TIME AND SPACE CONSIDERATIONS FOR DIAGNOSTIC NORTHERN PLAINS GLASS TRADE BEAD TYPES

Wayne L. Davis

INTRODUCTION

This paper is essentially an abbreviated version of the writer's M.A. thesis in Archaeology for the University of Calgary, entitled "Glass Trade Beads of the Northern Plains Upper Missouri Region." Most of the formal research for the thesis was undertaken in 1969 while in residence at the Smithsonian Institution, U.S. National Museum, Washington, D.C. Dr. John C. Ewers and Dr. Waldo R. Wedel and their colleagues in the anthropology department helped make my 6 month stay a most worthwhile experience. Additional bead research was conducted during the summer of 1969 at museums in Missouri, Kansas, Nebraska, the Dakotas and Montana. Several large bead collections were studied and photographed, and together with published information they form the basis for both the thesis and the present article.

The recently completed thesis represents the most comprehensive written study dealing with glass trade beads yet undertaken anywhere on this continent. However, it is meant only as an introduction to this immense topic, and is by no means to be considered the final word on the subject. The thesis contains over 200 pages of text with an additional 50 pages of appendices, figures, tables, maps, and bibliography. The text is divided into 9 chapters which cover the following aspects of trade bead research: historical background; ethnography and trade; native use; manufacture; classification; site material; temporal and spatial distribution; and, a summary and conclusions. Furthermore, there are 56 color plates (3×5 prints produced from 35 mm slides), and 4 black and white ones. The writer hopes to be able to make copies of the thesis, in 2 parts (ethnohistory and archaeology), including the illustrations, available to the interested public sometime next fall.

The purpose of this paper is to put into general circulation and use the tables outlining the geographic and temporal distribution of the various trade bead types, and many of their varieties, found at the 25 sites analyzed in the thesis (see Fig. 1 and Table I or II). Some idea as to the earliest known appearance of these beads is suggested, but it must be pointed out that these dates are only temporary guidelines and not definite statements. They are subject to change when new information based on current archaeological investigation or upon further analysis of existing collections, is brought forward. Meanwhile, it is hoped that these tables will prove useful as reference material until more specific dates are available.

Before examining the tables, some understanding of glass trade beads in an ethnohistoric perspective is necessary. The following historical, ethnological and archaeological information is a summary of the thesis coverage. The geographic focal point for this entire study is the Northern Plains in general and the upper Missouri region in particular. The Missouri River from the early 18th century was of major importance in the economic development of the north-central U.S., and the prime means by which the wealth of beaver pelts and buffalo robes were transported from their source of origin to the markets on the eastern seaboard. The growth of trade and the arrival of additional Europeans to this general area were to have a great impact upon the traditional way of life for the resident native people, and eventually led to their numerical decline and cultural destruction.

HISTORY

Phillips (1961) provides most of the factual information used in this brief summary of historical and commercial developments in the Upper Missouri region from 1673 until the mid 19th century. The Missouri River, first reported by Marquette and Joliet in 1673, is North America's longest river. From its headwaters located in the Rocky Mountains of western Montana to where it joins the Mississipi at St. Louis, the river travels some 2,546 miles. Ewers (1968:ix) defines the Upper Missouri as that portion which extends some 1900 miles north and west from the mouth of the Platte River at a point south of Omaha, Nebraska. This was the dividing line established by the fur traders using the Missouri during the early decades of the 19th century. The vast area drained by the Upper Missouri includes the southernmost regions of Alberta and Saskatchewan, and parts of Montana, Wyoming, North and South Dakota, Nebraska, Minnesota and Iowa.

In 1682 La Salle descended the Mississippi to its mouth and claimed this new territory in the name of Louis XIV, calling it Louisiana. It was to remain under French control until 1763 when it was formally ceded to Spain. In 1800 under secret treaty it again briefly became French. Three years later Napoleon, then very much in the need of gold, sold these 1,000,000 square miles of land to the U.S. for \$15,000,000.

Until 1764 when St. Louis was founded, New Orleans had been the main fur depot and distribution center in Louisiana. St. Louis, with its excellent location, soon after its establishment became the unofficial capital of Upper Louisiana. Even though Louisiana was now officially under Spanish jurisdiction, French traders and businessmen dominated the commercial life of the territory. As late as 1783, most of the trade at St. Louis went more to the east than to the west of the Mississippi. Not until 1790 did fur trade expeditions out of St. Louis, equipped with French trade goods, reach the Mandan villages on the great bend of the Missouri in present-day North Dakota. When the French arrived they encountered traders from Canada.

In the eyes of the Spanish authorities in St. Louis and New Orleans, most of the fur trade in the upper Missouri was illegal. Much of this illegal traffic was directed out of the North West Company's post at Michilmackinac in northern Michigan. This British company had been formed in 1784 by a group of independent traders centered in Montreal. They believed that if they combined their resources they could challenge the long established Hudson's Bay Company monopoly which had existed in northern and eastern Canada since 1670. By 1800 the North West Company had established trading posts from the Lakehead west to the Rocky Mountains, and along the North Saskatchewan River and many of its tributaries. Both these British companies pursued an active trade southward to the Spanish controlled Upper Missouri area. In 1797, the North West Company sent David Thompson in an unsuccessful attempt to convince the Mandans to trap beaver, and to bring their pelts to his company's posts on the Assiniboin River. In 1806 Alexander Henry failed in a similar mission.

The sale of the Louisiana territory to the U.S. in 1803 threatened the extensive trade by the British companies in the Upper Missouri region. In 1804 President Thomas Jefferson dispatched the Lewis and Clark Expedition to explore the newly acquired territory, to seek a direct land route to the Pacific, and to pursuade the native inhabitants to do their business with American traders. With this last thought in mind, Jacob Astor in 1808 founded the American Fur Company in order to help bring all the fur trade of the U.S. under control of American citizens. He proposed a series of trading posts from the Mississippi to the Pacific. This plan was never fully implemented because of the outbreak of hostilities with Britain in 1812. Between 1812 and 1820 the Upper Missouri region was virtually free of white traders. For the Indian inhabitants of the region, this was a long period of intertribal wars and seasonal buffalo hunts. The trapping of fur-bearing animals had almost stopped. In 1816 the U.S. Congress had passed a law forbidding foreigners to engage in trade on American soil. The Convention of 1818 officially recognized the boundary line between the U.S. and the British territory east of the Rockies as the 49th parallel.

During this period American traders continued to operate on the Lower Missouri among the Pawnees, Otos, Sioux and Iowas. Here Astor's Missouri Fur Company took the lead, but several other firms, including Berthold, Chouteau & Company, provided stiff competition. By 1822, however, the Missouri Fur Company had 300 men trading on the Upper Missouri and Yellowstone River.

William Ashley and Andrew Henry, 2 independent traders, began an extensive exploration of the Upper Missouri, particularly along the Yellowstone River. This resulted in an entirely new approach to the fur trade; it was the advent of the Mountain Men and the annual rendezvous system. White trappers were employed in large numbers to tap the rich beaver country in the foothills and valleys of the Rockies. Once a year they would meet with their suppliers at a designated rendezvous and bring in their pelts, exchanging them for provisions. Phillips (1961:11:397) says of this endeavor that "there in the Rocky Mountains and in the valley of the Snake River, and in the Great Basin they developed a fur empire that was to surpass that of the Missouri."

Meanwhile, by 1823 the Western Department of the American Fur

Company had become the most important agency active in the Upper Missouri territory. The smaller St. Louis traders offered little competition and confined their efforts to the Missouri River south of Council Bluffs, Iowa. The principal competitors here were Bernard Pratte & Company of St. Louis, and the Columbia Fur Company. In 1825 these 2 groups managed to obtain most of the beaver and buffalo robes brought down to St. Louis and in 1826 they even increased their share of the market. Present-day Kansas and Nebraska provided most of the buffalo robes for Pratte & Company and the other firms.

The 1820's saw the demise of most of the smaller St. Louis companies, leaving the Columbia Fur Company (formerly Tilton & Company) as the most determined opposition to the American Fur Company's Western Department. The Columbia Fur Company was composed of 7 Canadians, a Scot, Kenneth McKenzie, and James Tilton, an American. Tilton and his partners made no effort to compete with other Canadian interests north of the 49th parallel. In 1821 the Hudson's Bay Company and the North West Company amalgamated, and the latter's name disappeared from the records. The Columbia Fur Company dealth with the Blackfeet, Arikara, Mandan and other tribes friendly to the British and Americans. It concentrated its efforts far up the Missouri River and along the Yellowstone and its tributaries. There they traded with the Blackfeet and Crow for muskrat and beaver pelts anand a great number of buffalo robes. Here they met very little competition from other traders.

Buffalo robes were the greatest source of profit to the Columbia Fur Company. At first the Indians were relcutant to kill buffalo except as their traditional source of food, shelter and clothing. In the Northwest the Columbia Fur Company was able, with some initial defficulty, to break down their resistance. Large numbers of buffalo hides were exchanged for European trade goods, including some liquor. The cultural impact this was to have upon the Blackfeet (Lewis 1942; Ewers 1968) and other tribes was tremendous in later years. By the winter of 1826, buffalo robes were beginning to become popular among the more affluent citizens along the eastern seaboard of the United States, and Astor began to take interest in this new possible source of revenue.

Phillips (1961: II:417) reports that the Columbia Fur Company enjoyed a gross income of between \$150,000 and \$200,000 annually for the seasons ending 1825, 1826, and 1827. About ½ of this resulted from trade in buffalo robes. The cost of merchandise and supplies for those years apparently did not exceed \$20 - \$25,000 annually. The balance, it seems, went to pay off old debts and to make salary payments. By 1827 the Columbia Fur Company had become very strong, and it presented a formidable obstacle to Astor's plans for a monopoly of the fur trade along the Missouri River Valley. Astor had little choice but to buy out this powerful competitor. The deal was completed that same year. The Columbia Fur Company was renamed the Upper Missouri Outfit of the American Fur Company, and it was operated under the general supervision of the parent company's Western Department.

The Upper Missouri Outfit, headed by Kenneth McKenzie, confined its

activities to the Upper Missouri and the territory to the west. Among the forts established by McKenzie and his assistant, James Kipp, were Fort Clark above present-day Bismark, North Dakota in 1831, and Fort Floyd (soon renamed Fort Union) on the Yellowstone River in northwestern North Dakota in 1828. This last post was to be the headquarters for trade on the Upper Missouri for many years along with Fort Pierre I (1831-1855) and II (1858-1863) near present-day Pierre, South Dakota.

While most of the tribes on the Upper Missouri sought trade with the Americans, the Blackfeet remained aloof and hostile. It was not until 1830 that the American Fur Company's Upper Missouri Outfit began to trade with these Indians. Trade relations were more firmly established in 1832 when Fort McKenzie was built on the Missouri River in present-day northwestern Montana. The year before, the Blackfeet had burned the company's Fort Piegan at the mouth of the Marias, a tributary of the Missouri. Fort McKenzie remained the principal outfitting post for expeditions among the Blackfeet until 1844, when it was superceded by Fort Lewis, which was built further up the Missouri. In 1846 Fort Benton was built 7 miles south of Fort Lewis, and it became the major post in the region.

Other traders, meanwhile, continued to operate along the lower stretches of the Missouri River. Pratte & Company was the American Fur Company's main competition here. In 1832, another even stronger partnership led by William Sublette and Robert Campbell emerged. Both men had earlier proved themselves to be the most powerful and successful traders in the Rocky Mountains. In 1834 Astor retired from the American Fur Company. Pratte, Chouteau & Company purchased his interests in the Western Department which continued to operate under the older company's name (Phillips 1961).

During the winter of 1837-1838, a smallpox epidemic in the vicinity of Fort Clark greatly reduced the resident population of Hidatsa, Arikara and Mandan. The Mandan were the most severely affected. Only some 100 individuals from the previous 2000 population survived. These people soon moved near their relatives, the Hidatsa. The next few years witnessed a population shift from the traditional cultural center at the mouth of the Knife River to a new location at a great bend in the Missouri that resembled a fishhook. In 1845 the Mandan and Hidatsa built a new village which they named Like-A-Fishhook. Meanwhile in that same year, Pratte, Chouteau & Company built the first Fort Berthold, named after a partner of that firm. By 1862 the Arikara had joined the Mandan and Hidatsa (Smith 1954: 28-30).

In 1867 the Fort Berthold Indian reservation was established. The 1860's and 1870's represented a time of rapid cultural change in the Northern Plains-Upper Missouri region. The once immense buffalo herds were dwindling, and the end of the lucrative fur trade was in sight. Farming and ranching, coupled with increased White settlement, hastened the end of the traditional native lifestyle. In 1885 the Fort Berthold Reserve members received individual plots of land, and the old fort was abandoned.

ETHNOHISTORY

While at Fort Clatsop at the mouth of the Columbia River in January 1806, Lewis provided one of the most detailed entries regarding the subject of trade beads.

The natives are extravegantly fond of the most common cheap blue and white beands, of moderate size, of such that from 50 to 70 weight one pennyweight. The blue is usually preferred to the white; these beads consitute the principal circulating medium with all the Indian tribes on this river. For these beads they will dispose of any article they possess. The beads are strung on strands a fathom in length and in that manner sold by the bredth or yard (Devoto 1953:307).

Further indication as to the great importance of these beads to the trade in the Pacific Northwest, and more particularly in the Louisiana Territory, can be seen in a letter written in 1807 by Thomas Jefferson. It lists the most sought after trade items in their order of popularity as determined by Lewis and Clark. Blue beads were listed in first place. This letter (Appendix A) is followed by the complete inventory of trade bead supplies given to Lewis and Clark before they started out on their expedition in 1804 (Appendix B).

Most of Lewis and Clark's descriptions of native costume and its decoration were of tribes that lived in the foothills of the Rocky Mountains or on the Pacific Coast. The Shoshone or Snake Indians, considered as being among the former, were living in present-day Montana in 1805. Of them Lewis wrote:

The ornaments of both men and women are very similar, and consists of several species of sea shells, blue and white beads, brass and iron arm bands, plaited cords of sweet grass, and collars of leather ornamented with the quills of the porcupine dyed of various colors among which I observed the red, yellow, blue and black (Thwaites 1904-05: II:372).

Writing at this same time (1805), the trader, Larocque (Burpee 1910:23), provides considerable information with regard to the types of beads used in his dealings with the Snake and Crow Indians. Among the various presents he made to a gathering of "... the Chiefs of the different Bands of the Rock Mountains" (i.e. Snake and Crow) "... were axes, ivory combs, tobacco, knives, vermillion, and other trade goods" along with "1½ Ib. of Blue Beads" and "6 Masses B.C. Beads." Burpee (1910:23, ff. 2), says that "... B.C. probably stands for the Blue Canton," and that Larocque buys a dog for "13 china beads."

This writer notes with interest the reference to "Canton" and "china." There has always been some confusion as to whether "china" beads indicated that the beads were made of china, that is porcelain, or whether they were made in China, or both. Further light is shed on this subject in the letter by President Jefferson mentioned earlier (Appendix A). Here Jefferson clearly states that the blue beads used by Lewis and Clark, which proved very popular with the Indians encountered on their expedition (1804-1806), were imported from China. No mention is made as to where the beads were actually made. It is very possible that the beads Larocque mentions, and others found in the Northern Plains and dating from about the same time, had similar origins.

Somewhat later in his journey, Larocque, while on the Tongue River just north of the present-day boundary between Montana and Wyoming, mentioned 2 instances where he engaged in trade with Indians (probably Snake) in which beads were among the goods exchanged:

I traded 8 Beavers and purchased a horse for which I paid a gun, 200 balls, one flannel robe, one shirt, one half axe, one bow iron, one comb, one butt knife, one small do (knife), 2 Wampoon hair pipes, 2 axes, one Wampoon shell, 40 B. Blue Beads, 2 Mass Barley Corn do (beads) and one fm W.S. Red Stroud (Burpee 1910:36).

The second exchange took place one day later.

I purchased a saddle and bridle for the horse I purchased yesterday for which I paid 40 shots Powder being short of Balls. I gave 20 rounds Powder only Beaver 1 knife, I sell 2 Beavers 10 String Blue Beads, 1 Beaver & so on (Burpee 1910:36).

Further on, Larocque provides excellent first hand ethnographic information on the Crow Indians with whom he spent the summer of 1805. Included among his "few observations" are notes on the location of the Crow, their trading patterns, and most interesting here, descriptions of their costume and its decoration.

This nation known among the Sioux by the name of Crow Indians inhabit the Eastern part of the Rocky Mountains at the head of the River aux Roches Jaunes (Yellowstone) . . . and its Branches and close to the head of the Missouri.

They have never had any traders with them, they get their battle guns, ammunitions etc. from the Mandans & Big Bellys (Gros Ventres) in exchange for Horses, Robes, Leggins & Shirts, they likewise purchase corn, pumpkins & tobacco from the Big Bellys as they do not cultivate the ground (Burpee 1910:65-66).

This second excerpt brings up a very important point with regard to the identification of Indian costume and other items in ethnological collections or from paintings or other illustrations. It can be note, as indicated in Larocque's accounts, that the Crow used robes, leggings and shirts that their women made, to exchange for European trade goods and native (Mandan and Gros Ventre) garden produce. Other tribes such as the Sioux and Assiniboin were reported to have done the same. This then would suggest that many items of clothing, seen in Mandan, Hidatsa and Arikara villages were imported, and not made by these 3 tribes. Unfortunately, this factor is often forgotten when ethnological material is assigned a tribal

designation based on where it was recorded or collected. This is important in this present study in that beaded ethnological material, mainly costume and jewelry, when properly identified can provide valuable data concerning the distribution, chronology and method of use for many different types of glass trade beads.

Continuing with Larocque's observations on the Crow, there is a long detailed description of the costume for both men and women (Burpee 1910:66-68). Because this is an exceptionally fine and very early description of the tailoring and decoration of Crow costume, which includes the extensive use of beads, the full account is given in Appendix C.

Some suggestion as to the widespread popularity of blue glass beads is given by Dr. John Sibley (Abel 1922:81) from Natchitoches, Louisiana, in 1807 when he writes of the indifference of the Comanche to many common articles of finery desired by other tribes. He then states that "... Blue and Red Stroud, Vermilion, Blankets, Blue Beads and Knives are almost the only articles they seem anxious to obtain ...".

Tabeau (Able 1939) in his account of Loisel's Expedition to the Upper Missouri, which preceded that of Lewis and Clark by 1 year, provides several excellent descriptions of Arikara and Sioux costume and its decoration. Just prior to this, however, Tabeau commented at length on the types of trade goods most popular with these 2 tribes.

I shall not go into detail concerning the articles suitable for traffic with the Sioux and the Ricaras. The articles for the former can be arranged with careful proportion to those for the Osages and the Kansa. Only these should be added many blue glass beads, brass wire, iron for arrows, and spears. There is no need, as I have already said, to consider for the Ricaras any object the value of which exceeds that of a buffalo robe. Ammunition, knives, spears, blue beads, tomahawks, and framed mirrors are the only articles for which they are willing to exchange their robes (Able 1939:170-171).

In the following description by Tabeau of Arikara and Sioux costume, it will be apparent that the women of these tribes usually made extensive use of blue beads as costume decoration.

The clothing of the Ricaras is [plain]: One cannot be more unadorned. They are naked and wear carelessly over the shoulder a robe or a dressed skin. Leggings of antelope-skin and shoes of buffalo hide are worn, in summer, only at ceremonies and, in winter, for protection from the cold, to which habit has rendered these Savages almost insensible.

The women are covered with a skin of the cow or of the doe, bound around the middle of the body, sewed on the two sides, and ornamented with long fringes at the bottom and down the seams. They wear, also leggings of antelope-skin. They cover the shoulders and the upper part of the arms with two kinds of wings. From the elbow to the wrist the sleeve is very narrow and is also ornamented with threads, which are everywhere a great adornment. The blue bead, as precious here as the porcelain among the nations of the Mississippi, is used to trim all the seams of these sacks called Roman by some Frenchmen. The Sioux women are dressed almost in the same fashion and are distinguished only by rolls of brass wire in the ears and by huge locks of hair, covered with blue beads and tied on the temples in the shape of cushions (Abel 1939:174,176).

In 1811 Brackenridge visited an Arikara village (the location not being given) and recorded the style of dress for the wome of that tribe. It is not known whether these dresses were actually made in that village or imported, but it's possible to assume that the majority of the Arikara women's dresses would be made by the women themselves, often from skins obtained in exchange with nomadic tribes.

The dress of the female consists of a long robe made of the dressed skins of the elk, antelope, or the agalia, and ornamented with blue beads, and strips of ermine, or in its place, of some white skins. The robe is girded round the waist with a broad zone, highly ornamented with porcupine quills, and beads (Thwaites 1904-07:VI:12).

A few days later, Brackenridge (Thwaites 1904-07: VI:13) reported that beads, along with vermilion, scarlet cloth, and other European trade goods, were given as ceremonial prizes to virtuous young women at an Arikara festive event. Meanwhile, John Bradbury, an English botanist who was also a member of this trading expedition, explained how some of the less virtuous Arikara women came into possession of certain trade items, particularly blue glass beads.

Travelers who have been acquainted with savages, have remarked that they are either very liberal of their women to strangers, or extremely jealous. In this species of liberality no nation can exceed the Aricaras, who flocked down every evening with their wives, sisters, and daughters, anxious to meet with a market for them. The Canadians were very good customers, and Mr. Hunt was kept in full employ during the evening, in delivering out to them blue beads and vermillion, the articles in use for this kind of traffic. This evening I judged that there were not fewer than eighty squaws, and I observed several instances where in the squaw was consulted by her husband as to the quantum sufficit of price; . . . (Thwaites 1904-07, 5:140).

Prince Maximilian's accounts of his Travels in the Interior of North America, in the Years 1832, 1833 and 1834, provide several references to glass beads being worn by the Blackfeet and Sioux, as well as by other tribes. Karl Bodmer, an artist travelling with Maximilian, painted many excellent Indian portraits, some of which today serve as valuable sources of information regarding native costume and body decoration. In 1833, while at Ft. McKenzie (located on the north bank of the Missouri River) which the American Fur Company had just opened for business a few months earlier, Maximilian made several observations of the Blackfeet, 3 of which deal with their costume and its decoration.

Very often they adorn themselves with a braided necklace, composed of sweet-smelling grass ... others of glass beads, which they buy off the Company for 3 or 4 dollars a pound, and which the woman in particular highly value (Thwaites 1904-07: XXIII:100).

These shirts . . . we saw usually lined with red cloth, ornamented with a fringe, or stripes of yellow and colored porcupine quills, or sky-blue glass beads (**Ibid.**, 101).

The women ornamented their best dresses, both on the hem and sleeve, with dyed porcupine quills and thin leather strips, with borad diversified stripes of sky-blue and white glass beads. The Indians do not like beads of other colors, for instance, red, next the skin; and their taste in the contrast of colors is very correct, for in their black hair they generally wear red, and on their brown skins, sky-blue, white or yellow (Ibid., 103).

One of the aspects of glass trade bead use that this study wishes to emphasize concerns the matter of color preference among the various tribes in the Upper Missouri and adjacent areas. This last quote by Maximilian is one of the best references on this subject that the writer has seen in any early historical literature. As these different excerpts seem to suggest, blue and white, in that order, were without question the most popular colors for all the Plains' tribes, as well as for many of the tribes in the Pacific Northwest and elsewhere.

In his lengthy account concerning the Indian tribes of the upper Missouri during the period from ca. 1835 to 1856, Edwin Denig, who was a factor for the American Fur Company at Fort Union and other posts, provides an excellent description of the costume worn by the Assiniboin, Crown and other tribes at this time. Denig also tells of the impact upon the traditional tribal methods of clothing – use and manufacture when European-derived trade cloths and materials became readily available.

In one of his references, Denig noted that European manufactured articles did-not replace the traditional buffalo skin for winter wear, but in the warmer months cloth replaced the native skin clothes. In addition, Denig makes the very interesting observation that the traditional items were prized more dearly than the imported cloth garments.

There being no fabric as yet introduced equal to or even approaching the durability and warmth of the buffalo skin, all hunters and travelers in the winter season must be clothed with the latter to preserve life or prevent multiation by frost. Still in the summer season these are laid aside, being full of vermin and saturated with grease and dirt, and the Indian steps proudly around in his calico shirt, blanket, and cloth pantaloons.

Most of the clothing used by these tribes is made of skins of their own processing and dressing . . . They have different dresses for different seasons, also various costumes for war, dancing, and other public occasions . . . In the summer seasons, when comparatively idle, the clothing traded from the whites is preferred on account of its superior texture and color, but in their usual occupations, in winter, at war, in the chase, or any public ceremonies among themselves, very few articles of dress thus obtained are seen, if we except some blankets, undercoats, scarlet cloth, and ornaments. Their own dresses of skins fancifully arranged, adorned with feathers, beads, shells, and porcupine quills, are much more highly prized by them than any article of dress of European manufacture introduced by the traders (Denig 1930:584).

An idea of the number of trade bead varieites available, and in use in the Northern Plains – Upper Missouri area, is illustrated in Appendices D-I which cover various years between 1822 and 1851.

NATIVE GLASSWORKING

There is considerable documented histoical and archaeological evidence that at least 4 tribes in the Northern Plains (The Arikara, Mandan, Hidatsa and Cheyenne) remade European derived glass trade beads to better suit their own tastes.

Mathew W. Stirling (1947) wrote a short paper on Arikara glassworking which included most of the familiar historical references to this practice. With particular reference to the possible source for this unusual art, Stirling cites the account of Pierre Tabeau, the French trader who lived among the Arikara in 1802, and provides perhaps the earliest known account of native glassworking. Tabeau (Abel 1939:149) says that "... a Spanish prisoner taught them how to melt our glass and to mold them into a shape that pleases them."

In a comprehensive study of Mandan culture and archaeology, Will and Spinden (1906) summarized the 1804 version of Arikara and Mandan glassworking as related to Lewis and Clark at Fort Mandan by M. Garrow, a Frenchman who had lived for many years as a trader among the Arikara and Mandan. Garrow claimed that this art was learned from Snake prisoners of the Arikara. It should be noted that the Snakes had long established trade relations, both direct and indirect, with the Spanish in the southwest as was indicated by Larocque in 1805 (Burpee 1910:42).

With particular reference to the actual method of manufacture, Will and Spinden provide the following account:

The Mandans and their neighbours the Arikara and Hidatsa made glass beads, which an art they claim taught the Snake was to them by Indians. They did not make the glass but used glass obtained

through the whites. The secret is only known to a few. Glass of several colors is pounded fine, each color separate; this is washed in several waters until the glass stops staining the water. They then take an earthen pot of some three gallons, put a platter in the mouth of the pot which has a nitch on its edge through which to watch the beads. Then some well seasoned clay, mixed with sand and tempered with water till of consistency of dough, is taken, and from it are made a number of little sticks of the size of the hole desired in the bead. These are heated to a red heat and cooled again. The pot is also heated to clean it. Then small balls of the clay are made to serve as pedestals for the beads. The powdered with a little wooden paddle, where it is paddled into an oblong form, the clay stick is then laid across it and the glass is wound around the clay. The whole is then rolled in the hand till regular. To put in other colors the other end of the paddle stick, which is sharp, is used to make a hole which is then filled with another colored glass. A hole is then made in the center of each pedestal and a bead stuck in it. Then the platter is put in the coals and the pot is inverted over it; dry wood is placed about the whole and burnt; the beads are watched through the hole in the bottom of the pot, as overheating is harmful. When the beads are whitish red and grow pointed, they are taken off. The clay center is picked out with an awl (Will and Spinden 1906: 115-116).

The original and longer version in Lewis and Clark ends with a comment on how these beads were used by the tribes as items of decoration:

The Indians are extremely fond of the large beads formed by this process. They use them as pendants to their ears, or hair and sometimes wear them about their necks (Thwaites 1904-05: 1:274).

Washington Mathews (1877), commenting on Garrow's description, notes that it refers only to the manufacture of beads, either large, ellipsoidal or globular specimens, and not to the manufacture of triangular glass pendants, usually of blue glass, having 1 side glazed, the other unfinished, and a hole at the apex for suspension. The latter were more popular during the time (1865-1872) he was stationed at different military posts on the Upper Missouri as a doctor. Mathews (1877:21) also says that, unlike the all glass beads earlier described, the examples he saw consited of "... a core of baked earth covered with a thin shell of glass; and they have the appearance of having been perforated before heat was applied." Stirling (1947:348) notes that there is evidence that the process did change from the time it was first reported until the later description by Mathews.

Maximilian (1843:348) made reference to his visit among the Mandan, Hidatsa and Arikara 10 years earlier in saying that the women seldom practice the art of glass making as described by Lewis and Clark (the Garrow account). George Catlin (1848: II:201), referring to the art of glassworking among the Mandan whom he had visited in 1837, noted that "... these people have ... the extraordinary art of manufacturing a very beautiful and lasting kind of blue glass beads, which they wear on their necks in great quantities and decidedly value above all others that are brought among them by the fur traders."

Both Hayden (1862) and Denig (1930) mention the Arikara practice of glassworking, Gilmore (1924) obtained another description of this art from 2 elderly Arikara women who said that a frying pan, a wooden tool and a bend of sand were used to remake the beads. Ginnell (1924: 1:223) mentions that the Cheyennes manufactured beads or, more specifically, small lizard-like charms of some vitrified material which could have been pulverized glass. This was done only after contact had been established with whites.

GLASS TRADE BEAD MANUFACTURE

From the time of Columbus until the end of World War I, the major source for all the glass beads used in the North American trade, as well as that of Africa, the Pacific and elsewhere, has been Venice, and in particular, the island of Murano. This city for centuries served as Europe's primary glass manufacturing center.

Dillon (1907:183) said that there is sufficient documentary evidence to indicate the manufacture and export of beads on a large scale in Venice as early as the 14th century. Furthermore, he says that strings of glass beads were convenient items of trade in that they were "... easily packed and easily valued and counted. So much was this the case that the name conterie ... was early adopted as a general term for the common kinds of beads." Dillon further suggested that the English word "bead", although it may be applied to objects made from materials other than glass, does not have an exact equivalent in any other language, and that:

The term 'bead' was early transferred from the 'bid' or prayer to the small spherical bodies strung on a cord by which these prayers were counted, and before the end of the fourteenth century the word was already used in a secular sense (Dillion 1907:184).

Carroll, the American Consul in Venice during World War I, gives a valuable and detailed account of the manufacture of glass beads in that city during the early part of the 20th century. He reports that in 1896 the 11 existing manufacturing concerns consolidated forming the "Societa Veneziana Per L'Industria delle Conterie" which at the time of his report:

... enjoys a complete monopoly of the bead making industry, has been very prosperous and does a world exporting business on a very large scale, shipping to Africa, India, Oceania, Asiatic countries, Europe, and the Americas. Before the outbreak of the European war this Company kept in storage more than 2 million kilos (Metric tons 2,000; pounds 4,409,245) of manufactured beads. At the present time (1917) less than one fourth of this quantity is in stock and production has greatly decreased owing to the difficulty in securing fuel and raw material (Carroll 1917:2).

Nesbitt, in a somewhat earlier account, describes the extent of the manufacture of beads in Murano during the 18th century.

About 1764 twenty-two furnaces were employed in that industry, with a production of about 44,000 lbs. per week, and one house at Liverpool about this period bought beads to the value of 30,000 ducats annually. It may be readily conceived that a vast variety of patterns were produced. A tarriff drawn up in 1800 contains an enumeration of 562 species, and a 'grandissimo' number of sub-species of beads. The manufacture continues to be one of great importance . . . (Nesbitt 1878:93-94).

The subject of glass trade bead manufacture and the various methods employed has been covered in considerable detail by several recent writers: Murray (1964), Woodward (1965), Harris and Harris (1967), and the Kidds. (1970). It is felt, however, that a brief summary of the 4 main manufacturing processes is warrented here.

METHODS OF MANUFACTURE

1. The Hollow-Cane, Tube, or Drawn Method:

This is the most common method. It was used for most of the smaller varieties of globular beads, as well as for nearly all the tubular forms. Dillon (1907:185-186) provides a good description of this method which basically consists of sectioning glass tubes and then annealing the resulting sections into round beads.

Briefly, the usual process begins when the glass blower blows a bubble of air into the mass of molten glass he has gathered at the end of his blowpipe. This mass is then stretched to form a short cylinder. An assistant then introduces an iron rod into the distal end of this tube and then quickly moves away, drawing the flexible glass tube out to a length which often exceeded 100 feet. depending on the diameter desired in the finished beads. This very long tube or cane is broken into convenient 2 ft. or smaller lengths. Another workman places these rods in bundles, and cuts them by means of a chisel-like device into short lengths of a specified size. Here would end the manufacture of the "bugle" or "cane" bead, but if round beads were sought, a further treatment was required.

The minute pieces thus obtained are then thrown into a bowl containing a mixture of sand and wood ashes. This mixture is continually stirred until the perforations in the pieces are filled in by the sand and ashes. This provision is necessary in order to prevent the sides from collapsing when softened in the next operation. Next, the pieces of glass are placed in a long handled metal container to which more wood ashes and sand are added, and then the entire contents are heated and rotated over a charcoal fire. This process is called "tumbling". It is by this means that the once short cylindrical sections of glass cane or tubing obtain their globular form. The now rounded beads are sifted from the sand, and any sand still remaining in the perforations is removed. Finally, the beads are sorted by means of sieves according to size; all irregular beads are discarded, and the remaining ones are polished by being shaken in a sack of bran. Before packing, the smaller beads (the Conterie) are threaded on a string by girls. Strings of beads were then sold in "hanks" or "clusters" while loose beads were sold by weight, hence the popular term "pound" beads for the small common varieties.

Murray (1964:14-15) discussing the manufacture of "common" beads, the beads used in beadwork made from short sections of drawn glass tubing, observes that "... the taper of the tubing from which the basic sections came must have given a rather continuous graduation of a diameter within a given batch." Furthermore, "... variation in the accuracy of breaking off the section results in some variations in length, and much variation in the nearness to parallel of the flattened ends." Murray uses these factors in support of his claim that "seed" and "pony" beads do not represent 2 size-ranges as distinct manufacturing products, but are part of a continuum from smallest to largest.

The Kidds (1970:48-49) describe variations of the most common bead manufacturing method which can result in the finished tube or round shaped bead containing several different colors. When the bubble of molten glass is first gathered, another color may be added from a different pot. This process is known as "layering." Several colors can be added in this manner, each one on top of the previous color. Another variation is the "inlay treatment" in which canes or rods of colored glass are affixed to the original molten mass. The end result is a striped bead. A third treatment involves the use of a "marver" or board. On it the bubble, in its original form or altered by one of the previous processes, is further shaped by being flattened or paddled before being drawn in the regular manner.

2. Mandrel or Wire Wound Method:

In this process a glass rod is heated to the melting point; a thin thread of glass is drawn out and wound in a sprial manner around a rotating, tapered iron mandrel or wire. Upon hardening and cooling, the bead easily slips off the metal rod. In this fashion, large, thick-walled beads showing considerable variation in design are produced on an individual basis. The most elementary mandrel wound beads are poorly made from a single turn of a coarse rod around the mandrel, several of which may have been made at the same time. In some instances facets were ground on these beads (Murray 1964:16).

Dillon (1907:186) provides an earlier and somewhat more detailed description of this last process.

In this case we start from a solid rod of glass which is mani-

pulated in the hand of the workman like a stick of sealing-wax. Seated at a table, he melts the extremity of the canna in the flame, directed away from him by means of a blow-pipe, and twists the thread of viscid glass around a small rod of iron. The surface of these may be subsequently decorated by means of applique studs and strings of various colored glass, or again, the half-fused substance may be pressed into molds.

In a footnote on the same page, Dillon writes, "... it is not generally known that beads were made in the east of London, early in the last century, by this process – by dropping off the glass upon a revolving spit or rod of iron."

When discussing these same "fancy" beads for use as weights on lace bobbins in England, Woodward (1965:14) says that "... although the bulk of these beads were made in Murano (Venice), there was a time in the early 1800's when raw glass tubes ready for cutting into fancy beads, were shipped into Bristol England, where they were converted into beads." No doubt some of these beads, made specifically for domestic use, found their way into the fur trade of North America, or were brought here by other means.

The Kidds (1970:50) tell how to determine whether a bead was made by the drawn or wire-wound method depending on the shape and pattern of fibres within the bead. A hand lens is used in this examination. When drawn the fibres of the glass bead are arranged side by side longitudinally. In wire-wound beads the fibres are arranged round and round the circumference of the specimen. One is also aware that the area around the perforation on wire-wound beads shows the fibres particularly well, especially in instances where the end of the thread is still evident. In addition to observing the arrangement of fibres, the Kidds suggest an examination of the tiny air bubbles formed in the beads when the molten glass is first gathered. Where the drawn or tube method was employed, these bubbles have a long thin shape. If the wire-wound method was used, the bubbles would remain oval or globular but never elongated.

3. The Blown Glass Method:

Murray (1964:17) says that these beads "... appear to have been blown from tubing placed in a mold, producing a connected chain of beads, broken apart after being removed from the mold". The Harris' (1967:137) refer to what they call the "Hollow-sphere Method" of bead manufacture. They note that this method, which perhaps goes back as early as the 15th century, was used to produce imitation pearls and other beads. Technically they say that:

In this process small spheres are blown and perforated on opposite sides before cooling. Then their exterior surfaces are coated with an opaque, irridescent substance (Harris and Harris 1967:137).

The fragile nature of these beads made them poor items of trade. They

are rarely found in North American sites although Pratt (1961:15) does mention such beads being found in New York excavations, and Gregory and Webb (1965:39) report finding them in Louisiana.

A somewhat different type of blown glass bead occasionally appears at a late date in the Northern Plains-Upper Missouri region. These take the form of thin-walled, hollow tubes of glass with a bulging or expanded central portion. One was found on the surface (probably of a later date then the Arikara occupation) of the Leavenworth site (1803-1832) in South Dakota. The other was found at Ft. Berthold II, North Dakota, which served the few surviving Mantan, Hidatsa and Arikara between 1858 and 1885.

4. Mold-Made or Pressed Glass Method:

In their description of bead manufacturing, the Kidds (1970:50) suggest that molded beads were often produced in conjunction with the processes used to make tube and wire-wound beads. They mention the so-called "raspberries," "melons," and certain facetted beads which were made in two-part molds.

Beads made in this manner can be readily identified by the fine lines produced where the 2 halves of the mold come together. In some cases, however, these lines have been obliterated by the maker, or later reduced through wear. It would seem that the facets on the earliest beads to appear in the North American trade were pressed or molded on, and only later were sharper facets cut by machines.

CLASSIFICATION AND DISTRIBUTION OF TRADE BEAD TYPES

In the following tables the bead material from 23 sites in the Northern Plains and 2 from the Central Plains (Nos. 23 and 24) are classified using an abbreviated version of the Kidds' (1970) classification system. The tables are to be used in conjunction with the Kidds' article which is readily available from the National Historic Sites Service in Ottawa. Meanwhile, a brief written description of each type is provided in Table 3 for immediate reference.

The problem of the temporal and spatial distribution for the 12 tube bead types and the 10 wire-wound types (Tables 3 and 4), along with their 240 varieties (Table 5) is rather complex. These 3 tables represent the total bead assemblage from the 25 key archaeological sites (Tables 1 and 2). Table 4 indicates the presence or absence of each bead type among the 25 sites investigated. Table 5, after first indicating whether or not a particular variety is reported by the Harris' (1967) for the Southern Plains (the number in the second column on the left), briefly describes each variety and gives the number designation for those sites at which the bead is reported. The column on the far right indicates the date for the earliest site in the Northern Plains at which the particular bead variety is known at present. If the same variety is reported from the Southern Plains, the period marking its appearance is also given.

Bead No. Name Affiliation Location Quantity Source 1 Hill Pawnee Nebraska Large Grange 1968 2 ., Bellwood 94 ., ., 3 Linwood ., Large ,, ., 4 ., Clarks ., ., 5 McClain Small NSHSM ., .. 6 Genoa Gant 1968 Large 7 Sully Arikara S.Dakota ca.4230 Evans 1966 .. 8 Gillette 23 Brown 1966 ., .. 9 Leavenworth 142,258 Bass 1971 " .. 10 Fort Manuel Small MAC 11 Fort Lookout ., 659 Miller 1960 11 Sioux 12 Fort Pierre Sioux .. 3120 Smith 1960 11 13 Sitting Crow ,, Mounds Sioux Neuman 1962 Large 14 Deapolis Mandan N.Dakota 15,548 Thompson 1961 ., **Kipp's Post Assiniboin** Woolworth and 15 ca.6,900 Wood 1960 16 Like-A-Fishook .. A.M.H Large Smith 1954 17 Fort Berthold " 11 A,M,H 8,370 Smith 1953 18 Fort George Blackfeet 20,699 Kidd 1970 Alberta 19 Rocky Moun-.. Alberta Noble 1967 tain House 10,832 20 Fort Okanagan Washington 2556 Grabert 1968 21 Wyoming ca.25,000 Fort Laramie Murray 1964 22 Mouat Cliff **Burials** Crow Mallory 1964 Montana Large Missouri 23 Utz 115 Bray 1970 24 Plattner and Gumbic Point Missouri Large Chapman 1959 25 Connor's Post Minnesota Small MHS

Table I: Background Information Regarding the Northern Plains' Sites

NSHSM: Nebraska State Historical Society Museum, Lincoln MAC: Midwest Archaeological Center, Lincoln, Nebraska MHS: Minnesota Historical Society, St. Paul A,M,H: Arikara, Mandan, Hidatsa respectively

Table 2: Sites, Site Locations and Dates

Nebraska	Date
1 Hill 2 Bellwood 3 Linwood 4 Clarks 5 McClain 6 Genoa	1777-1815 1795-1800 1777-1820; 1845-1857 1820-1845 1852-1859 1859-1874
South Dakota	
7 Sully 8 Gillette 9 Leavenworth 10 Fort Manuel 11 Fort Lookout II 12 Fort Pierre II 13 Sitting Crow Mounds	1650-1700; 1 725-1775 ca. 1700-1800 1803-1832 1812-1813 1831-1851 1858-1863 1863-1890's
North Dakota	
14 Deapolis 15 Kipp's Post 16 Like-A-Fishook 17 Fort Berthold II	1806-1838 1826-1830 1845-1885 1858-1885
Alberta	
18 Fort George 19 Rocky Mountain House	1792-1800 1799-1834
Others	
20 Fort Okanagan (Washington) 21 Fort Laramie (Wyoming) 22 Mount Cliff Burials (Montana) 23 Utz (Missouri) 24 Plattner and Gumbo Point (Missouri)	1811-1831 1849-1875 1879-1880 1685-1723 1727-1777
25 Connor's Post (Minnesota)	1804-1805

Table 3: Bead Descriptions (after Kidd and Kidd 1970)

Tube Beads

B - blown M - molded

Wire Wound Beads

beads

1a - simple tube	W1A – simple tube
1b - simple tube striped	W1b – simple round
1f - simple facetted	W1c - simple oval
11a - simple round	W1d – simple donut
11a - simple round striped	W11c - simple facetted
11b - simple round with dots or	W11e - melon beads
"eyes"	W11f - simple cog-shaped or multilateral beau
111a – compound tube 111b – compound tube striped	W111a - simple round with a surface coating of a different color or material
111f - compound facetted	W111b - simple round with an inlaid
111k - star tube	decoration
111m - true star bead	W111d - simple oval with a spiral overlaid
1Va - compound round	decoration

Table 4: Bead Occurrence

Northern Plains Sites

Туре	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1a	х	х	х		х			Х	х	х	Х	х		Х	х	х	х	х	Х	х	х	х			х
1b									X					х											
1f	х		х						х		х	х	х	х	х	х	х			х	х	х			
11a	Х		х	х		х	х	х	х	х	х	х	х	х	х	х	х	х	х	х	х	х	Х	х	х
11b				х					х					х				х							
11g			х						х					х				х							
111a									х					х								х			х
111b														х											
111f	х			х									х		х										
111k									х																
111m	1								X																
1Va	Х		Х			Х	Х		Х		Х		х	Х		Х	Х	Х		Х	Х	х			
W1a	Х	x	х	Х	÷.,				х			х													х
W1b	х		х	х			х		х	х	х	х	х	х	х	х	х	х	х	х			Х		х
W1c	х		х	х	х	х	х		х		X	х	х	х	х	х	х	х	х	х	х		Х	х	х
W1d	х		х	х			х																	х	
W11c	X				•		х		х			X >	(X												
W11e																			х						
W11f	х			х					х		٠			х						х	х				
W111	а											х	х	х		х	х					х	Х		
W111	b															х		х				X	Х		
W111	d								Х			х		х		х	Х	Х		х		Х			х
В									х				х			х					х				
М									х												X	х			

Туре	No	Size	Color	Period	N.P. Sites	N.P. Date
1a	56	S	Brittany B op	н	3,14	1777-1820
	60	S	Gobelin B op	н	3,14	"
	61	S	B tr	11	3,23	"
	62	S	Fern G op	11	19	1799-1834
	66	S	BL	11	3,8,9	1777-1820
	64	S	W	111	2,3,5,9,10,14	
					15,19,22,25	1777-1800
	157	M	M op	IV	9 .	1803-1832
		S	M-BL		1,5,9	1777-1815
		S	R op		3,20	1777-1820
		S	A-BL		3	
		S	G		9,15,20	1803-1830
		Μ	W		2,9,12,14,15,	
					18,19	1792-1800
		M	BL		2,9,18	
		М	В		9,14,19	1799-1834
		Μ	G		9,19	1799-1832
		M	Y		18	1792-1800
		М	PU		19	1799-1834
		L	R		9	1803-1832
		L	W		15,22	1826-1830
		L	Dark Brown	1	22	1879-1880
1b		М	Y/BL		9	1803-1832
		Μ	Y,B-G/BL		14	1806-1838
1f	170	L	BL	111	4,12,14	1806-1838
Hex.	130	L	B tr	IV	9,12,13,17,	
					21	1803-1832
	131	L	G tr	IV?	12	1858-1863
	139	L	CL	IV?	4,12,21	1820-1845
	156	L	M tr	IV	16	1845-1885
	171	L	Emerald G	tr IV	9,12,14,16	1803-1832
		M	Light B tr		3	1777-1820
		м	Dark B tr		1,9,11,12,13	1777-1815
		M	V tr		1	"
		M	Maroon op		1	"
· .		M	Dark G op		4,9,12	1803-1832
		M	BL		4,11	1820-1845
		M	CL		9,12	1803-1832
		M	V-BL		12	1858-1863
		M	Atr		12	
		L	n		12	
1f	167	M	Ptr	IV		
Oval		M	M-BL		0	1///-1815
		IVI	Au		9	1003-1832

Table 5: Type Varieties and Occurrence

23

Туре	No	Size	Color	Period	N.P. Sites	N.P. Date
l f Oval		M-L M-L	G tr Yale Blue t	r	4,9,21 9,21	1803-1832
lf Round	133 147	L M VS VS VS VS VS VS VS VS	R tr B tr Navy B op BL B semi-tr Dark B tr Pale Gr tr P tr Dark V tr Dark R tr BL	IV IIIb	14 16 9,11 17 17 17 17 17 17 17	1806-1838 1845-1885 1803-1832 1831-1851 1858-1885 " " "
ila	44	S	W	1	All but 2	1650-1700
	46-47	S	B op B tr	1	1,3,6,7,9-25	
	40	0	0.0		21,23	1777-1815
•	49	S	CL	· 1	9,12,14,17, 20,21	1803-1832
	50	S	BL	1	1,3,4,6-9,11-	1650,1700
	79	S	Sky-B op	11	1,3,6,7,9,21	1050-1700
	80	S	Peacock B	tr II	9,6	1803-1832
	81	S	Ү ор	11	1,3,6,7,9,13, 14,16-18,19, 21,22,25	1777-1800
	82	S	Y tr	11	6,17,21	1849-1874
	83	S	Emerald G	tr II	4,6,14,17, 18,21	1792-1800
	84	S	Emerald G	op II	1,3,6-9,11-15 17-21,25	1777-1800
	128	VS	W	IIIa	1,3,4,6,9, 11-13,17,19, 21,25	1777-1805
	175	VS	Y op	V	6,9,14,17,21	1803-1832
	.176	VS	R tr	IV	11,17,19,21	1831-1851
	177	VS	Рор	111	1,3,11,13, 14,17	1777-1815
	178	VS	Sky B op	V	3,6,9,12,13, 16	1777-1820
	179	VS	Independ.	B op IIIb	3,6,8,11-13 19	1650-1700
	180	VS	Yale B tr	V	6.9.12.17.21	1803-1832
	181	VS	Fern G op	V	6,11-13,17,21 22	1831-1851
	182	VS	P tr	V	13	1863-1890

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Type	No	Size	Color	Period	N.P. Sites	N.P. Date
		VS	Peacock	B tr	9	1803-1832
		VS	BL-M Ser	ni-tr	9	
		VS	CL		9,12,17	"
		VS	R op		9,12,17	1806-1838
		VS	BL		12,14	
		VS	Milk-W o	р	17	1858-1885
		VS	Dark G t	r	17	"
		VS	Y-A tr		17	
lla		VS	Buff op		17	1858-1885
		VS	Dark V t	r	17	"
		VS	Т ор		25	1804-1805
		S	Rtr		1,19,21	1777-1815
		S	Dark Win	e semi-tr	4	1820-1845
		S	Gold op		6	1859-1874
		S	Milk-W ti	•	6	.,
		S	BL-M ser	ni-tr	9	1803-1832
		S	Yale B or	0	9	"
		S	GR op		9	.,
		S	Pop		13,21,22	1849-1875
		S	Rop		14,18,19	1792-1800
		S	Milk-W o	р	17	1858-1885
		S	Buff op		17	
		S	PU		19	1799-1834
		S	B-GR tr		21	1849-1875
		S	Bronze o	р	21	<i>,,</i>
		S	Light B t	r	21	"
		S	Bright O	R	21	"
		S	Тор		25	1804-1805
		M	W		3,9,20,21	1777-1820
		M	Вор		3,20	"
		M	BL		3,9,20	"
		M	В ор		3	"
		M	G op		3,9	.,
		· M	Sky B op		3	
		M	Y-OR		3,20	"
		M	CL		9,20	1803-1832
		M	Yale B tr		9	**
		M	Peacock	B tr	9	
		M	-	Btr	9	
		М	A tr		9,14	
		M	Milk-W to	()	9	.,
		M	R		20	1811-1831
llb		м	BBG/W	etcIII IV	4 9 14 18	1792-1800
	118	S	R.B/W	Illa	18	"
Ila		M-L	B,Y.R.W	etc/BL.B	3,9,14,18	
	FF		P == 1C +		14	1006 1000
illa	22	L	n op/G t		14	1000-1038

Туре	No	Size	Color	Period	N.P. Sites	N.P. Date
	59	VL S M L	,, CL/W R op/G tr R tr/W	н ,	14 18 25 9	,, 1792-1800 1804-1805 1803-1832
IIIb		М	G/W with R,	W,Y	14	1806-1838
IIIf	129	M	Dark B/Light	t B IIIb	1 4,13,15	1777-1815 1820-1830
		IVI	W/MIIK W		15	1826-1830
IIIk		VL	Yale, B,W,R/	W	9	1803-1832
IIIm		VL	Yale, B,W,R,	op/Sky B	9	1803-1832
IVa	174	VS S M	R tr/W op	V	6,21 1,3,11,17, 21,22 11,13,17	1849-1874 1777-1815 1831-1851
	99 86 45 4	S M L S L	R op/G tr CL/Milk W	11 11 1	7,9,18,20 9 14 19 1,3,9	1650-1700 1803-1832 1806-1838 1799-1834 1777-1815
WIa	134	L L L M	B op B tr W R tr W		4 1 3,12,23 9 2	1820-1845 1777-1815 1777-1820 1803-1832 1795-1800
WID	11 3 18 52 53 97 137 136 141 142 143 144 145	M L L V L M L M M M V L M M M M M M	Peacock B or W BL A tr Milk-W tr Y W CL Milk-W Dark B tr G tr R tr T op Cobalt B tr G op M tr CL	o I I I IIIa IIIb IV IV IV IV	7,9 1,3,4,12,14,18 1,9,14,16,17 3,9,14,15 14 9,20 3,4,9,18,23 9,14 4,15,16 4,9,13,14 3,13,14,20 9,13,16,19 4 9 9,20 9	1650-1700 1777-1815 " 1777-1820 1806-1838 1803-1831 1777-1800 1803-1832 1820-1830 1803-1832 1777-1820 " 1803-1832 1820-1845 " 1803-1832 "

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Type	. No	Size	Color	Period	N.P. Sites	N.P. Date
		М	Yale B tr		9	"
		L	,,		9	"
		L	Jade G op		9	1803-1832
		L	PU		19	1799-1834
		L	Indigo B tr		3.12	1777-1820
		Ē	Light B op		4	1820-1845
		Ē	Peacock B	op	7	1650-1700
		M-L	Robin's Eq	a B	23	1685-1723
		M-L	Dark PU tr	J =	23	"
		M-L	Brilliant B	tr	23	••
		VL	BL		12	. 1858-1863
		VL	W		1	1777-1815
		VL	Peacock B		9	1803-1832
	1	VL	W	1	1.3.4.6.9.	
					12-14,18,24	1777-1815
	2	L	w	4	1.3.23	1777-1815
	6	M	W	1	3.9.14.18	1777-1800
	7	L	GR-W	i	9	1803-1832
	12	L	Тор	1	12	1858-1863
	13	VL	Dark B tr	i	4.8	1700-1800
	14	M	"	1	7	1650-1700
	16	VL	CL	1	9	1803-1832
	17	VL	BL	1	1,9,12,14	1777-1815
	101	М	W	Illa	3,9,11,15,	
					17, 25	1777-1805
	103	Μ	R tr	Illa	3,9,14,17,	
					18,21,25	1777-1805
	107	Μ	Dark B tr	Illa	9,18	1792-1800
	108	M	BL	Illa	9,14,19,25	1803-1805
	109	M	Тор	Illa	4,19,21,25	1804-1805
	110	M	Y op	IV	9	1803-1832
	158	Μ	Emerald G	tr IV	4,19	1799-1834
		S	Red tr		5,9,18	1792-1800
		S	Yale B tr		9,18	
		S	W		15	1826-1830
		S	Тор		5	1852-1859
		M	G tr		4	1820-1845
		м	Aquamarin	e op	4	.,
		L	G op		1,4,14	1777-1815
		L	Вор		1,4	"
		L	Aquarmari	ne op	4	1820-1845
		L	B tr		4	
		L	G tr		4	"
		L	Rtr		4,14	1806-1838
		S-M	Dark B op		15	1826-1830
		S-M	B-G op		15	
		S-IVI	B on		15	1826 1920
		O-IVI	ii op		10	1020-1030

Туре	No	Size	Color Per	riod	N.P. Sites	N.P. Date
		S-M M-L M-VL M-VL M-VL M-VL M-VL M-VL	PU B tr Peacock B op Yale B op Robin's Egg B Jade G op Surf G op Heliotrope op Y op	ор	19 23 9,10 9 9,18 9,14 9,14 9 9,18	1799-1834 1685-1723 1803-1813 1803-1832 1792-1800 1803-1832 1803-1832 1803-1832 1803-1832
WId	76 77 78 93 94 96	L-VL L-VL M L L L L L M	BLIDark B trIPearl WIMilk-W trIA trIBLITG opLight B trA tr		1,14,15 1,4,14 9,11 16 15,16 14,15 7 1 3 15	1777-1815 1777-1815 1803-1832 1845-1885 1826-1830 1806-1830 1650-1700 1777-1815 1777-1820 1826-1830
WIIc	104	M M L S	Rtr I BL Top BL Rtr	lla	9 9 21 9 1	1803-1832 1803-1832 1849-1875 1803-1832 1777-1815
Wile		M-L	В		19	1799-1834
WIIf	112	VL L M	Dark B semi-tr Crystal R op	IIIb	1,4,9,14 20 21	1777-1815 1811-1831 1849-1875
WIIIa		L-VL	Several Varietie	es	12-14,16,17 22,23	1806-1838
WIIIb		L-VL	Several Varietie	s	16,18,22,23	1792-1800
WIIId	124	M-L	Many Varieties	lb	9,12,14,16- 18,20,22,23 25 9	1792-1800
	23	M-L	B/W I		9	1803-1932

.

Sizes:

VS - Very Small, under 2 mm., S - Small, 2-4 mm.; M - Medium, 4-6 mm., L - Large, 6-10 mm.; VL - Very Large, over 10 mm.

Colors:

White - W; Blue - B; Black - BL; Green - G; Yellow - Y; Red - R; Pink - P; Purple - PU; Turquoise - T; Amber - A; Grey - GR; Magenta - M; Orange -OR; Clear - CL; Violet - V; Opaque - op; translucent - tr; irridescent - ir. (sizes and colors are after Kidd and Kidd. 1970:66)

Period Dates (for Southern Plains):

I - 1700 - 1740; II - 1740 - 1767; III a - 1767 to 1780; III b - 1780 to 1820; IV - 1820 to 1836; V - 1836 to 1850. (dates are after Harris and Harris, 1967).

TEMPORAL AND SPATIAL DISTRIBUTION OF TRADE BEAD TYPES: A DISCUSSION

The preceeding tables provide a point of departure to attempt to better understand the chronological and geographical distribution of bead material presently known from the Northern Plains-Upper Missouri region. Every effort has been made to correctly identify all the bead material used here as to size, shape and color. In this last instance many problems were encountered, and the final results are therefore not completely satisfactory. With this in mind, care should be taken when using these tables because the exact color may not always be indicated. When reference was made to bead material in a published source, the original author's own color designations are usually indicated. Sometimes, whether a color is opaque or translucent, a most important factor, was not mentioned.

In addition, an attempt is also made to compare the bead material from sites in the Northern Plains and adjacent areas, as described in this present paper, with that included in the Harris (1967) work for the Southern Plains. Where possible, the Harris'specific varieties were linked with their northern counterparts. Once again, there may be some degree of error here, particularly with regard to color.

Meanwhile, by comparing these 2 large bead assemblages, some indication as to the date for the first appearance of a specific variety perhaps can be obtained. Often, the same bead variety appears in both general areas at about the same time. For the Northern Plains, the sites where the bead has been found are listed, and the earliest of these sites is suggested as possibly marking the time for the appearance of the variety in question. Sometimes 2 sites overlap so that the second acts to limit the time span for the first.

All the Northern Plains sites used in this paper are well documented, thus greatly assisting the problem of dating bead material. Some of the later sites such as Sitting Crow (1863-1890's), Like-A-Fishhook (1845-1885), Fort Berthold II (1858-1885), and Fort Laramie (1849-1875) are unfortunately of little use for dating purposes, and therefore they are only used when the beads cited are not known elsewhere. A few of the early sites have a rather long period of occupancy (e.g. Sully, 1650-1700; 1725-1775), and it is hoped that future excavations will yield additional early sites with a much shorter life span. Two early sites included here (Utz; Plattner and Gumbo Point), both in Missouri, are also not used to determine the time for the appearance of bead material as they both, historically and geographically, represent the Central Plains-Middle Missouri region. They are included, however, because they make a useful transition zone between sites in the Northern and Southern Plains.

Single season wintering posts or camping areas such as Fort Manuel (1812-1813) and Conner's Post (1804-1805) are ideal for dating purposes, but many more of these rare sites are needed. Meanwhile, the dates proposed in this paper will remain in effect only until earlier sites with the same beads present are excavated and reported. This, then, is not meant to be a static time chart, but only a guideline based on incomplete information and analysis.

When the tables illustrating the distribution of the main bead types are examined, certain general statements can be made concerning the popularity and wide acceptance of particular types, which can perhaps be thought typical or diagnostic for the Northern Plains-Upper Missouri region during the period from roughly 1700-1885. The most common bead, as expected, is type IIa, which includes the "seed" varieties and all other spherical, monochrome beads made from cut and tumbled sections of glass cane or tubing. The untumbled cane sections, type Ia, are also widespread both in time and space throughout this general area. Later, cut facetted type If hexagonal tubular sections also became quite popular in parts of this large region. The only compound type to have significant representation is IVa, which in both its early opaque red over translucent green and later translucent red over white opaque varieties was found at many of the Northern Plains sites.

Among the wire-wound types, the simple monochrome, particularly the oval and then the round varieties, seem to have been most prevlanet. Next in popularity were the donut and tubular varieties, followed by the different polychromes which in both their oval and round varieties are often found in considerable numbers. As expected, blown and molded beads definitely appear late in time, and where they do appear at earlier sites (e.g. Leavenworth), they seem to represent a later occupatiion.

The terminal dates for many of the larger "necklace" beads are often ill-defined. This is usually due to their use as heirlooms, in that they were passed from one generation to the next. Their initial cost and scarcity made them objects of value to be treasured. Evidence of this practice is obvious at several late sites including Sitting Crow, Like-A-Fishhook and Fort Berthold II. Meanwhile, many of the small "garnishing" beads of the "seed" and larger sizes used as costume decoration were no doubt reused several times. As the item of costume they adorned wore out, the beaded decorative panels or rosettes were undoubtedly often removed and attached to new pieces of leather or cloth. This, in part, explains the late dates for some small bead varieties which were first introduced into the Northern Plains early in the 18th century. The value of these particular beads for time markers is naturally less that that for certain other types which had a more restricted period of popularity and use. It is to these latter types that we now turn.

It should be noted that, for the most part, the bead material from the Southern Plains represents an older archaeological record than that for the Northern Plains. The earliest reported site used here for the Northern Plains, Sully, has 2 components dating 1650-1700 and 1725-1775. Unfortunately it is not as yet clear what bead material was found in each component. As described earlier, 5 bead types are recorded from Sully: IIa, IVa, WIb, WIc, and WId. Most of the beads are opaque and appear in different shades of blue in addition to black and white. Single yellow and green specimens among the small IIa type were also recovered. The most significant bead type would seem to be IVa, which is represented by 34 examples of small donut opaque red over green translucent. It is noteworthy that besides the early small IIa varieties, few of the larger wire-wound monochrome types and none of the polychrome types known from Period I (1700-1740) in the Southern Plains were found at Sully. This is also true for another early site in South Dakota, Gillette (1700 - 1800).

Leavenworth (1803-1832), like Sully and Gillette, is also designated Arikara; it yielded several examples of early type WIIId Beads. These were oval white with wavy or spiral blue stripes. These same beads do not seem to appear elsewhere in the Northern Plains as indicated in the present archaeological record, but in time they may turn up as heirlooms at later sites. On the other hand, many of the large monochrome wire-wound oval, round and donut beads, typical of Period I (1700-1740) in the Southern Plains, do occur at known later sites including Sitting Crow, Like-A-Fishhook and Fort Berthold II. It is worth noting that these early wire-wound bead types are found in greater variety, both in color and size, in the Northern Plains. This fact is obvious in the preceeding distribution tables.

Color itself may prove to be an indication of age in bead material. Little can now be done with the ever popular blue, white, black, green and clear colors, although certain shades of blue and green, when more is known about them, may yet prove to be valuable time markers. Among the less common colors, it would appear that certain colors are found only at late sites. These colors and their reported locations are as follows: buff opaque (Fort Berthold II 1858-1885), bronze opaque (Fort Laramie 1849-1875), bright orange (Fort Laramie), and brown (Mouat 1879-1880). Violet has a mixed record according to the tables. No mention is made of this color by the Harris' (1967), but it appears at Hill (1777-1815), Fort Pierre II (1858-1863), and Fort Berthold II. Although yellow appears in the Southern Plains during Period I (1700-1740) and II (1740-1767) and at Sully (1650-1700; 1725-1775) in the Northern Plains, it usually appears later in the north. Yellow is found in collections from such sites as Leavenworth (1803-1832), Fort George (1792-1800), and Fort Okanagan (1811-1831). Purple is also not reported by the Harris', but it is seen in 4

different bead types at Rocky Mountain House (1799-1834), and in 1 type at the Utz site (1685-1723). The same is true for maroon which is known only from the Hill site (1777-1815). It is important to note here that some of these colors may be incorrectly identified; even so, color does have considerable value for purposes of dating.

Red is an interesting color. It first appears in Period I (1700-1740), and at Sully (1650-1700; 1725-1775) in opaque brick red over translucent green. In simple monochrome beads, red first appears as translucent Harvard Crimson in the Southern Plains during Period IIIa (1767-1780). This shade of red is also found in Periods IIIb (1780-1820), IV (1820-1836) and V (1836-1850). In Period IV translucent Ruby Red is seen along with translucent and opague Pimoento. In the Northern Plains the shades for red are not specified in most reports. However, in opaque, it appears at Leavenworth (1803-1832), and red is seen at most of the later sites. Translucent red is seen at most of these same sites, but it may be earlier as it also appears at the Hill site (1777-1815). Magenta is reported only in Period IV (1820-1836) in the Southern Plains. Magenta-black is present at the somewhat earlier Hill site (1777-1815) and also at McClain (1852-1859) and Leavenworth (1845-1885). Magenta alone appears at Leavenworth and Like-A-Fishhook (1945-1885), which again suggests an early 19th century date for this color in the Northern Plains.

Four amber colored beads are listed by the Harris', each in a different period (I, II, IIIb, IV) suggesting that this less common color had a range from roughly about 1700-1836. In the Northern Plains amber is first noted at Linwood, but this 2 component site (1777-1820; 1845-1857) makes accurate dating difficult. Meanwhile, translucent amber beads are also found at Leavenworth, Fort Pierre II (1858-1863), Deapolis (1806-1838) and Like-A-Fishhook, which again suggests a long time span. In disregarding the late date for Like-A-Fishhook, a more reasonable terminal date for the popularity of amber beads close to that for the Southern Plains is suggested. At Fort Pierre II amber is seen only in 1 late type, If facetted.

Pink is first reported from the Southern Plains in Period III (1767-1820) as a very small opaque "seed" bead. It also appears again as a very small translucent "seed" in Period V (1836-1850). However, in Period IV (1820-1836), pink is seen in 2 varieties of If round and If oval facetted. In the Northern Plains pink first appears at Linwood (1777-1820; 1845-1857) and Deapolis (1806-1838) as very small opaque "seeds". Pink is also present, usually in the same form, at Fort Lookout II (1831-1851), Sitting Crow (1863-1890's) and Fort Berthold II (1858-1885). More attention should be paid to the complicated but critical subject of trade bead colors, but this will have to wait for the time being.

In the course of excavating historic archaeological sites containing bead material, most of the larger beads are usually recovered. On the other hand, often the majority of the smallest beads, particularly the very small varieties, fall through the finest screens. A special effort, therefore, must be made to collect these tiny beads in any meaningful quantities.

Furthermore, special care must be taken in the identification and

classification of all bead material. Trade bead size presents few difficulties, but far too frequently exact specifications, preferably in the metric system, are not provided in archaeological reports. It would also help if a scale of size values such as that used by the Kidds' (1970;66) was employed. In order that the full value be obtained from the archaeological record, all artifacts, including trade beads, should be reported in such a manner that the information can be readily and easily used by others. The Kidds' (1970) classification system, and this present paper, are written with this goal in mind.

SUMMARY AND CONCLUSIONS

It is impossible to include within 1 paper everything written to date about North American trade bead material in general, and even that pertaining to the Northern Plains-Upper Missouri region in particular. However, several important sources of additional information are mentioned here by subject and author for further reference.

Several books or articles concerning the history of the fur trade, are suggested including: Canada (MacGregor 1949, Rich 1951, Innis 1962, Davis 1965); general (Chittenden 1902, Jackson 1962); Indian trade on the Upper Missouri before Lewis and Clark (Nasatir 1952 Ewers 1954); the Upper Missouri trade from 1840-1865 (Sunder 1965; and the fur trader and the Indian (Saum 1965).

For additional information with regard to native costume decoration, particularly beadwork, as well as other traditional types of artwork among the Northern Plains tribes, several sources should be noted: Sioux (Wissler 1904, Lyford 1940, Conn 1960a and b) Crow (Lowie 1922a and b, Wildschut and Ewers 1959); Gros Ventre (Krober 1908); Blackfeet (Wissler 1910, Ewers 1945). General sources for the Plains area include: Wissler 1915, 1916, 1919, 1927; Catlin 1913; Gunther 1950; Douglas 1936, 1953; Gallagher and Powell 1953; Cartwright 1955, and Schneider 1968. Some useful articles on trade beads and related subjects are: Eisen 1916; Beck 1928; Bustanboy 1947; Quimby 1942, 1966; Woodward 1959, 1965; and Van der Sleen 1963, 1967.

Quillwork was the older traditional decorative technique which was gradually replaced by beadwork throughout the Plains. The techniques, colors and designs used in quillwork were often later repeated in beadwork, and therefore several major works on this older handicraft should be mentioned. These include: Orchard (1916), Douglas (1941), and Fenenga (1955). Shell in various forms was another important trade item during the 18th and 19th centuries in the Northern Plains-Upper Missouri region and several fine articles have been written on this important subject. These include: general (Holmes 1883, Bushnell 1906, Orchard 1929, Slotkin and Schmitt 1949); wampum belts (Weekes 1934); European and American wampum manufacture (Peake 1954); native manufacture (Lehmer 1954); as used among the Arikara (Hurt et al. 1962); among the Mandan (Thompson 1961); and dentalia, its values and origin (Smith 1953). Until a more complete and detailed comparison is made of all the bead material recovered from the various sites included in this paper, it is impossible to make definite statements as to the exact temporal and spatial distribution for the different bead types and their many varieties. Meanwhile, general trends in bead type popularity can be seen in the distribution tables. The latter are considered the most important single contribution of this paper, and it is hoped that they prove to be of assistance to researchers throughout the Plains and elsewhere.

When reduced to general observations, we can see an overall reduction in bead size, coupled with an increase in color variety, from the earliest to the latest sties, or from about A.D. 1700 to 1885. The necklace bead was the preferred earlier type; however, large varieties are popular even today for the same purpose. The smaller varieties of seed, pound, common and garnishing beads usually form the bulk of most Northern Plains collections. These smaller beads used for costume decorations pass through several stages of development, and again the general trend is toward reduction in size through time. This size reduction is accompanied by an increase in the number of colors available, along with a more regular shaped finished product. Through time the colors become brighter, and there is an increase in the proportion of translucent to opaque beads in all type categories, both seed and necklace. In both groups of beads blue and white are the most popular colors not only in the immediate area of interest, but throughout most of North America. Black, green, red and vellow are also very popular, but usually in considerably smaller numbers, as is suggested by both the historical and archaeological record.

Concerning the larger, mostly wire-wound, necklace bead types, there is a trend toward smaller quantities, but more elaborate and better made varieties. These fancy, polychrome beads have their greatest popularity during the mid to late 19th century, especially among such Northern Plains' tribes as the Crow and Blackfeet. Few of the early striped polychrome beads, so popular in the Southern Plains, are to be seen in any sizeable number in the north. Instead, the predominately oval and round shapes often now become tiny masterpieces of individual and even unique craftsmanship. Colored inlays of bits of glass or strips of thin metal now decorate these expensive beads, while others receive a coat of paint or wash, often in rather imaginative designs.Meanwhile, mold-made smooth facets have given way to sharply cut facets, and a few fragile, blown, shell-like glass beads make their appearance.

In this paper, and in the original thesis, a serious attempt has been made to bring together most of the information presently available, both published and unpublished, dealing with all aspects of glass trade bead research in the Northern Plains – Upper Missouri region for the period from approximately 1700 to 1885. Glass trade beads are an extremely important element in current historic archaeological investigation, and therefore deserve greater recognition and attention than they have received in the past.

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Figure 1: Location of Historic Sites Quoted on Text (see Table I or II for site designations.)

1.8

à.

APPENDIX A

Letter Dated 14 Feb. 1807 from Thomas Jefferson to Henry Dearborne (In Jackson 1964:374-375)

Th: Jeff. salutes Genl. Dearborne with friendship & communicates the following information from Captain Lewis, which may be useful to Colo. Freeman and future explorers, and indeed may enable us understandingly to do acceptable things to our Louisiana neighbours when we wish to gratify them. He says the following are the articles in highest value with them.

- Blue beads. This is a coarse cheap bead imported from China, & costing in England 13d. the lb. in strands. It is far more valued by the Indians than the white beads of the same manufacture and answers all the purposes of money, being counted by the fathom. He says that were his journey to be performed again, one half or 2/3 of his stores in value, should be of these.
- 2. Common brass buttons, more valued than anything except beads.
- 3. Knives.
- 4. Battleaxes & tomahawks.
- 5. Sadler's seat awls, which answer for mockasin awls.
- 6. Some glover's needles.
- 7. Some iron combs.
- 8. Some nests of camp kettles. Brass is much preferred to iron, tho both are very useful to the indians.

Feb. 14. 07

Arrow points should have been added.

APPENDIX B

Documents relating to the Equipment of the Expidition (In Thwaites 1959:231)

May - June 1803

Thwaites notes that: "Government expeditions were, a century ago, outfitted by the purveyor of public supplies at Philadelphia."

(No. 1)

P. 234: Articles wanted by Capt. Lewis

Indian Presents

5 lbs White Wampum			
5 lbs White	Glass Beads	mostly	small
20 Ibs Red	D.'	D.' Ass	orted
5 lbs Yellow or Orange		D.'	D.'

(No. 2)

P. 238: List of present purchased by Isreal Whelen, Purveyor of Public Supplies, for the Lewis and Clark Expedition to the Pacific Ocean (1803).

Indian Presents MT

	VV I .	
wks	8 3/4	
	2	1

12	Pipe Tomahawks	8 3/4				18"
1 doz.	Ivory Combs	3 oz.	1	5	0	3 33
72	Rings					6 00
11 doz.	Knives	37	9	8	9	25 17
2 lbs	Vermillion	2			3	3 34
2 Cards	Beads	1 3/4	1	8	6	3 80
3 lbs. Be	eads	3				2 01
73 Bunch	nes Beads assd	20				41
81/2 Ibs Re	ed Beads	81/2				25 50

P. 270 Baling Invoice of Sundries for Indian Presents

(Under presents for Maha tribe; Maha meaning Omaha) P. 272

2 Be	ad Neck Laces		for young	women
10 Ma	ces White Rd	Beads	to Girls	
2 Ma	ces Sky blue F	d d'	<i> </i>	
3 d'	Yellow	ď	" "	
3 d'	Red			
14 d'	Yellow See	d d'	" "	
5 d'	Mock Garn	ets		
3 pr	Glass Ear Bob	s	woman	

44

Thwaites explains that Mace is: "Probably a phonetic spelling of 'mease,' a provincial English word meaning 'measure.""

N. 15 The same for the Arikara as for the Omaha but adding a "Chiefs dress and one Flag."

The same for the "Mandanes & a Flag of 2d size."

The follow. Bales intended for foreign Nations: that is beyond the mandanes.

p. 274 3 Bead Necklaces

10 Maces White Rd Beads

2 do Blue D'

2 do Yellow D'

3 do Mock Garnets

2 Wampum shells

p. 275 No. 14 The Same

No. 24

2 bunches Blue Beads 2 d' Red d'

10 Small bunches white Sead d'

- 7 Bunches White Rd Beads
- 17 Maces Mock Garnets
- 1 Extra Bunch of Beads
- 4 Bunches Yellow Beads

No. 3 The same, Except . . . 1 Bunch Yellow Beads . . .

p. 276 Recapitulation of the above fourteen Bags & 1 Box of Indian Presents.

2 Cards of beads Necklaces

3 fine Ditto

120 Small Maces white Rd Beads

7 Bunches Sky Blue Beads

- 17 D' Yellow D'
- 20 do White Seed D'
 - 4 do Red D'
 - 1D' Green D'
- 10 D' Yellow Seed D'
- 8 D' Mock Garnets or 80 Maces

APPENDIX C

Crow Indian Costume in 1805 (In Burpee: 1910:66-68)

The men wear tight leggings, made of the skin of Cabri or other small deer, reaching up to the hips and the end tucked in a belt or girdle. The seam is ornamented with beads, porcupine quills, and horse and human hair dyed with diverse colours.

Their shirts are made of the same kind of skin and are composed of 3 skins, 2 making the body and 1 the sleeves. The skins are joined together in the shoulder only, and the sleeves are also left open under the pit of the arm: the neck of 1 of the skins hangs on the breast and the other behind. They are garnished on the sleeves with the same materials as the leggings. Their shoes are likewise decorated in the same manner and are made in the manner of mittens, having a seam around the outside of the foot only, without a pleat. Over this part of dress, they wear a buffalo robe on which is painted their war exploits or garnished with beads and porcupine guills " over the same. A slip of wolf or skunk skin is generally worn around the ankle and is left to drag behind as they walk. Bits of red cloth are sewed to it. The skin of the bear's foot, with the claws, they wear on the breast with as many buttons as they can find sewed to it: 12 or 15 bear's claws threaded and tied around their neck is also very fashionable. Over their forehead, suspended from their head, are 2 skins of coloured beads, with a few hawk bells or buttons and a little horse hair stained vellow which dangles on each side of their nose. On their head they wear a Killion feather belt of brass & tin.

The women's dress consist of a pair of leggings reaching to the middle of the thigh, tied with a garter below the knees. They wear no hair in their ornaments, but the seams of their leggings are covered with blue beads (which is the kind they are most fond of), and buttons when they can have them. Their leggings are worn around like stockings and they have no fringes as the men's, their shift or conttillon reaches mid leg and lower and are made of Elk skin, but the fine ones are made of 2 large Cabri or Mountain Ram skins. Like the men's shirts, the bottom or lower part is cut out into fringes and garnished with porcupine.

Their robes and shoes are likewise garnished, but the former are never painted. They wear no ornament on their head, but paint their faces red. The children of both sexes are dressed in the same manner as the sex they belong to. The boys go naked until they are 8 or 10 years of age, but the girls never.

*Editors note: Some spelling, grammar and punctuation changes from the original text were made to facilitate ease of reading.

APPENDIX D

MHS* Invoices Outward, American Fur Company

Invoice of Merchandize furnished W. Joshua Palen on account of W. Russell Farnham's Outfit 1822.

7 Masses Red Barley Corns		1/2	- 8	2
10 Black			11	8
5 White			5	10
Beads Assorted		1/3	3 15	0
13 Masses Mock Garnets	8¢		\$1.0	4
Messrs. Berthold Chouteau & Pratt St	. Louis 14 Aug	1822		
3 Groce Indian Awls		3/4	0 10	0
100 Masses Mock Garnets	6¼¢		6.2	5
30 Bunches blue beads	23		6.9	0
11650 black Wampum	3.25		37.8	0
10400 white Wampum	2.00		20.8	0
100 Wampum hair pipes	41/2¢		15.7	5
2 Kegs gunpowder	10.50		21.0	0
50 beaver traps	3.50		175.0	0

Invoice of Sundry Goods furnished W. R. Farnam on acct. of his Outfit for 1822.

300 Masses M. Garnets	6¼¢	18.75
 Masses Red and Blue 	1/2	7
Barley Corns		
15 3/4 Masses Coloured Beads	•	- 18 4
8 doz. White beads	1/6	12
12 bunches large blue beads	23¢	2.76
3 Florentine Vests	1.25	3.75
21/2 Gallons Whiskey	38	95
MHS		St. Louis Oct. 17' 1822
W. John McKnight		Bot of the Am. Fur Co.
20 bunches blue beads	23¢	4.60
17100 black wampum	3.25	55.57
11400 white wampum	2.00	22.80
3½ lbs. blue beads	1/2	4 1

*MHS - Missouri Historical Society, St. Louis

APPENDIX E

MHS Chouteau Collections, Folder 1831, June-August

Inventory of Stock belonging to the Upper Missouri Outfit at Fort Union 10 June 1831.

560½ Ibs Blue pound beads
87 Ibs White pound beads
120 bunches Barley Corn No. 14
3/4 bunch Barley Corn No. 18

- 10 bunches Red Barley corn ½ bunch blue necklace
 - 8 bunches Blue round agate
- o. 18 3 Ibs Blue pigeon Eggs
- 50 bunches Agate beads No. 4
- 1½ bunches white and blue round
- A the Mile in a first fi
- 4 Ibs White pigeon Eggs

MHS Chouteau Collections, Folder 1832, January-February

An order for various articles of Merchandize to be forwarded to Fort Union Upper Missouri Outfit in the Spring of 1832.

blue pigeon egg

white pigeon egg — chalk white no other shade as pr sample already furnished blue cut glass assorted colors cut glass scarlet mk garnett beads blue glass beads sample No.21 green same style & quality No. 21 red same style & quality No. 21 amber same style & quality No. 21 red pound beads sample No. 22 black pound beads same size round blue agate No. 24 white barley corn Nos. 25 & 26 fancy glass bead blue oblong

No other kind of Beads than those now ordered can be traded with the Indians of this district, strict attention is therefore requested.

Fancy beads are for the white or half-breeds.

MHS American Fur Company, Ledger Y

1834

Invoice of Merchandize Shipped on board S.B. Assinaboin, A. G. Bennet, Master, bound for Fort Union . . . Upper Missouri Outfit, 1834.

120 lbs red beads	75	bun	. fancy	painted	beads	No. 4	5
300 lbs black beads	109	"	"	"	"	No. 5	5
336 lbs blue pound beads	54	"	"	"	"	No. 6	0
608 lbs white pound beads	60	"	"	"	"	No. 7	0
116 d. blue cut glass "	40	"	"	"	"	No	-

APPENDIX F

MHS Invoice of Merchandise the property of L. Valle Agent of the Firm of B.L. Valle & Co. to be traded at the White Walnut Hill on the Waters of the St. Francis River (Missouri) with the Shawnee, Muskogees, Deleware Indians.

20	Bunches	Cut Glass Beads	30	600
25	do	Com do do	20	- 500

St. Genevieve (Missouri) October 1827

MHS Office of the American Fur Company New York 29 June 1829

P. Chouteau Esq. St. Louis

We have remitted to Mr. Alefoundso Bertolla, Venice francs 3231 62/100 being balance of amount Invoice of Beads he sent out in 1827 which at the current rate of Exchange 520/100 and postage from Ham makes \$623 3/100 say six hundred and twenty two 3/100 dollars due 20 June 1829...

Ramsay Crooks

MHS P. Chouteau Maffitt Collection.

Inventory of Stock belonging to Upper Missouri Outfit at Fort Clark Mandan Village June 10, 1831

Beads	38 lbs. I	Blue pound Beads	361/2	13.87
	82 \	White " "	391/2	32.39
	1 Bund	ch Agate "	155	1.55
	9 "	Pale Blue "	131	11.79
	8½ "	Sky " "	159	13.04
	5 ″	Blue Cut Glass Beads	33	1.65
	2/3 "	Blue round necklace	2820	18.80
	11 3/4 "	Blue and White necklace	422	49.39
	121/2 lbs	Blue Pigeon Egg	79	9.88

MHS Inventory Fort Union - Ft. McKenzie

July 1, 1833

(List of trade goods for Ft. Union meant especially for Ft. McKenzie which had just opened in 1833 for Blackfoot trade).

320 Bu*	Cut Glass Beads	18¼	60.00
35	Com. Ditto	25	8.75
84 Bu	Ruby Agate	35	29.40
12 Bu	Harliquin Beads	90	10,80
2	Bead Bags	300	6.00
18	Rich Fancy D.	150	27.00

* Bunches

APPENDIX G

NYHS* American Fur Company Papers

Dec. 12, 1834

(Orders Inward. Book No. 1, p.29)

Memo Merch. to be purchased in U.S. by American Fur Co. to be shipped early next Feb. via N. Orleans for Pratte Chouteau & Co. St. Louis.

1000 lb. chalk white pound Beads No. 4400 lbs. chalk white pound Beads No. 5400 lbs. Black400 lbs. Red200 lb. Yellowpound Beads

25 bunches Round Red Agate Beads size of a Pea 25 bunches Large Black Barley Corns 50 bunches Brown Garnets No. 10

NYHS American Fur Company Papers

May 7, 1836

(Orders Inward. Book No. 2)

Memorandum of Blankets and Beads to be imported from France and Venice for account and use of Pratte, Chouteau & Co., St. Louis.

Beads desired from Venice

3000 lbs. chalk white pound beads same size as those purchased in New York in 1836.
500 lbs. c.w.p. beads small size
3000 lbs. Blue P. beads same as last purchase

NYHS American Fur Company Papers

May and November 1836

Source: Letter Book No. 3, p. 222. Letter from Ramsey Crooks (President, American Fur Company) to Allesandre Bartolla at Venice May 23, 1836, stating that Crooks was enclosing an order for 7,200 lbs. of beads by Pratte, Chouteau & Co.

Reply:Letter of Allesandre Bartolla of Venice to Pratte, Chouteau and Co., St. Louis, dated 4 Nov. 1836, tells of beads sent to Pratte, Chouteau & Co., by him on the American Brig Richmond, Oct. 29, 1836: The order included

Boxes 1 to 14 each containing 30 packs of Blue Beads, weighing in all 4914 lbs. Venetian weight.

@ 1 Franc each pound

4914.00 Francs

* NYHS - New York Historical Society, New York

APPENDIX H

NYHS American Fur Company Papers. May and November 1836

Boxes 15 to 25 White Beads No. 3 Boxes 26 to 28 White Beads No. 4

Totalling 7667 lbs. @ 60 centimes	4600. F	÷r.
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Box No. 25 contains different samples with	
prices and Nos. included in box.	329.37 Fi
Box No. 28 contains 493 lbs. White Beads	
already mentioned besides a sample of	
Blue Beads weighing 286 lbs.	•
@ 60 centimes	16.80
Total Francs	9860.17

(At end of letter Bartolla states that difference between the English and Venetian weight is as 100 to 150)

NYHS American Fur Company Papers

Source: Memo of Merchandize to be purchased in N.Y. by American Fur Company for Pratte, Chouteau & Company of St. Louis, 1837. Orders Inward Book No. 2, p.180. Includes beads to be purchased as follows:

50	bun	ches E	Brown	Mo	ock (Garne	t No. '	10
125	"	E	Blue cu	ut g	lass	beads		
25	.,	E	Black	<i>``</i>	"	"		
25	.,	A	Amber		"	"		
25	"	V	White	"	"	"		
200	"	F	Round	BI	ue b	eads N	lo. 10	
500	lbs.	chalk	white	pc	und	beads	s small	size
500	"	"	"		"	"		
150	"	"	Pigeor	۱E	gg	"		
150	"	white			"	"		

NYHS American Fur Company Papers

Dec. 28, 1840

1837

Source: Letter from Geisse and Korckhass to Ramsey Crooks, President American Fur Company, dated Philadelphia.

We are anxiously expecting the arrival of the Chandler Price upon which are ladened the Blue and White pound beads also some few Egg beads.

We have received 6 casks of Chalk White Beads, proper size, which we store in New York until wanted. Have as yet received no advice of the Brown Garnets we expect; they must arrive by first vessel from Hamburg.

APPENDIX I

Inventory of Stock the Property of P. Chouteau Jr. & Co. Upper Missouri Outfit on hand at Fort Alexander 20th May 1851.

60 lbs.	Blue pound beads	N.Y.	50	30.00
Inventor Outfit or	y of Stock the property of P. hand at Fort Benton 4th May	Chouteau 1851	Jr. & Co. U	pper Missouri
63 lbs.	Red pound Beads	N.Y.	65	40.95
146 lbs.	Blue pound Beads	N.Y.	50	73.00
126 lbs.	Blue pound Beads small	N.Y.	50	63.00
160 lbs.	White pound Beads	N.Y.	30	48.00
8 Bu.	Small Barleycorn Beads	F.	1621/2	13.00

33 Bu. Snake Beads	N.Y.	25	8.25
79 lbs. Loose Beads	F.	30	23.70
1 1/12 Card Necklace Beads	F.	150	1.63
4 Bu. Cut Glass Beads	N.Y.	16	.64
15 lbs. Red Pigeon Egg Beads	N.Y.	75	11.25
37 lbs. Black Pound Beads	N.Y.	20	7.40
6 lbs. Assorted Beads	N.Y.	25	1.50
10½ lbs. Blue Garnishing Beads	N.Y.	56¼	5.91
12½ Ibs. White Garnishing Beads	N.Y.	56¼	7.03
1/2 Bu. Blue Agate Beads		150	.75

Inventory of Stock the property of P. Chouteau Jr. & Co. Upper Missouri Outfit on hand at Fort Union 15th May 1851

11 prs. Garnd Mockasine	F.	50	5.50
80 lbs. Blue pound Beads	N.Y.	50	40.00
58 lbs. Comn purple Beads	N.Y.	25	14.50
36½ Ibs. Blue Pigeon Egg Beads	F.	60	21.90
137 Ibs. White Pigeon Egg Beads	N.Y.	75	102.75
27 Ibs. Red Pigeon Egg Beads	N.Y.	75	20.25
17¼ Ibs. Seed Beads	F.	111	19.15
10½ lbs. Red pound Beads	N.Y.	65	6.83
4 lbs. Loose pound Beads	F.	25	1.00
6 lbs. Seed pound Beads Loose	F.	50	3.00
21¼ Burd Blue Agate No. 10	N.Y.	156	33.15
29 Burd Agate No. 9	F.	125	36.25
41 Burd White Agate No. 4	F.	75	30.75
9 Burd Sma Blue Barleycorn	N.Y.	50	4.50
120 Burd Sma Red Barleycorn	N.Y.	50	60.00
20 doz.Sma White Barleycorn	F.	35	7.00
31 doz. Large White Barleycorn	F.	20	6.20
2 doz. Blue Necklace	F.	25	.50
7½ M. Grain Wht. Wampum	F.	438	32.85

(From McDonnell (1941): Appendices