

A PROBABLE EARLY NINETEENTH CENTURY CROW BURIAL: THE PITCHFORK ROCKSHELTER REEXAMINED

Laura L. Scheiber

ABSTRACT

Artifacts from the Pitchfork burial (48PA42) of northwestern Wyoming unequivocally date to ca. 1810, rather than previously published estimates of either protohistoric, early historic, or ca. 1880. This new information is important for purposes of eliminating certain tribal affiliations and for strengthening existing hypotheses pertaining to the burial that the individuals were probably Crow.

Keywords: *craniometrics, burial archaeology, protohistoric, Crow, glass trade beads.*

INTRODUCTION

The Pitchfork burial (48PA42) from the eastern foothills of the Absaroka Mountains of northwestern Wyoming was recovered in 1973 by a team from the University of Wyoming. This team located two partially mummified male skeletons in an isolated rockshelter. As initially reported by Gill (1976), the burial of protohistoric or early historic age was a primary surface interment of two individuals lying in line with each other head to toe, on a narrow rock ledge, in an east-west direction. Prior disturbance in the center of the burial had caused the loss of the arms, legs, and left innominate of the first individual (Individual A, as per Gill 1976) and the loss of the cranium of the second (Individual B) (Fig. 1). Individual A was approximately 27 to 35 years old when he died. Individual B was 24 to 26 years old. The cause of death could not be determined for either person. Electron microscopy of human head lice along head hair strands of Individual A led Gill and Owsley (1985) to postulate that inordinately high numbers of nits may have been caused by changes in personal grooming habits or nutrient deficiency. These fluctuations may in turn have been caused

by social upheaval or warfare. Gill and Owsley (1985) also changed the original estimated date of the burial to the 1880s. As will be demonstrated, the original date is the better one.

Despite the number of years since its recovery, an in-depth analysis of the cultural items found with the burial has never been conducted. This bears on the earlier conclusions about the date of the burial that are inconclusive and contradictory. The present study provides a more precise chronological placement, discusses possible trade routes through which the artifacts were obtained, and assesses the tribal identity of the skeletons.

CHRONOLOGICAL INDICATORS

Glass Trade Beads

The largest number of artifacts found with the Pitchfork burial are glass trade beads. More than a thousand small, drawn embroidery beads can be classified as pony beads (Fig. 2). Four main bead colors are represented: white (67%), turquoise (21%), red with white centers (8%), and black (4%). The presence of one dark blue and one blue-green bead may represent color variation within the black and turquoise. Munsell color designations are white (N 9.5), blue (10B 4/10), red

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Figure 1. Recovery of Pitchfork burial: Individual A, upper right; Individual B, lower left (from Gill 1976:Fig. 2).

(SR 3/10), black (N 1.5), dark blue (7.5PB 2/8), and blue green (5B 4/6) (Munsell 1966).

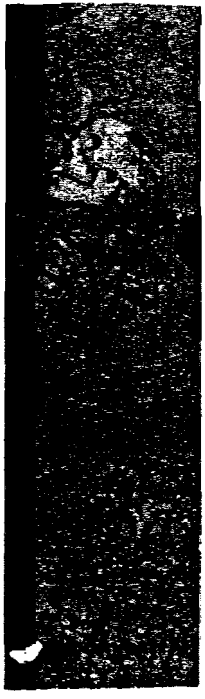
Twenty-one handcrafted monochrome necklace beads were also found with the burial (Fig. 3): 16 with Individual A in the area of the face and chest and 5 with Individual B (although with the loss of the cranium it is possible to postulate the presence of additional necklace beads at the time of burial). Eighteen of these larger beads are wound while the other three are probably hollow blown (Kidd and Kidd 1970; Good 1977). Munsell colors include the following: white (solid matrix: N 9.0, bands within bead: 10YR 9/2), dark blue (7.5PB 3/10), blue green (2.5B 3/6), and turquoise (10B 4/6) (Munsell 1966).

The outer diameters and lengths of all unbroken Pitchfork beads (N = 1034) were individually measured with digital calipers. Inner (hole) diameter was measured with digital calipers while looking directly over the bead under a microscope. These measurements describe the range in size and the statistical variation of this collection in com-

parison with other site assemblages (Tables 1, 2).

Small drawn undecorated beads can be effective chronological indicators. Generally these beads are smaller and less variable in size in more recent sites and exhibit a wider variety of colors (Armour 1977; Davis 1973; Kidd and Kidd 1970). Larger pony beads of 3 mm to 5 mm were replaced in popularity by smaller seed beads of 0 mm to 2 mm (Conn 1972; Hanson 1989; Sprague 1985) during the middle of the nineteenth century. In the early nineteenth century native groups on the northern Plains preferred the larger embroidery beads (pony beads). These were the main ones available until about the middle of the century (DeVore 1992; Hanson 1989; Schneider 1972). The "pony bead period" has been defined as the time from the introduction of embroidery beads until the middle of the nineteenth century, or approximately 1800 to 1850 (Conn 1972; Schneider 1972).

A major difficulty in establishing a bead chronology (based on drawn beads) for the northwest-



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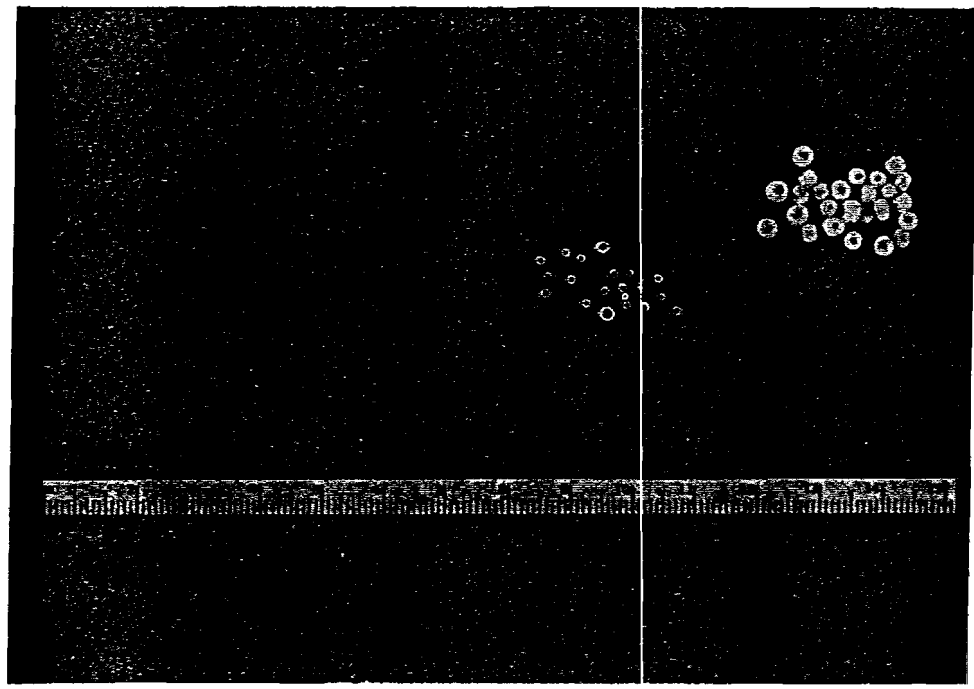


Figure 2. Small drawn glass beads.

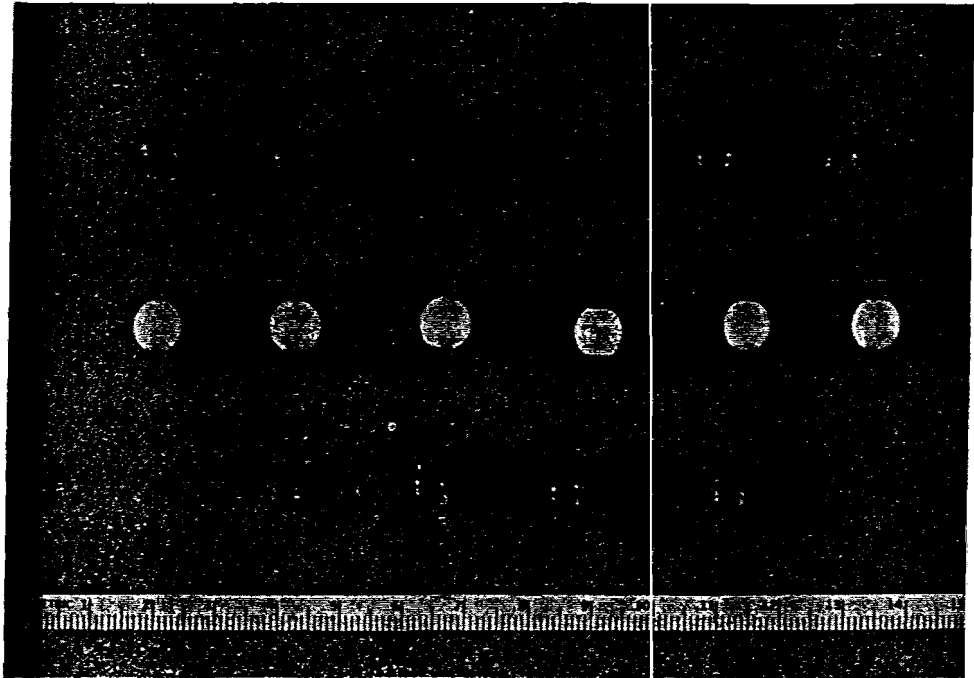


Figure 3. Large glass beads: wound beads upper row, middle row, and lower right; blown beads lower left and center.

Table 1. Small beads, basic summary statistics¹

Variable	n	Mean	Std. Dev.	Min	Max
Outer Diameter	996	3.10	0.29	2.12	4.08
Inner Diameter	907	1.08	0.20	0.62	1.97
Length	923	2.43	0.42	1.38	3.82

¹ Measurements to nearest 100th millimeter.

ern Plains is the lack of standardization of terms from sites which have been well dated (Bass et al. 1971; D'Amato and D'Amato 1972; Hendron 1941; Schneider 1972; Woodward 1970). Although many historic sites contain glass trade beads, summaries of these assemblages in published reports are often limited to gross size categories and cannot be used in a chronological assessment (Bass et al. 1971; Krause 1972; Miller 1960; Murray 1964; Orchard 1975; Smith 1953, 1960; Smith and Ludwickson 1981). Despite in-depth classifications of beads in general (Karklins 1985; Kidd and Kidd 1970) and of beads from single sites (DeVore 1992; Ross 1990), many sources do not provide the information needed for useful comparisons of bead size in Wyoming and adjacent areas.

Dating brackets are currently being refined at the University of Wyoming based on differences of one one-hundredth of a millimeter in size rather than simple size categories (Scheiber and Reher 1992; Reher and Scheiber 1993). The Pitchfork bead assemblage has been important because of its large sample size and our ability to date the assemblage context with other artifacts.

The data from the Pitchfork burial beads indicate the following: (1) a limited assortment of colors, (2) beads greater than 3 mm in outer diameter (pony beads), (3) a wide range of variation in all three recorded measurements, (4) irregular shapes with uneven and often nonspherically shaped holes, (5) significantly larger and statistically less variable bead size than found in later nineteenth century burials (Sprague 1984; Scheiber and Reher 1992), and (6) large monochrome necklace beads with none of the polychrome bodies seen in later sites after the middle of the nineteenth century (Davis 1973). Overall, this evidence suggests that the Pitchfork glass

Table 2. Large beads, basic summary statistics¹

Variable	n	Mean	Std. Dev.	Min	Max
Outer Diameter	21	8.12	1.15	6.32	10.35
Inner Diameter	21	2.14	0.35	1.45	2.78
Length	21	7.43	0.69	5.46	8.72

¹ Measurements to nearest 100th millimeter.

trade beads date within the interval of approximately 1800-1840.

Dentalia

Six dentalia shells (*Dentalia pretiosum*) were found with the Pitchfork burial (Fig. 4). These small, white, tusk-shaped shells were probably strung with large beads and hair pipes to make a necklace.

Dentalia originate on the southwestern coast of Vancouver Island in the northwestern part of the United States. The Nootka dredged the shells from offshore beds and traded them for other materials (Drucker 1951, 1955). Dentalia were a principal trade item in the Pacific-Plateau system and were traded throughout the Plains during prehistoric times for use as ornaments and necklaces (Blakeslee 1975; Drucker 1965; Wood 1980). White fur traders later also sold dentalia although the amount of trade by Euroamericans compared with native peoples is either unknown or not calculated (Smith 1953, 1960, 1972). The six dentalia from Pitchfork help demonstrate that trade was occurring between populations in northern Wyoming and other native groups to the west.

Hair Pipes

Gill and Owsley (1985) used the presence of "tubular bone pieces" to reclassify the previous estimated date of the Pitchfork burial from the mid 1800s to sometime during the 1880s. These so-called bone beads were not properly designated as hair pipes, a common item traded in the Plains (Fig. 4).

Moreover, the hair pipes recovered from the Pitchfork burial were not manufactured from bone as originally assumed but of shell. This assessment is based both upon microscopic analysis and visual examination. The hair pipes exhibit elongated concentric rings as well as a pearly finish.

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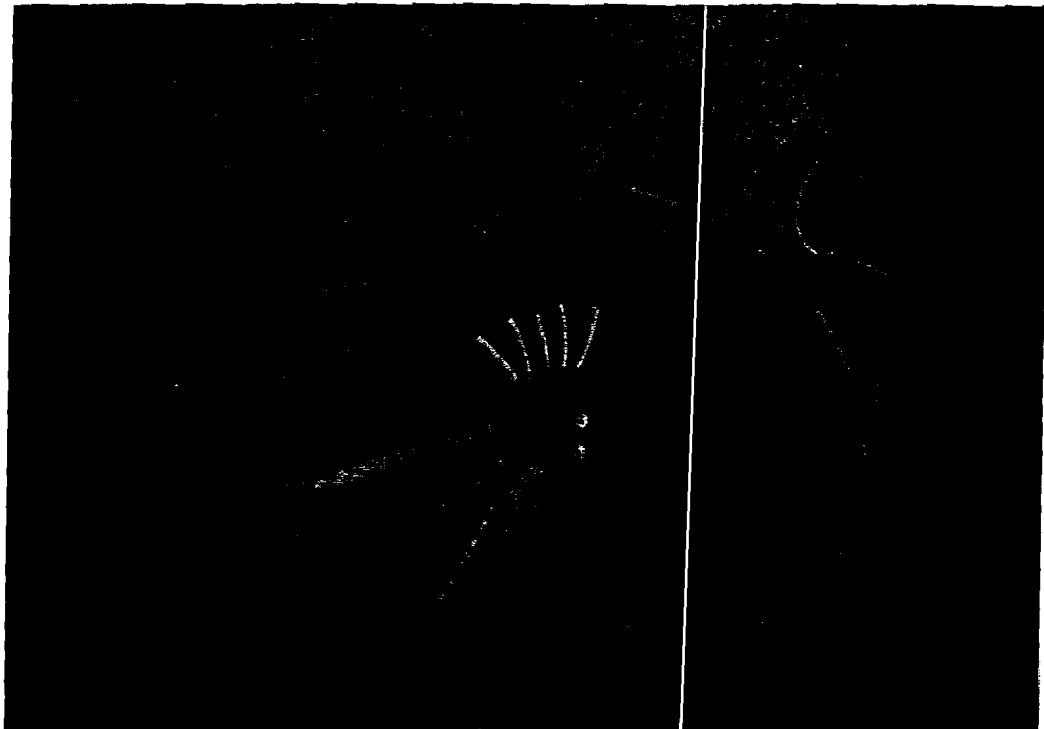


Figure 4. Selected artifacts from the Pitchfork burial: stitched clothing and carved wooden bowl from Individual B; *Dentalia* shells (upper center), brass bracelet, steel wire earring, shell hair pipes (lower left), brass buttons, and wound glass beads (lower right) from Individual A (from Gill 1976:Fig. 5).

From approximately 1780 to 1880 hair pipes were made from the lip of West Indian conch shells imported to New York. At first they were used mostly as ear pendants, hair ornaments, and necklaces. The demand for the hair pipes on the Upper Missouri dramatically increased as the century progressed. Originally used as hair decorations, they became increasingly utilized in elaborate breast plates and necklaces. The increasing number of hair pipes used by individuals coincided with a change in the material used to make the items during the late nineteenth century. After 1880 shell hair pipes were replaced by cheaper and less breakable hair pipes commercially made from the lower leg bones of cattle. By 1889 shell hair pipes were no longer made (Ewers 1957; Walters 1989).

The same artifacts used in 1985 to date the burial to post-1880 may now be used to date it to pre-1880, not considering continued usage of old shell hair pipes even after that date. The amount

and placement of hair pipes also fit well with the earlier pattern of few numbers and use as part of a single-strand necklace (Bass et al. 1971), although the question of a person's status contributing to the number of hair pipes owned has not been addressed and may relate to how many are found in a burial.

Trade Coat and Brass Buttons

Individual A was found wearing a red coat with woven metallic trim. This coat was first interpreted as possibly being of British or Canadian military origin (Gill 1976). Subsequent investigation of the coat itself does not substantiate this earlier interpretation. Clothing and coats resembling military dress were frequently traded to the Indians and were often a sign of prestige. Popular coat colors included blue, yellow, and red with metallic woven bands (Brown 1971). During the early 1830s, while traveling on the Missouri in Mandan territory, Maximilian (1906:342) noted a

Yankton Sioux leader "dressed in a uniform of red cloth with blue facings and collar, and ornamented with silver trimmings, such as the traders are used to give, or to sell to such chiefs as they desire to distinguish." Wayne Colwell, curator for the Canadian State Parks, was sent photographs of the Pitchfork coat and said that it was probably a "military type trade coat of the early 19th century, say circa 1820...[not] a military issue coat but one of the coats made up for the Indian trade" (Nottage n.d.). It appears then that the original speculation was probably premature and that the coat was likely obtained in trade.

The coat can also be dated by the brass buttons attached to it (Fig. 4). They are flat with a wire shank attached to the reverse side. Each button measures about 24 mm in diameter and just under 2 mm in thickness. At least three buttons possess a slogan on the back. The words "Rich Gold Colour" occur in a semicircle with associated crossed laurel branches.

Brass buttons with gold plate were quite commonly traded during the end of the eighteenth and beginning of the nineteenth centuries. Because "plain" buttons were commonly manufactured before 1830, slogans were often stamped on the reverse side which related to the quality of the gilt. These slogans were not indicators of the manufacturers but were meant to attract the purchaser (Luscomb 1967:79; Olsen 1963; Woodward 1976:25). Miller (1960:71) states that "the popularity of the gilt button lasted from 1760 to 1840 when electrogilding, discovered in 1840, so cheapened the quality that all demand for them ceased."

Olsen (1963) relates ways of dating this type of button by the means of attachment. The type found on the Pitchfork coat does not have a soldered foot to the eye attachment and was thus made between 1785 and 1800.

Buttons that match the dimensions of those from the Pitchfork burial were found at the Leavenworth cemetery and the Fort Lookout II trading post, both along the Missouri River in South Dakota (Bass et al. 1971; Miller 1960). A button with the same slogan as the ones from Pitchfork was also found at the latter site. These sites were occupied from 1800 to 1851.

Dating Bracket

A number of temporal indicators have been investigated here, and various dates for these items have been suggested. To estimate a dating bracket for the burial as a whole, the previous criteria should be reviewed and evaluated. In the cases of manufacturing dates especially, the beginning date is much more important than the ending date. The beginning of an item's use may be documented, but the ending cannot truly be recorded. Popularity, style, or other factors may be more relevant considerations in some cases of prolonged usage.

The information from the Pitchfork artifacts seems to indicate a time period of the early to middle part of the nineteenth century (Fig. 5, Table 3). The suggested time frame of this burial is 1800 to 1840 based upon manufacturing, popularity, and style of the various items. Early within this time frame, ca. 1810, seems to be the most acceptable period of burial.

The dates cluster around the early part of the century although the Pitchfork men *could* also have been buried after this time period. However, the likelihood of someone in the 1880s wearing a combination of items manufactured and stylish in 1810 is not great. The idea proposed by Edgar and Turnell (1978) that these two individuals died during the nearby battle of Papyo Butte is possible. Some evidence suggests that the battle occurred during the early 1800s, which would coincide well with the Pitchfork burial (Bob Edgar, personal communication, 1992), although these individuals do not show any signs of skeletal injuries.

ETHNIC AFFINITY

Biological Analysis

Gill (1976:307) and Gill and Owsley (1985:45-46) suggested that the individuals buried in the rockshelter were probably either Crow or Sioux, citing a large, low-vaulted cranium and narrow facial features.

The present analysis used quantitative comparative data to help strengthen conclusions of ethnic affinity. Standard osteological cranial measurements are provided for eight populations from the U.S. National Museum in Hrdlicka (1927). These groups include the Blackfoot, Crow, Hidatsa, Sioux, Arikara, Shoshoni, Apache, and

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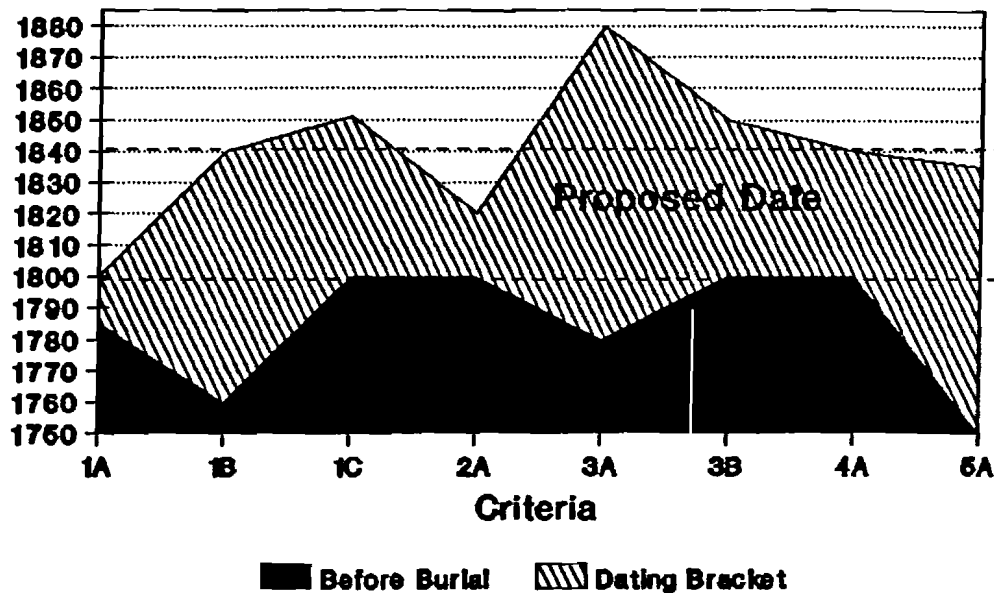


Figure 5. Pitchfork Rockshelter burial dating bracket. Criteria: 1A-button manufacturing type; 1B-button popularity; 1C-button comparative studies; 2A-trade coat type; 3A-hair pipe material; 4A-bead size and variation; 5A-burial practice.

Table 3. Dating bracket information

Artifact Class	Beginning	Ending
Button manufacturing	1785	1800
Button popularity	1760	1840
Button comparative sizes	1800	1851
Trade coat type	1800	1820
Hair pipe material	1785	1880
Bead size and variation	1800	1840
Burial practice	unknown	1835

Cheyenne. Although some of these people did not necessarily occupy northwestern Wyoming during the nineteenth century, they were incorporated to help validate the study: i.e., the Apache should not show affinities with the Pitchfork individuals.

Population means for these groups have previously been compared to individual Montana and Wyoming protohistoric and historic skeletal specimens to help determine populational affinities (Gill 1990a, 1990b; Weathermon 1990). By calculating z-scores (or standard scores) between the eight populations listed above and an individual in question, one may compare the unknown individual with the group average (Hinkle et al. 1988; Witte 1989). Lower z-scores indicate possible eth-

nic affinities. Three primary measurements from the Pitchfork Individual A were compared to those from the eight known populations (Table 4). The results adequately rejected Blackfoot, Shoshoni, Apache, and Arikara, displaying greater than 95% difference between the individual and the group (average z-score greater than 1.80). The Pitchfork male is more likely Sioux, Crow, Hidatsa, or Cheyenne. By adding six additional measurements, the Pitchfork male seems closest to Crow-Hidatsa (74% variance) (average z-score = 0.65) (Table 5).

A simple graphical comparison of standard cranial indices also demonstrates these trends. This technique emphasizes proportions, not just raw data. Therefore, it may be a better method since proportions are more complex genetically than size factors within a population (George Gill, personal communication, 1992), although more difficult to evaluate quantitatively. The population averages include historic Sioux, Crow, Shoshoni, and Hidatsa (Hrdlicka 1927) as well as a nondifferentiated sample from the late prehistoric and historic periods in Wyoming and Montana (Gill 1981).

Cranial, upper facial, nasal, and orbital indices were compared to the Pitchfork Individual A.

Table 4. Three standard scores (z-scores) for eight Historic Plains Indian groups

Group	Maximum Length	Maximum Width	Basion-Bregma	Average ^a
1	1.74	2.76	-1.61	2.04
2	1.65	2.65	-1.19	1.83
3	1.47	1.01	-1.54	1.34
4	4.27	0.12	-1.36	1.92
5	*	2.10	-0.23	1.17
6	0.63	2.42	*	1.53
7	1.64	1.58	-2.30	1.84
8	1.41	1.07	-2.08	1.52

^a Average absolute value.

* Due to small sample size, unable to compute.

1=Blackfoot (n=11); 2=Shoshoni (n=16); 3=Sioux (n=38); 4=Apache (n=14); 5=Crow (n=2); 6=Hidatsa (n=6); 7=Arikara (n=41); 8=Cheyenne (n=14). Based on Hrdlicka (1927) and Gill (1976).

Table 5. Six standard scores (z-scores) for four Historic Plains Indian groups

Group	Nasion-Alveolar	Bizygomatic	Orbital Height	Orbital Breadth	Nasal Height	Nasal Breadth	Average ^a (variance)
3	0.08	-1.08	0.66	1.25	0.34	0.21	0.85 (80.23)
5	*	0.50	*	*	1.25	0.07	0.83 (79.67)
6	0.00	0.00	0.13	0.08	0.06	0.43	0.47 (68.08)
8	0.89	-1.03	-0.21	1.66	1.56	1.02	1.21 (88.69)

^a Average absolute value.

* Due to small sample size, unable to compute.

3=Sioux; 5=Crow; 6=Hidatsa; 8=Cheyenne. Based on Hrdlicka (1927) and Gill (1976).

This Pitchfork male is similar to the Crow and the Sioux in basic cranial proportions (average) (Fig. 6). He is similar to both the Crow and Hidatsa in his narrow facial features (Fig. 7). Nasal indices reveal that the Pitchfork man also had a narrow nose similar to the Plains tribes in this study, including the Hidatsa, close relatives of the Crow (Lowie 1935). Unlike Pitchfork, the Crow indices show broad noses, which is unexpected for this area of the face and may in this case be due to small sample size (Fig. 8). Orbital index shows a close similarity to the regional sample in the lower, broader eyes. Crania from the protohistoric Wyoming and Montana populations are often found with these low wide orbits (Gill 1991) (Fig. 9). Considering these indices as a whole, Pitchfork A is generally close to the Crow indices in most categories, especially in cranial proportions and the narrowness of the upper face, the primary

criteria used by Gill (1976) and Gill and Owsley (1985) in judging ethnic identity.

Geographical and Cultural Considerations

Another means of determining ethnic affinity involves examining geographical and mortuary factors. In their history of the Pitchfork Ranch area, Edgar and Turnell (1978:25) mention that the Mountain Crows and Mountain Shoshonis were the most frequent occupants of the Greybull River valley and the western Big Horn Basin, along with occasional Blackfoot (Ewers 1958; Lowie 1909, 1935). Due to escalating population pressures from the east, the Sioux and Cheyenne increasingly expanded into the region after about the middle of the nineteenth century (Grinnell 1923; Mooney 1896). Since the Sioux and Cheyenne were later arrivals and since biological traits eliminate the Shoshoni and Blackfoot, the individuals

Average^a

- 2.04
- 1.83
- 1.34
- 1.92
- 1.17
- 1.53
- 1.84
- 1.52

(n=6); 7=Arikara

Average^a (variance)

- 0.85 (80.23)
- 0.83 (79.67)
- 0.47 (68.08)
- 1.21 (88.69)

Gill and Owsley

Considerations

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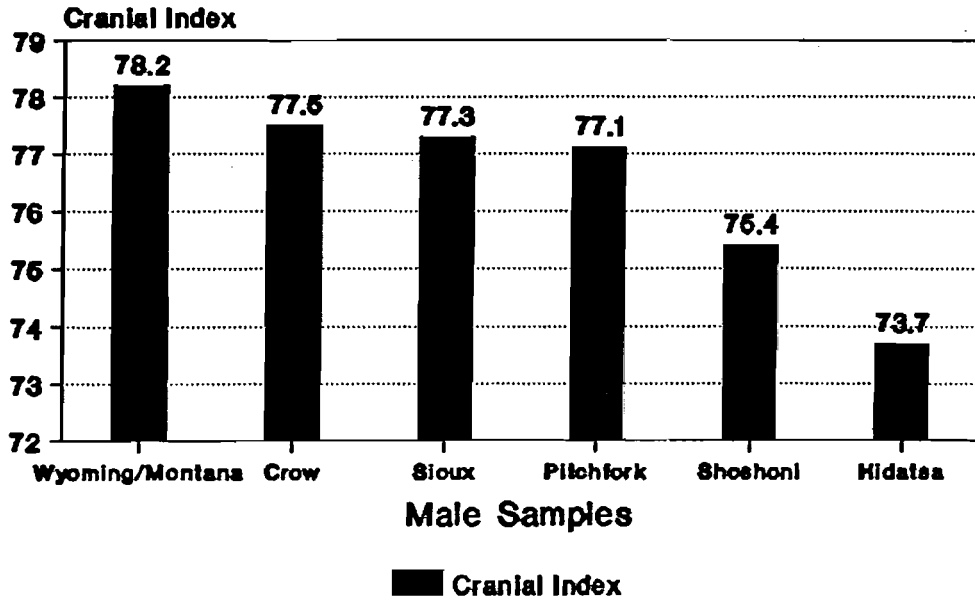


Figure 6. Cranial Index comparisons.

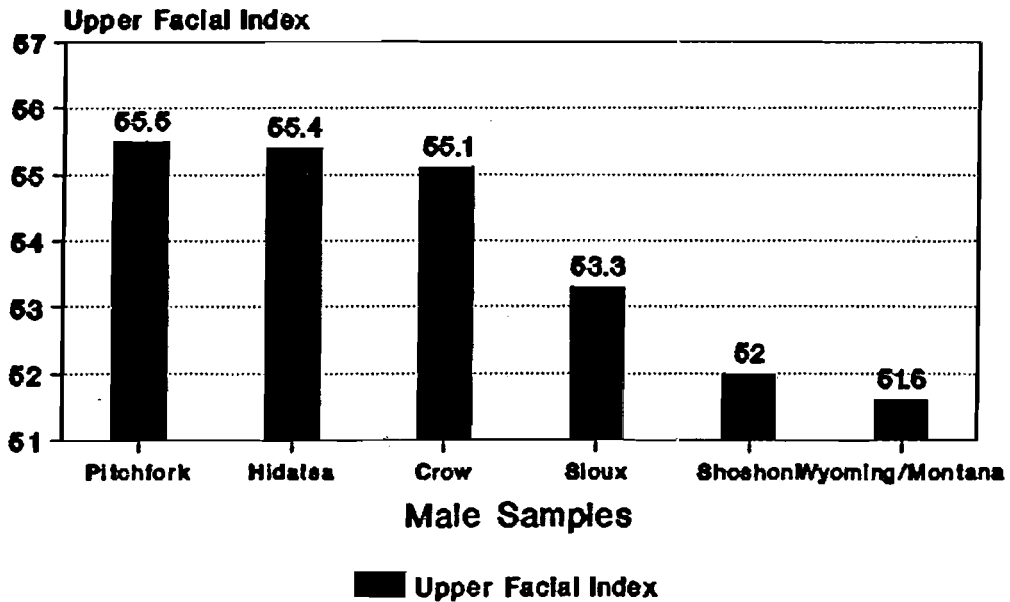


Figure 7. Upper Facial Index comparisons.

seem more likely to be related to the Crow.

Another factor to examine is the use of a rockshelter for burial. Utes and Shoshonis did bury their dead in rockshelters and crevices historically

(Lowie 1924:282; Morris 1897:103-104; Smith 1974:150-151; Yarrow 1881:127-128). During the late nineteenth century many Plains groups including the Crow typically placed their dead on

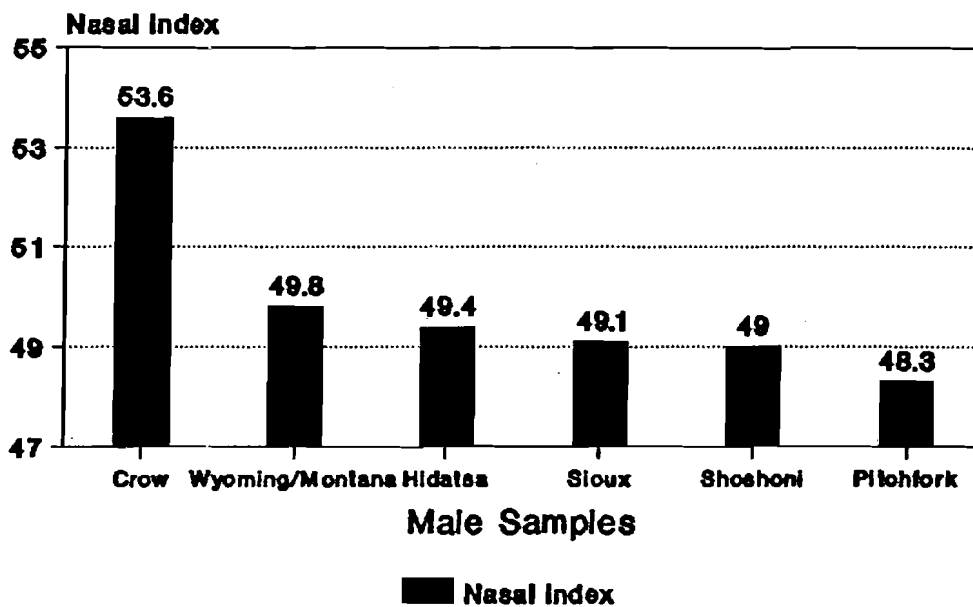


Figure 8. Nasal Index comparisons.

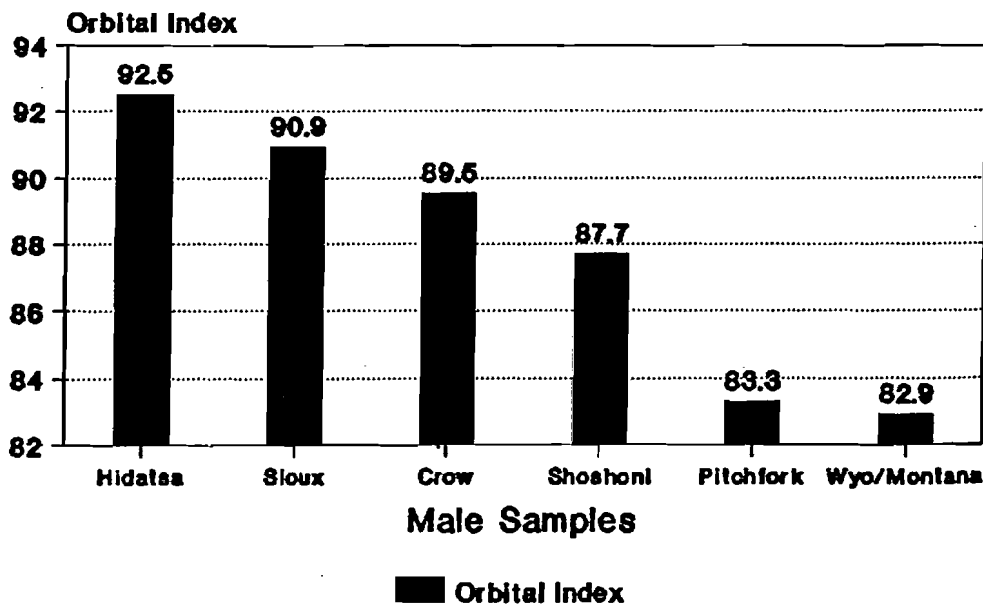


Figure 9. Orbital Index comparisons.

scaffolds or in trees (Bushnell 1927:78; Lowie 1935:67; Stockwell 1932:11). However, a number of early twentieth century anthropologists and others including Curtis (1909); Lowie (1935), and

Morgan (1959) documented that scaffolding was not the only form known among the Crow. Curtis (1909:179) writes that prior to their reliance upon scaffold burial, the Crow reportedly buried their

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dead in caves and in the rocks. He assigns this change to about 1825 during the time of Red Feather at the Temple, a leader of the Mountain Crow. Roll (1979:105) corroborates that Red Feather was influential from 1825 to 1836. Others have reported further burial practices among the Crow, including burial in a lodge or occasionally in the ground (Bushnell 1927; Morgan 1959:171; Yarrow 1881:153). Morgan (1959) and Lowie (1935:68) also mention the importance of rockshelters as primary interment locations for the Crow as well as secondary depositories even after scaffolding. "They remove or take them from the scaffold, tie them up in a bundle first in scarlet cloth...and around this a lodge skin, and then carry them on horseback for hundreds of miles to the mountains, where they place them in clefts of the rocks, or in crevices..." (Morgan 1959:171). Although the Pitchfork burial was a primary interment, these uplift and mountainous areas were apparently important final resting places. Also, expediency as a motivating factor should not be overlooked. On the northwestern Plains, for instance, burial on a rock ledge along a high ridge is the most common type of burial (Gill 1991:437; Yarrow 1881:127).

Another item which should be addressed is the color of the smaller glass beads. Blue and white beads compose 88% of the assemblage, 8% are red with white centers, and 4% are black. Blue and white were the two primary colors used by the Plains Indians, followed to lesser extents by black, green, red, and yellow (Davis 1973; DeVore 1992; Jablow 1956:44; Orchard 1975:95; Powell 1953). Especially before the 1860s only a limited number of colors were available, including blue, white, black, red, and amber. Not surprisingly considering the time of the burial, four of these colors were found in the Pitchfork rockshelter. It was not until the advent of smaller seed beads later in the nineteenth century that wider ranges of colors were common (Wildschut and Ewers 1959:45; Woodward 1970:37).

Assignments of bead color to tribal groups is often based on these later sites (DeVore 1992) which contain assemblages with a wider variety of colors. The fewer the available bead colors from which to choose, the less likely tribal differences can be ascertained (Davis 1973:31). Therefore, the

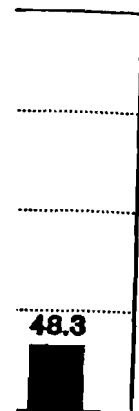
colors of the beads from the Pitchfork burial are thought to neither support nor refute tribal affinities.

CONCLUSIONS

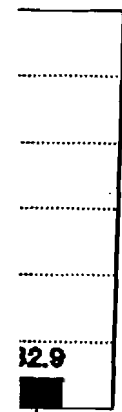
The two main research goals addressed in this analysis are to estimate the date and the tribal affinity of the Pitchfork burial (48PA42). The site probably represents a Crow interment, based on its location and age derived from biological comparisons, mortuary practices, and artifact analysis. The two men were probably buried during the early 1800s, ca. 1810.

The presence and utilization of trading networks have also been suggested by this research. Preliminary results support avenues westward from the Missouri River as well as eastward from the Pacific Northwest Coast. Beads, clothing, and decorative items were coming into Wyoming from Euroamerican trading posts, probably along the Missouri River. Although some of the first trade beads may have come north from the Spanish Southwest via the Shoshoni (Wildschut and Ewers 1959), the presence of other items such as brass buttons and shell hair pipes indicates greater ties to the British, French, and American fur trade in the east. The Crows possessed reciprocal trading ties with both Hidatsa and Mandan villages during historic times (Mackenzie 1960:349; Maximilian 1906:353). Dentalia shells were traveling east from the Pacific probably via the Plateau. In 1856 Denig (1953) reported that the Crow commonly traded for California sea shells. The Crow frequently traded with Plateau peoples such as the Nez Perce and Flathead (Blakeslee 1975:31).

Some of the previous interpretations concerning the Pitchfork burial were based largely upon a suspected date and the results of electron microscopy, which revealed head lice infestation. A well-regarded attempt was made to relate pathology to nutrition and social conditions. The high nit counts could have been caused by long-term disruption in social patterns and/or poor nutrition. Their presence still suggests some disturbance in the cultural system and possible absence from the main group for about a year, although not as early Reservation runaways as previously hypothesized (Gill and Owsley 1985). The importance of raiding and warfare for achieving status is well documented



Pitchfork



Montana

scaffolding was
Crow. Curtis
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among the Crow (Calloway 1986; Roll 1979; Voget 1964). The exact reasons for a possible extended absence remain unknown.

This more complete analysis of the Pitchfork burial is significant in many respects. Pitchfork is one of five recorded burials from northwestern Wyoming. It is the most complete, the only one with recorded osteometric data, and was recovered through scientific excavation (Scheiber 1993). Previous publications pertaining to the burial (Gill 1976; Gill and Owsley 1985) are frequently cited because of the site's location and the degree of mummification on the skeletons. The site also provides an excellent example of prepared ritualized burials, the protohistoric on the Northwestern Plains, and the possible links between pathology and social systems (Gill 1991).

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REFERENCES CITED

Armour, David A.
1977 Beads in the Upper Great Lakes: A Study in Acculturation. In: *Beads: Their Use by Upper Great Lake Indians*, pp. 9-26. The Grand Rapids Public Museum and the Cranbrook Academy of Art/Museum.

Bass, William M., David R. Evans, and Richard L. Jantz
1971 *The Leavenworth Site Cemetery: Archaeology and Physical Anthropology*. University of Kansas Publications in Anthropology Number 2.

Blakeslee, Donald J.
1975 *The Plains Interband Trade System: An Ethnographic and Archaeological Investigation*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Wisconsin, Milwaukee.

Brown, Margaret Kimball
1971 An Eighteenth Century Trade Cost. *Plains Anthropologist* 16:128-133.

Bushnell, David L., Jr.
1927 *Burials of the Algonquian, Stouan, and Caddoan*

Tribes West of the Mississippi. Bureau of American Ethnology, Bulletin 83. Smithsonian Institution.

Calloway, Colin G.
1986 "The Only Way Open to Us": The Crow Struggle for Survival in the Nineteenth Century. *North Dakota History* 53:25-34.

Conn, Richard
1972 The Pony Bead Period: A Cultural Problem of Western North America. *Society for Historical Archaeology Newsletter* 5(4):7-13.

Curtis, Edward S.
1909 *The American Indian*, Volume Four. Johnson Reprint Company, New York.

D'Amato, Janet, and Alex D'Amato
1972 *American Indian Craft Inspirations*. M. Evans and Company, New York.

Davis, Wayne L.
1973 Time and Space Considerations for Diagnostic Northern Plains Glass Trade Bead Types. In: *Historical Archaeology in Northwestern North America*, edited by R.M. Getty and K.R. Fladmark, pp. 3-52. The University of Calgary Archaeological Association.

Denig, Edwin T.
1953 Of the Crow Nation. *Anthropological Papers* 33:1-74. Bureau of American Ethnology, Bulletin 151. Smithsonian Institution.

DeVore, Stephen Leroy
1992 *Beads of the Bison Robe Trade: The Fort Union Trading Post Collection*. Fort Union Monograph Series, Publication 1.

Drucker, Philip
1951 *The Northern and Central Nootkan Tribes*. Bureau of American Ethnology, Bulletin 144. Smithsonian Institution.

1955 *Indians of the Northwest Coast*. Anthropological Handbook, No. 10. The American Museum of Natural History. McGraw-Hill Book Company, New York.

1965 *Cultures of the North Pacific Coast*. Chandler Publishing Company, San Francisco.

Edgar, Bob, and Jack Turnell
1978 *Brand of a Legend*. Basin Republican Ruster Printing, Basin, Wyoming.

Ewers, John C.
1957 Hair Pipes in Plains Indian Adornment: A Study in Indian and White Ingenuity. *Anthropological Papers* 50:29-86. Bureau of American Ethnology, Bulletin 164. Smithsonian Institution.

1958 *The Blackfeet of the Northwestern Plains*. University of Oklahoma Press, Norman.

Laura
Gill, Geo
1976
1981
1990a
1990b
1991
Gill, Geo
1985
Good, M
1977
Grinnell,
1923
Hanson,
1989
Hendron,
1941
Hinke, I
1988
Hrdlicka,
1927
Jablow, J
1955

pp. Bureau of American Anthropology, Smithsonian Institution.

1870: The Crow Struggle of the Twentieth Century. *North*

A Cultural Problem of Society for Historical Anthropology, 4:7-13.

Volume Four. Johnson Re-

Contributions. M. Evans and

Contributions for Diagnostic Anthropology. In: *Historical Anthropology of the Northwest*, ed. K.R. Fladmark, pp. 1-13. Calgary Archaeological

Anthropological Papers of the American Museum of Natural History, Bulletin 176.

1870: *The Fort Union*. Fort Union Monograph

1870: *Nootkan Tribes*. Bulletin 144. Smithsonian Institution.

1870: *East*. Anthropological American Museum of Natural History, Hill Book Company,

1870: *Pacific Coast*. Chandler and Francis.

1870: *in Republican Ruster*

1870: *Adornment: A Study in Anthropology*. American Ethnology, Smithsonian Institution.

1870: *Western Plains*. University of Michigan Press.

Gill, George W.

1976 Two Mummies from the Pitchfork Rockshelter in Northwestern Wyoming. *Plains Anthropologist* 21:301-310.

1981 Human Skeletal Populations of the Northwestern Plains: A Preliminary Analysis. In: *Progress in Skeletal Biology of Plains Populations*, edited by R.L. Jantz and D.H. Ubelaker, pp. 57-70. *Memoir 17, Plains Anthropologist* 26(94, pt. 2).

1990a Analysis of the Casper, Wyoming, Forensic Case 090. Official Report Prepared for the Wyoming State Crime Laboratory, Cheyenne, Wyoming. On file at the University of Wyoming Human Osteological Laboratory.

1990b Analysis of the Frying Pan Basin Skeleton. Report Prepared for the Bureau of Land Management, Billings, Montana. On file at the University of Wyoming Human Osteological Laboratory.

1991 Human Skeletal Remains on the Northwestern Plains. Appendix in *Prehistoric Hunters of the High Plains*, 2nd edition, by George C. Frison, pp. 431-448. Academic Press, New York.

Gill, George W., and Douglas W. Owsley

1985 Electron Microscopy of Parasite Remains on the Pitchfork Mummy and Possible Social Implications. *Plains Anthropologist* 30:45-50.

Good, Mary Elizabeth

1977 Glass Beads Manufacturing Techniques. In: *Glass Beads: Their Use by Upper Great Lake Indians*, pp. 27-34. The Grand Rapids Public Museum and the Cranbrook Academy of Art/Museum.

Grinnell, George Bird

1923 *The Cheyenne Indians: Their History and Ways of Life*, Volume One. Yale University Press, New Haven.

Hanson, Charles E., Jr.

1989 Pound Beads, Pony Beads. *The Museum of the Fur Trade Quarterly* 25(4):1-5.

Headron, J.W.

1941 Beads from Old Fort Laramie. In: *An Introduction to the Archaeology of Fort Laramie*. Fort Laramie National Monument, National Park Service.

Hinkle, Dennis E., William Wiersma, and Stephen G. Jurs

1988 *Applied Statistics for the Behavioral Sciences*, 2nd edition. Houghton Mifflin Company, Boston.

Hrdlicka, Ales

1927 Catalogue of Human Crania in the United States National Museum Collections. *Proceedings of the United States National Museum* 69(5). Smithsonian Institution.

Jablów, Joseph

1955 *The Cheyenne in Plains Indian Trade Relations 1795-1840*. Monographs of the American Ethnographical Society, Number 19. J.J. Augustin Publisher, New York.

Karklins, Karlis

1985 Guide to the Description and Classification of Glass Beads. In: *Glass Beads*, pp. 85-118. Parks Canada, Studies in Archaeology, Architecture, and History.

Kidd, Kenneth E., and Martha Ann Kidd

1970 A Classification System for Glass Beads for the Use of Field Archaeologists. In: *Canadian Historic Sites, Occasional Papers in Archaeology and History* 1:45-89.

Krause, Richard A.

1972 *The Leavenworth Site: Archaeology of an Historic Arikara Community*. University of Kansas Publications, Number 3.

Lowie, Robert H.

1909 *The Northern Shoshone*. *Anthropological Papers of the American Museum of Natural History* 2(2).

1924 *Notes on Shoshonean Ethnography*. *Anthropological Papers of the American Museum of Natural History* 10(3).

1935 *The Crow Indians*. Farrar and Rinehart, New York.

Luscomb, Sally C.

1967 *The Collector's Encyclopedia of Buttons*. Crown Publishers, New York.

Mackenzie, Charles

1960 The Missouri Indians: A Narrative of Four Trading Expeditions to the Missouri 1804-1805-1806 for the North-west Company. In: *Les Bourgeois de la Compagnie du Nord-Ouest*, Volume 1, edited by L.R. Masson, pp. 315-393. Antiquarian Press, New York. Originally published 1889-90.

Maximilian, Prince of Wied

1906 *Travels in the Interior of North America*. In: *Early Western Travels, 1748-1846*, edited by R.G. Thwaites, Volume 22. The Arthur Clark Company, Cleveland. Originally published by Ackermann and Company, London, 1843.

Miller, Carl F.

1960 The Excavation and Investigation of Fort Lookout Trading Post II (Site 39LM57) in the Fort Randall Reservoir, South Dakota. *River Basin Surveys Papers* 17:49-82, edited by Frank Roberts. Bureau of American Ethnology, Bulletin 176. Smithsonian Institution.

Mooney, James

1896 The Ghost Dance Religion and the Sioux Outbreak of 1890. *Fourteenth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1892-93*, Part 2.

Morgan, Lewis H.

1959 *The Indian Journals 1859-62*. The University of Michigan Press, Ann Arbor.

- Morris, Robert C.
1897 Wyoming Indians: A Brief History, Compiled from the United States Census of 1890. In: *Collections of the Wyoming Historical Society*, Volume I, by Robert C. Morris, pp. 91-108. The Wyoming Historical Society, Cheyenne.
- Munsell, A.H.
1966 *Munsell Book of Color*. Macbeth Color and Photometry Division, Kollmorgen Corporation, Newburgh, New York.
- Murray, Robert A.
1964 Glass Trade Beads at Fort Laramie. *The Wyoming Archaeologist* 12(3):13-19.
- Nottage, Jim
n.d. Letter on file at the University of Wyoming Human Osteological Laboratory.
- Olsen, Stanley J.
1963 Dating Early Plain Buttons by Their Form. *American Antiquity* 28:551-554.
- Orchard, William C.
1975 *Beads and Beadwork of the American Indians*, 2nd edition. Museum of the American Indian, Heye Foundation, New York.
- Powell, Louis
1953 A Study of Indian Beadwork of the North Central Plains. *Indian Leaflets of the Science Museum* Nos. 5-7. St. Paul.
- Reber, Charles A., and Laura L. Scheiber
1993 Quantitative Analysis of Protohistoric/Early Historic Trade Beads. Paper presented at the 26th Annual Meeting of the Society for Historical Archaeology, Kansas City, Kansas.
- Roll, Tom E.
1979 Crow Chieftainship: A Study of Status Acquisition. In: *Lifeways of Intermontane and Plains Montana Indians*, edited by Leslie B. Davis, pp. 99-108. Montana State University, Occasional Papers of the Museum of the Rockies, No. 1.
- Ross, Lester A.
1990 Trade Beads from Hudson's Bay Company Fort Vancouver (1829-1860), Vancouver, Washington. *Beads* 2:29-67.
- Scheiber, Laura L.
1993 University of Wyoming Human Skeletal Inventory Project: Inventory of Skeletal Remains. Manuscript compiled for the University of Wyoming Department of Anthropology and the Office of the Wyoming State Archaeologist.
- Scheiber, Laura L., and Charles A. Reber
1992 Quantitative Analysis of Protohistoric/Early Historic Trade Beads in Wyoming. Paper presented at the 50th Annual Plains Anthropological Conference, Lincoln, Nebraska.
- Schneider, Richard C.
1972 *Crafts of the North American Indians*. Van Nostrand Reinhold Company, New York.
- Smith, Anna M.
1974 *Ethnohistory of the Northern Utes*. Museum of New Mexico Press, Albuquerque.
- Smith, G. Hubert
1953 Trade Beads from Fort Berthold, N.D. *Central Texas Archaeologist* 6:41-55.
- 1960 Fort Pierre II (39ST217), a Historic Trading Post in the Osage Dam Area, South Dakota. *River Basin Surveys Papers* 18:83-162, edited by Frank Roberts. Bureau of American Ethnology, Bulletin 176. Smithsonian Institution.
- 1972 *Like-a-Fishhook Village and Fort Berthold, Garrison Reservoir, North Dakota*. National Park Service Anthropological Papers 2.
- Smith, G. Hubert, and John Ludwickson
1981 *Fort Manuel: The Archaeology of an Upper Missouri Trading Post of 1812-1813*. The South Dakota Archaeology Society, Special Publication Number 7.
- Sprague, Roderick
1984 Glass Trade Beads. In: *A Nineteenth Century Ute Burial from Northeast Utah*, edited by Richard E. Fike and H. Blaine Phillips II, pp. 69-70. Bureau of Land Management Cultural Resources Series Number 166.
- 1985 Glass Trade Beads: A Progress Report. *Historical Archaeology* 19(2):87-105.
- Stockwell, Wilhelmina G.
1932 Fike on the Upper Mississippi, 1805-1806. *New Spain and the Anglo-American West* 2:1-20.
- Vogel, Fred W.
1964 Warfare and the Integration of Crow Indian Culture. In: *Explorations in Cultural Anthropology, Essays in Honor of George Peter Murdock*, edited by W.H. Goodenough, pp. 483-509.
- Walters, Anna Lee
1989 *The Spirit of Native America: Beauty and Mysticism in American Indian Art*. Chronicle Books, San Francisco.
- Weathermon, Rick
1990 Z-score and Inferences. Appendix Two in *Analysis of the Frying Pan Basin Skeleton*, by George W. Gill. Report prepared for the Bureau of Land Management, Billings, Montana. On file at the University of Wyoming Human Osteological Laboratory.
- Wildschut, William, and John C. Ewers
1959 *Crow Indian Beadwork: A Descriptive and Historical Study*. Contributions from the Museum of the American Indian, Heye Foundation, Vol. 16. New York.
- Witte, Robert S.
1989 *Statistics*, 3rd Edition. Holt, Rinehart, and Winston.

No. 147, 1994

York.

Utes. Museum of
ge.

old, N.D. Central

storic Trading Post
akota. *River Basin*
edited by Frank
Ethnology, Bulletin

ort Berthold, Gar-
da. National Park
s 2.

of an Upper Mis-
13. The South De-
pecial Publication

seenth Century Ute
ited by Richard E.
pp. 69-70. Bureau
Resources Series

Report. *Historical*

, 1805-1806. *New*
West 2:1-20.

Crow Indian Cul-
ral *Anthropology*,
r *Murdock*, edited
509.

Security and Mysti-
Chronicle Books,

lix Two in Analy-
skeleton, by George
s Bureau of Land
a. On file at the
nan Osteological

criptive and His-
m the Museum of
ndation, Vol. 16.

nehart, and Win-

Laura L. Scheiber

ston, Chicago.

Woodward, Arthur
1970 *The Denominators of the Fur Trade*. Westernlore
Press, Pasadena, California. Revised 1979.

1976 *Indian Trade Goods*, 2nd edition. Oregon Archae-
ological Society, Binford and Mort Publishing,
Portland, Oregon.

Wood, W. Raymond
1980 *Plains Trade in Prehistoric and Protohistoric Inter-*

Pitchfork Rockshelter

tribal Relations. In: *Anthropology on the Great*
Plains, edited by W.R. Wood and M. Liberty, pp.
98-109. University of Nebraska Press, Lincoln.

Yarrow, H.C.
1881 *A Further Contribution to the Study of the Mortu-
ary Customs of the North American Indians. First*
Annual Report of the Bureau of Ethnology to the
Secretary of Smithsonian Institution, 1879-80, pp.
87-204.

