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I. INTRODUCTION

Until recently, there has been little systematic work in Neutral archaeology. Perhaps, the first significant contributions to Neutral archaeology were published in the Annual Archaeological Reports of Ontario (1886-1928) which included numerous illustrations of Neutral artifacts as well as several articles concerning [illegible] (e.g. Boyle, 1903; and Waugh, 1902). The work of these early Neutral researchers, however, was rather sporadic in nature and there was no one in the Neutral area who produced reports comparable to those of A. F. Hunter in Simcoe County or G. E. Laidlaw in Victoria County. Even Wintemberg, who was intensely concerned with the problem of Neutral origins, never conducted major excavations on a contact Neutral site. It was Frank Ridley (1961), an archaeologist whose work has been primarily associated with the Simcoe County and Canadian Shield areas, who provided the only detailed analysis of Neutral archaeology. Gordon Wright (1963) has published a Neutral ethnography which also contained a historical summary of Neutral Archaeology.

Ridley and Gordon Wright, however, made little attempt to establish a chronology of Neutral sites. The aim of this paper, therefore, is to outline a chronological sequence of glass beads in order to more accurately date Neutral sites. This paper is essentially a supplement to the work of Ridley. Parenthetically, it should be noted that for the purpose of this paper the term "Neutral" is applied only to the contact sites of Wright's (1966) "Neutral branch".

A central difficulty in dating Neutral sites is the paucity of historical data. Despite the visits to the Neutrals by de la Roche Daillon in 1626 and Brebuf and Chaumonot in 1640-1, none of the villages described by these missonaries can be associated with any certainty to known archaeological sites although a number of correlations have been attempted (for a summary of these correlations see G. Wright, 1963: 77). One of the few usable absolute dates for the Neutrals is 1650-1 which marks the dispersal of the Neutral, Huron and Petun by the Five Nations Iroquois and thus operates as a terminal date for the archaeological complexes of the Ontario Iroquois, at least, in their respective traditional homelands.

In the absence adequate historical data, other chronological methods must be employed. Techniques such as Carbon 14 lack the sensitivity to detect the 10 to 25 year time differentials desirable in historic archaeology. Although it is possible to establish a relative chronology by the seriation of indigenous Neutral industries (e.g. pottery, pipes), this method is limited for, unsupplemented, it does not provide absolute dates.

The use of European trade goods as chronological indicators has been of increasing interest in the archaeology of the Northeast (see Quimby, 1966, and Witthoft, 1966, for a general survey of Northeastern trade goods). In the absence of specifically dated items such as coins, which are rare in aboriginal sites, the most useful catagories of trade goods for chronology whould include kaolin pipes, silver ornaments, iron knives and glass beads. In Ontario, kaolin pipes are virtually

absent in pre-1650 sites (to my knowledge none have been found on Neutral sites) and trade silver is only introduced by circa 1760. Hagerty (1963) has demonstrated that the iron knives found on Oneida sites underwent relatively rapid stylistic change. Unfortunately, the author has recorded less than two dozen Neutral iron knives—a sample too low to permit the establishment of an iron knife sequence for the Neutral. In most Neutral sites, however, glass beads are relatively numerous as well as being diversified in type and apparently subject to rapid stylistic change.

II. DATA SOURCES

During 1967 and 1968, the author conducted a study of glass beads which had been recovered from Neutral sites. The following is a listing of the Neutral sites studied, the sizes of the glass bead samples, the collections utilizied and some additional details:

Carton Ossuary. The Carton ossuary is located near Milton, Ontario and was excavated by Dean Axelson, president of the Ontario Archaeological Society. 611 glass beads were recorded.

Fradenberg Ossuary. The Fradenberg site is loacated on the banks of the Grand River in Seneca Township, Haldimand County. Mr. Frank Kingdon of St. Catherines collected 5 glass beads from this previously looted ossuary.

Shaver Ossuary. The Shaver ossuary, excavated by McMaster University in 1968, was located on the crest of a drumlin in Beverly Township, Wentworth County. Grave goods included 403 glass beads, over 12,000 shell discoidal beads, portions of clay vessels, a ceramic pipe, fragments of brass kettles, several iron knives, an iron ax, a brass pin and a brass ladle.

Christianson Village Site. This site was probably the village of the nearby Shaver ossuary. Four glass beads were recovered by McMaster University during excavations in 1968.

Daniels Ossuary. Ridley (1961:20-21) has described the Daniels ossuary (the Frank Butter ossuary) and its associated village site. The ossuary was excavated in 1933 by John Morton, William Cleland and Frank Butter. The 1205 glass beads studied were in

the John Morton and Frank Kingdon collections.

Sealey Village and Ossuary Site. This large village and ossuary site has been previously described by Ridley (1961: 9-11). Of the glass beads studied, 1320 were recovered by surface collecting and screening in both midden deposits and disturbed burials. The following collections were utilized: F. Kingdon, MacDonald, Envers, Axelson and the author's. George Parkins of Ancaster Township has excavated a series of undisturbed burials in 1967. This sample of 365 glass beads is refered to in the following sections as the "Sealey Ossuary" and will be treated separately from the other Sealey site sample ("Sealey Village") in order to facilitate intrasite comparison.

Walker Village and Ossuary Site. The Walker site is the largest site studied in this report. Ridley (1961: 12-20) and Boyle (1904: 92-95) have described this site. Like the preponderance of the Sealey site sample, the 1245 beads recorded for Walker were recovered by screening and surface collecting in all parts of the village and burial areas. Studied were beads from the following collections: Kingdon, Kocsis, H. Smith and the author's.

Martin Village Site. This habitation site was located on the banks of the Twenty Mile Creek in Binbrook Township. The 33 glass beads studied were recovered by the author in surface collecting.

Burke Ossuary. The Burke site was excavted at various times by John Morton, Herries Finley, William Cleland and Frank Woods. The only glass beads now available for study were the 670 found

by Cleland and Morton and are now in the latter's collection.

Dwyer Ossuary. The lower layer of the Dwyer ossuary was excavated by Rutherford Smith in the 1930's (Ridley, 1961: 26-30). The artifacts recovered by Smith are now at McMaster University included 54 glass beads.

Hamilton Village Site. The Hamilton village site is located in West Flamboro Township, Wentworth County and is situated on the banks of a small creek. There is no known associated ossuary although the Dwyer ossuary is only several miles to the southwest. The 53 glass beads studied were surface collected by George Gee of Dundas.

Port Colburne Ossuary. In the E. J. Case collection (now at McMaster University) are 210 glass beads from this ossuary. This is probably the site reported by Boyle (Cannot locate reference).

St. Davids Ossuary. The St. Davids site is located in Stamford Township. Lincoln County. The E. J. Case collection contains 331 glass beads from this site.

In order to cross-date the glass bead sequence developed for the Neutral, a study, based on both personal examination and published sources was made of glass beads found on sites of the following tribes: Huron, Petun, Niagara Frontier Iroquois (the tribes or tribes represented by these sites is not exactly known), Seneca, Oneida, Mohawk, Susquehannah and Nipissing.

Huron. A study was made of glass beads from the following Huron sites: Ossossane village, 109 (28 in Frank Ridley collection in the Huronia House Museum; 81 in the Simcoe County Museum); Santimo, 21 (in Charles Wray collection); Angoutenc, 38 (28 in

Frank Ridley collection); Warminster, 21 (John Steele collection). Descriptions of the Ossossane village, Santimo, Angoutenc and Vints sites have been published by Ridley (1949, 1953). Warminster has been described by McIllraith (1946) and Emerson (1962).

Reference will also be made to written descriptions of glass beads found at St. Marie I (Kidd, 1949), St. Louis (Jury and Jury, 1955), Ossossane odsuary (Kidd, 1953), Graham-Rogers (Bell, n.d.) and Warminster (Bell, n.d.).

Petun. Glass bead samples were studied from the following Petun sites: Melville, 39 (Hubel collection); Glebe, 7 (J. Blair collection); John Long, 9 (J. Blair collection); Cambell-Kelley or Etharita 12 (Charles Garrad collection); Plater-Martin, 7 (5 in Charles Garrad collection, 2 in Art Mangiacotte collection); Plater-Fleming, 10 (Charles Garrad collection). Most of these sites have been described in the Huron Insitute's Papers and Records (Lawrence, Gaviller and Morris, 1909): Melville (site 3), Plater-Martin (Site 10), Etharita or Cambell-Kelley (site 5).

Bell (n.d.) describes the two glass beads found at the MacMurchy site.

Nipissing (?). A sample of glass beads was studied from the Frank Bay site (Ridley, 1954) which is a possible Nipissing site.

Niagara Frontier Iroquois. Although the Goodyear and Green Lake sites produced a few glass beads (White, 1961), only the Kleis site (White, 1967) provided a relatively large sample of glass beads.

Seneca. Charles F. Wray of West Rush, New York owns an extensive collection of glass beads from Seneca sites. The author made a brief study of glass beads from the following Seneca sites: Adams, Cameron, Factory Hollow, Dutch Hollow, Warren, Steele and Power House. Wray and Schoff (1953) have outlined a chronology of Seneca sites and listed the glass beads and other artifacts typical of each period. Kidd (1954) has studied glass beads from Dutch Hollow.

Oneida. Pratt (1961) has published a valuble booklet on the Oneida trade glass bead sequence. The pre-1650 Oneida sites producing glass beads are Stillman (also known as the Diable site), Wayland-Smith, Andrews, Thurston, Clark and Marshall. John Stillman generously provided notes which detailed additional information on glass beads from the Stillman, Wayland-Smith, Andrews, Thurston and Clark sites.

Mohawk. The author studied glass beads from the following Mohawk sites: Rice's Wood (John Stillman collection), Martin (Mohawk-Caugnawauga Museum collection), Randle (John Stillman collection), Brigg's Run (John Jackowski and John Stillman collections), Coolman (John Jackowski and Volkert Veeder collections) and Wagoner's Hollow (John Stillman collection).

Susquehannah. Glass beads have been described for the Blue Rock (Heisey and Witmer, 196.) and the Ibaugh (Kinsey, 1960) sites.

III. AN OUTLINE OF THE NEUTRAL TRADE GLASS BEAD SEQUENCE

After the data from the sources outlined in the previous section were collated and synthesized, a glass bead sequence for the Neutral was formulated. Four sequencial periods (termed periods 1, 2, 3 and 4) could be discerned. It was also discovered that the rather limited Petun and Huron data could be readily inserted in this Neutral sequence thus producing a glass bead chronology apparently applicable to the whole of the Ontario Iroquois. The Five Nation Iroquois sequences, however, displayed certain differences with the one established for Ontario after the end of period 2. In fact, in pre-1650 New York Iroquois sites, 5 not 4 glass bead periods were apparent—the New York period 5 temporally overlapping with the Ontario glass bead period 4.

In this section, each of the 4 glass bead periods defined for pre-1650 Ontario are described separately. Although only sparse data are available for the New York sites of periods 1 and 2, these are included with the Ontario material for no significant spacial differences are apparent during these early periods. The New York glass bead periods 3, 4 and 5 are presented separately from the Ontario ones.

Each of the glass bead types are assigned a number which is presented in the body of this text in italics (eg. *55*). More detailed descriptions of glass beads as well as definitions of the glass bead terminology employed in this paper are provided in an appendix.

PERIOD I (Ontario and New York)

Considering the relatively early date of this period, it seems likely that sites of this time would contain appreciably fewer trade goods than the later sites which maintained more extensive trading relationships with the Europeans by both direct and indirect contacts. It should be expected, therefore, that at least some sites of period 1 may not produce enough diagnostic glass beads to permit a chronological placement. In this survey, only two sites could be assigned with confidence to period 1.

Neutral. Of the Neutral sites in this survey, only the Carton ossuary could be placed in period 1. Fortunately, this site provided an excellant sample of 611 glass beads of fourteen differnt types.

The most popular type at Carton was a translucent indigo "seed" bead (60) which numbered 544 (89%). It should be noted that all the beads of this type came from a relatively small portion of the ossuary. This suggests the possibility that these beads originally formed part of an embroidered decoration on an article of clothing.

Three rather distinctive styles seem diagnostic of period 1. These beads consisted of a sandy-like paste (or frit) core which was coated by a thin layer of indigo glass. Two of these types (56, 59) were decorated with a complex design of white glass appliqué. The other (53) was monochrome but bore eight lateral flutes.

A number of ~~rather diverse~~ diverse styles of polychrome beads were

present at Carton (52, 54, 55, 61, 62). One of these types (52) was also found at the Daniels ossuary, an early period 3 site. The others (except for 61) were limited to period 1 ~~among the Neutral~~ sites. ~~in this survey~~. The round turquoise bead (1) which was so popular in periods 3 and 4 constituted the second most frequent type at Carton. Indigo round (14) and indigo football (23) beads, also typical of period 2, were also present at Carton.

Seneca. The Adams site produced 21 beads of the paste core type 56. Other types shared by both Carton and Adams were the turquoise round (1), the "gooseberry" (61) and 52. Two other tyoes at Adams were similar to types 62 and 58 of the Carbon site. On this basis, the Carton and Adams site would seem to be approximately coeval. ~~It should be noted that~~ Notably, grave goods at both Carton and Adams were relatively scarce in comparison with the profusion of grave goods found on later Neutral and Seneca sites.

Quantification of period 1 glass beads was tabulated as follows:

TYPE	CARTON	ADAMS	KLEINBURG
60	544	0	
61	19	1	3
58	6	0	
57	5	0	
54	3	0	2
55	2	0	
59	2	0	2
56	2	21	(Con't)

TYPE	CARTON	ADAMS	KLEINBURG
53	1	0	
62 (no core)	1	0	5
62 (clear core)	0	37	
52	1	2	
51	1	0	
23	1	0	
14	1	0	3
1	22	13	4 T
50	0	3	
Green round with white stripes	0	7	
TOTAL:	611	84	92 - 2 30 — 4

PERIOD 2 (Ontario and New York)

Neutral: The Shaver and Fradenberg ossuaries as well as the Christianson site were assigned to period 2. Although the samples for the Fradenberg and Christianson were low (5 and 4 respectively), the Shaver ossuary produced 403 glass beads of 17 different types.

The most popular styles during period 2 were the white football (31) and white tubular (11) beads. At Shaver, these two types constituted about thirty percent each. Minority types at Shaver, which typify period 2, were the indigo football (23), indigo tubular (39), black tubular (70) and black football (73).

At the Shaver ossuary, the star beads (3B, 76) as well as several other types (50, 15) which are more typical of periods

3 and 4. This may indicate a late period 2 date for Shaver.

Christianson produced "gooseberry" (61), white tubular and indigo tubular. Possibly the goosberry beads are holdovers from period 1. In general the Christianson and Shaver glass beads seem roughly contemporary---since these two sites are about one quarter of a mile from one another they probably represent the village and burial area of a single community.

The white football, indigo footbal and indigo round are the only types from the Fradenberg ossuary.

Huron. At the Warminster site, John Steele found 15 white football, 4 indigo football and 1 white tubular glass beads. Bell (n.d.) reported that the white football (which he called "seed" because of their resemblance to a grain of wheat) was common at Warminster and further noted that the white tubular was a minority type.

At Graham-Rogers, Bell (n.d.) reported that the white football was "common" and the white tubular a minority type.

The Vints site produced 9 glass beads typical of period 2.

Petun. The MacMurchy site produced two white tubular glass beads: "Only two glass beads are known to have come from this site, one from the excavated sample, the other is in the MacMurchy family collection. Both of these are cylindrical, one half by three sixteenths inches of white glass. " (Bell, n.d.).

Seven white tubular glass beads were recovered from a small test cut at the Glebe site ossuary by J. Blair and C. Garrad.

The Melville site provided a sample of 39 glass beads. The most popular types were the white football, white tubular and

indigo football. Also present was a white flusheye bead (33) which would seem to be a typical period 2 type.

Seneca. Charles Wray has recoverd from the Cameron site a series of glass beads which seem to be very similar to those found at sites such as Shaver and Melville. At Cameron, the white football was the most common style. Also present were the white flusheye, indigo football, white tubular, indigo tubular, white round and turquoise round.

Oneida. The Stillman site produced one glass bead which resembled the indigo tubular (39) but Pratt (1961: 6) feels this bead is probably intrusive. The Stillman collection, however, included a portion of a white tubular bead. Both the white tubular and indigo tubular are typical period 2 types which suggests that neither bead is intrusive and the site was occupied during period 2. This relatively early date for Stillman is corroborated by the observation (Pratt,1961: 6) that trade goods are scarce at this site.

Nipissing(?). The Frank Bay site produced a sample of 51 glass beads. However, the contact level apparently contains at least two components. About 18 of glass beads seem typical of the 1670 to 1700 period and are therefore not of relevance to this paper. The other 33 glass beads can be assigned to period 2 and include the white football, white tubular, turquoise round and white round (19).

Kichesprini(?) & Allumette Islanders?

Kennedy (1970) illustrates strings of glass beads (period 2) from unidentified site in Renfrew County.

Quantitative data on Period 2 glass beads was tabulated as follows:

TYPE	SHAVER	CHRISTIANSON	FRADENBERG	WARMINSTER	VINTS	GRAHAM-ROGERS	MELVILLE	GLEBE	MACMURCHY	FRANK BAY	CAMERON	STILLMAN
31	123		3	15		x	16			31	6	
11	122	1		1		x	9	7	2	11	3	1
23	3		1	4	1		8				2	
32	28	1			2		1				1	1
14	10		1							2		
1										6	1	
33							1				x	
19	25									2	1	
74	7											
77	4											
73	3						2					
75	1											
78	1											
72	1											
70	52											
76	3											
50	1											
3B	18				2							
15	1											
61		2										
68					1							
18					1							
13					1							

TYPE	VINTS	MELVILLE	FRANK BAY	CAMERON
25?	1			
88		1		
46		1		
82			1	
64				1
45				1
38 (with dark core)				1

PERIOD 3 (Ontario)

Neutral. The bead types of Periods 3 and 4 are considerably different from thos of Period 2 although there is some degree of overlap. Between Periods 3 and 4, however, the major differences are quantitative and therefore in terms of bead types present these two periods are quite similar.

Of the Neutral sites in this survey, the Daniels, Port Colburne, Martin, Sealey and Walker sites can be assigned to period 3.

The major bead types of Period 3 are the red round (2) and the turquoise round (1). The red round round is the most popular and ranges in frequency from about 40 to 65 percent. The turquoise round is less common and is found in frequencies from about 10 to 25 percent. Popular at some sites, especially those early in Period 3, are the star beads (3A, 3B, 3C, 85) which attain a frequency of 15 to 20 percent at the Port Colburne and Daniels sites. The red tubular (32), which are so popular on Period 4, are found in frequencies of under 6 percent in Period 3 sites.

Certain minority types (30, 4, 10, 5) seem to be largely confined to Period 3, although others (50, 15, 12, 25, 16, 18) are found with about equal popularity in both Period 3 and 4.

The Daniels ossuary presents an informative situation. Occuring at Daniles are a number of types such as white tubular, white football, white round, indigo football and white flusheye which are typical Period 2 markers. The preponderance of the beads, however, are red round and other Period 3 types. This suggests that Daniels can be regarded as partly transitional between Periods 2 and 3.

Huron. Of the 21 glass beads recovered from the Santimo site, 15 are red round and 3 are turquoise round, Neither star nor red tubular beads are present.

Angoutenc produced 38 glass beads. Of these, 13 are red round and 9 are turquoise round. The red tubular is absent.

Data on Period 3 glass beads are quantified as follows:

TYPE	DANILELS	MARTIN	PORT COLBURNE	SEALEY	WALKER	ANGOUTENC	SANTIMO
2	502	3	89	843	835	13	15
1	77	12	37	322	318	9	3
3A	27	2	3	13	6		
3B	20	5	23	2			
3C	125	1	41	81	3		
15	12	2		7	8		
12	3	4		2	2	3	
50		1		1	2	2	
25	7			2	2		
32	15			15	21		

TYPE	DANIELS	MARTIN	PORT COLBURNE	SEALEY	WALKER	ANGOUTENC	SANTIMO
18	187		14		24		
16				3	7	1	
14	57		1				1
11	119			1	1	1	
19	10						2
20					3		
64					1		
34					1		
66					1		
71					1	3	
81					2		
65				1	1		
69				1			
4				2	1		
10				4	2		
5				1	3		
37				1			
44				1			
68				1			
17		1					
63		1					
82	2						
30	3			9			
28	6			6			
38	1			1			
22	1	1					
33	1						

TYPE	DANIELS	MARTIN	PORT COLBURNE	SEALEY	WALKER	ANGOUTENC	SANTIMO
67	1						
13	2						
24	4						
40	10						
31	6				1		
70	1						
52	1						
51	1						
23	4						
88A			1				
—						3	
—						1	
—						1	
—						1	

PERIOD 4 (Ontario)

Neutral. Five of the Neutral sites in this survey can be assigned to period 4, namely, the Burke ossuary, St. Davids, Sealey ossuary, Dwyer ossuary, and the Hamilton site.

The chief distinguishing feature of period 4 is the increased popularity of the red tubular (32) which ranges from 8 to 30 percent in frequency. Turquoise round is even more popular than in period 3 and maintains a 25 to 50 percent frequency. Conversely the red round has declined in popularity and ranges from 15 to 25 percent. In general, the star and varieties of melon beads are less common than is period 3. Chart 2 presents a frequency seriation of Neutral sites based on five glass bead types: the

white tubular, star, red round, turquoise round and red tubular. Included in this chart are all Neutral sites from periods 2, 3 and 4 which possess samples of a size suitable for frequncy seriation. The five glass bead types, which can be considered the most popular during these periods, each show different frequency peaks: the white tubular during period 2, the star at the beginning of period 3, the red round at the end of period3, the turquoiuse round at the beginning of period 4, and the red tubular at the end of period 4. This chart also demonstrates the continuity between periods 3 and 4, in fact, the line of demarkation between these two periods is only arbitrary.

Huron. Of the 43 glass beads described for St. Louis (Jury and Jury, 1955), 16 (37 %) appear to be of the red round type, 7 (16%) of the turquoise round and 6 (14%) of the red tubular.

Ossossane village provided a sample of 110 glass beads. Of these 62 (56.4%) were red tubular, 12 (10.9%) red round and 14 (12.7%) turquoise round.

The glass beads from the Ossossane ossuary (Kidd, 1953) were not quantified in Kidd's description, thus making the analysis of this sample somewhat difficult. Quimby (1966) has presented a list (which is not quanitified) of the types present at this ossuary: ~~the~~ red tubular (including types 32 and 20), the red round, the turquoise round, star, 25, and 2. Of course, some of these type ascriptions may be in error for they are based only on somewhat vague descriptions. It is probable that Ossossane ossuary can be assigned to period 4, thus, making it approximately contemporary to its associated village site.

At the Train site, 4 of the 5 glass beads examined were red tubular.

Kidd's (1949) description of the glass beads from the Ste Marie I site provides some crude attempts at quantification (e.g. "approximately half the beads are...."). Present are the red tubular (types 32, 20 and 27), the red round, turquoise round, indigo round (14) ?, 4 ?, and an unique blue bead with spiral grooves.

Petun. Four Petun sites can be assigned to period 4: the Plater-Fleming, Plater-Martin, Etharita and Jon Long sites.

Of the seven glass beads from the Plater-Martin site, 4 are of the red tubular variety and 2 of the turquoise round. The remaining bead is of the indigo round type.

Of the 10 glass beads recorded from the Plater-Fleming site, 5 are of the red tubular, 3 of the red round and 2 of the turquoise round.

The twelve glass beads recorded for the Etharita site are more diversified in type than the previous lots. The red tubular is represented by 3 beads (25%). Also present is 1 red round bead and 1 turquoise round.

At the John Long burials 9 glass beads of the red tubulr type were the only glass beads found.

Niagara Frontier Iroquois. At the Kleis site White (1967) obtained a surface sample. Of the 121 beads recorded, 57 (47.1%) were of the turquoise round type, 28 (21.5%) of the red round and 7 (5.8%) of the red tubular.

A Comparison of Periods 3 and 4 among the Huron, Petun and Neutral.

Chart 3 is an attempt to present, in graphic form, the period 3 and 4 sites of the Ontario Iroquois with respect to the three major glass bead types during this time: the red round, the red tubular and the turquoise round. Each site, unless its sample proved too small, is plotted on a triangular co-ordinate graph with the relative frequency, expressed in percentage, of the three types scored on the three axes. This relative frequency is obtained by adding the absolute quantities of the three glass bead types for each site and then computing the percentage frequency of each of the types. Geographers, it might be added, employ a similar graph for presenting the relative frequency of clay, sand and silt in soil.

The Huron-Petun and the Neutral-Niagara Frontier sites are plotted with separate symbols. The graph indicates, as would be expected, that all the sites of period 3 are confined to one part of the table, more specifically the red round apex. In period 3, both the Huron and Neutral sites seem to be similar in their proportion of the three glass bead types. In period 4, however, the combined frequency of the red round and the red tubular is higher on all Petun-Huron sites than it is on Neutral sites which have a higher percentage of the turquoise blue. Three explanations can be offered for this difference: 1.) this difference is due to sampling error; 2.) the Petuns and Hurons had a cultural preference for red beads (it might be added that red was an important colour in the dress and rituals of the Hurons); 3.) an influx of the turquoise round bead into the Neutral area from the New York Iroquois. There are not enough data available to permit any conclusive assessment of these alternatives although the author favors the second explanation.

Quantitative data on period 4 glass beads are as follows:

TYPE	BURKE OSS.	SEALEY OSS.	DWYER OSS.	HAMILTON	ST. DAVIDS.	PLATER+MARTIN	PLATER-FLEMING	ETHARITA	OSSOSSANE VILL.	ST. LOUIS
1	233	176	18	13	74	2	2	1	14	7
9	321	99	9	12	84		3	1	12	16
32	45	41	14	16	43	3	5	3	62	6
20			1	1	1	1			6	
27		2								2
76	1								1	
3B		5		1				1		
3A			5	1						1
15	26	3	1	1	9			1	5	4
12	3		5	3	8			1	2	
16			2	1	3					
2				1					1	
36				1						
48				1						
30					1					
50		1	2		2					
11		16			2					
4	20									
23					7					
22					1					
10								1		
14						1		1		

TYPE	BURKE OSS.	SEALEY OSS.	DWYER OSS.	ST. DAVIDS		ETHARITA	OSSOSSANE VIL.	ST. LOUIS.
18	22							
69		1						
65		2						
64		1						
35		15						
26		1						
39				1				
72				1				
75				1				
28				1				
87				21				
round black				13				
round amber				3				
Baby-blue wire round				9	(intrusive?)			
71								1
25		2	1			1		
19						1		2
31								2
Misc. (Not typed for Neutral)							5	2

PERIOD 3 (New York)

The glass beads recovered from periods 1 and 2 from Ontario and New York Iroquois sites (with the exception of the Susquehannah) appear to be quite similar although the New York sample is admittedly small. With the inception of period 3, however, there are marked spacial differences in the Northeastern glass bead horizons. Although the New York and Ontario glass bead sequences for period 3 are similar they are nevertheless distinct from one another---a difference which occurs in subsequent periods.

Period 3 in New York is too complex to detail within the limits of this paper, although several glass bead record sheets are included in the appendix of the period 3 Wayland-Smith (Oneida), Martin (Mohawk) and Rice's Woods (Mohawk) sites. As can be observed various types of "melon" beads (pea-sized, and larger, striped beads) are much more common in New York. Chart 4 presents the frequency differences between New York and Ontario period 3 sites with respect to ~~four~~ three glass bead types in the star bead class. The round star (3A) is far commoner in New York than it is in Ontario, whereas the tubular star (3B) and the faceted star (3C) are more popular in Ontario. Since there are three samples for each area and the differences are so distinct it is unlikely that this is due to sampling error.

PERIOD 4 (New York)

As with period 3, in New York there is a marked difference with the Ontario sequence. In the appendix are some glass bead record sheets from some period 4 New York sites: Warren (Seneca) Brigg's Run (Mohawk) and Randle (Mohawk). Typical of these

sites is a profusion of small round beads similar in size to the average red round and turquoise round bead. In fact, these two types are well represented in the New York Period 3 but similar sized types of black, white and yellow glass are just as common although beads of these latter three colours are rare in Ontario. The red tubular (32) is infrequent in New York when compared to its popularity the period 4 sites of Ontario.

PERIOD 5 (New York)

This period probably began just prior to 1650---the cuteoff date for the Ontario sequence---and thus of little concern in this paper. Continuing in this period are the small round beads of red, turquoise, white and black of the previous period but the dominant types are now tubular in shape. One of these tubular beads is indigo in colour and similar to my type 39. Even more popular is a tubular bead of red glass. These, it should be stressed, are not like my type 32 for they are ~~almost~~ invariably only half the diameter---in fact, similar in size to type 39.

HISTORICAL BACKGROUND

In order to provide absolute dates for the various glass bead periods, it is necessary to understand the trading relationships between the European and Indians. Although this seems obvious, I believe that many of the trade good researchers have not placed enough emphasis on these relationships.

It is, however, beyond the scope of this paper to provide a detiled study of these relationships. A few of the more important references concerning this matter will be listed. The best general work on European-Indian trading relationships in the Northeast is George Hunt's well-known The Wars of the Iroquois (Hunt, 1940). Murray (1938) has provided an excellant article which details the comparitive volumns of the Dutch and French fur trade in the Northeast during the 17th century. Innis (1930) has contributed an entire book on the fur trade in Canada although most of his material deals with the 18th and 19th centuries and is therefore not as relevent as the previous two studies.

Primary sources can provide much valuable data on trading relationships. Hakluyt (1907) collected the accounts of English explorers in all parts of the world before about 1590. For some of the 16th century French accounts one should consult the Burrage edited (1906) Early English and French Voyages. For the French during the 17th century the accounts of Champlain (1929), and the Jesuits (Thwites, 1896-1901) are invaluable. Jameson (1909) has edited a volume of 17th century accounts of the Dutch colony of New Netherlands.

An excellant modern history of the English colonies in New England has been written by Vaughan (1965). Trelease (1960) has contributed an extensive analysis of the European-Indian contacts in 17th century New York. I found a text book by Bolton and Marshall (1927) of particular value because it summarized most of the

data of the colonization of North America

Chart 5 attempts to summarize, in graphic form, the dates of European eploring, trading and settlement in four colonies of North America: New France, New England, New Netherlands and Virginia. The following is a brief discussion of the relative importance of these four colonies in regards to the dissemination of European trade goods to the Iroquois:

New France. This is the simle most important source of trade goods for the Ontario Iroquois. The Huron acted as "middlemen"---travelling to Montreal and then trading these goods to the Petun and Neutral. There was a considerable amount of antagonism between the Ontario Iroquois and French on one hand and the Five Nation Iroquois and the Dutch on the other. Thus there would be little influx of the French goods into New York.

New England. Although this colony undoubtedly conducted extensive trading relationships with the nearby Algonkin speaking tribes of New England, its importance for the New York Iroquois (not to mention the Ontario Iroquois) would be limited. The Appalachian mountains acted as a barrier to trade. Furthermore, the most important route through the Appalachian Mountains was the Mohawk valley, an area dominated by the Mahicans until around 1627. The Mahicans, it should be noted, were the enemies of the Mohawks, who resided just to the west, and there would be little in the way of trade between the two.

New Netherland. After the rapid establishment of Dutch trading interests in the Northeast, the colony of New Netherland was the dominant trading force in New York---the Five Nations Iroquois trading at Fort Orange, near present day Albany.

Virginia. Considering the distance between Virginia and New York-Ontario, it is doubtful whether signinificant amounts of trade goods from this colony would have disseminated to the Iroquois. One exception to this, however, may be the Susquehanna which were located in south-eastern Pennsylvania and are thus fairly close to Virginia.

ABSOLUTE DATING OF THE GLASS BEAD PERIODS

Although Pratt (1961), Wittoft (1966), and Wray and Schoff (1953) have applied absolute dates to their glass bead periods it was felt that these dating schemes should be carefully reexamined. The dating schemes of these researchers is summarized in chart 1. It should be noted that the glass bead horizons are labelled 1 through 7 based on numbers assigned by Wray and Schoff for the Seneca. This application of numbers to the Pratt and Wittoft sequences was based on the judgement of the author and was not used by these archaeologists in their publications.

The following data are of use in the assigning of absolute dates to the four glass bead periods outlined for the Ontario Iroquois in this paper:

1.) Since the Neutral, Huron and Petun were dispersed by the Five Nations in 1650, all the Ontario Iroquois sites in this survey must date prior to 1650.

2.) The glass beads found at the Ste. Marie I site in the European compound must be typical of the sort traded within the 1639-49 period---the occupation date of this site is attested by incontrovertible historical documentation (Kidd, 1949). The Jurys' St. Louis (Jury and Jury, 1955), if it is the site

of this mission-village, was destroyed in 1641. The Ossossane village site of Ridley (1949, 1953) can also be dated to the 1630's and 1640's. Kidd (1953) believes the Ossossane ossuary to be the one observed by Brebuf in a Feast of the Dead ritual from 1636. It must be noted, however, that only the identification of Ste. Marie I is beyond question althougth the others are fairly secure.

3.) Although a few visits were made in the 1620's, the Jesuits began intensive missionary activities in Huronia only after 1634. Therefore sites producing Jesuit items such as rings marked IHS or religious medallions bearing the image of St. Francis Xavier (the patron saint of the Jesuits) probably date, at least in part, from after 1634. These Jesuit articles have been found at Ste. Marie I (Kidd, 1949), Ossossane Village (IHS ring displayed at the Huronia House Museum), Ossossane ossuary (Kidd, 1953), Plater-Martin (Lawrence, Gaviller, and Morris, 1909), and Etharita (St. Francis Xavier medallion in J. Blair collection).

4.) The Warminster site is thought to be the Cahiague which was visited by Champlain in 1615 (McIlwraith, 1946; Emerson, 1962). Since this village was moved by the time of Sagard's visit in 1623, a date of approximately 1610-20 seems reasonable for Cahiague.

5.) For periods 1 and 2 in New York and Ontario the bead complexes seem fairly similar. After this time, however, there are marked differences between the two sequences. The Neutral, Huron and Petun seem to be similar to each other but distinct from the New York Iroquois (as represented by Seneca, Oneida and Mohawk sites) who appear to consititue another group. These two groupings apparently indicate the differing trading

relationships that arose because of the rivalry between the French and Dutch. The Five Nations Iroquois traded primarily with the Dutch at posts such as Fort Orange. The Huron obtained the preponderance of their European trade goods from the French. Apparently the Petun and Neutral received their trade goods from the Huron who acted as "middlemen".

To exemplify the regional differences during period 3 a comparison of three types of star beads was employed. The round star (3A) dominated in New York but was much less common in Ontario. On the other hand the tubular star (3B) and faceted star (3C) were common in Ontario but rare in New York. Considering the trading relationships of the two groups it could be suggested that the round star bead was traded primarily by the Dutch and the tubular and faceted primarily by the French. In support of this hypothesis one might note that Van der Sleen (1963) illustrates a round star bead from a 17th century Amsterdam glass bead factory (the other two types of star beads are not illustrated).

Since more information is available concerning the dating of the latest Ontario Iroquois sites, the discussion of the absolute dating of the four periods will start with period 4 and proceed backwards in time.

Period 4. The cut-off date for period 4 is 1650---the date of the great dispersal. Since only sites of this period have produced evidence of Jesuit goods, this suggests a post-1634 date for period 4 sites. Ste. Marie I, which was occupied during the 1640's, produced glass beads which can be assigned to period 4.

Ossossane village and St. Louis, which, if they are correctly identified, should date from the 1630's and 1640's can also be assigned to period 4 on the basis of glass beads. The Ossossane ossuary which Kidd beleieves to be from 1636 is probably period 4 in its glass bead affiliation.

The suggested dating for period 4 is circa 1635 to 1650.

Period 3. The differences which occur after period 2 between the Ontario and New York Iruquois seem to indicate the former's orientation towards the French trade and the latter's towards the Dutch, Since the Dutch became an active trading force in New York between 1613-4 (the establishment of Fort Nassau on the Hudson River) and 1623 (the establishment of Fort Orange), it seems likely that period 3 started during this time. The suggested date for the inception of period 3 is 1615-20.

Period 2. Warminster, a period 2, site was occupied from approximately 1610 to 1620. This further supports 1615-20 as a terminal date for period 2. The beginning date for period 2, however, is more difficult to determine although it may be related to an increase in Huron trading on the St. Lawrence around circa 1600. Suggested dates for period 2 are 1600 to 1615-20.

Period 1. This period may be located anytime during the 65 odd years between Cartier's exploration of the St. Lawrence River in 1534 and the beginning of period 2 around 1600. Since a few bead types from period 1 are found in the following periods, a date closer to 1600 is suggested. Wray and Schoff (1953), and as well as

Witthoft (1966) have put forth 1550 as a beginning date for period 1 sites based on the recognition not only of Cartier's explorations during 1534-41 but also the great numbers of fishing boats that were plying the Atlantic coast. Yet, the glass beads found on period 1 sites, to me at least, seem to be the sort that would be designed especially for trading with natives--- suggesting a European source oriented towards trading rather than fishing since those engaged in the latter activity only sporadically contacted the Indians. Extensive trading in the St. Lawrence probably began circa 1580 as indicated in the following extract from a letter written by Captain Carlile in 1583:

> "This outrage and injurious dealing the capture of an Indian chief by the French circa 1540 did put the whole countrey people into such dislike with the French, as never since they would admit any conversation or familiaritie with them...they are as within these two or three years content againe to admit a traffique, which two yeeres since was begunne with a small barke of thirtie tons...."
>
> (Hakluyt, 1907: 90)

An initial date of 1580-5 is suggested for period 1.

This dating, however, still leaves about 50 years when trade goods of even earlier styles might be expected to be found on sites. Trade goods were obviously scarce during these 50-some odd years and their archaeological discovery would therefore be difficult. It should be noted that sites such as Sidey-Mackay (Wintemberg, 1946), Woodbridge (Emerson, 1954) and Garoga (Funk, 1967)

produced, despite fairly large scale excavations, only a few metal trade goods. Possibly sites such as these belong in the 1534-1580 period.

A Criticism of Wray and Schoff's Dating for the Seneca Sequence.

Chart / presents the dating schemes for seven sequential glass bead horizons in New York as proposed by Wray and Schoff, Witthoft, Pratt and Kenyon. Each of the four dates systems vary from one another although the Kenyon dating seems to be the most divergent. Since the Witthoft and Pratt datings were largely based on the earlier work of Wray and Schoff it is the latter scheme that should be reinvestigated.

Wray and Schoff (1953) discovered that before 1687 the Seneca had lived in seven sequential sets of villages. The author has examined some of Wray's material and the relative dating seems indisputable. Wray and Schoff, using 1687 as a base line, assigned a 15 to 25 year life span (averaging 21 years) for each set of villages---producing the dating scheme presented in chart /. They also assumed, as previously discussed, a beginning date of 1550 for the introduction of trade goods. The Ontario Iroquois appear to have moved their villages every 10 or 15 years. My revised dating for the New York sequence as presented in chart / averages about 15 years for each glass period suggesting that perhaps the occupancy span of the Seneca villages was not about 20 years as proposed by Wray and Schoff but more probably 10 or 15 years. Also one might note that my dating scheme is more uniform in the length assigned to the glass bead periods than is the dating of Wray and Schoff, perhaps, indicating the almost cyclic nature of glass bead styles.

CONCLUSIONS

The bulk of this paper was written during the summer of 1968 with further revions and additions in March of 1969. Since its completion a number of new ideas on this work as well as potential areas for further reasearch have manifested themselves. Rather than recapitulate the general findings of this paper it might be more fruitful to present some of these new ideas on the subject of glass bead dating in the Northeast.

1.) Throughout this paper the chronological relationships between periods 3 and 4 of Ontario and periods 3,4 and 5 of New York have not been explicitly stated. Period 3 in both Ontario and New York appears to begin at the same time--- about 1615 or 1620. In New York period 3 ends at about 1630 whereas in Ontario 1635 seems to be a more reasonable date. It is possible, however, that their terminal dates coincide. Period 4 in Ontario extends up to 1650 but in New York it gives way to period 5 about 1640-5. It would be more convenient to establish glass bead periods in both areas with coinciding dates but this, at least at the present time, does not seem possible. Furthermore, these differences can be expected if the two areas are dominated by different European trading centers---the reasons for changes in glass bead styles lie in European not Indian history.

2.) It has been previously discussed that some 60 years exist between the probable introduction of trade goods in the Northeast and the inception of period 1. At one time I thought that various (trade good) periods with in this 60 year stretch could be defined with further research. But considering the scanty nature of the trade goods and their usually non-diagnostic form (pieces of brass and iron) it may never be possible to do this. Tentatively I am naming this 60 years before period 1 as period 0. Sites such as Garoga and Sidey-Mackay which, despite large scale excavations, produced one or two pieces of trade brass can be possibly assigned to period 0. This period, it should be reiterated, is characterized by very scanty, non-diagnostic, trade goods typically of brass or iron of the sort that might be traded or stolen from sailors on fishing boats (and, of course, from ships exploring the New World, e.g. Cartier).

The presence of the Vikings circa 1000 A.D. on the Atlantic coast may also have resulted in the trading of a few items of European manufacture to the Indians although it is unlikely that many of these would have diffused inland.

3.) Cultural preference by the Indians for certain colours of glass beads is also an area for further research.

At one point in this paper it was observed that during period 4 the Hurons seemed to have a higher proportion of red glass beads than the Neutral. Cultural preference by the Hurons was suggested as a factor contributing to this discrepancy. Ethnographic data indicates that among the Hurons red was an important colour in dress and rituals. The Hurons and Neutrals, however, were closely related and it is doubtful whether the Neutrals would not have valued red as highly as the Huron.

The Hurons acted as middlemen in the trading of French goods. The Neutrals only received their goods after they had passed through the hands of the Hurons. It is at this point where the Hurons tended to select from the goods received from the French the red beads leaving the remainder for the Neutrals and other tribes. Of course, this process of selection does not exclude the Hurons from trading red beads to other tribes but only reduces their proportion in respect to other colours of beads. This hypothesis is proposed on admittedly tenuous data.

Another approach to the cultural significance of glass beads and their colours would be to study their associations in burials. Here one could observe if certain types and colours of beads tended to be found with individuals of particular ages sexes or other statuses (as infered from grave goods). The assuary burials of the Ontario Iroquois make such studies difficult in Ontario although in New York the prevailing mode of burial (flexed, articulated skeletons) provides rich opportunities for this approach. No such studies, however, have been attempted.

4.) One sometimes reads, especially in the work of amateurs, that certain beads such as star beads are Venetian in origin. Italy, it is true, was the center of glass bead making in Europe but all of the countries involved in the colonization of Northeastern America had glass factories capable of manufacturing glass beads for the fur trade. It is erroneous to assume that a particularly well made bead is of Venetian origin. It should be noted that some European glass factories, the ones in Amsterdam for example, imported Italian glass specialists.

This brings up the subject of tracing the origins of glass beads by studying European records and sites. Unfortunately little progress has been made in this area. Van der Sleen (1963) illustrates some glass beads for an Amsterdam glass factory but beyond this there is very little evidence on a specific level.

More generally, however, the chemical composition of glass may prove fruitful in tracing the origins of glass. Van der Sleen (1967), a professional chemist, studied the chemical composition of Dutch, Venetian and Indian glass noting differences between the three. Although this technique may ultimately be able to distinguish between Dutch, French, English and Italian beads, no such studies have been published (to my knowledge) for either the New or Old Worlds.

5.) Perhaps one of the most important findings of this paper is the discovery of the difference in the styles of glass beads used in New York and Ontario after period 2. As will be recalled, this difference was ascribed to the trading spheres of the Dutch and French. Chart 4 exemplifies these spaical heterogeneities. This simple observation may seem rather obvious yet the writings of Pratt, Witthoft and Wray contain no indication that they are aware of such spacial differences. As previously noted the recognition of these differences has important ramifications in the dating of the glass bead periods.

The implication of these spacial heteogeneities are important in the study of intersocietal contacts in the Northeast. With further research, glass bead studies (perhaps in conjuction with other catagories of trade goods) may be able to actually measure the trading relationships between not only the Europeans and the Indians but also between the various Indian tribes.

The Neutral, for example, were more-or-less passive in the fur trade during the 17th century in the sense that they made no special expeditions to European settlements in an attempt to obtain trade goods. They did trade fairly extensively with the surrounding tribes especially the Huron who in turn maintained trading relationships with the French. To the east, however, were the Seneca who were no further from the Neutral than the Huron. After about 1615-20 the Seneca were actively trading with the Dutch of New Netherlands. In view of the spacial relationsips between the Neutral, Seneca and

Huron it is reasonable to wonder if the Neutral recieved any significant amount of trade goods from the Seneca. At the beginning of this study, I speculated that in terms of trade goods, the Neutrals may have been somewhat of a miscegenation zone (in more ways than one?) combining traits of both the Dutch and French trading spheres. The results of this study seem to refute this hypothesis. The Neutral glass bead assemblage is no more like the Seneca than are the Petun or Huron. Since relationships between the Seneca and the Ontario Iroquois (including the Neutral) were of a rather unfriendly nature, this finding was not unexpected. However, with more discriminating typologies and larger samples is may be possible to discern the approximate proportion of French, Dutch (and possibly English) trade goods in the various tribes of the Northeast.

The Niagara frontier, it might be added, may hold some answers regarding the hypothesized miscegenation zone. The tribes occupying this area were the Western Neutrals, Senro and Erie although it is, at this point, impossible to attribute archaeological sites to any of these groups specifically. Nevertheless, these tribes were politically and culturally members of the Ontario Iroquois. At the Kleis site on the Niagara frontier (White, 1967), a sample of glass beads from the surface of the village seems to be distinctly oriented towards the Ontario Iroquois-French group rather than the New York Iroquois-Dutch. Yet in a lot from one burial were 263 beads mostly of type 64 (hite round with a clear core) Of all the glass beads recorded for pre-1650 Ontario (some 4 or 5 thousand) only 2 are of type 64, yet, on contemporaneous sites of the

New York Iroquois these are fairly common (see Wayland-Smith, Randle and Brigg's Run sites in Appendix B). This suggests that sites on the Niagara frontier such as Klein were receiving a higher proportion of glass beads from the New York Iroquois than were the other members of the Ontario Iroquois. If this can be demonstrated one can then further speculate that the Niagara frontier Iroquois generally maintained more social relationships with the Seneca than did the Neutral or Huron although their primarily loyalties, as attested by the ethnographic evidence, remained with the Ontario groups. Thus both spacially and politically these Niagara Frontier groups acted as a "buffer" zone between the Neutral and Seneca. This hypothesis, of course, can only be demonstrated by further studies.

In general, the synchronic and diachronic study of European trade goods (especially glass beads) in conjunction with a careful examination of ethnohistoric records has great potential in the futher understanding of European-Indian and intertribal contacts during the 16th and 17th centuries in the Northeast.

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CHART 1: Four Dating Schemes for the New York Iroquois Glass Bead Periods.

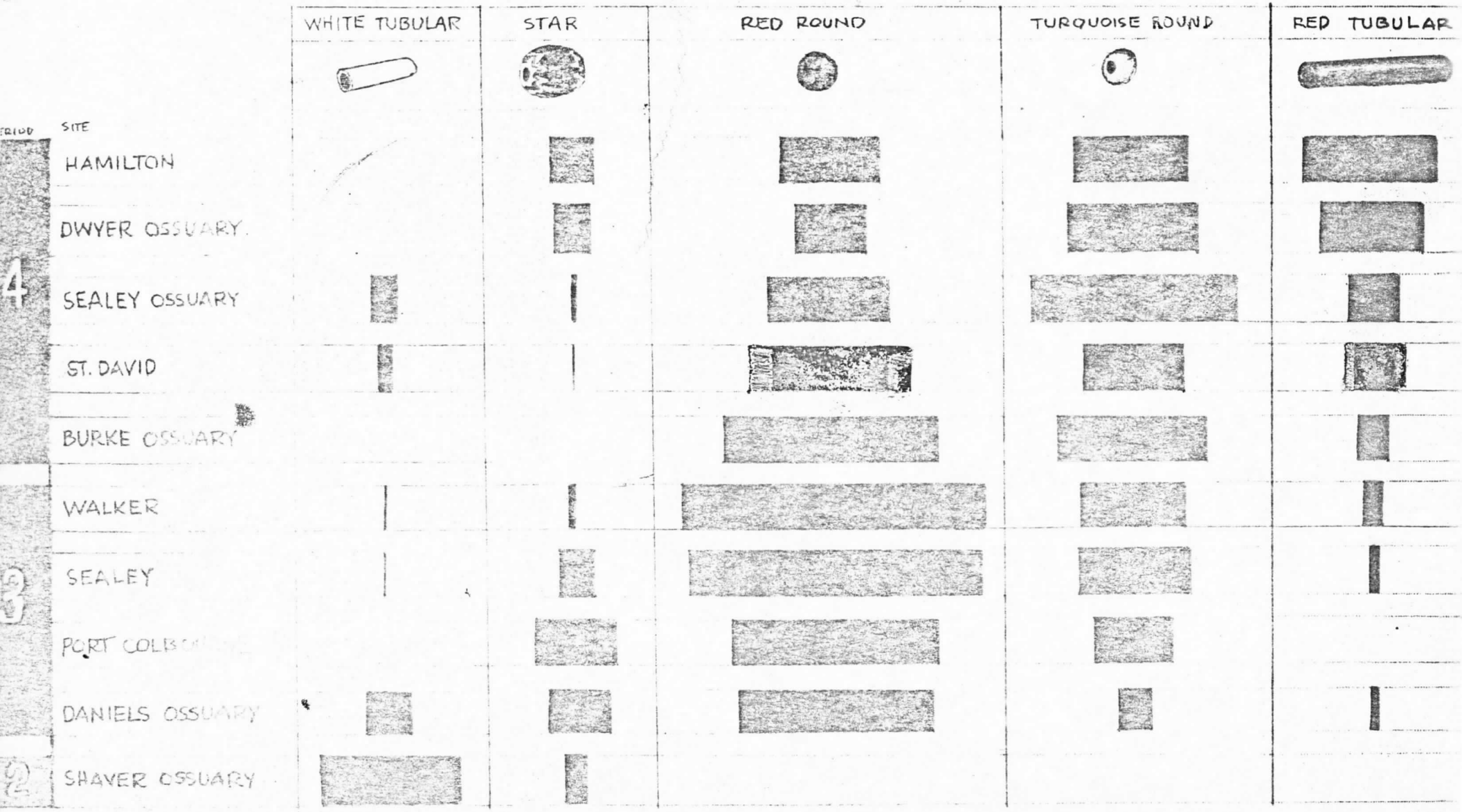


CHART 2: FFrequency Seriation of Ten Historic Neutral sites.

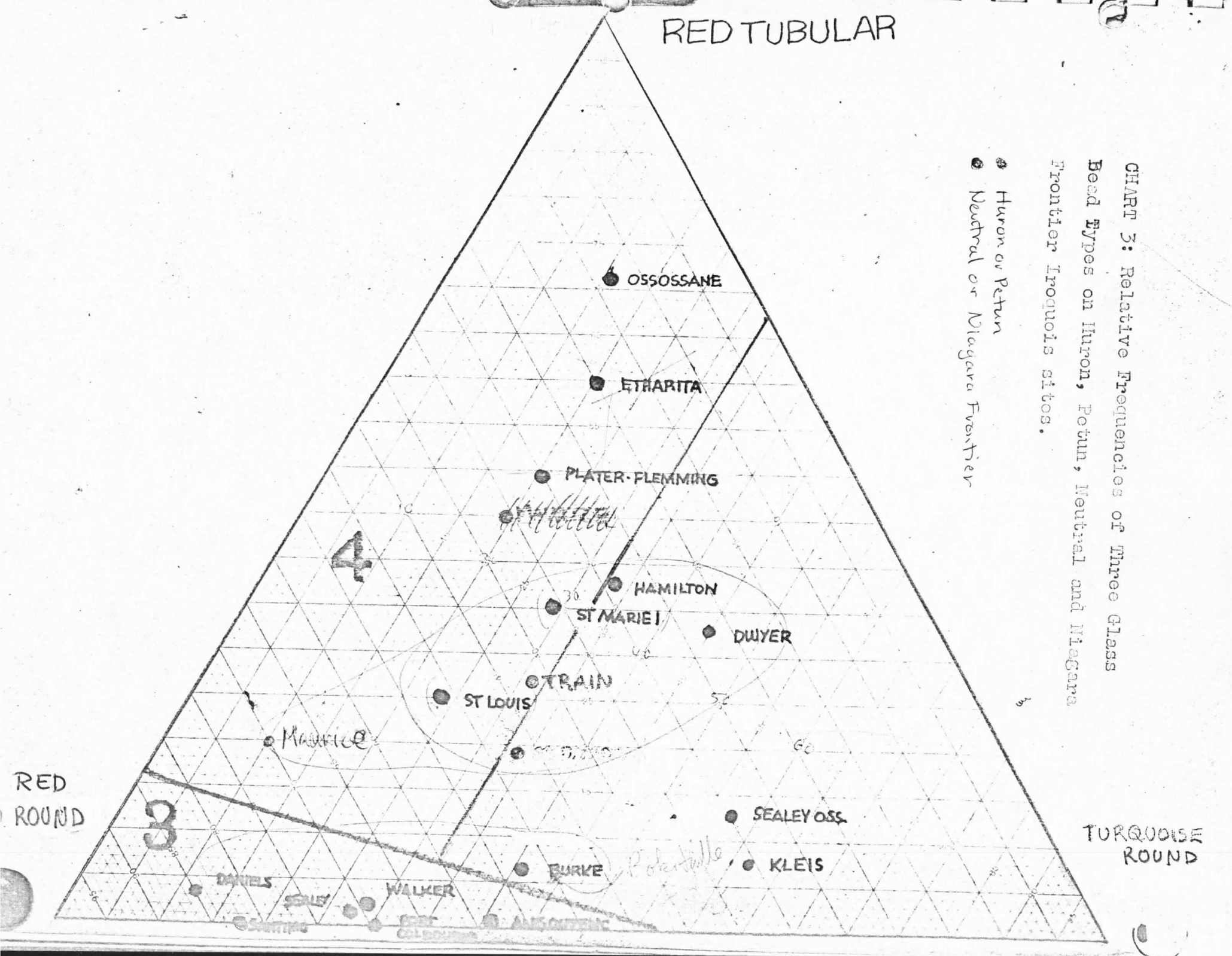


CHART 3: Relative Frequencies of Three Glass Bead Types on Huron, Petun, Neutral and Niagara Frontier Iroquois sites.

- Huron or Petun
- Neutral or Niagara Frontier

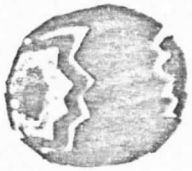
	NEUTRAL			SENECA	ONEIDA	MOHAWK
	DANIELS	PT. COLBOURNE	SEALEY	FACTORY HOLLOW	WAYLAND SMITH	WAGONERS HOLLOW
Tubular Star 	73	62	83	0	6	6
Faceted Star 	12	36	2	1	0	0
Round Star 	16	5	14	99	94	94
TOTAL NO. OF BEADS	172	67	96	274	85	17

CHART 4: Relative Frequencies of Three Star Bead Varieties in Ontario and New Iroquois Sites of Period 3.

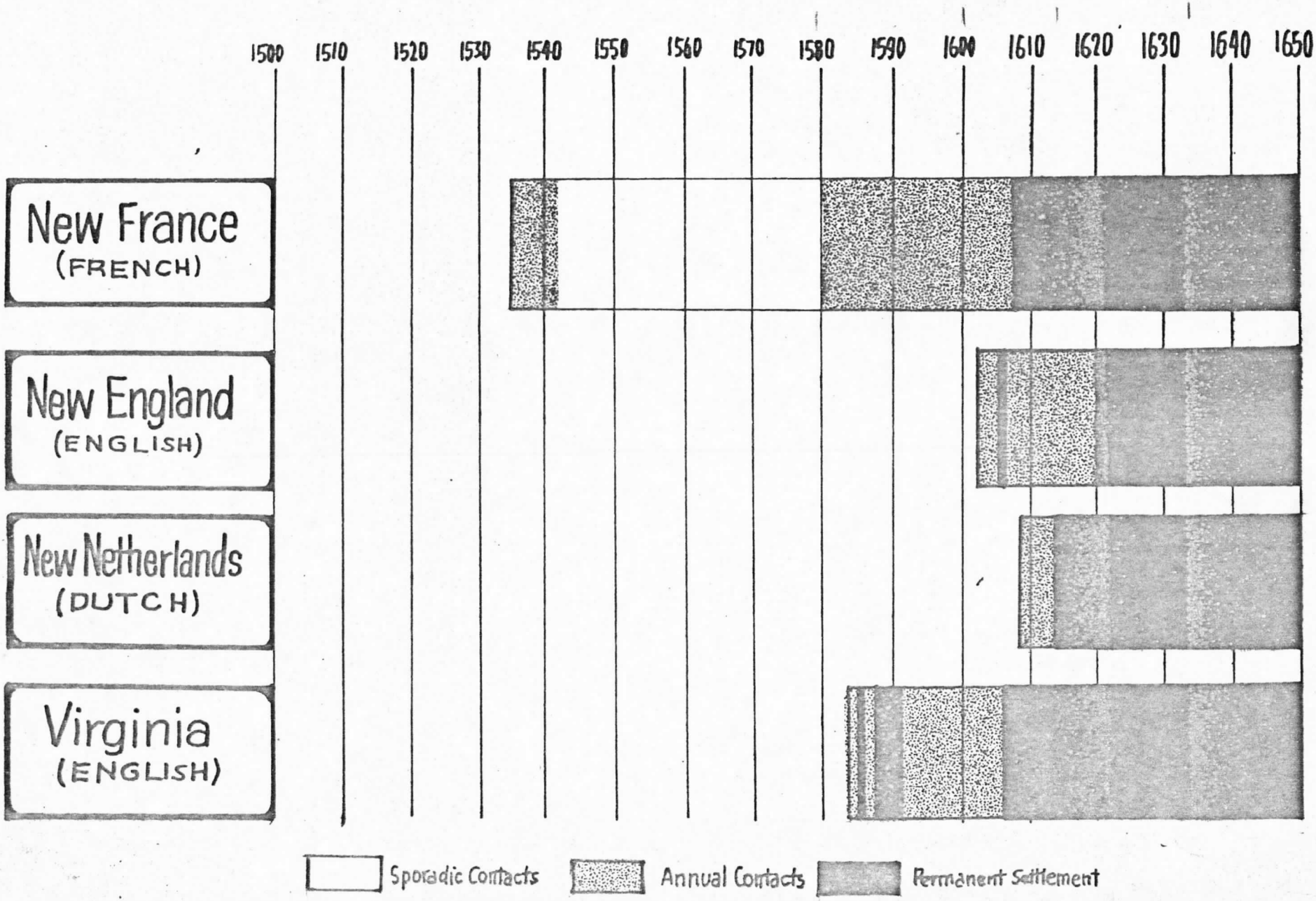
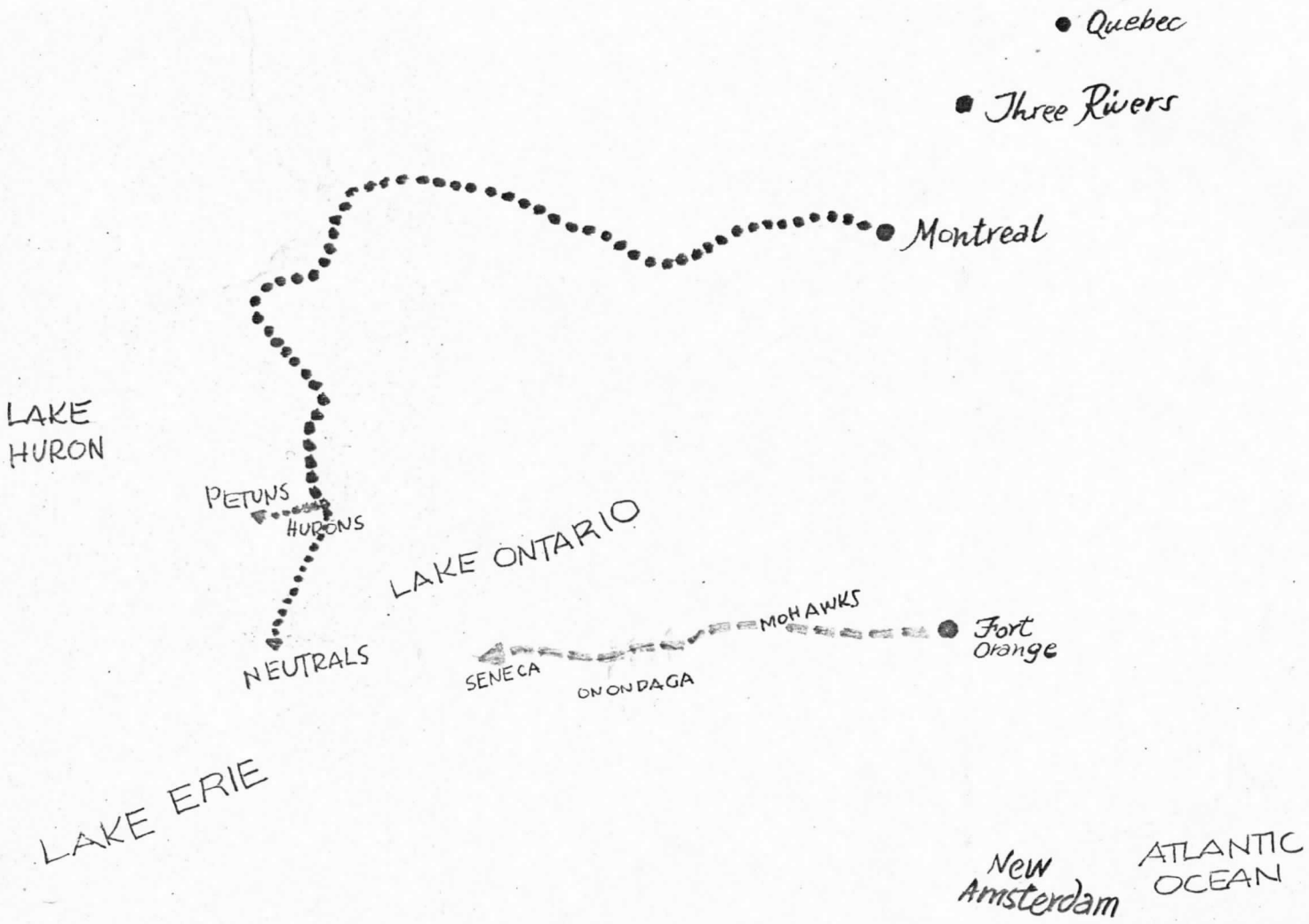


CHART 6: A Graphic Presentation of ~~the~~ Colonization in Four New World Colonies.

OPPOSITE PAGE: Map showing the location of tribes in the Northeast and various trading centers of the Europeans. The French trading sphere is indicated with a broken red line and the Dutch with a broken blue line. It should be noted that this map only covers the 1623-1650 period.


Quebec
Three Rivers
Montreal
LAKE HURON
PETUNS
HURONS
LAKE ONTARIO
MOHAWKS
Fort Orange
NEUTRALS
SENECA
ONONDAGA
LAKE ERIE
New Amsterdam
ATLANTIC OCEAN

APPENDIX A

Presented on the following pages is a typology of the glass beads discussed in the text. Each type is provided with a code number (which is in italics in the text, e.g. *2B*, *3B*), a brief description, and an illustration in both black and white, and colour. In the text, some of the more important bead types are referred to by employing a binomial name rather than just a code number. This is done for the sake of convenience. In these type names the colour is listed first and then the shape (e.g. red round, red tubular).

One should consult Van der Sleen (1963, 1967) for a description of various techniques of manufacturing glass beads. A history of glass bead making and a morphological classification (based on Beck's famous 1928 classification which is out-of-print and generally unavailable in libraries) is provided by Van der Sleen in his valuable "A Handbook on Beads" (1967).

APPENDIX B

Following a glass bead record sheets for six New York Iroquois sites as an aid for understanding the brief descriptions of glass bead periods 3 and 4 of New York (see pages 24-5). The following sites are included:

SITE	TRIBE	GLASS BEAD PERIOD
Wayland-Smith	Oneida	3
Rice's Woods	Mohawk	3
Martin	Mohawk	3
Warren	Seneca	4
Randle	Mohawk	4
Brigg's Run	Mohawk	4

All of this data was collected by the author except for the Wayland-Smith site which is from the unpublished notes of John Stillman. For further details on glass beads from even later periods one should consult Pratt's (1961) booklet on the Oneida.

WAYLAND-SMITH (CAMERON) ONEIDA

JOHN STILLMAN, SOUTH BROOKFIELD, NY SEPT 68

1		OPAQUE WHITE CLEAR CORE		
44		BLUE WITH CLEAR CORE		
2		BLUE WITH CLEAR CORE 4 RED STRIPES		
29		BLUE WITH CLEAR CORE 6 WHITE STRIPES		
14		OPAQUE WHITE ON CLEAR CORE ALT 4 RED 4 BLUE STRIPS		
1		OPAQUE WHITE ON CLEAR CORE AL 3 RED 3 BLUE STRIPES		
8		TRANS BLUE		
16		TRANS BLUE CORRODED EXTERIOR		
3		DARK PURPLE TRANS		
2		WHITE OVER DARK CORE WITH TURQUOISE EXTERIOR 3 WHITE OVALS WITH RED FLOWERS		
3		OPAQUE BLACK		
14		OPAQUE PURPLE BLUE		
80		COUND STAR		
1		FLATTENED STAR		
5		TUBULAR STAR		
6		16 WHITE STRIPES ON INDIGO EXTERIOR OVER DARK INTERIOR		
17		WHITE OVER DARK CORE INDIGO EXTERIOR & WHITE STRIPES		
6		WHITE OVER DARK CORE INDIGO EXTERIOR 3 WHITE STRIPES		
6		BRICK RED WITH 3 BLUE IN WHITE STRIPES		
2		OPAQUE DARK BROWN WITH 3 RED IN WHITE STRIPES		

WAYLAND-SMITH (CAMERON) ONEIDA

JOHN STILLMAN, SOUTH BROOKFIELD NY

6		OPAQUE BLACK WITH 3 RED THREE WHITE STRIPES BORDERED BY BLACK		
3		OPAQUE WHITE STRIPES IN CLEAR CORE (12 #5 STRIPES)		
1		OPAQUE BLUE WITH 16 RED STRIPES		
3		6 STRIPES BLUE AND 6 STRIPES RED SEPARATED BY OPAQUE WHITE CLEAR CORE		
2		AS ABOVE ONLY BLUE IS GREEN		
12		OPAQUE BRICK RED OVER CLEAR CORE THREE WHITE STRIPES		
7		OPAQUE BRICK RED WITH 3 RED STRIPES		
2		9 RED STRIPES ON GREYISH BACKGROUND		
11		OPAQUE BRICK RED		
1		OPAQUE SALMON WITH 6 WHITE STRIPES		
2		OPAQUE WHITE ON CLEAR CORE 6 SALMON STRIPES		
1		OPAQUE RED WITH 24 WHITE STRIPES.		
2		OPAQUE RED OVER CLEAR CORE WITH 3 BLUE STRIPES		
2		OPAQUE WHITE		
2		TRANS PURPLE 3 GROUPS OF 3 WHITE STRIPES		
5		BLUE FOOTBALL 4 RED STRIPES		
1		TURQUOISE BLUE FACETED		
1		WHITE FUNSEYE INDIGO AND WHITE CIRCLE EYES		
2		OPAQUE BRICK RED 12 WHITE STRIPES		
2		OPAQUE BRICK RED 12 WHITE STRIPES BORDERED WITH BLACK. ACCIDENT OF MAN		

CONTINUED

WAYLAND SMITH (CAMERON) ONEIDA JOHN STILLMAN

3		DEEP PURPLE		
3		OPAQUE BLACK		
3		OPAQUE WHITE		
2		TRANSLUCENT PURPLE WITH 4 WHITE STRIPES		
1		BLACK WITH 4 WHITE STRIPES		
2		TURQUOISE BLUE WITH 3 WHITE STRIPES		
7		TURQUOISE BLUE		
5		OPAQUE RED OVER DARK CORE 3 BLUE IN WHITE STRIPES		
1		OPAQUE WHITE		
1+1		OPAQUE RED WITH 11 BLACK STRIPES WITH CORE & WITHOUT		
2		OPAQUE RED WITH 3 BLUE IN WHITE STRIPES WITH CORE		
2		OPAQUE RED WITH 3 BLUE IN WHITE STRIPES NO CORE		
1		OPAQUE BLACK WITH 3 WHITE STRIPES		
4		OPAQUE RED WITH CORE		
3		OPAQUE BLUE		
9		OPAQUE RED OVER CLEAR CORE		
6		OPAQUE RED WITH DARK CORE		
2		KNOBBY TRANSLUCENT BLUE		
1		FACETED TRANS. BLUE		
2		STAR NO RED LAYER		
2		STAR OUTER LAYER GREEN		
1		STAR OUTER LAYER BROWN		
1		TRANSLUCENT BLUE 4 WHITE STRIPES		
1		TRANSLUCENT BLUE 2 WHITE 2 RED STRIPES		
1		TRANS. BLUE 3 WHITE 3 RED STRIPES		
2		TRANS BLUE 3 WHITE 3 RED STRIPES		
8		OPAQUE WHITE		
4		TRANS. BLUE THREE RED STRIPES		

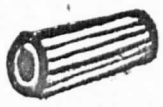
RICE'S WOOD MOHAWK

JOHN STILLMAN, SOUTH BROOKFIELD, NY

6		STAR		
3		OPAQUE BRICK RED WITH 3 BLUE IN WHITE STRIPES DARK CORE		
3		BLUE WITH MILKY CORE		
2		TRANSLUCENT TURQUOISE BLUE		
2		16 WHITE STRIPES ON DARK BLUE DARK CORE		
2		CLEAR CORE BRICK RED EXTERIOR 3 WHITE STRIPES		
2		GOOSEBERRY 12 WHITE STRIPES IN CLEAR BEAD SLIGHTLY WARM COLOR		
2		OPAQUE BRICK RED WITH 3 BLUE IN WHITE STRIPES		
1		OPAQUE BLACK WITH 3 LT. RED & WHITE STRIPES BLACK BETWEEN		
1		OPAQUE WHITE		
1		TRANSLUCENT BLUE		
1		INDIGO BLUE		
1		OPAQUE BRICK RED LIPPED		
1		TRANSLUCENT BLUE OVER CLEAR CORE		
1		TRANS TURQUOISE BLUE OVER CLEAR CORE 3 RED STRIPES		
1		TRANSPARENT PURPLE BROWN (ALMOST A BLACK)		
1		TRANSPARENT CORE BLUE EXTERIOR 5 RED STRIPES		
1		OPAQUE WHITE FLUSHEYE WITH RED STAR DESIGN	1	

MARTIN / MOHAWK

MOHAWK-CAUGHNAWAUGA MUSEUM FONDA / N.Y.

		OPAQUE BRICK RED WITH THREE DARK BLUE IN WHITE STRIPES	5	
		OPAQUE BLACK, THREE RED, THREE WHITE STRIPES BLACK SEPERATING EACH	1	
		OPAQUE BLACK WITH THREE RED IN WHITE STRIPES	1	
		OPAQUE WHITE OVER DARK CORE EXTERIOR INDIGO BLUE 16 WHITE STRIPES	1	
		TRANSLUCENT TURQUOISE BLUE	1	
		OPAQUE WHITE OVER DARK CORE EXTERIOR INDIGO BLUE WITH EIGHT WHITE STRIPES	3	
		OPAQUE BRICK RED OVER CLEAR CORE WITH THREE WHITE STRIPES	1	
		OPAQUE BRICK RED OVER CLEAR CORE	2	
		STAR BARREL	1	
		BLUE OVER MILKY CLEAR CORE	1	

4 1615-1630 WARREN

CHARLES F WRAY collection

			ONEIDA	NEUTRAL HURON
many		TRANS. TURQ. BLUE	35	1
many		TRANS INDIGO		14 *
several		LARGE STAR		3 F *
one		TRANS. AMBER		
one		TRANS, TURQ BLUE STRIATED	51	15 *
a number		BLACK		
a number		LARGE RED TUBULAR	52	32 *
one		TWISTED SQUARE TUBULAR WITH RED & BLACK CORES UNDER WHITE WITH GREEN BLUE EXTERIOR		12 *

RANDLE /MOHAWK

JOHN STILLMAN SOUTH BROOKFIELD, NY

			2	
		TRANS - TURQUOISE BLUE	2	
		OPAQUE BLACK	2	
		TRAN TURQUOISE BLUE 3 WHITE STRIPES	2	
		OPAQUE WHITE OVER CLEAR CORE	2	
		OPAQUE BRICK RED OVER CLEAR CORE	2	
		STAR	1	
		OPAQUE BRICK RED SQUARE TWISTED	1	
		TRANS DARK BLUE FOOTBALL	1	
		OPAQUE BLACK CORN	1	
		TRANS INDIGO	1	

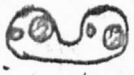
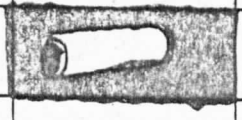
BRIGG'S RUN / MOHAWK

JOHN JACKOWSKI / FONDA · JOHN STILLMAN / SOUTH BROOKFIELD

			JACKOWSKI	STILLMAN	
			748	1	
			231	4	
			64	5	
			17 SMALL 1 LARGE	1	
			1		
			1		
			3		
			2		
			1		
			2	1	
			1		
			1		
			1		
			1	1	
			2		
			4		
			25		
				1	
			1		
				1	

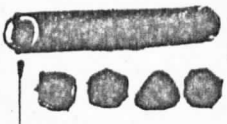
TYPOLOGY OF GLASS BEADS ON NEUTRAL SITES

COMPILED BY I. T.

1		TRANSLUCENT TURQUOISE BLUE	II a 40 ?
2		TRANSLUCENT TURQUISE BLUE WITH THREE WHITE OPAQUE STRIPES	II b 56
3A		BARREL STAR 6 LAYERS	IV K 4
3B		LARGE FACETED STAR 7 LAYERS	III K 3
3c		TUBULAR STAR WITH FACETED ENDS 6 LAYERS	III K 3
4		OPAQUE LIGHT COBALT BLUE	
5		WHITE OVER DARK CORE WITH DARK BLUE EXTERIOR 15 WHITE STRIPES	IV b 34 (one less stripe)
6		'DARK' CORE OPAQUE BRICK RED EXTERIOR	IV a 1
7		CLEAR CORE OPAQUE BRICK RED EXTERIOR WITH LIPPED END	IV a 5/8
8		SOLID OPAQUE BRICK RED	II a 1
9		CLEAR CORE OPAQUE BRICK RED EXTERIOR	IV a 5/8
10		WHITE OVER DARK CORE WITH TURQUOISE EXTERIOR 2 WHITE OVALS WITH RED FLOWERS	 in housbyne IV a 1 (but not oval)
11		WHITE OPAQUE TUBULAR	I a 3/4/5
12		RED OVER CLEAR CORE WITH OPAQUE WHITE UNDER BLUE GREEN EXTERIOR TWISTED	III c' 3
13		GREEN TRANSLUCENT	I a 9/10/11
14		DARK INDIGO	
15		TRANSLUCENT BLUE (TURQUOISE) USUALLY STRIATED	I a 13/14/15
16		TRANSLUCENT BLUE	

CONTINUED

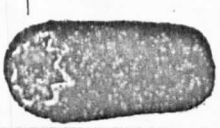
GLASS BEADS

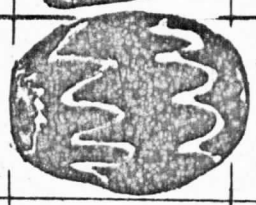
17		OPAQUE BLACK WITH THREE RED IN WHITE STRIPES	II bb7
18		TRANSLUCENT BLUE OVER CLEAR CORE	
19		OPAQUE WHITE	II a 13?
20		OPAQUE BRICK RED TWISTED	I c' I
21		WHITE OVER DARK BLUE CORE DARK BLUE EXTERIOR	~~II a 9/10/11/12~~
22		WHITE OVER DARK BLUE CORE WITH DARK BLUE EXTERIOR	III a 9/10/11/12
23		TRANSLUCENT DARK BLUE FOOT BALL	II a 49/54/57/42
24		OPAQUE PALE YELLOW	
25		OPAQUE BRICK RED WITH THREE BLUE IN WHITE STRIPES	II bb1
26		EMERALD GREEN WITH THREE WHITE STRIPES	—
27		OPAQUE RED, ROUND TWISTED	II c' I
28		INTENSE BLUE TRANSPARENT	
29		TRANSLUCENT TURQUOSE BLUE FACETED	
30		OPAQUE RED WITH SIX BLACK STRIPES	II b1
31		OPAQUE WHITE	II a 10/15
32		OPAQUE RED SOMETIMES WITH DARK CORE A NUMBER OF DIFFERENT SHADES	I a I
33		PALE GREY BLUE THREE 'EYES' DARK BLUE	II g 4
34		WHITE OVER LIGHT BLUE CORE THREE RED IN WHITE STRIPES THREE WHITE OVALS WITH RED FLOWERS	—
35		TRANS. BLUE, POSSIBLY GROUND OR WORKED NO. 1 BEAD	
36		OPAQUE WHITE STAR SHAPED OVER CLEAR CORE WITH BRICK RED EXTERIOR	
37		TRANSLUCENT TURQUOISE BLUE WITH THREE BLUE IN WHITE STRIPES	—

CONTINUED

38		OPAQUE BRICK RED WITH THREE WHITE STRIPES	IIb2 *
39		INDIGO BLUE	*
40		OPAQUE RED OVER DARK CORE ~~THREE~~ FOUR BLUE IN WHITE STRIPES	IIIbb3 *
41		OPAQUE BRICK RED OVER CLEAR CORE EIGHT BLACK STRIPES	— *
42		OPAQUE BLACK WITH FOUR WHITE STRIPES	IIb'2 (but 4 stripes not 7) *
43		BLUE OVER WHITE CORE THREE RED STRIPES	— *
44		~~OPAQUE~~ WHITE WITH 3 RED 3 BLUE STRIPES ALTERNATING	IVb16 *
45		OPAQUE WHITE OVER CLEAR CORE WITH 4 RED 4 BLUE STRIPES · ALT.	IVb15 *
46		LIGHT BLUE GREY WITH 3 THIN BLUE SPIRAL STRIPES	Ib'2 *
47		BLACK OVER BRICK RED CORE · BRICK RED EXTERIOR	— *
48		OPAQUE BRICK RED WITH 3 BLUE & WHITE 'EYES'	IIg— *
49		TRANSLUCENT TURQUISE BLUE 3 RED 3 YELLOW ALT. STRIPES	— *
50		OPAQUE WHITE OVER DARK CORE BLUE GREEN EXTERIOR	IIIc? *
51		FACETED INDIGO BLUE TRANSPARENT	*
52		LIGHT BLUEGREEN WITH FOUR WHITE IN RED STRIPES	— *
53		INDIGO BLUE OVER 'SANDY' CORE	— *
54		OPAQUE BLUE BLACK THREE WHITE STRIPES	IIbII *
55		CLOUDY WHITE ~~TRANSLUCENT~~	IIa 4,11,12,13,14,16 *
56		DARK INDIGO OVER SANDY CORE WHITE APPLIQUE DESIGN	— *
57		TRANSLUCENT TURQUISE BLUE	~~IVIe~~ IIe— *

CONTINUED

58		GREEN OVER CLEAR CORE WITH SIX WHITE STRIPES	—
59		OPAQUE BLUE BLACK OVER SANDY CORE WITH WHITE APPLIQUE DESIGN	—
60		OPAQUE BLUE VIOLET	
61		CLEAR WITH OPAQUE WHITE STRIPES 'GOOSE BERRY'	II b18
62		OPAQUE BRICK RED WITH 16 BLACK THIN STRIPES	—
63		TRANSPARENT YELLOW 'CORN'	WIIa 1
64		OPAQUE WHITE OVER CLEAR CORE	IVa14
65		WHITE OVER DARK BLUE CORE WITH DARK BLUE EXTERIOR WITH 3 WHITE STRIPES	IVb30
66		WHITE OVER DARK BLUE CORE WITH DARK BLUE EXTERIOR WITH 7 WHITE STRIPES	IVb32
67		OPAQUE BLACK WITH THREE WHITE EYES - INSIDE EYE RED DESIGN	—
68		WHITE OVER DARK CORE WITH DARK BLUE EXTERIOR WITH 16 WHITE STRIPES	III b9/10
69		INTERIOR CLEAR, THEN WHITE, RED, AND WHITE 6 BLUE 6 RED ALT. STRIPES	IVn2
70		BLACK OPAQUE THIN TUBULAR	Ia2
71		OPAQUE RED 3 BLUE IN WHITE STRIPES BEAD "FLATTENED" (SIMILAR TO 251	 IIbb2
72		TRANS-INDIGO BLUE 3 WHITE 'EYES' WITH RED STAR DESIGN LINES AROUND THIS	—
73		BLACK OPAQUE	IIa8
74		OPAQUE BRICK RED OVER CLEAR CORE 3 BLUE IN WHITE STRIPES	IVbb8
75		OPAQUE BRICK RED OVER BLACK CORE 12 BLACK STRIPES	—
76		CLEAR CORE, WHITE, CLEAR CORE, WHITE OPAQUE RED · GROUND FROM [illegible] BEADS ?	IIIk1

77		GREYISH WHITE ORIGINAL COLOR MIGHT HAVE BEEN TUR. BLUE. MOLDED BEAD?	—
78		TRANSPARENT DARK AMBER	1 a
79		OPAQUE BLACK 3 RED TWISTED STRIPES	—
80		OPAQUE BLACK WITH 3 ALT. RED AND WHITE STRIPES BLACK BETWEEN	11 b 15
81		OPAQUE BRICK RED INTERIOR 12 POINTS, WHITE EXTERIOR WITH 6 RED AND 6 BLUE ALT. STRIPES	
82		TRANSPARENT INDIGO BLUE	
83		TRANS TURQUOISE BLUE OVER CLEAR CORE 3 RED STRIPES	IV b 23
84		CLEAR INTERIOR STAR SHAPE WHITE WITH RED EXTERIOR	
85		EXTRA LARGE STAR MOSTLY FRAGMENTS FOUND. 7 LAYERS	III k 3
86		EXTERIOR INDIGO BLUE WITH CLEAR CORE	
87		OPAQUE RED IRREGULAR SHAPES HAND GROUND?	—
+ 88 PETUN		TRANSPARENT GREEN FOOTBALL DG-L9 MELVILLE SITE	II a 29?
88A		OPAQUE WHITE WITH 6 RED STRIPES?	—
89		TRANSPARENT AMBER	II a 22?
90		OPAQUE BLACK	II a 6