0	
MISSING DATA	--	N/A	1	N/A	25.0	
	TOTAL		4		100.0	0.6

MISCELLANEOUS UNKNOWN BUTTONS

FUNCTION	SIZE (in.)	TYPE	#	% OF TYPE	% OF CLASS	% OF TOTAL BUTTONS
?	.69	?	1	N/A	100.0	0.2

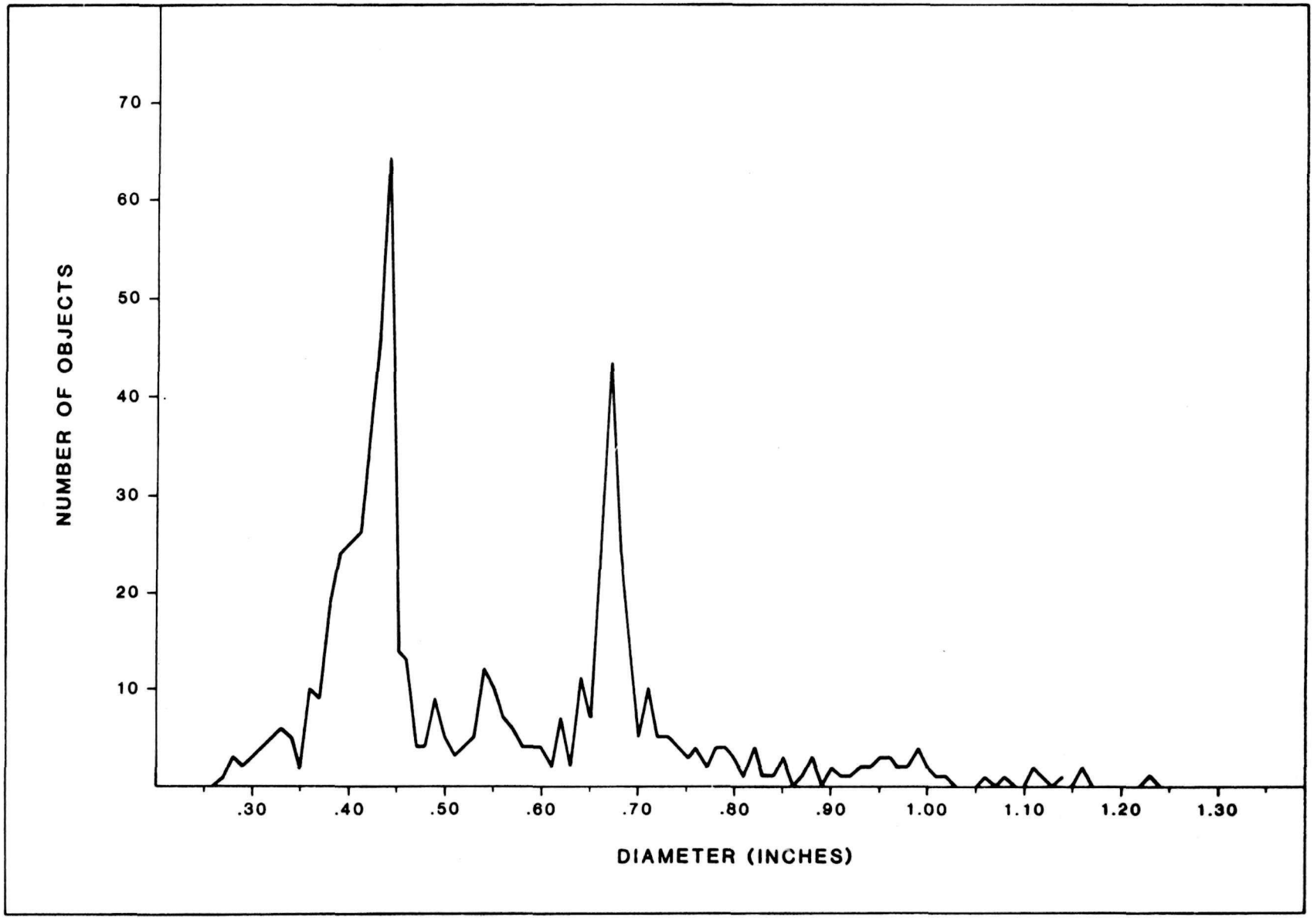


Figure 12. Frequency distribution of button diameters.

The buttons and clothing associated with women in the inventories could also reflect one or more of the conditions which may be expressed as hypotheses.

(a) women at the fort rarely wore European-style clothing;

(b) when women did acquire European-style dress, they were special ordered by each individual as ready-mades.

and/or

(c) women nearly always made their own clothing using the materials at hand or acquired from the fort store.

With regard to the first hypothesis (a), journals kept by visitors and residents at the fort suggest that most (if not all) of the women at the fort were American Indian. These were primarily Blackfoot and Assiniboin though other aboriginal affiliations occurred as well. The remarks made earlier with regard to the button serving primarily in a decorative capacity in aboriginal society is probably apropos here as well.

In addressing hypothses (b) and (c), the hand-made vs ready-made question, one might expect that employees below the level of clerk were not financially able to dress their Indian wives in the Euro-American traditional mode except perhaps for special occasions. Buckskins were certainly cheaper and more durable given the range of work Indian women were often expected to perform. Certainly the bourgeois as a group (and perhaps the clerks) made enough to provide their wives with ready-made clothing or materials from the post store to sew their own. An example of this practice would be Alexander Culbertson, a bourgeois married to a Blackfoot by the name of Natawista Iksana (Medicine Snake Woman). She was described by Governor I.I. Stevens in 1854 as having "fully adopted the costume and deportment of the whites" (McDonnel 1940:243). If ready-mades were provided for the wives, it was probably through individual special orders rather than purchase through the post's store.

The lack of entries in the inventories indicates that home-made clothing had to be standard for women in particular. An abundance of cloth of various grades was maintained in bulk at the stores for those who could afford it. The problems remain determining the degree that home-made clothing was used and the kinds of clothing were most often made.

Home-made vs Ready-made

Inventories made at the end of the fur trade seasons provide insight into the kinds of clothing sold in the trade. In addition, the buttons recovered archeologically and those listed in the inventories can provide clues to the relative use and personal manufacture of clothing at Fort Union.

Inventoried clothing has been grouped into categories comparable with the functions identified for inventoried buttons and those inferred for archeologically derived buttons (Table 7). All clothing categories, other than those which correlate with inventoried or archeological buttons, have been deleted from the list; e.g., socks, hats, leggings, etc. The lowest common denominator for the kinds of button attachments is provided by inventoried buttons; e.g., they were used for closures on pants, shirts, vests, coats. Also, as noted earlier, there are no inventory categories which correlate with archeological specimens potentially used with women's dresses or shirtwaists. For this reason, the archeological samples are grouped into four clothing categories.

The number of buttons varied within and between each of these four groups. An attempt was made to scale the percentages of occurrence to make them comparable to the inventoried clothing frequencies. Weights are derived by dividing the average number of buttons used on an item of clothing into '1'. The number of buttons used is derived from modern photographs made of early and middle 19th century clothing and from historic photos of men involved in the fur trade of the period (Brown 1980; Van Kirk 1980; "Engages" 1982; Kotecki 1983). Pants worn during the fur trade period had 11-13 buttons (weight = 12/1 or .083), shirts and vests had 5-6 buttons (weight = 5.5/1 or .182), and coats had 6-8 (weight = 7/1 or .143). The average number of buttons attached to an individual item in a clothing category is multiplied by the appropriate weight factor. A summation of the results is made and this is used to determine the percentage of the weighted totals (see Table 7).

Each of the categories in Table 7 may be interpreted in somewhat different ways. The first category, buttons from archeological sources, are almost totally derived from locations other than the fort's store. These are suggested to reflect the relative use of a clothing category. High percentages of occurrence indicate high use and low percentages being low usage; e.g., there is a direct relationship between frequency of occurence and utilization.

Inventoried objects, because of the nature of the

Table 7. Comparison of Archeological Button Frequencies with Buttons and Clothing Listed in 1829-1851 Fort Union Inventories.

	BUTTONS[b]								CLOTHING[c]	
			Archeological			1839-1851 Inventories			1829-1851 Inventories	
Clothing Category	# Buttons per item Clothing	Weight (Wt)	#	# X Wt	%	#	# X Wt	%	#	%
I. PANTS[a]	11-13	.083	154	12.8	13.7	1044	86.7	2.7	106*	10.6
II. SHIRTS										
Shirts or Shirtwaists			330							
Shirtwaists or Dresses			24							
Subtotal Shirts	5-6	.182	354	64.4	69.2	3852	701.1	21.7	419	40.4
III. VESTS										
Dresses			14							
Vest			12							
Subtotal Vest	5-6	.182	26	4.7	5.0	1094	199.1	6.2	58	5.6
IV. COAT	6-8	.143	78	11.2	12.0	15660	2239.4	69.4	450	43.4
TOTAL			612	93.1	99.9	21650	3226.3	100.0	1037	100.0

a - Includes underwear since the buttons on these are the same size as pants suspender buttons.
b - Data deleted from the analysis includes:
  a) Archeological sample - missing data and unknown function (n=19), post-fur trade buttons (n=2), and military occupation buttons (n=10).
  b) Inventories - "Buttons" (4 1/2 gross) and "Sundry Loose Buttons" (1 gross).
c - Only the clothing categories listed above were included in the total. The inventories are actually much more extensive and diverse than this table would suggest.

inventory itself, must be interpreted in a somewhat different manner. Inventories at Fort Union's store took place at the end of the fur trade season prior to restocking. The items left in stock are those in which the supply exceded demand. To some degree, it could be assumed that those items remaining in stock were of a less desireable nature than those sold. This is proposed because highly desireable goods are more liable to be sold out by the end of the trade season than less desireable. To put it another way, the higher the frequency of occurrence of an item in the store inventory, the lower its demand relative to similar items listed in that inventory; e.g., there is an inverse relationship between the frequency of occurence and customer demand.

One problem with this interpretation of the inventory is that different items might come into demand in one year whereas others become more fashionable in another. However, one should keep in mind that the orders placed at the end of the season did not result in a quick replacement of trade goods. It often took two or more years for an order to be filled because of the remoteness of the fort from the source of goods (generally the East Coast or Europe), the complexity of the channels through which orders had to pass (Ft. Union ==> St. Louis ==> New Orleans ==> New York City ==> London ==> distributor or manufacturer), and the similarly complex route by which supplies were delivered. Therefore, Fort Union's traders could make only slow adjustments to the actual demands placed on them for specific kinds of goods.

A source of bias in all of this is recognized to be the Indian usage of buttons as decorative items rather than as closures. This should tend to emphasize metal (especially brass) buttons and artificially raise the frequencies of inventoried coat and vest buttons. While recognizing the problem, the author is unfortunately unable to arrive at procedures which will overcome this source of bias to any extent.

With these comments in mind, a return to the questions of relative clothing use and home-made vs ready-made is in order. To reiterate, buttons acquired archeologically are interpreted as directly reflecting relative use of a clothing category; e.g., high percentages buttons may be indicative of relative high usage and low percentages of low usage. Inventoried buttons are seen as inverse indicators for home manufacture of clothing; e.g., low frequencies suggest relatively high rates of home manufacture and high frequencies indicating low rates. Clothing inventories are also seen as inverse indicators of ready-made clothing demand and sale; e.g., high frequencies reflect low demand and low sales with low frequencies indicative of high demand/sales rates.

Returning to Table 7, the frequencies observed for pants implies that buttoned pants had a relatively low use rate (13.7%), those used were often made (2.7%), and ready-mades had a high rate of demand and sales (10.6%). This seems rather confusing unless one remembers that buckskin leggings/pants were commonly worn and had longer use-lives than cloth pants. One might infer that pants requiring button closures may have been restricted in their distribution among the various kinds of employees at the fort. People holding better paid positions (such as clerks), which did not commonly demand great physical exertion, could be expected to have several pair. Those in the lower status positions, commonly requiring a great deal of physical labor, may have owned fewer pair.

The frequencies for shirts and vests are also somewhat confusing. They suggest that shirts were commonly worn (69.2%) though few were sold at the store (40.4%). The frequency for home manufacture, however, is intermediate (21.7%) which can only be interpreted at this point as some but not a large number were made. The frequencies for vests may be interpreted to imply little overall use (5.0%) but ready-mades were often sold (5.6%) and were commonly home-made as well (6.2%).

The frequencies for coats appears to relatively straight forward. They prove to be a relatively uncommon item of clothing at the fort (12.0%) and were rarely made (69.4%). Further, ready-mades were not commonly sold (43.4%).

Conclusions

After eliminating specimens which obviously post-date Fort Union's fur trade period (n=2) or associated with its military occupation (n=15), ceramic buttons are the largest single group (n=223; 35.3%) of the remaining collection (n=631). These are followed in importance by metal (n=143; 22.7%) and bone buttons (n=156; 24.7%) which are of nearly equal consequence. The fourth major class consists of pearl/shell buttons (n=99, 15.7%) with those of glass, rubber and miscellaneous composition being of negligible importance (n=10; 1.6%). The range of materials and styles tends to be similar to those demonstrated for temporally similar sites and a mean date of 1846.4 was derived using an adaptation of Stanley South's Mean Ceramic Formula. This compares extremely well with the actual centerpoint (1848) for Fort Union's occupation period (1829-1867).

While used by all three major social/ethnic groups at the fort, Indians tended to use them quite differently from the Metis and Euro-Americans. Traditional Indian clothing did not require button closures and consequently were used

almost exclusively as costume decoration. Metis and Euro-Americans used buttons in two ways; i.e., as a means of holding clothes shut and in decorating their apparel.

Clothing traded at Fort Union's stores appears to have been almost entirely stocked for men though a few items, such as coats and hats, were kept on hand for children. Women's clothing and buttons for women's clothing were not stocked. This is possibly due to the fact that most if not all women living at the fort were Indians who generally maintained traditional dress styles. Buttons recovered from archeological contexts are similar in form to those used on pants, shirts, vests, and coats. An exercise designed to determine the relative use of these clothing items and whether they were commonly home-made or ready-made proved to have mixed to poor results.

REFERENCES CITED

Albert, Alphaeus H.
1969 Record of American Uniform and Historical Buttons. Boyertown Publishing Co., Boyertown, Pennsylvania.

Albert, Lillian S. and Kathryn Kent
1971 The Complete Button Book (originally published 1949). Stratford, Connecticut.

Brown, D. Alexander
1963 The Galvanized Yankees. The University of Illinois Press, Urbana.

Brown, Jennifer S.H.
1980 Strangers in Blood. University of British Columbia Press, Vancouver.

Carlson, Gayle F.
1979 Archeological Investigations at Fort Atkinson (25WN9), Washington County, Nebraska, 1956-1971. Nebraska State Historical Society Publications in Anthropology No. 8. Lincoln, Nebraska.

"Engages"
1983 Old-style Drop Front Trousers. The Museum of the Fur Trade Quarterly 18(3):8, 10-11.

Gillio, David 'A'
1973 1972 Excavations at Fort Union Trading Post National Historic Site, North Dakota. Ms on file, Midwest Archeological Center, National Parks Service, Lincoln, Nebraska.

Havard, V.
1880 The French Half Breeds of the Northwest. Annual Report of the Smithsonian Institution for the year 1879, pp. 309-327.Government Printing Office, Washington, D.C.

Husted, Wilfred M.
1970 1969 Excavations at Fort Union Trading Post National Historic Site, North Dakota: A Progress Summary. Ms on file, Midwest Archeological Center, National Park Service, Lincoln, Nebraska.

1971 1970 Excavations at Fort Union Trading Post National Historic Site, North Dakota: A Progress Summary. Ms on file, Midwest Archeological Center, National Park Service, Lincoln, Nebraska.

Johnson, David F.
1948 Uniform Buttons American Armed Forces 1784-1948. Century House, Watkins Glen, New York.

Klimko, Olga
1983 The Archaeology and History of Fort Pelly I, 1824-1856. Pastlog Manuscript Series in Archaeology and History Number 5. Saskatchewan Culture and History, Regina.

Kotecki, M.C.
1983 Chapter II. Ethnohistory. In The Garden Site, DkLg-16: A Historical and Archaeological Study of a Nineteenth Century Metis Farmstead. Papers in Manitoba Archaeology, Final Report No. 16, edited by K. David McLeod, pp. 47-74. Historic Resources Branch, Department of Cultural Affairs and Historical Resources, Winnipeg.

Luscomb, Sally C.
1967 The Collector's Encyclopedia of Buttons. Bonanza Books, New York.

McDonnell, Anne (editor)
1940 The Fort Benton Journal, 1854-1856, and the Fort Sarpy Journal, 1855-1856. Contributions to the Historical Society of Montana Volume 10.

McLeod, K. David (editor)
1983 The Garden Site, DkLg-16: A Historical and Archaeological Study of a Nineteenth Century Metis Farmstead. Papers in Manitoba Archaeology, Final Report No. 16. Department of Cultural Affairs and Historical Resources, Historic Resources Branch, Winnipeg.

Montgomery Ward & Co.
1969 Catalogue and Buyers' Guide No. 57, Spring and Summer 1895. Introduction by Boris Emmet. Dover Publications, New York.

Moore, J.W.
1968 Field log in archives, Midwest Archeological Center, National Park Service, Lincoln, Nebraska.

Olsen, Stanley J.
1963 Dating Early Plain Buttons by Their Form. American Antiquity 28(4):551-554.

Robert Shuhi-Books
1979 The Complete Checklist of American Button Makers, Manufacturers and Outfitters, 1710-1976. Morris, Connecticut.

Ross, Lester A.
1983 Archaeological Metrology: English, French, American and Canadian Systems of Weights and Measures for North American Historical Archaeology. History and Archaeology 68. Parks Canada, National Historic Parks and Sites Branch, Ottawa.

Sears, Roebuck & Co.
1968 1897 Sears Roebuck Catalogue. Introductions by S.J. Perelman and R. Rovere. Edited by Fred L. Israel. Chelsea House Publishers, New York.

1969a The 1902 Edition of the Sears, Roebuck Catalogue. Introduction by Cleveland Amory. Bounty Books, New York.

1969b 1908 Catalogue No. 117. Edited by Joseph J. Schroeder, Jr. The Gun Digest Co., Chicago.

1970 1927 Edition of the Sears, Roebuck Catalogue. Edited by Alan Mirken. Bounty Books, New York.

Smith, G. Hubert
1972 Like-A-Fishhook Village and Fort Berthold, Garrison Reservoir, North Dakota. National Park Service Anthropological Papers 2. Washington.

South, Stanley
1964 Analysis of the Buttons From Brunswick Town and Fort Fisher. Florida Anthropologist 17(2):113-133.

1972 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archeology. Conference on Historic Archaeology Forum 6, Part 2, Section 1, pp. 71-116.

1974 Palmetto Parapets; Exploratory Archeology at Fort Moultrie, South Carolina, 38CH50. Anthropological Studies #1. Institute of Archeology and Anthropology, University of South Carolina, Columbia.

Switzer, Ronald R.
1972 "Tally Ho's" From the Steamboat Bertrand. Just Buttons 30(4):416-426.

1974 Letter of December 18 addressed to Arthur H. Wolf. On file M.W.A.C. vault, Lincoln, Nebraska.

Thomas, Davis and Karin Ronnefeldt (editors)
1976 People of the First Man. E.P. Dutton & Co., New York.

Thompson, Erwin
1968 Fort Union Trading POst Historic Structures Report, Part II. Historical Data Section. National Technical Information Service, Document PB-203 901. U.S. Department of Commerce, Washington, D.C.

Van Kirk, Sylvia
1980 Many Tender Ties: Women in Fur Trade Society, 1670-1870. University of Oklahoma Press, Norman.

Appendix A1. Buttons, Class I (bone), Miscellaneous and Type A (5-hole).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Remarks
Miscellaneous								
321	1040	1000	291	0-4"	?	.09	?	Frag. of IA2 or IB1.
4974/3	1040	1000	225	loess/ rubble	.65	.10	.31	
5205a	1020	1000	218	rubble	.67	.08	NA	
Type A, Variety 1 (Plain)								
49a	1040	1040	46	2	.68	.07	NA	
Type A, Variety 2 (Simple Well)								
124	1060	1040	366	12-16"	.57	.08	.34	
236	1020	1000	262	4-8"	.67	.09	.34	
4032	1020	1000	264	4-8"	.62	.09	.37	
4036	1020	1000	264	4-8"	1.08	.13	.63	Central hole larger than peripheral holes.
1244	1020	1000	20	2	.66	.14	.30	Domed face.
2579	1000	1000	125	loess	1.12	.14	.73	Central hole smaller than peripheral holes.
2700a	1000	1020	118	loess	.64	.14	.31	
4887	1040	1000	224	loess/marble	.73	.07	.40	
4974/1	1040	1000	225	rubble	.62	.10	.27	
5025/5	1020	1000	221	rubble	.69	.09	.35	
5205/10	1020	1000	218	rubble	.42	.08	.28	Half of button.
5656	1000	1000	189	loess	.66	.11	.29	
Type A, Variety 3 (Well Ring)								
?*	---	---	---	---	.65	?	?	Wide ring.
49b	1040	1040	46	2	.65	.09	.25	Narrow ring.
140	1060	1040	364	baulk	.66	.08	.29	Wide ring.
219/11	1020	1000	265	0-4"	.69	.11	.27	" "
219/12	1020	1000	265	0-4"	.67	.08	.29	" "
219/18	1020	1000	265	0-4"	.69	.10	.26	" "
251	1020	1000	262	0-4"	.71	.12	.31	Narrow ring.
391	1020	1000	262	12-24"	.66	.12	.30	" "
395a	1020	1000	264	8-12"	.39	.06	.17	" "
395b	1020	1000	264	8-12"	.69	.07	.32	Wide ring.
403	1020	1000	265	4-8"	.65	.13	.35	Narrow ring.
444	1020	1000	264	0-4"	.68	.09	.26	" "
449	1020	1000	260	4-8"	.68	.12	.29	" "
460	1040	1000	291	0-4"	.67	.10	.26	" "
2475	1000	1020	125	sod/humus	.68	.08	.27	" "
2655	1000	1020	118	loess	.69	.09	.32	Wide ring.
2771	1000	1020	118	rubble	.54	.09	.27	Narrow ring.
3190	1000	1020	190	sod/humus	**	.12	.42	" " ; heat-warped (?)
4974	1040	1000	225	rubble	.66	.10	.22	" "
5027/8	1020	1000	221	rubble	.62	.08	.39	" "
5205/5	1020	1000	218	rubble	.67	.11	.27	" "
5205/6	1020	1000	218	rubble	.66	.10	.30	" "
5205/7	1020	1000	218	rubble	.68	.10	.29	" "
6051	1000	1000	202/203	sod	.40	.08	.20	" "
6230	1000	1000	191	sod	.67	.12	.30	" "
7142	---	---	---	---	.42	.08	.17	Narrow ring; on display FOUS Visitor's Center
Type A, Variety 4 (Rim Ring)								
238	1020	1000	265	4-8"	.70	.11	.26	
2802	1000	1020	118/119	rubble	.39	.06	.17	
5027/6	1020	1000	221	rubble	.69	.08	.28	
6099	1000	1000	215	loess	.64	.11	.24	
Type A, Variety 5 (Broad Well)								
5027/7	1020	1000	221	rubble	.66	.14	.51	

Appendix A2. Class I (bone), Type B (4-hole).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Remarks
Variety 1, Simple Well								
49	1040	1040	46	2	.53	.10	.25	
216	1020	1000	262	8-12"	.70	.13	.28	
321	1040	1000	291	0-4"	.67	.10	.35	Half of button.
359	1020	1000	262	0-4"	.64	.09	.27	
402	1040	1000	293	4-8"	.67	.09	.29	
447	1060	1040	85	1	.64	.11	.26	Half of button.
1409	----	----	---	backdirt	.68	.12	.29	
1674	1020	1000	23	1	.67	.09	.30	
2424a	1000	1020	122	sod/humus	.66	.10	.28	
2475a	1000	1020	125	sod/humus	.67	.10	.30	
2475b	1000	1020	125	sod/humus	.67	.10	.35	
2982	1000	1020	127	loess	.68	.10	.30	
3029a	1000	1020	121	loess	.64	.09	.25	
3029b	1000	1020	121	loess	.67	.08	.29	
3077a	1000	1020	121	loess	.67	.10	.30	
3077b	1000	1020	121	loess	.67	.10	.32	
3077c	1000	1020	121	loess	.55	.10	.25	
3266a	1000	1020	129	loess	.67	.09	.30	Center punched out.
3266b	1000	1020	129	loess	.67	.12	.29	
3266c	1000	1020	129	loess	.53	.09	.23	
3603	1060	1060	181	rubble	.68	.11	.30	
3816a	1000	1000	110	loess	.67	.09	.30	
3816b	1000	1000	110	loess	.67	.08	.29	
4438a	1040	1020	227	rubble	.67	.09	.29	
4438b	1040	1020	227	rubble	.67	.09	.35	Half of button.
4563	1040	1020	230	rubble	.67	.10	.35	
4671	1040	1020	238	rubble	.65	.08	.28	
4812	1040	1020	231	---	.68	.09	.26	
4887/2	1040	1000	224	loess/rubble	.68	.10	.30	
4926/1	1040	1000	225	loess/rubble	.64	.07	.29	Fragment. Half of button.
4927	1040	1000	225	loess/rubble	1.11	.18	.57	
4974/4	1040	1000	225	loess/rubble	.67	.08	.30	
5027/1	1020	1000	221	rubble	.66	.08	.30	
5027/2	1020	1000	221	rubble	.66	.11	.30	
5027/3	1020	1000	221	rubble	.66	.10	.27	
5027/4	1020	1000	221	rubble	.67	.08	.29	Center punched out.
5027/10	1020	1000	221	rubble	.54	.09	.23	
5205/1	1020	1000	218	rubble	.67	.10	.30	
5205/2	1020	1000	218	rubble	.68	.11	.30	
5205/3	1020	1000	218	rubble	.67	.10	.29	
5205/9	1020	1000	218	rubble	.67	.08	.27	
5374/1	----	----	---	backfill	.68	.11	.30	
5374/3	----	----	---	backfill	?	.08	?	Fragment.
5491	1000	1000	192	loess	.66	.09	.34	Half of button
5558	1000	1000	195	loess	.67	.10	.35	
5655	1000	1000	189	loess	.43	.09	.19	
6072	1000	1000	188	loess/rubble	.54	.08	.26	
6099a	1000	1020	215	loess	.66	.09	.31	
6099b	1000	1020	215	loess	.67	.08	.31	
6429a	1000	1020	214	sod	.67	.11	.30	
6429b	1000	1020	214	sod	.67	.10	.28	
?*	----	----	---	---	.67	.07	?	Well Ø not measured.

* This is among 4 bone buttons on display at the FOUS Visitors' Center. Thsi specimen was glued to the display board preventing its catalog number from being determined. By eliminating the two specimens whose numbers are known, this button must be either FOUS 2001 or 7142. Both of these have no associated provenience.

Appendix A2. (cont.).

Cat. #	Block N	Block E	Unit #	Level	ø (in.)	Max. Thick. (in.)	Well ø (in.)	Remarks
Variety 2, Well Ring								
2245	1060	1040	157	rubble	.66	.11	.29	
5205	1020	1000	218	rubble	1.14	.19	.34	
5745	1000	1000	194/201	loess1	.42	.07	.19	
Variety 3 Rim Ring								
3876	1000	1000	111	rubble	.64	.09	.25	
Variety 4a, Broad Well (Flat Rim)								
94	1060	1040	78	3	.47	.10	.30	
4438	1040	1020	227	rubble	.71	.10	.44	
5687a	1000	100	189/192	loess	.48	.09	.29	
Variety 4b Broad Well (Rounded Rim)								
219/4	1020	1000	265	0-4"	.63	.14	.46	
219/5	1020	1000	265	0-4"	.67	.13	.49	
235	1020	1000	265	0-4"	1.06	.17	.61	
395	1020	1000	264	8-12"	.52	.10	.34	
403	1020	1000	265	0-8"	.64	.13	.43	
444	1020	1000	265	0-4"	.66	.13	.45	
1419	1000	1000	6	1	.68	.14	.44	
2182	1060	1040	158	loess	.62	.13	.45	
3816	1000	1000	110	loess	.58	.12	.35	
5027/9	1020	1000	221	rubble	.63	.12	.43	
5205/11	1020	1000	218	rubble	.65	.13	.44	
5205/12	1020	1000	218	rubble	.62	.13	.44	Half of button.
5205/13	1020	1000	218	rubble	1.00	?	.61	
5374/2	----	----	---	backfill	.68	.12	.50	
5687b	1000	1000	189/192	loess	.48	.09	.32	
6099c	1000	1020	215	loess	.67	.14	.39	
6099d	1000	1020	215	loess	.68	.12	.50	
6640	1000	1000	206	loess	.48	.07	.31	
Variety 5 Offset Well								
458a	1040	1000	291	0-6"	.66	?	.28	On display FOUS Visitors' Center; thickness not available.
2424b	1000	1020	122	sod/humus	.67	.11	.28	
2700b	1000	1020	110	loess	.67	.11	.30	
----	----	----	---	---	.56	.09	.28	

Appendix A3. Buttons, Class I (bone), Types C-D.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Remarks
Type C (2-hole)								
5579	1000	1000	195	loess	.64	.14	.52	
Type D (1-hole)								
236	1020	1000	262	4-8"	.60	.06	---	
251	1020	1000	262	0-4"	.69	.06	---	
321	1040	1000	290	0-4"	?	?	---	Specimen lost in laboratory.
447	1020	1000	266	---	.44	.05	---	
1183	1000	1000	1	sod	.69	.07	---	
1380	1000	1000	5	sod	.38	.05	---	
1874	1040	1000	38	1	.38	.06	---	
2474	1000	1020	125	sod/humus	.43	.06	---	
2887a	1000	1020	124	loess	.71	.08	---	One edge broken.
2887b	1000	1020	124	loess	.66	.05	---	
3434	1040	1060	149	rubble	.72	.08	---	
3959a	1000	1000	112	rubble	.69	.06	---	
3959b	1000	1000	112	rubble	.69	.07	---	
4926	1040	1000	225	loess/rubble	.44	.06	---	
5324	1000	1000	212	rubble	.66	.06	---	
5491	1000	1000	192	loess	.53	.06	---	
5881a	1000	1000	198	loess	.69	.06	---	
5881b	1000	1000	198	loess	.69	.05	---	
6287	1000	1000	193	loess	.46	.07	---	
Type E (Loop shank)								
6428	1000	1020	214	sod	.36	.29	---	

Appendix B1. Buttons Class II (shell), Type A (4-hole), Varieties 1-2.

Cat. #	Block N	Block E	Unit #	Level	ø (in.)	Max. Thick. (in.)	Well ø (in.)	Remarks
Variety 1, Plain								
321	1040	1000	291	0-4"	.28	.02	NA	Unbeveled edge
327	1020	1000	262	0-4"	.40	.09	NA	
436	1040	1000	290	0-4"	.59	.05	NA	
4219	1040	1000	226	rubble	.60	.07	NA	
4926a	1040	1020	225	loess/rubble	.40	.05	NA	
Variety 2 (Simple Well)								
102	1040	1040	149	1	.36	.07	.11	
245	1040	1020	40	2	.33	.05	.15	
283	1020	1000	266	0-4"	.28	.06	.18	
319	1020	1000	261	2-10"	.39	.06	.18	
321	1040	1000	291	0-4"	.27	.03	.10	
336	1020	1000	262	---	.38	.07	.11	
418	1040	1020	290	0-4"	.32	.06	.09	
435	1040	1000	293	0-4"	.30	.10	.10	
444	1020	1000	264	0-4"	.39	.09	.21	
2180a	1060	1040	158	loess	.38	.07	.20	
2699a	1000	1020	118	loess	.40	.07	.19	
2699b	1000	1020	118	loess	.39	.09	.22	
2699c	1000	1020	118	loess	.40	.08	.14	
2892.1	1000	1020	124	loess	.38	.07	.10	
2892.2	1000	1020	124	loess	.38	.08	.12	
2892.3	1000	1020	124	loess	.29	.08	.08	
2892.4	1000	1020	124	loess	.32	.05	.10	
2892.5	1000	1020	124	loess	.33	.06	.11	
4219	1040	1020	226	rubble	.40	.07	.23	
4463	10430	1020	227	rubble	.40	.08	.20	
4926/1	1040	1020	225	loess/rubble	.33	.06	.10	
4926/3	1040	1020	225	loess/rubble	.50	.06	.14	
5025/2	1020	1000	221	rubble	.33	.06	.17	
5025/4	1020	1000	221	rubble	.39	.09	.16	
5203	1020	1000	218	rubble	.54	.12	.34	
5204/1	1020	1000	218	rubble	.30	.07	.22	
5204/8	1020	1000	218	rubble	.40	.08	.13	
5490a	1000	1000	192	loess	.39	.09	.12	
5490b	1000	1000	192	loess	.38	.08	.16	
5490c	1000	1000	192	loess	.54	.07	.19	
5578a	1000	1000	195	loess	.90	.10	.31	
5578b	1000	1000	195	loess	.40	.10	.12	
6099a	1000	1020	215	loess	.38	.05	.24	
6099b	1000	1020	215	loess	.31	.08	.10	
6204a	1000	1000	190	loess	.36	.08	.10	
6204b	1000	1000	190	loess	.39	.09	.14	
6319	----	----	---	backfill	.40	.08	.24	
6338	----	----	---	backfill	.80	.11	.42	
6369	1000	1020	213	loess	.44	.07	.15	
6500	1000	1000	202/203	loess	.49	.08	.29	
6640	1000	1000	206	loess	.50	.10	.24	
6852	1040	1000	396	recent rubble	.30	.04	.08	
7142	----	----	----	backdirt	.38	*	*	On display at FOUS Visitors' Center.

* Not measured.

Appendix B2. Buttons Class II (shell), Type A (4-hole), Varieties 3-4.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Pattern	Remarks
Variety 3 (Well Ring)									
2653	1000	1020	118	loess	.55	.09	.32	NA	
Variety 4 (Engraved)									
62	1060	1060	383	0-6"	.40	.07	.24	b1	
93*	----	----	---	---	.41	.07	.19	a1	
178/2	1040	1020	39	3	.47	.06	.21	e	
231	1060	1020	354	---	.36	.04	.22	d	
236	1020	1000	262	4-8"	.39	.08	.11	misc.	
359	1020	1000	262	0-4"	.34	.06	.16	a1	
1809	1040	1000	36	1	.35	.05	.07	misc.	
2180	1060	1040	158	loess	.39	.06	.24	misc.	
2307	1040	1040	147	rubble	.41	.07	.17	misc.	
2422	1000	1020	122	sod/humus	.38	?	.15	a2	cleaving along nacre laminations
2528	1000	1020	125	sod/humus	.37	.07	.25	b1	
2579	1000	1020	125	loess	.40	.07	.20	a2	
2699a	1000	1000	118	loess	.39	.09	.20	a3	
2699b	1000	1000	118	loess	.38	.08	.16	a1	
4058	1000	1020	132	sod/humus	.32	.05	.13	b4	
4502	1040	1040	243	rubble	.38	.04	.24	d	
5025/3	1020	1000	221	rubble	.34	.04	.20	d	
5025/5	1020	1000	221	rubble	.40	.08	.18	a2	
5025/6	1020	1000	221	rubble	.40	.08	.19	a3	
5098	1020	1000	221	rubble	.38	.08	.17	misc.	
5204/2	1020	1000	218	rubble	.36	.06	NA	b1	
5204/3	1020	1000	218	rubble	.39	.05	.22	d	
5204/4	1020	1000	218	rubble	.38	.06	.17	b3	
5204/5	1020	1000	218	rubble	.39	.06	.16	e	
5204/6	1020	1000	218	rubble	.39	.08	.27	b1	
5578	1000	1000	195	loess	.40	.05	.12	b2	
5655	1000	1000	189	loess	.40	.08	.19	c	
5687	1000	1000	189/192	loess	.34	.08	NA	misc.	X-shaped well.
6500a	1000	1000	202/203	loess	.36	.06	NA	misc.	
6500b	1000	1000	202/203	loess	.39	.07	.32	misc.	Raised cone in center.

* Original 1972 catalog sheet missing.

Appendix B3. Class II (shell), Types B-E and Miscellaneous.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Remarks
Type B (3-hole)								
2892b	1000	1020	124	loess	.34	.07	.11	Variety 1.
2892a	1000	1020	124	loess	.34	.11	.09	Variety 2.
4463/2	1040	1020	227	rubble	.38	.06	.18	Variety 2.
5025/1	1020	1000	221	rubble	.29	.06	.12	Variety2.
Type C (2-hole)								
321	1040	1000	290	0-4"	.54	.11	.49	Variety 2.
402	1040	1000	293	4-8"	.58	.10	.51	Variety 2.
2421	1000	1020	122	sod/humus	.39	.08	--	Variety 3; well is .19" long and max. .10" wide; post-fort.
2578	1000	1020	125	loess	.60	.07	.27	Variety 3.
5204	1020	1000	218	rubble	.39	.09	NA	Variety 3.
6851	1040	1000	396	recent rubble	.54	.08	.17	Variety 1; post-fort.
Type D (1-hole)								
52A	1040	1040	46	2	.32	.04	NA	Broken in half.
216	1020	1000	262	8-12"	.37	.10	NA	
235	1020	1000	265	0-4"	.38	.08	NA	
Type E (shanked)								
272	1060	1020	354	---	1.00	.15	NA	Shank missing; variety 1.
4219/3	1040	1020	226	rubble	1.01	.11	NA	Variety 1
4975	1040	1020	225	rubble	.99	.10	NA	Shank missing; Variety 1.
2801	1000	1020	118	rubble	.45	.29	NA	Variety 2.
Miscellaneous								
2418	1000	1020	122	sod/humus	.31	.07	NA	Blank
5028	1020	1000	221	rubble	.40	.09	NA	Blank
7142	----	----	---	surface	?	?	?	Curated at FOUS Visitors' Center. Not inspected by author.

Appendix C1. Buttons, Class III (metal), Type A (one-piece)

Cat. #	Block N	Block E	Unit #	Level	Ø (inches)	Remarks
Variety 1						
2848	1000	1020	118	---	.67	Well Ø = .31".
3041	1000	1020	121	loess	.62	Well Ø = .23".
4764	1060	1040	254	loess	.46	Well Ø = .21".
5074a	1020	1000	221	rubble	.64	Well Ø = .34".
5074b	1020	1000	221	rubble	.62	Well Ø = .35".
Variety 2a						
31	1040	1040	46	1	.73	
403a	1020	1000	264	4-8"	.98	
407	1020	1000	264	---	.55	
448	1040	1000	293	4-8"	.84	
2535	1000	1020	125	sod/humus	.99	
2669	1000	1020	118	loess	.44	
3100	1000	1020	121	rubble	.99	
3200	1000	1020	123	sod/humus	.85	
3440	1040	1060	149	rubble	.49	
4664	1060	1040	256	rubble	.85	
5238	1020	1000	218	rubble	.54	Convex.
5437	1040	1060	249	rubble	.85	
6172	1000	1020	215	floor	.44	
6293	1000	1000	193	loess	.79	
6731	1000	1000	205	loess	.49	
Variety 2b						
145	1020	1000	263	floor	.96	Wreath w/"RICH GOLD COLOUR".
217	1020	1000	266	0-4"	.73	"BEST/COLOUR" separated by wreaths.
273	1060	1020	335	0-6"	.94	See 145.
438	1020	1000	266	8-12"	.97	See 145.
1737	1040	1000	34	2	.80	Unid. back stamp.
2007	----	----	---	---	.82	"IMPERIAL QUALITY ".
2996	1000	1020	127	loess	.94	"***IMPERIAL***QUALITY".
4156	----	----	---	surface	.52	"RICH/COLOUR" separated by wreaths.
4452	1040	1020	227	rubble	.83	See 2007.
5154	1020	1000	219	loess/rubble	.95	See 145.
5332	1020	1000	212	rubble	.82	"PLATED" w/3 small shamrocks.
----	----	----	---	---	.74	"H[A or O].../ORANGE" separated by stylized willows(?).

Appendix C1. (cont.).

Cat. #	Block N	Block E	Unit #	Level	Ø (inches)	Remarks
Variety 2c						
54	1040	1040	46	2	.82	Stylized 11-petal flower on front; ...METAL..." on back.
399	1040	1000	292	0-10"	.49	Star of David on front; EXTRA FINE" on back.
403b	1020	1000	264	4-8"	.48	Face has indented center ringed w/8 flowers; double ring on back.
3218	1000	1020	128	sod/humus	.49	Five-petal flower on front.
4428	1040	1040	245	rubble	.49	See 3218.
5234	1020	1000	218	rubble	.90	Basket weave on front; eagle and "**DOUBLE GILT**" on back.
5236	1040	1020	226	rubble	.71	Convex artillery button. Eagle device on front; "L.H. SCOVILL/EXTRA RICH" on back.
----	----	----	---	---	.77	Stylized floral on front; double ring on back.
Variety 3						
217	1020	1000	266	0-4"	.64	
460	1040	1000	291	0-4"	.90	
1737	1040	1000	34	2	.71	
3039	1000	1020	121	loess	.62	
3043	1000	1020	121	loess	.77	
3439	1000	1020	121	loess	.73	
5123	1040	1020	223	rubble	.76	
5592	1000	1000	195	loess	1.06	

Appendix C2. Buttons, Class III (metal), Type B (2-piece), Variety 1 (sew-thru).

Cat. #	Block N	Block E	Unit #	Level	Ø (inches)	Remarks
Variety 1a						
77	1040	1060	301	?	.57	Front ½.
233	1060	1020	319	0-6"	.71	
239	1020	1020	280	0-6"	.68	Front ½.
256	1020	1000	263	0-4"	.71	
280	1020	1020	278	1-6"	.70	Front ½; wood frags. on back.
385	1020	1020	287	2-10"	.68	
444	1020	1000	264	0-4"	.67	
996	1000	1000	10	3	.70	
1237	1020	1000	20	2	.72	
1409	----	----	---	backdirt	.55	
2365a	1040	1040	147	rubble	.67	Front ½.
2365b	1040	1040	147	rubble	.56	
2443a	1000	1020	122	sod/humus	.68	Fragmented front ½ w/wood frags. on back.
2443b	1000	1020	122	sod/humus	.68	
2670	1000	1020	118	loess	.57	Front ½.
2922	1000	1020	124	loess	.57	Front ½.
2923a	1000	1020	124	loess	.73	Front ½.
2923b	1000	1020	124	loess	.71	
3041a	1000	1020	121	loess	.68	Fragmented.
3041b	1000	1020	121	loess	.60	Japanned.
3280a	1000	1020	127	loess	.71	
3280b	1000	1020	127	loess	.66	
3769	1060	1060	175	rubble	.67	
3973	1000	1000	112	rubble	.72	Japanned. Wooden back.
4926	1040	1000	225	loess	.56	Wooden back.
5240a	1020	1000	218	rubble	.71	
5240b	1020	1000	218	rubble	.66	Japanned.
5310	1000	1000	212	loess	.56	
5592	1000	1000	195	loess	.70	Fragment.
5810	1000	1000	196	loess	.71	Wooden back.
6309	----	----	---	backfill	.59	
6391	1000	1020	213	loess	.67	Japanned; front ½.
6537a	1000	1000	202/203	loess	.57	Front ½.
6537b	1000	1000	202/203	loess	.67	
----	----	----	---	---	.68	Wooden back.
Variety 1b						
2364	1040	1040	147	rubble	.65	Face decorated w/4 triangles alternating w/4 diamonds.
3535	1060	1060	185	rubble	.66	Face decorated w/mesh design.
5074	1020	1000	221	rubble	.55	Face decorated w/a string of leaves; front ½

Appendix C3. Buttons, Class III (metal), Type B (2-piece), Variety 2 (loop shank), Patterns a-c.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Remarks
Miscellaneous							
245	1040	1020	40	1	.64	?	Brass back.
5240a	1020	1000	218	rubble	?	?	Fragment.
Variety 2a							
256	1020	1000	263	0-4"	.46	?	Back missing.
460	1040	1000	291	0-4"	.33	.28	
1410	----	----	---	backdirt	.46	.32	
1735a	1000	1000	34	2	.49	.35	Ferrous back.
1735b	1000	1000	34	2	.49	.31	Ferrous back.
3046	1000	1020	121	loess	.47	?	Back missing; square hole in middle.
3281	1000	1020	129	loess	.51	.32	Ferrous back.
4004	1000	1020	130	loess	.36	.25	
4989	1040	1000	225	rubble	.51	.33	Ferrous back; face gilded.
5237	1020	1000	218	rubble	.50	.29	Rounded hole thru face and back.
5239	1020	1000	218	rubble	.41	.32	
5422	1040	1060	149	rubble	.35	.28	Gilt.
5591a	1000	1000	195	loess	.43	.33	Ferous back and loop.
5591b	1000	1000	195	loess	.42	.34	
5591c	1000	1000	195	loess	.42	.33	
Variety 2b1							
3101	1000	1040	121	rubble	.56	.22	Face w/checkerboard.
4571	1040	1020	230	rubble	.56	.23	Face w/lines of dots.
6450	1000	1020	213	loess	.96	.20	Barred face w/foliage border.
Variety 2b2							
84	1040	1060	387	4-8"	.81	.32	Infantry.
306	1040	1020	43	3	.76	.26	General Service; "EXTRA...QUALITY..." on back.
1428	1000	1000	6	1	.74	.27	General Service.
4548	1040	1040	244	rubble	.51	.23	Artillery; ferrous back.
4798	----	----	---	backfill	.78	.27	General Service; "SCOVILL MFG C°/WATERBURY" on back.
4951	1040	1000	225	loess	.88	.27	Confederate (?); "NORTH CAROLINA" and state seal on face.
5236	1040	1020	226	rubble	.59	?	General Service; back missing.
6133a	1000	1020	215	loess	.78	.31	General Service; "WATERBURY BUTTON CO.®" on back.
6133b	1000	1020	215	loess	.78	.25	Infantry; "SCOVILLS & C°/ SUPER FINE" on back.
7125	----	----	---	backfill	.76	?	General Service; flattened.
Variety 2c							
55	1040	1040	46	2	.97	.27	Hunting scene w/dog chasing stag.
3042	1000	1020	121	loess	.74	.26	Floral pattern.

Appendix C4. Buttons, Class III (metal), Type B (2-piece), Variety 2 (loop shank), Patterns d-f and Type C (3-piece).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Remarks
Variety 2f							
160	1060	1040	266	8-12"	.78	?	Back severely corroded.
397	1040	1040	53	1	?	?	Fragment.
449	1060	1040	85	1	.98	?	Fragment.
567	1060	1040	80	1	1.16	33	
2925	1000	1020	124	loess	.77	?	
3668	1060	1060	174	rubble	.88	.36	
4176	----	----	---	----	.75	.17	
5389	1000	1000	212	rubble	.94	?	Fragmented.
5512	1000	1000	192	loess	.75	?	Top only.
6537a	1000	1000	202/203	loess	.73	?	Top only.
6537b	1000	1000	202/203	loess	.79	?	Detached crown.
----	----	----	---	---	.74	?	Detached crown.
Type C							
5438a	1040	1060	249	rubble	.54	?	Fragmented.
5438b	1040	1060	249	rubble	.54	.19	
6537	1000	1000	202/203	loess	.54	.21	
Variety 2d							
73	1040	1040	48	1	1.23	.24	
235	1020	1000	265	0-4"	.69	?	Back w/loop shank.
442	1020	1000	263	?	.87	.22	Japanned.
5235	1020	1000	218	rubble	.99	?	
5240b	1020	1000	218	rubble	1.02	.25	
5511	1000	1000	192	loess	.79	.18	
5679a	1000	1000	189	loess	.80	?	Face
5679b	1000	1000	189	loess	.76	?	Face
5810	1000	1000	196	loess	.82	.22	
6063	1000	1000	196	sod/loess	.72	.18	Japanned.
Variety 2e							
216	1020	1000	262	8-12"	.92	.29	Corduroy face.
1209	1000	1000	1	2-3"	.95	.35	
2926	1000	1020	124	loess	.75	.39	
2998	1000	1020	121	loess	.46	.14	
3040	1000	1020	121	loess	.76	.18	
3044	1000	1020	121	loess	1.11	.29	
4331	1040	1020	235	rubble	.91	.19	
5512	1000	1000	192	loess	.88	.22	
5674a	1000	1000	189	loess	.69	.19	
5674b	1000	1000	189	loess	.79	.22	Corduroy face.
6618	1000	1000	203	loess	1.16	.21	

Appendix D1. Buttons, Class IV (Ceramic), Type A (4-hole), Variety 1 (plain white w/simple well).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Well Ø (in.)	Max. Thick. (in.)	Remarks
136	1060	1020	338	0-4"	.43	.23	.12	
163	1040	1040	51	1	.42	.21	.12	
210	1060	1020	356	---	.53	.28	.14	
217a	1020	1000	266	0-4"	---	---	---	Fragment.
235a	1020	1000	265	0-4"	.44	.23	.12	
235b	1020	1000	265	0-4"	---	---	---	Fragment; approx. same size as 235a.
242	1020	1000	266	0-4"	.44	.23	.11	
245	1020	1000	265	0-4"	.52	.28	.14	
256	1020	1000	263	0-4"	.44	.22	.11	Fragment.
310	1020	1000	260	0-4"	.44	.23	.12	
312	1020	1000	263	4-8"	.44	.24	.12	
314	1020	1000	260	2-4"	---	---	---	
319	1020	1000	261	4-10"	.43	.22	.12	
321	1040	1000	291	0-4"	.43	.22	.12	
357	1020	1000	262	4-8"	.41	.19	.11	
384	1040	1000	290	0-4"	.43	.19	.10	
397	1020	1000	261	10"	.44	.20	.11	
435a	1040	1000	293	0-4"	---	---	---	See 235b.
435b	1040	1000	293	0-4"	.54	.29	.13	Small knob in well center.
444a	1020	1000	264	0-4"	.39	.16	.12	
444b	1020	1000	264	0-4"	.39	.19	.11	
444c	1020	1000	264	0-4"	.58	.31	.14	
448	1040	1000	263	4-8"	.43	.22	.12	
449a	1000	1020	260	4-8"	.44	.24	.11	
449b	1000	1020	260	4-8"	.37	.19	.11	
460a	1040	1000	291	0-4"	.44	.23	.11	
460b	1040	1000	291	0-4"	.44	.22	.13	
1673a	1040	1000	33	1	.45	.25	.12	
1673b	1040	1000	33	1	.55	.32	.16	
1809a	1040	1000	36	1	.43	.21	.11	Fragment.
1809b	1040	1000	36	1	.41	.20	.11	
1809c	1040	1000	36	1	.40	.20	.11	
1809d	1040	1000	36	1	---	---	---	Fragment; approx. same size as 1673b.
2099a	1060	1040	155	gravel	.43	.23	.11	
2099b	1060	1040	155	gravel	.41	.19	.12	
2197	1060	1040	156	loess	.44	.21	.13	
2331	1040	1040	147	rubble	.44	.24	.12	
2357	1040	1040	147	rubble	.40	.20	.12	
2423a	1000	1020	122	sod/humus	.44	.22	.11	
2423b	1000	1020	122	sod/humus	.43	.21	.11	
2423c	1000	1020	122	sod/humus	.39	.21	.11	
2423d	1000	1020	122	sod/humus	.40	.19	.11	
2423e	1000	1020	122	sod/humus	---	---	---	See 1809d.
2477a	1000	1020	125	sod/humus	.40	.18	.12	
2477b	1000	1020	125	sod/humus	.43	.20	.10	Fragment.
2477c	1000	1020	125	sod/humus	.43	.20	.12	
2477d	1000	1020	125	sod/humus	.43	.22	.11	
2477e	1000	1020	125	sod/humus	.45	.25	.11	
2477f	1000	1020	125	sod/humus	.44	.21	.12	
2527a	1000	1020	125	sod/humus	---	---	---	See 235b.
2527b	1000	1020	125	sod/humus	.44	.21	.13	
2592	1000	1020	125	gravel	.44	.22	.13	
2654	1000	1020	118	loess	.39	.18	.10	
2698a	1000	1020	118	loess	.46	.25	.11	Fragment.
2698b	1000	1020	118	loess	.43	.20	.11	
2698c	1000	1020	118	loess	.42	.20	.11	
2698d	1000	1020	118	loess	.41	.18	.12	
2761	1000	10201	118	sod/humus	.58	.31	.14	
2835a	1000	1020	118/397	loess	.43	.22	.12	
2835b	1000	1020	118/397	loess	.44	.23	.11	
2890a	1000	1020	124	loess	.37	.18	.12	
2890b	1000	1020	124	loess	.39	.19	.11	

Appendix D1. (cont.).

Cat. #	Block N	Block E	Unit #	Level	ø (in.)	Well ø (in.)	Max. Thick. (in.)	Remarks
2890c	1000	1020	124	loess	.43	.23	.12	
2890d	1000	1020	124	loess	.44	.21	.12	
2890e	1000	1020	124	loess	.44	.21	.13	
2890f	1000	1020	124	loess	.44	.23	.12	
2890g	1000	1020	124	loess	.44	.23	.12	
2890h	1000	1020	124	loess	.45	.28	.11	
2983a	1000	1020	127	loess	.42	.22	.11	
2983b	1000	1020	127	loess	.42	.21	.12	
3030a	1000	1020	121	loess	.44	.23	.12	
3030b	1000	1020	121	loess	.44	.22	.12	
3076a	1000	1020	121	loess	.39	.18	.10	
3076b	1000	1020	121	loess	.44	.22	.12	
3076c	1000	1020	121	loess	.44	.23	.12	
3076d	1000	1020	121	loess	.44	.23	.11	
3076e	1000	1020	121	loess	.42	.20	.11	
3245a	1000	1020	127	sod/humus	.46	.21	.11	
3245b	1000	1020	127	sod/humus	.43	.22	.11	
3876	1000	1000	111	rubble	.40	.18	.11	
4109a	----	----	---	backdirt	.37	.18	.12	
4109b	----	----	---	backdirt	.44	.22	.12	Fragment.
4109c	----	----	---	backdirt	.41	.20	.11	
4219a	1040	1020	226	rubble	.38	.17	.10	
4219b	1040	1020	226	rubble	---	---	---	See 235b.
4219c	1040	1020	226	rubble	.43	.21	.14	
4926a	1040	1000	225	loess	.41	.19	.11	Fragment.
4926b	1040	1000	225	loess	.55	.29	.14	Fragment.
5025a	1020	1000	221	rubble	.37	.16	.11	
5025b	1020	1000	221	rubble	.36	.18	.09	
5025c	1020	1000	221	rubble	.42	.18	.12	Fragment.
5025d	1020	1000	221	rubble	.43	.21	.12	
5025e	1020	1000	221	rubble	.43	.22	.11	
5025f	1020	1000	221	rubble	.44	.21	.11	
5025g	1020	1000	221	rubble	.44	.20	.12	
5025h	1020	1000	221	rubble	.45	.24	.12	
5025i	1020	1000	221	rubble	.44	.23	.12	
5025j	1020	1000	221	rubble	.44	.21	.12	
5025k	1020	1000	221	rubble	.43	.19	.11	
5025l	1020	1000	221	rubble	.44	.22	.12	
5025m	1020	1000	221	rubble	.55	.26	.13	Small knob in well center.
5025n	1020	1000	221	rubble	---	---	---	See 1809d.
5098a	1040	1000	223	rubble	.44	.23	.12	
5098b	1040	1000	223	rubble	.41	.22	.11	
5202a	1020	1000	218	rubble	.36	.18	.12	
5202b	1020	1000	218	rubble	.61	.34	.18	
5202c	1020	1000	218	rubble	.56	.33	.15	
5203	1020	1000	218	rubble	.41	.18	.12	
5299	1000	1000	212	rubble	.41	.22	.11	
5363	1000	1000	211	rubble	.43	.23	.12	
5455a	1000	1000	192	sod	.46	.21	.12	
5455b	1000	1000	192	sod	.44	.21	.12	
5490a	1000	1000	192	loess	.43	.20	.12	
5490b	1000	1000	192	loess	.44	.23	.11	
5490c	1000	1000	192	loess	.43	.21	.12	
5578a	1000	1000	195	loess	.45	.23	.12	
5578b	1000	1000	195	loess	.43	.22	.14	
5578c	1000	1000	195	loess	.42	.21	.11	
5578d	1000	1000	195	loess	.42	.19	.11	
5655	1040	1000	223	loess	.43	.20	.12	
5880a	1000	1020	198	loess	.41	.20	.12	
5880b	1000	1020	198	loess	.44	.20	.12	
6072	1000	1000	188	loess	.45	.22	.13	
6097a	1000	1020	215	loess	.44	.23	.12	Fragment.
6097b	1000	1020	215	loess	.45	.22	.13	
6097c	1000	1020	215	loess	.44	.26	.12	
6097d	1000	1020	215	loess	.44	.21	.11	
6097e	1000	1020	215	loess	.44	.22	.12	
6097f	1000	1020	215	loess	.42	.20	.11	
6097g	1000	1020	215	loess	.57	.29	.14	
6184a	1000	1000	190/194/215	loess	.41	.20	.10	
6184b	1000	1000	190/194/215	loess	.41	.21	.11	
6184c	1000	1000	190/194/215	loess	.44	.22	.12	
6204a	1000	1000	190	loess	.37	.17	.09	
6204b	1000	1000	190	loess	.55	.30	.14	
6218a	1000	1000	119	loess	.41	.23	.10	
6218b	1000	1000	119	loess	.41	.21	.11	
6273	1000	1000	205	loess	.43	.17	.13	
6319	----	----	---	backfill	.37	.18	.10	
6369a	1000	1020	213	loess	.45	.23	.12	
6369b	1000	1020	213	loess	.44	.22	.12	
6369c	1000	1020	213	loess	.47	.23	.14	
6500a	1000	1000	202/203	loess	.43	.19	.13	
6500b	1000	1000	202/203	loess	.42	.21	.12	
6500c	1000	1000	202/203	loess	.43	.22	.11	
6500d	1000	1000	202/203	loess	.42	.22	.12	
6500e	1000	1000	202/203	loess	.44	.20	.13	
6500f	1000	1000	202/203	loess	.41	.21	.11	
6500g	1000	1000	202/203	loess	.41	.19	.11	
6640a	1000	1000	206	loess	.41	.22	.11	
6640b	1000	1000	206	loess	.43	.22	.11	
7142	----	----	---	backdirt/ surface	.38	.19	.14	

Appendix D2. Buttons, Class IV (ceramic), Type A (4-hole), Varieties 2-3.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Remarks
Variety 2								
28	1040	1040	46	1	.42	.13	.23	Dk. green fragment.
113	1040	1040	50	1	.43	.11	.22	Lt. blue.
185	----	----	---	backfill	.42	.13	.20	Brown.
377	1040	1000	292	0-6"	.43	.11	.21	Pink.
423	1020	1000	265	0-4"	.43	.10	.22	Black.
435	1040	1000	293	0-4"	.41	.11	.24	Brown.
460	1060	1000	65	1	.43	.12	.24	Blue.
1379	1000	1000	4	1	.43	.12	.23	Tan.
1787a	1040	1000	35	1	--	--	--	Blue fragment similar in size to above.
1787b	1040	1000	35	1	--	--	--	Blue fragment lighter and larger than 1787a.
2556	1000	1020	125	sod/humus	.43	.11	.20	Lt. blue.
2889	1000	1020	124	loess	.42	.12	.22	Navy blue.
3028	1000	1020	121	loess	.59	.12	.33	Black.
3814	1000	1000	110	loess	.42	.11	.21	Lt. blue fragment.
4111	----	----	---	backdirt	.44	.12	.23	Brown.
4219	1040	1020	226	rubble	.41	.09	.22	Brown fragment.
4315a	1040	1020	235	rubble	.42	.14	.24	Black conoidal face.
4315b	1040	1020	235	rubble	.61	.12	.28	Black.
4973	1040	1000	225	rubble	.42	.11	.22	Lt. blue.
5203	1020	1000	218	rubble	.43	.10	.22	Pink.
Variety 3								
70	1080	1060	390	0-4"	.42	.16	.19	Reddish-orange rim.
5026	1020	1000	221	rubble	.44	.16	.23	Blue rim.

Appendix D3. Buttons, Class IV (ceramic), Type A (4-hole), Variety 4 (Transfer Printed).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Max. Thick. (in.)	Well Ø (in.)	Pattern	Remarks
Variety 4									
39	1040	1040	46	3	.32	.12	.23	A	Green
47	1040	1040	46	2	.45	.12	.26	L	Red
72	1060	1020	368	0-6"	.44	.12	.23	R	Blue
79	1040	1020	44	2	.44	.11	.26	C	Green
217b	1020	1000	266	0-4"	.43	.11	.21	J	Brown
319	1020	1000	261	2-10"	.44	.12	.23	J	Red
321	1040	1000	291	0-4"	.49	.13	.26	Q	Brown
444	1020	1000	264	0-4"	.43	.12	.22	C	Olive
2476a	1000	1020	125	sod/humus	.43	.13	.21	K	Red
2476b	1000	1020	125	sod/humus	.44	.11	.21	?	Red
2891a	1000	1020	124	loess	.46	.13	.21	O	Green
2891b	1000	1020	124	loess	.44	.12	.23	C	Same as 79.
3386	1040	1060	148/150	rubble	.44	.12	.23	R	Brown
3815	1000	1000	110	loess	.42	.12	.21	F	Purple
4022	1000	1020	130	rubble	.43	.11.	21	O	Brown
4110	----	----	---	backdirt	.42	.12	.21	G	Blue
4655	1060	1040	256	rubble	.43	.12	.22	N	Brown
4926	1040	1000	225	loess/rubble	.41	.12	.22	H	Pink
5203a	1020	1000	218	rubble	.44	.12	.24	H	Pink
5203b	1020	1000	218	rubble	.53	.14	.28	I	Lavender
5203c	1020	1000	218	rubble	.44	.12	.23	E	Brown
5203d	1020	1000	218	rubble	.44	.12	.23	D	Blue
5203e	1020	1000	218	rubble	.41	.12	.18	M	Black
5420a	1040	1060	249	rubble	.44	.12	.23	L	Red
5420b	1040	1060	249	rubble	.45	.13	.23	L	Red
5420c	1040	1060	249	rubble	.46	.12	.24	L	Red
5420d	1040	1060	249	rubble	.43	.12	.24	L	Red
5420e	1040	1060	249	rubble	.44	.12	.24	L	Red
5420f	1040	1060	249	rubble	.44	.12	.23	L	Red
5420g	1040	1060	249	rubble	.44	.12	.24	L	Red
6098	1000	1020	215	loess	.42	.11	.22	B	Blue
6339	----	----	---	backfill	.53	.13	.28	P	Blue

Appendix D4. Buttons, Class IV (Ceramic), Type A (4-hole), Variety 5 (Mold Decorated), Type B (3-hole), and Type C (Shanked).

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Well Ø (in.)	Max. Thick. (in.)	Remarks
Type A5a								
1788	1040	1000	35	2	.46	.22	.11	
5745	1000	1000	194/195/ 198/202/203/ 206/215	loess	.41	.20	.11	
7142	----	----	---	backdirt/ surface	.38	.18	.10	
Type A5b								
5203	1020	1000	218	rubble	.42	.19	.10	
6098	1000	1020	215	loess	.42	.20	.11	
Type A5c								
47	1040	1040	46	2	.44	.20	.11	
3076	1000	1020	121	rubble	.45	.22	.11	
5655	1000	1000	189	loess	.43	.20	.12	
Type A5d								
5202	1020	1000	218	rubble	.40	.18	.12	
Type B								
5203	1020	1000	218	rubble	.40	.19	.10	"Hobnail."
5421	1040	1060	249	rubble	.31	.17	.10	Black.
5578a	1000	1000	195	loess	.28	.12	.09	White.
5578b	1000	1000	195	loess	.33	.17	.33	White.
Type C								
231	1060	1020	354	---	.40	N/A	.21	Dome face; green.
2374	1040	1040	147	3	.42	N/A	.21	Dome face; red and white "bull's eye".
3075	1000	1020	121	rubble	.36	N/A	.21	Conical; blue.

Appendix D5. Buttons, Class V (glass), VI (rubber), and Miscellaneous.

Cat. #	Block N	Block E	Unit #	Level	Ø (in.)	Thickness (in.)	Remarks
Class V							
648					.37	.22	Blue.
2760a	1000	1020	118	rubble	.50	.45	Red w/white overlay rim.
2760b	1000	1020	118	rubble	.50	---	Same as 2760a.
6852	1040	1000	396	recent rubble	.55	.16	2-hole sew thru.
----	----	----	---	---	.37	.22	Same as 648.
Class VI							
4906	1040	1000	224	rubble	---	.20	.96" x .84".
5396	----	----	---	backfill	.74	.09	"NOVELTY RUBBER CO/NEW YORK/ GOODYEARS PATENT/1849-51"
5674a	1040	1000	223	loess	---	.14	.93" x .81"
5674b	1040	1000	223	loess	---	---	Back peeled away.
MISCELLANEOUS							
5240c	1020	1000	218	rubble	.69	?	Fragment.