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Department of Anthropology  
University of California  
Berkeley, California  
April, 1949

## THE PRE-IROQUOIAN POTTERY OF NEW YORK STATE

WILLIAM A. RITCHIE AND RICHARD S. MACNEISH

### INTRODUCTION

THE establishment of ceramic type categories for the pre-Iroquoian horizons of New York state, exclusive of the Tidewater area,<sup>1</sup> was undertaken for a number of reasons. Primarily, it was believed that such an analysis, breaking down the existing ware divisions<sup>2</sup> into finer type inventories, would prove useful in obtaining a more minute chronological differentiation of the Owasco and Point Peninsula

<sup>1</sup> This area has been intensively studied by Carlyle S. Smith and will be reported on in his forthcoming doctoral dissertation (Smith, n.d.).

<sup>2</sup> Ritchie, n.d.

cultures than would be possible on any other basis, and in so doing, would aid in clarifying their possible relationships as well as their conceivable affinities with other major ceramic manifestations in the New York area.<sup>3</sup> It was also hoped that our survey might reveal significant areal subdivisions which eventually might be referred to historic tribal units. Finally, the achievement of a pottery typology for New York would elucidate problems of prehistoric culture diffusion and development over the Northeastern area and might, indeed, con-

<sup>3</sup> These other manifestations are not treated *in extenso* for lack of a sufficient body of material.

tribute to broader interpretations of cultural dynamics and processes of acculturation involved in the complex interconnections of sequential archaeological components.

The nature of the prehistoric sites concerned in this study and the range of their artifactual materials determined the methodology employed, as well as the choice of pottery, as the basis for establishing a site chronology, since, generally speaking, pottery-bearing sites in New York are very productive of this most sensitive register of cultural change. Stratified midden deposits are by no means common in the area, and when present, usually exhibit the superimposition of discrete horizons, often widely separated in time.<sup>4</sup> It is thus very difficult to trace short time culture changes in terms of stratigraphy alone,<sup>5</sup> and, accordingly we have resorted to the process of pottery type seriation to disclose chronological progression.

In a study of this kind, in which the materials are arranged in an overlapping or interdigitating sequence (as dictated by the similarities compared), one must select an artifact trait or cultural feature which possesses the characteristics of considerable stylistic variability, sufficient abundance to provide for statistical validity, and occurrence at all sites embraced in the seriation study. The artifact best fulfilling these requirements in the New York state area, in the post-Archaic horizon, is pottery, and we have accordingly utilized the large collections of sherds and restored vessels obtained through the excavations of the Rochester Museum of Arts and Sciences on ten sites in western, central, and southern New York.

We have defined a type as a group of objects exhibiting interrelated similar features which have temporal and spatial significance.<sup>6</sup> We conceive of the typing of archaeological materials as an attempt to recapture the stylistic concepts in the minds of the original makers and to group these concepts in such a way as to show their trends in time and space. We believe that, at least to a certain degree, our types reflect aesthetic and utilitarian standards of value which operated as cultural compulsives

on the minds of the artisans and, therefore, they possess some genuine measure of intrinsic validity.<sup>7</sup>

The significance of an established type is in turn obtained through the comparison by components, or levels in components, of the characteristic features or correlated group of features which differentiate the type. Conforming in general to the agreement reached at the Conference on Southeastern Pottery Typology held at Ann Arbor, Michigan in 1938,<sup>8</sup> we have observed in the delineation of our pottery types the traits of paste, surface finish, decorative design and technique, form, and vessel appendages, but we have actually utilized only the decorative design and technique, rim shape, and pot form, as the most diagnostic features of the pottery of this area. Later a correlation of these features with surface treatment and paste was attempted, but because the bulk of the material consisted of rim sherds without clue to surface treatment, the distribution of the latter feature is independently shown on the accompanying chart (Fig. 43).

Another difficulty lay in the considerable range of variation in rim shape and ornamentation. Such obstacles are inherent in the classification of any correlated series of variable features and our type descriptions attempt to meet the problem by expressing the range of differences for each ceramic feature, as well as stating the diagnostic elements of the type. We have also included statements of the known temporal and spatial ranges and speculations concerning the probable genetic and cultural affinities of the described types.

It will be necessary at this point briefly to describe the technique used to establish the ceramic taxonomy resulting from this study. As a first step, excavated sites of the same aspect were selected which afforded a large enough sherd sample for statistical treatment, i.e., a minimum of 250 decorated rims and an equal number of body sherds. The rim sherds from each site were then separately recorded by drawings on a large correlation chart, on which

<sup>7</sup> Both Rouse (1939, p. 15) and Taylor (1948, p. 130) appear to express an essentially similar point of view.

<sup>8</sup> Report of the Conference on Southeastern Pottery Typology, held at the Ceramic Repository for the Eastern United States, Museum of Anthropology, University of Michigan, Ann Arbor, Michigan, May 16-17, 1938 (mimeographed); cf. Ford and Quimby, 1945, pp. 52-67.

<sup>4</sup> As Point Peninsula over Archaic, Owasco over Middle Point Peninsula, etc.

<sup>5</sup> The upper component of the Vinette site is the outstanding exception (Ritchie, 1944, pp. 160-6).

<sup>6</sup> Krieger, 1944, pp. 272, 277-8.

the rim shapes were shown as the abscissa while the designs and techniques of decoration were depicted as the ordinate, the frequencies of each combination of the three variables being indicated as the tabular value (see Fig. 35).

Next, the individual charts from the sundry sites were combined into a second table that permitted the comparison of the correlated features among sites. This time the abscissa consisted of the correlated design, technique of decoration, and rim shape; the ordinate listed the components represented, or levels at a component; while the tabular value was the frequency, percentally expressed, of the total of the correlated features for each site (see Fig. 36). These percentile values could then be compared, site by site, for similarities or differences. It now became evident that certain combinations of rim form, design, and technique of ornamentation, were distinctive of certain sites. This would seem to justify their designation as types. (See column encircled by solid line.) Also

are also considered discrete types. (See columns enclosed by hatchured lines.)

Now separate description sheets were made for each ceramic type, showing the full range of the elements compared, and indicating site

<b>BAINBRIDGE SITE</b> Chenango Co., N.Y. Rochester Museum Collection Sample-363 Sherds	Shape →					etc.
	DESIGN AND TECHNIQUE OF DESIGN					
	 Technique - Cord-wrapped stick	3	2	0	2	
	 Technique - Cord-wrapped stick	0	0	0	4	
 Technique - Linear punch	0	0	20	0		
etc.						

Fig. 35. Correlation of pottery designs, techniques, and shapes at the Bainbridge site, New York State.

it was shown that certain similar combinations had percentally the same relative value in the different sites, which fact caused them to be lumped into a single category. (See columns encircled by dotted line.) It will also be noticed that some combinations have similar trends in the site by site comparisons, while differing radically in compared features one from the other. On the basis of such discrepancies these

CORRELATED UNITS OF SHAPE						etc.
DESIGN						
TECHNIQUE OF DESIGN	Cord-wrapped stick	Cord-wrapped stick	Cord-wrapped stick	Cord-wrapped stick	Linear punch	
Sites	Sample					
Bainbridge	363	3 (008)	2 (006)	2 (006)	4 (011)	20 (056)
Castle Creek	446	6 (013)	4 (009)	2 (004)	4 (009)	0
etc.						

Fig. 36. Comparison of ceramic correlations in New York sites.

distributions and frequencies. A random sample series of the actual potsherds described in each type sheet was then examined in terms of paste composition, surface finish, and the presence or absence of secondary features, such as lugs, castellations, etc. If any of these secondary characteristics seemed to show comparative significance a further subdivision of type was made. The final step in the analysis consisted in the creation of a nomenclature according to accepted canons, utilizing provenience and major descriptive features.

The types having been established, the actual process of seriation could now begin, in which the type percentages were compared site by site. It was assumed that closely comparable values indicated a corresponding proximity in time and space. Previous stratigraphic evidence having proved the priority of the Point Peninsula culture, it seemed a valid deduction to orient those Point Peninsula sites having the closest similarity to Owasco at the top of the Point Peninsula series, and conversely, those Owasco sites showing the closest ceramic affinities with Point Peninsula at the base of the Owasco lineage. This further assumption seems to be well supported by the evidence adduced. The obvious inconsistencies which appeared in a number of instances may be due in large measure to the still fragmentary nature of our data and will be specifically discussed in the interpretations which follow the ensuing description of the ceramic types.

## POINT PENINSULA SERIES

The Point Peninsula series is characterized by rectangular dentate-stamp or corded-stick decorations, body decoration, relatively small (approximately one or two gallons, apparently) elongate-bodied vessels, with conoidal base, nearly pointed or rounded lips on slightly everted (often sharply at the top) rims, and the coiled process of manufacture. The interior surface is commonly channeled and the exterior, smooth in the earlier stages, often corded in the later ones.

## VINETTE 1 (Fig. 37, a, b)

*Paste:*

**Tempering:** The tempering consists of large pieces of quartz or pulverized crystalline rock (over 3 mm. in diameter) in rather large amounts.

**Texture:** The sherds are coarse and in cross section are seen to be very porous and often contorted. Frequently actual coil breaks may be observed.

**Color:** Exteriors range from buff through gray to black while interiors range from charcoal gray to black. In cross section the sherds show dark interiors with rather sharp color gradation toward both surfaces.

**Hardness:** *Ca.* 2.0.

**Surface finish:** The entire exterior has been malleated with a cord-wrapped paddle and the cord-markings run in various directions, although they tend to be vertical. Interior surfaces are also completely cord-marked, the impressions always running in a horizontal direction.

**Decoration:** None.

*Form:*

**Rims:** Straight and slightly outsloping with a gradual thinning of the sherd toward the lip.

**Lips:** Rounded and sometimes almost pointed.

**Necks:** Straight.

**Bodies:** Elongated.

**Bases:** Conoidal.

**Diagnostic features of the type:** Complete interior and exterior cord-marking.

**Temporal range:** This type first appears in the Middlesex Focus, where it is the exclusive form. It is the dominant type of the New York Hopewellian. It characterizes the Early Point Peninsula and survives into Middle Point Peninsula times.

**Geographical range:** Very similar forms are to be found along the Atlantic Coast from New England to Maryland. South of New York they appear over much of eastern Pennsylvania. On the west a few sherds of the type have been found near London, Ont., while central New York State appears to represent a northern boundary for the type.

**Probable relationships of the type:** The type is similar to Fayette Thick in the Adena of Ohio and Kentucky and Type C of Red Ochre in Illinois. Certain Early Woodland sherds from Minnesota and Wisconsin also appear to be similar. In the majority of regions where the type

is found (except the Susquehanna River Valley and Virginia, where steatite-tempered sherds may be earlier) it occurs in the lowest ceramic horizons. As yet its place of origin is unknown, but we believe that the type could not have been derived from the south where cord-marking is rare or absent in the earliest culture platforms. We also feel that investigation north of the Great Lakes through Canada and Alaska to Siberia might shed some significant light on the problem of origin of this type, as well as on the origin of Vinette 2 ware, and probably of Woodland pottery as a whole.

## VINETTE DENTATE (Fig. 37, c-e)

*Paste:*

**Temper:** Quartz or a similar aplastic of small to medium size (from *ca.* 1 mm. to 3 mm. in diameter), in large amounts.

**Texture:** Flaky and somewhat crumbly. Cross sections reveal a laminated structure.

**Color:** Interior and exterior surfaces range from salmon or peach to charcoal gray and contrast markedly with the black interior.

**Hardness:** *Ca.* 2.5.

**Surface finish:** The surface is smooth and sometimes shows wiping impressions. The inner surface is often channeled.

*Decoration:*

**Designs:** The commonest design, as seen on large rim sherds, consists of oblique or vertical, short linear dentations on the rim, above horizontal encircling lines of similar impressions on the neck. However, herringbones, horizontal plats, and horizontal bands occur. Oblique dentations mark the rim interior.

**Techniques:** The dentation appears to have been made with an object having teeth about 1/16 to 3/16 inch wide, leaving impressions usually rectangular in shape. It has been suggested that the notched-ended bone tubes and even small square-barbed harpoons from Kipp's Island were the kinds of implements used in making these impressions.

*Form:*

**Rims:** The rim is often contracted at a point well below the lip. The lip-bearing portion is usually markedly outflaring. Rims at Jack's Reef have a tendency to be slightly less contracting.

**Lips:** Earlier forms are usually rounded or almost pointed, but in the later Jack's Reef series they are somewhat flatter.

**Necks:** Slightly contracted.

**Bodies:** Elongated.

**Bases:** Conoidal.

**Diagnostic features of the type:** Simple linear arrangements of rectangular dentate impressions on rim, neck, and probably body of conoidal vessel with outsloping rim.

**Temporal range:** This type first appeared in the earliest Point Peninsula level and reached its greatest popularity in the latter part of Middle Point Peninsula times. It was apparently waning by the period of Jack's Reef occupation.



FIG. 37. Pottery types of the Point Peninsula series, New York State: *a, b*, Vinette 1; *c-e* Vinette Dentate; *f, g*, Vinette Complex Dentate; *h-j, m-o*, Point Peninsula Corded; *k, l, p-r, u, v*, Point Peninsula Rocker-Stamped; *s-t*, St. Lawrence Pseudo Scallop Shell; *w, x*, Point Peninsula Plain.

*Geographical range:* Upper New York and eastern Ontario.

*Probable relationships of the type:* A type similar (or possibly identical) occurs along the Atlantic littoral from Nova Scotia to New York City, and westward through New England, northern New York, Ontario, northern Michigan, and northern Wisconsin to the Mille Lacs region of Minnesota. Again there is similarity with Hopewellian ceramic forms farther south, but this is less than in the case of the Rocker-Stamped type. We believe this to be an Early Woodland type whose ultimate origin and relationships extend northward from the Great Lakes region. The type may have given rise to the Point Peninsula Corded type and thence to the Carpenter Brook Cord-on-Cord type of the Owasco.

VINETTE COMPLEX DENTATE (Fig. 37, f, g)

*Paste:*

Temper: Small to medium-sized pieces of quartz.

Texture: Coarse, porous, and laminated.

Color: Wide range of variation of interior and exterior surface between red-orange and charcoal gray with paste interiors markedly darker.

Hardness: *Ca.* 2.2.

*Surface finish:* Smooth. Interior often channeled.

*Decoration:*

Designs: There are either horizontal or vertical parallel bands of complicated dentate decoration. These bands are from one-quarter to one inch wide and are usually separated by a smooth zone of approximately equal width.

Techniques: The technique of making these complicated dentated bands is difficult to envisage. Superficially the bands resemble impressions of ribbons of closely knit fabrics. However, plasticine impressions of the decorations lead us to believe that these are overlapping and juxtaposed dentate and rocker-dentate stampings.

*Form:*

Rims: Everted at the top and contracted below this area.

Lips: Usually rounded or almost pointed.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Zoned areas of complicated dentate impressions on everted rims with rounded or nearly pointed lips.

*Temporal range:* The type appears as a minority ware all through Point Peninsula times and is slightly more frequent in Middle Woodland sites.

*Geographical range:* Upper New York State and eastern Ontario.

*Probable relationships of the type:* This type appears to be a regional specialization. The inventors may very well have derived their ideas from the contemporaneous dentate and rocker-stamped types.

POINT PENINSULA CORDED (Fig. 37, h-j, m-o)

*Paste:*

Temper: Grit of medium size.

Texture: Flaky and crumbly.

Color: Exterior and interior surfaces range from reddish orange to charcoal gray with the paste interiors noticeably darker.

Hardness: *Ca.* 2.3.

*Surface finish:* Either smooth or cord-marked. Interior frequently channeled.

*Decoration:*

Designs: The commonest design is an encircling series of parallel, horizontal impressions. These are sometimes combined with oblique elements on the exterior rim. Herringbones, plats, and plain oblique lines occur, but very rarely.

Techniques: The edge of a cord-wrapped paddle or a corded-stick was impressed on the yielding clay.

*Form:*

Rims: Usually outflaring at the top, and all but a few of the sherds of this type from the Jack's Reef site reveal some degree of contraction of the rim area below the lip.

Lips: Usually rounded or almost pointed. Jack's Reef sherds, however, have a few flattened lips.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Horizontal and/or oblique cord-impressed outflaring rims, usually with rounded or nearly pointed lips.

*Temporal range:* This type makes its appearance in early Point Peninsula times and gradually increases in frequency throughout the period.

*Geographical range:* Eastern Canada and upper New York.

*Probable relationships of the type:* It may have evolved from the combined concepts of the designs of dentate impression and the use of the corded-paddle. The type has wide relationships throughout much of the Northeast and the northern Great Lakes region (including northern Minnesota). The concepts involved in this type certainly contributed to the genesis of all succeeding Owasco types and particularly to the Carpenter Brook Cord-on-Cord type.

POINT PENINSULA ROCKER-STAMPED (Figs. 37, k, l, p-r, u, v; 41, b)

*Paste:*

Temper: Large grit particles (quartz, etc., *ca.* 2 to 4 mm. in diameter), in large amounts.

Texture: The paste is crumbly and porous.

Color: Interior and exterior surfaces range between yellowish orange and black. However, both surfaces usually contrast sharply with the interiors, which are black.

Hardness: *Ca.* 2.3.

*Surface finish:* Smooth. Channeled interior very common.

*Decoration:*

Designs: Rocker stamp impressions usually occur in horizontal overlapping bands with the rocker marks running vertically. Rarely the rockers run horizontally (less than 3 per cent). Oblique dentate lines occur on the inner rim and lip.

Techniques: The rocker marks were evidently made

with curved objects, possibly a toothed disk or roulette, or the notched edge of a paddle or stick, or notched-ended tubes (like those found at Kipp Island). Occasionally the implement was unserrated and left therefore a plain rocker mark. Rocker stampings made with a cord-wrapped stick occur very rarely.

*Form:*

Rims: Usually sharply everted at the top but contracted below this point. There is a general tendency for the rim to be slightly less contracted in the sherds of this type from Jack's Reef, but the percentage change is too slight to justify subdivision.

Lips: Usually rounded or nearly pointed. Those from later sites (e.g., Jack's Reef) are usually flatter.

Necks: Only slightly constricted and sometimes almost straight.

Bodies: Elongated or semi-globular.

Bases: Subconoidal to almost pointed.

*Diagnostic features of the type:* Dentate or plain rocker-stamped ornamentation in all-over pattern, on conoidal pots with everted rims and usually rounded or nearly pointed lips.

*Temporal range:* This type begins in Early Point Peninsula times and reaches its maximum incidence near the end of the Point Peninsula period.

*Geographical range:* Upper New York State, eastern Ontario, and Maine.

*Probable relationships of the type:* This type seems to be present in certain shell-heaps of coastal Maine. Very similar forms occur throughout littoral New England north to Nova Scotia. Illustrated materials from eastern Michigan, Wisconsin, and Minnesota suggest its presence there. We believe this to be an early (probably pre-Hopewellian) northern type which was diffused eastward via the St. Lawrence Valley, where it is very common.

## POINT PENINSULA PLAIN (Fig. 37, w, x)

*Paste:*

Temper: Grit, usually of small size (less than 2 mm. in diameter).

Texture: The sherds have a sandy feel due to the particles of tempering matter which may be seen on their surfaces.

Color: Exterior and interior surfaces show considerable range in color from terra-cotta to charcoal gray. In cross section the surfaces contrast sharply with the darker interior.

Hardness: *Ca.* 2.5.

*Surface finish:* Smooth.

*Decoration:* Incised lines cross the lip, and in a few cases there are oblique dentate-stamp impressions on the interior rim.

*Form:*

Lips: Rounded.

Rims: Outflaring near the lip and contracting somewhat below.

Necks: Very slightly constricted.

Bodies and bases: Unknown.

*Diagnostic features of the type:* Smooth surfaced vessels with decoration consisting of incised lines on the lip.

*Temporal range:* Middle Point Peninsula times.

*Geographical range:* Central New York and eastern Ontario.

*Probable relationships of the type:* Difficult to determine due to the general nature of its features.

## ST. LAWRENCE PSEUDO SCALLOP SHELL (Fig. 37, s, t)

*Paste:*

Temper: Quartz or a similar aplastic of small to medium size and in large amounts.

Texture: flaky and laminated in structure.

Color: Varying shades of brown to gray. Paste interior dark.

Hardness: *Ca.* 2.5.

*Surface finish:* Smooth. Inner surface often channeled.

*Decoration:*

Designs: Designs mainly consist of short oblique or horizontal impressions on the rim and neck. Rarely the two designs are combined with oblique lines occurring on the outer rim and horizontal lines on the neck. Rim interiors usually manifest oblique lines.

Techniques: The designs were evidently effected by the application to the wet clay of the serpentine edge of some unknown object, possibly a natural stamp, strongly simulating the scallop shell impressions seen on some Maine coastal sherds.

*Form:*

Rims: Somewhat contracted, outflaring, often quite sharply, at the lip.

Lips: Rounded or almost pointed.

Necks: Straight to slightly constricted.

Bodies and bases: Unknown.

*Diagnostic features of the type:* Compact, sinuous, impressed lines on a thinned, outflaring rimmed pot.

*Temporal range:* Middle Point Peninsula times.

*Geographical range:* Upper New York, eastern Ontario, St. Lawrence River Valley, Nova Scotia, and coastal Maine.

*Probable relationships of the type:* This evidently is a northern New York, eastern Canadian, and northern New England type which may tie the various areas together. Prototypes are unknown.

## WICKHAM INCISED (Fig. 38, a, b)

*Paste:*

Temper: Grit (mainly quartz) of medium to large size (*ca.* 2 to 4 mm. in diameter).

Texture: The surface of the sherds is coarse and somewhat sandy. Cross sections show the interiors to be contorted.

Color: The surfaces range in color from salmon red to charcoal gray, with more than half in the latter category. Surfaces are quite distinct from the dark interior area between.

Hardness: *Ca.* 2.5.

*Surface finish:* Sherd exteriors are smooth. More than half have channeled interiors.

*Decoration:*

Designs: All but three of these sherds show a series of parallel incised lines which are sometimes crossed by a second series of parallel lines at an acute angle. Three sherds show a herringbone design. The work seems careless and random.

Techniques: Incising, perhaps with a comb-like object.

*Form:*

Lips: Rounded.

Rims: One rim appears to have borne a wide collar while the remainder are either slightly insloping or slightly outslipping.

Necks: Poorly defined and almost non-existent.

Bodies and bases: Unknown.

*Diagnostic features of the type:* The only design is a series of rudely incised parallel lines on the rim, neck, and body.

*Temporal range:* Middle Point Peninsula.

*Geographical range:* Wickham and Vinette sites in central New York.

*Probable relationships of the type:* Unknown.

## WICKHAM CORDED (Fig. 38, c, d)

*Paste:*

Temper: Grit of medium size (ca. 2 mm. in diameter).

Texture: The sherds have a sandy feel and cross sections show the paste to be contorted and porous.

Color: Sherd surfaces vary from cinnamon brown to pearly gray. Interiors are much darker.

Hardness: Ca. 2.5.

*Surface finish:* In the main, smooth on both surfaces. About one-fourth have a channeled interior surface.

*Decoration:*

Designs: A series of parallel lines cross to form rhomboids on five of the sherds. On the remaining two occur parallel vertical lines on the rim and horizontal lines on the neck. The interior rims of all sherds have oblique cord impressions.

Techniques: The decorations were made by impressing a fine cord on the plastic paste.

*Form:*

Lips: Rounded or almost pointed.

Rims: Contracting above the neck and sharply everted at the lip.

Necks: Straight or slightly constricted.

Bodies and bases: Unknown.

*Diagnostic features of the type:* Single cord-impressed lines on a vessel with an outslipping rim and rounded or pointed lip.

*Temporal range:* Middle Point Peninsula.

*Geographical range:* Central New York.

*Probable relationships of the type:* This type has a limited history in New York and exerted small effect on the general ceramic trends.

## WICKHAM PUNCTATE (Fig. 38, e, f, i, j, l, m)

*Paste:*

Temper: Quartz and other crystalline grit of medium size (ca. 2 mm. in diameter).

Texture: There is a considerable range of variation in

the texture of this pottery. Most of it is porous but it varies from a very slight laminated structure to a markedly contorted one.

*Color:* Color ranges from pearly gray through buff and brown to charcoal gray with a very few orange sherds. Interior surfaces also show the same range in color as the exteriors. In cross section there is an abrupt change in color near the surfaces with the centers being darker. This has been interpreted by us as meaning that firing reached the interior and exterior surfaces equally. Since rim sherds are inclined to be more oxidized than body fragments it would appear that the pots were fired upside down but with the mouth raised above the ground.

Hardness: Ca. 2.5.

*Surface finish:* Interior surfaces may or may not have channeling.

*Decoration:*

Designs: The most noticeable design is a row of punctations on the exterior rim. These usually raise slight nodes on the interior surface. Decoration under the punctations and on the rest of the vessel shows considerable variation and may allow for further differentiation of this type when sites with comparable materials have been excavated.<sup>9</sup> Seven sherds have smooth surfaces under the punctations while four are cord-marked all over. Punctations appear below collars with vertical dentations on seven specimens. Five have punctations associated with oblique dentations, two with horizontal dentations, two with incising, while two occur with a punched herringbone design.

Techniques: The punctations were made with a solid, round, slightly pointed object and were impressed on the slightly damp exteriors of the pots after the modeling and preliminary decoration had been finished.

*Form:* Shows considerable variation.

Rims: Usually slightly outflaring, although six have collars.

Lips: Rounded but not pointed.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Exteriors of the rims carry punctations.

*Temporal range:* Middle Point Peninsula times.

*Geographical range:* Wickham and Vinette sites in central New York.

*Probable relationships of the type:* Unknown.

## KIPP ISLAND CRISSCROSS (Fig. 38, g, h, k)

*Paste:*

Temper: Grit of medium size.

Texture: Sandy with specks of mica visible in some sherds. The interior sometimes shows laminations.

Color: Orange to charcoal gray on both exterior and interior surfaces. A cross section of the sherds shows that the surfaces are markedly lighter in color than

<sup>9</sup> Ritchie has differentiated four subtypes in his report on the Wickham site (1946, pp. 13-4).

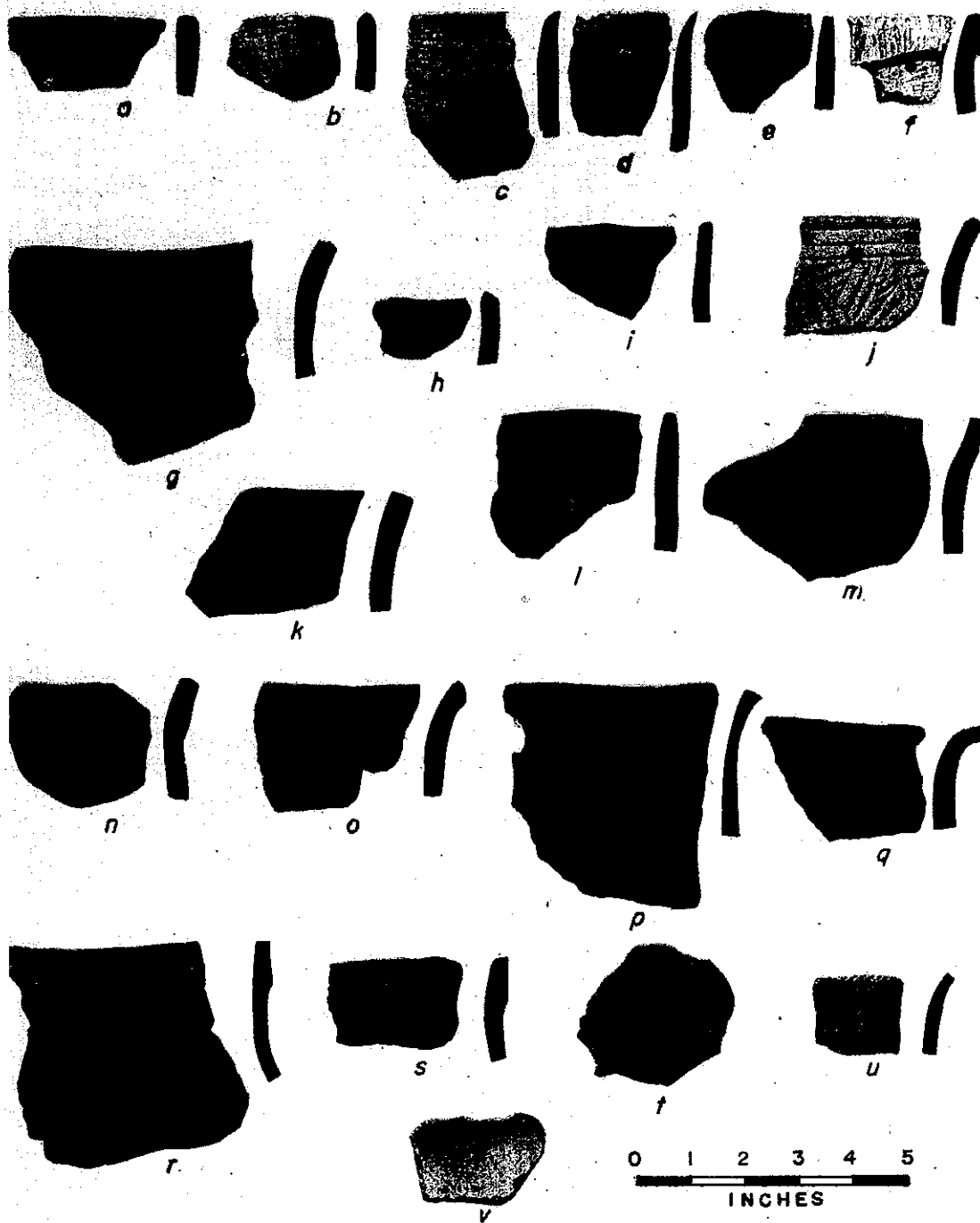


FIG. 38. Pottery types of the Point Peninsula series, New York State: *a, b*, Wickham Incised; *c, d*, Wickham Corded; *e, f, i, j, l, m*, Wickham Punctate; *g, h, k*, Kipp Island Crisscross; *n, o*, Jack's Reef Dentate Collar; *p, q*, Jack's Reef Corded; *r, s*, Jack's Reef Corded Collar; *u*, Jack's Reef Corded Punctate; *t, v*, channeled interior.

the interior paste of the vessel wall, giving the appearance of a slip.

Hardness: *Ca.* 2.5.

*Surface finish:* The surface of body and rim sherds indicates that they were originally cord-marked, although on 25 per cent of the sherds smoothing has largely obliterated the cord impressions.

*Decoration:*

Designs: Rim exteriors are embellished with a crisscross design impressed above horizontal lines on the neck. Lips bear either crossing or encircling impressions. Rim interiors are obliquely corded or crisscrossed.

Techniques: Some of the designs were made with a rectangular dentate stamp, others with a cord-wrapped stick.

*Form:*

Lips: Usually flattened; although the decorations on their surfaces have tended to roughen this once flat surface.

Rims: Slightly outflaring and contracted somewhat below the lip. A weak collar is suggested by the rim decoration.

Necks: Slightly constricted, usually reaching their maximum in this respect at the base of the crisscross design.

Bodies and bases: Unknown.

*Diagnostic features of the type:* A crisscross design upon a slightly outflaring rimmed vessel with a flat lip.

*Temporal range:* Late Point Peninsula times.

*Geographical range:* Central New York and eastern Canada.

*Probable relationships of the type:* This type may well have been derived from the Point Peninsula Corded and Vinette Dentate variants that have oblique lines on the rim above horizontal lines on the neck. It also may be a rude imitation of more westerly crisscrossed Hopewell Collar and Channel types. It is always a minority type and does not carry over into Owasco times.

JACK'S REEF DENTATE COLLAR (Fig. 38, *n, o*)

*Paste:*

Temper: Grit of medium size.

Texture: The sherds are flaky and exhibit surface cracking. Cross sections reveal a laminated and porous interior.

Color: Usually dark with a minority of bright tan or orange pieces. Interior surfaces are invariably much darker.

Hardness: *Ca.* 2.25.

*Surface finish:* The surfaces are either smooth, smoothed-over cord, or corded. The rims are smooth or smoothed-over cord. About 75 per cent of the sherds have interior channeling.

*Decoration:*

Design: Oblique dentate stamp decorations occur on the collar, while the neck may carry rocker-stamped, oblique dentate, or cord-marked embellishment.

Techniques: Collar decoration was done with a rectangular dentate stamp.

*Form:*

Rim and lip: There appear to be two kinds of collared forms. These may eventually be differentiated into two types when more data are available. One form has a flattened lip and a wide flat collar made by luting a clay band along a contracting rim. The second form has a pointed lip and a round bulging collar.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Oblique dentate lines upon short collars.

*Temporal range:* Late Point Peninsula.

*Geographical range:* Central New York and eastern Ontario.

*Probable relationships of the type:* This type appears to be closely related to the Jack's Reef Corded Collar type.

JACK'S REEF CORDED (Fig. 38, *p, q*)

*Paste:*

Temper: Grit having a wide range of size.

Texture: Sherds are flaky and cross sections show the interiors to be laminated and often contorted.

Color: Exterior surfaces are usually charcoal gray with a few approaching yellowish gray. Interior surfaces on 80 per cent of the sherds are darker than the exteriors but of the same color as the intervening paste area.

Hardness: *Ca.* 2.5.

*Surface finish:* The sherd exteriors are marked with vertical cord impressions. Interiors are smooth, only one sherd showing channeling. A few (10 per cent) of the sherds bear horizontal ridge markings made by the edge of the cord-wrapped dowel or paddle.

*Decoration:* Decoration is negligible, consisting only of cord-wrapped stick impressions crossing the lip, with similar short oblique markings on the interior rim.

*Form:*

Lips: Rounded or slightly flattened, but often roughened by decoration.

Rims: Everted.

Necks: Constricted.

Bodies and bases: Unknown.

*Diagnostic features of the type:* Cord-marked vessels with outflaring rims, which have cord-wrapped stick decoration only on the rounded lip and interior rim.

*Temporal range:* Late Point Peninsula.

*Geographical range:* Central New York and eastern Ontario.

*Probable relationships of the type:* The writers have discussed at length the possible identity of this type and the Levanna Cord-on-Cord type. The most noticeable difference is the flatter lip of the latter. That they are genetically related forms is indisputable and Jack's Reef Corded certainly gave rise to Levanna Cord-on-Cord. This is one of the best ceramic links between the Owasco and Point Peninsula aspects. In wider relationships a connection with the post-Hopewellian Woodland Cord-Marked type is suggested.

## JACK'S REEF CORDED COLLAR (Fig. 38, r, s)

*Paste:*

Temper: Mainly quartz particles ranging from large to medium size (ca. 2 mm. to 6 mm. in diameter).

Texture: Interiors are porous, laminated, and quite coarse.

Color: Interiors and exteriors show considerable range from orange through various shades of brown to charcoal gray. There is a general tendency for the exterior surface to contrast more markedly with the interior paste than is the case with the interior surface.

Hardness: Ca. 2.3.

*Surface finish:* Exterior surfaces are always corded while interiors are either smooth or channeled.

*Decoration:*

Designs: Collar designs usually consist of parallel oblique lines of corded impressions. Cord-wrapped stick imprints usually cross the lips, while rim interiors bear oblique impressions.

Techniques: Edge of cord-wrapped paddle or corded-stick.

*Form:*

Rims: Straight and collared. The collars are usually thicker at the base than at the lip. They were formed by applying a fillet of clay around a thin rim. A few of the rims (3) have an interior channel and are exteriorly convex with a curved lip. These few sherds also have a much smoother surface. Perhaps with materials from more sites available these variations will become new types.

Lips: Usually flattened.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Comprise short, flat collars bearing oblique lines of cord-wrapped stick or paddle edge impressions over a cord-roughened surface.

*Temporal range:* Late Point Peninsula times.

*Geographical range:* Central New York and eastern Ontario.

*Probable relationships of the type:* This is obviously related to the Jack's Reef Dentate Collar type but no prototype is known for either. These two types appear to inaugurate a long tradition of collared pots in the New York area. The Levanna Corded Collar type may very well be a direct descendant of this type, and the concept of the collar here employed may have been transmitted through still unknown channels to become involved in the rise of the Owasco Corded Collar type.

## JACK'S REEF CORDED PUNCTATE (Fig. 38, u)

*Paste:*

Temper: Grit of medium size (ca. 2 mm. in diameter).

Texture: The sherds are crackled and flaky, and cross sections show the interiors to be contorted and porous.

Color: The surfaces range in color from salmon red to charcoal gray. In cross section both surfaces contrast markedly with the black interior.

Hardness: Ca. 2.5.

*Surface finish:* Cord-marked.

*Decoration:*

Designs: Several rows of punctations on both the rim and neck.

Techniques: The punctations were made with the corner of a cord-wrapped paddle.

*Form:*

Lips: Rounded.

Rims: Outflaring.

Necks, bodies, and bases: Unknown.

*Diagnostic features of the type:* Corded-punctate decorations.

*Temporal range:* Closing Point Peninsula times.

*Geographical range:* Jack's Reef site in central New York.

*Probable relationships of the type:* The Wickham Punctate type may be ancestral to this type, which is very similar to, and very probably ancestral to, the Wickham Corded Punctate type of the Owasco.

## THE OWASCO SERIES

The Owasco series is characterized by corded-stick ornamentation, the absence of body decoration, flattened and often splayed-out lips, and the paddle-and-anvil method of manufacture. The interior surface is smooth, the exterior surface cord-impressed or, in the later Castle Creek Focus, sometimes check-stamped. Necks are prevailingly smooth to receive decoration extending down from the rim. Bodies are elongate and bases conoidal in the Canandaigua Focus, elongate or semiglobular with rounded bases in the Castle Creek Focus. In general, the vessels are of relatively large size, ranging from a capacity of approximately two gallons upward to twelve or more gallons.

WICKHAM CORDED PUNCTATE (Figs. 39, a; 41, f)<sup>10</sup>*Paste:*

Temper: Generally speaking, the tempering element is larger than in the other sherds of the Owasco series, being from 2 to 4 mm. in diameter and usually of quartz or crushed crystalline rock.

Texture: Often laminated and rather crumbly.

Color: Sherd exteriors range from orange to very dark brown. In cross section a gradual transition from a black interior to a lighter exterior is seen.

Hardness: 2.0 (or less).

*Surface finish:* By impression of either a cord-wrapped paddle or a dowel. One of two restored pots has smoothed-over cord surfacing. Rarely the necks have been smoothed.

*Decoration:*

Designs: The most distinctive element of the design is the punctation on the rim. Usually there is a single row of encircling punctations about an inch below the lip and rarely, a second series below the first. Occasionally there may be a single row around the rim and from one to three lines of punctations about

<sup>10</sup> Cf. the detailed drawings in Ritchie, 1944, Pl. 20, 4.

the neck. Prevalingly, between the punctation and the lip occur short oblique cord-wrapped stick impressions. Lips are decorated in 50 per cent of the cases and have corded impressions either encircling or crossing them. Most rim interiors are obliquely corded.

**Techniques:** All decoration is done with a corded-stick or edge of a cord-wrapped paddle. Even the punctations seem to have been executed with the corner of the paddle or end of the stick.

**Form:**

**Rims:** Rims range from insloping through mildly to moderately everted. There appears to be no valid correlation between these two rim shapes and the various kinds of designs employed.

**Lips:** Usually flattened and slightly thickened.

**Necks:** Constricted.

**Bodies:** Elongated.

**Bases:** Conoidal.

**Diagnostic features of the type:** Simple punctations encircling an insloping or slightly everted rim.

**Temporal significance:** All sherds of this type are confined to early Owasco times.

**Spatial significance:** The type is known only from central New York.

**Relationships of the type:** It is probably derived from the earlier Jack's Reef Corded Punctate of the Point Peninsula culture. Similar punctations are to be found on an Owasco-like ware at a site near Chatham, Ontario.

**CARPENTER BROOK CORD-ON-CORD (Figs. 39, b, c; 41, g)**

**Paste:**

**Temper:** Medium sized (ca. 2 mm. in diameter, except at the Carpenter Brook site, where the size is slightly greater) pieces of quartz or pulverized crystalline rock.

**Texture:** The sherds are flaky and the interiors show a laminated structure which is often contorted.

**Color:** There is a wide range in color from orange or terra-cotta, through buff and brown, to black on the exteriors with the interior almost invariably black, except for the Carpenter Brook series in which the sherds are often orange throughout.<sup>11</sup>

**Hardness:** Average ca. 2.1.

**Surface finish:** Cord-marked, sometimes ridge-marked, as in Levanna Cord-on-Cord.

**Decoration:**

**Designs:** In this type all the designs characterizing the Owasco Corded Oblique, Owasco Herringbone, and Owasco Platted types are to be found superimposed upon a corded-surface finish. Attempts were made to subdivide this type on the basis of design but without success, for trends appeared to be the same for each variant. That is, this form as a whole is predominant at Carpenter Brook, slightly less so at

Wickham, and is greatly reduced at Levanna, the last site of its occurrence.

**Techniques:** The designs were made by the impressions of a cord-wrapped stick or the edge of a cord-wrapped paddle.

**Form:**

**Rims:** Outflaring.

**Lips:** Flat.

**Necks:** Constricted.

**Bodies:** Elongated.

**Bases:** Conoidal.

**Diagnostic features of the type:** The diagnostic features of the type are corded-stick decorations upon the outflaring rim of a vessel which has been cord-malleated over the entire exterior surface.

**Temporal range:** Early Owasco.

**Geographical range:** Much of New York, part of lower Ontario, northeastern Pennsylvania, and northwestern New Jersey.

**Probable relationships of the type:** This type may have developed out of the combined concepts of the Point Peninsula Corded and Jack's Reef Corded types, and may have in turn given rise to the Owasco Corded Horizontal, Owasco Oblique, Owasco Herringbone, and Owasco Platted types.

**LEVANNA CORDED COLLAR (Fig. 39, d)**

**Paste:**

**Temper:** Medium-sized fragments of quartz or pulverized crystalline rock.

**Texture:** In cross section the sherds show porous, laminated paste, sometimes contorted.

**Color:** Dark brown, buff, or gray on exterior and interior surfaces. The interior paste is somewhat lighter.

**Hardness:** Ca. 2.5.

**Surface finish:** Consists of cord-wrapped paddle impressions running vertically to the lip. Interiors always smooth.

**Decoration:** None.

**Form:**

**Rims:** Slightly everted. Has low, thin, irregular collar evidently made by applying thin strip of clay. Collar cord-impressed.

**Lips:** Rounded or flattened.

**Necks:** Slightly constricted.

**Bodies and bases:** Unknown.

**Diagnostic features of the type:** A low, flat, corded collar on a weakly outflaring-rimmed vessel with cord-malleated surface.

**Temporal range:** Very early Owasco times.

**Geographical range:** Known only from the Levanna site, where it constitutes a very minor element.

**Probable relationships of the type:** Some specimens are almost indistinguishable from the Jack's Reef Corded Collar type. The interior surface is, however, always smooth, never channeled as is often the case in the latter type. Also, the rim is slightly everted and the lip is more often flattened. The two types are clearly genetically related and afford one of the strongest continuities between the Point Peninsula and Owasco cultures.

<sup>11</sup> This, however, may be due to water leaching during their long deposition in a ceremonial pottery dump in the brook bed (Ritchie, 1947, pp. 56-60).

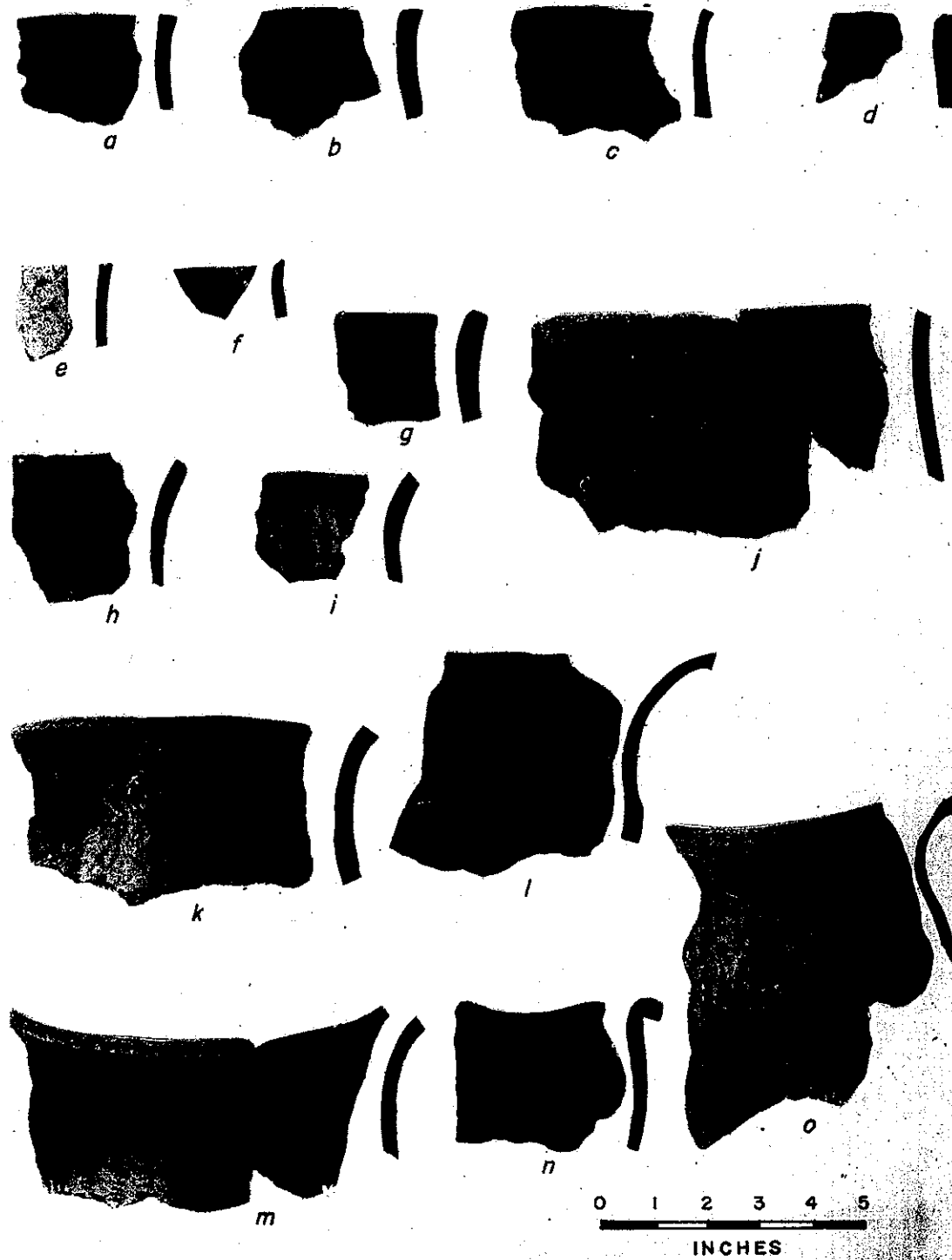


FIG. 39. Pottery types of the Owasco series, New York State: *a*, Wickham Corded Punctate; *b*, *c*, Carpenter Brook Cord-on-Cord; *d*, Levanna Corded Collar; *e*, *f*, Canandaigua Plain; *g*, *j*, Levanna Cord-on-Cord; *h*, *i*, *k*, Owasco Herringbone; *l-n*, Owasco Platted; *o*, Owasco Corded Horizontal.

## CANANDAIGUA PLAIN (Fig. 39, e, f)

*Paste:*

Temper: Grit of medium size made from crushed crystalline rock.

Texture: Flaky.

Color: Varies from gray to black. In cross section there is a gradual transition from an interior black to an exterior gray.

Hardness: *Ca.* 2.0.

*Surface finish:* Unknown, although necks are smooth.

*Decoration:* The only decoration is on the lip and consists of cord-wrapped stick impressions encircling or crossing it. The majority of specimens are wholly plain. Corded oblique lines rarely occur on the rim interior.

*Form:*

Rims: Outflaring.

Lips: Flat.

Necks, bodies, and bases: Not known.

*Diagnostic features of the type:* Plain, outflaring rims.

*Temporal range:* Only during Middle Owasco times.

*Geographical range:* The Finger Lakes region of central New York.

*Probable relationships of the type:* Unknown.

## LEVANNA CORD-ON-CORD (Fig. 39, g, j)

*Paste:*

Temper: Medium-sized (2 mm. in diameter) pieces of quartz or pulverized crystalline rock.

Texture: In cross section the sherds show laminated paste, sometimes contorted.

Color: Usually charcoal gray to black. In cross section the interior and exterior zones are dark, indicating that the firing took place in a reducing atmosphere.

Hardness: *Ca.* 2.5.

*Surface finish:* Usually imparted with a cord-wrapped paddle, occasionally with a cord-wrapped dowel.

*Decoration:*

Designs: When it occurs, the decoration consists of linear or cord-wrapped paddle-edge impressions across the lip. Rarely a single cord imprint medially encircles the lip.

Techniques: Either by linear impression or the edge of a corded paddle or corded stick.

*Form:*

Rims: Slightly to moderately everted.

Lips: Flattened.

Necks: Constricted.

Bodies and bases: Unknown. Probably elongated with conoidal bottom.

*Diagnostic features of the type:* Corded surface finish, outflaring rim, with decoration only on the lip, if at all.

*Temporal range:* This type has its inception in earliest Owasco times and continues on into the beginning of the Late Owasco period.

*Geographical range:* Unknown. Similar forms are known from northern New Jersey.

*Probable relationships of the type:* It appears to be derived from the Jack's Reef Corded type of the Point Peninsula culture. In fact, the main distinction is that the latter usually has a rounded lip while in the former

the lip is prevalingly flattened. This type constitutes one of the best continuities between the Point Peninsula and Owasco cultures.

CASTLE CREEK PUNCTATE (Fig. 40, e-g)<sup>12</sup>*Paste:*

Temper: Grit of small size.

Texture: Cross section shows a laminated texture.

Color: The exteriors range from charcoal gray to yellow ochre. The interiors are usually black.

Hardness: *Ca.* 2.5.

*Surface finish:* Two intact pots are finely cord-marked, as are four sherds. One sherd appears to be fabric impressed.

*Decoration:*

Designs: Consist of rows of punctations on the collar. This is associated with either incised lines, punctations, plats of cord-wrapped stick, or oblique lines of similar impressions on the neck.

Techniques: The punctations were made with a tubular punch, perhaps a bird bone *ca.*  $\frac{1}{4}$  in. in diameter, or with a pointed or triangular stylus. The former is most common at the Castle Creek site. However, since the few examples of this decorative technique are so similar, and since the stylus-made types appear at both the Sackett and Castle Creek sites, we have included them all in one type.

*Form:*

Rims: All sherds of this type are collared.

Lips: Flat.

Necks: Concave, usually smoothed and decorated.

Bodies and bases: Globular with round bottom.

Appendages: One or two vertical lugs are often applied to the collar, usually below the castellations.

*Diagnostic features of the type:* Punctations on a collared vessel.

*Temporal and geographical ranges:* Sherds of this type are found at the Sackett farm, Castle Creek and Bell-Philhower sites and would appear to belong to Middle and Late Owasco times.

*Probable relationships of the type:* Unknown.

OWASCO HERRINGBONE (Fig. 39, h, i, k)<sup>13</sup>*Paste:*

Temper: Grit showing considerable variation in size and quantity.

Texture: Flaky and at the Wickham site almost crumbly. In general, there is an improvement in texture and hardness from Early to Late Owasco times, but the change is not great enough to allow the formulation of new types.

Color: Exteriors range in color from charcoal gray to burnt sienna. Interiors are usually very dark. In cross section the sherds show an abrupt change in color near the center.

<sup>12</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 19, 5; 20, 5.

<sup>13</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 18, 2; 19, 3; 20, 6.

*Surface finish:* One whole pot and one sherd are coarsely cord- or fabric-marked; two pots and ten sherds have finely cord-marked body surfaces. Necks are smooth.

*Decoration:*

*Designs:* Extending down from the lip is a herringbone pattern consisting of parallel horizontal rows of elements which are oblique in alternate directions. Cord-wrapped stick impressions or linear corded impressions cross the lip and in some cases they encircle the upper part of the rim. Rarely the lip is unembellished. Usually there are oblique impressions on the rim interior.

*Techniques:* Usually the decoration was achieved with a cord-wrapped stick or the edge of a cord-wrapped paddle, impressed on the wet clay surface. Commonly only five to ten cord impressions are visible on a single line, but the fact that one end of the impression is more distinct than the other implies that the operator may have been using only a part of one end of the decorating implement. A few sherds have designs done by a short ( $\frac{1}{2}$  to 1 inch), simple linear stamp.

*Form:*

*Rims:* Usually outflaring. In a few examples weak castellations occur.

*Lips:* Always flattened and sometimes roughened by decorating with a corded tool.

*Necks:* Constricted.

*Bodies:* Elongated.

*Bases:* Conoidal in two cases (Canadaigua Focus), round in one (Castle Creek Focus).

*Diagnostic features of the type:* A corded-herringbone decoration on an outflaring rim.

*Temporal range:* This type occurs throughout Owasco times and is also present in the late Point Peninsula period. It reached its greatest popularity in the Middle Owasco horizon.

*Geographical range:* The type has a very wide distribution in New York State, northern New Jersey, and Pennsylvania. The same or a very similar type appears on the Ontario peninsula in Canada at the Uren site, and at Chatham, Ontario. In coastal New England some similar sherds are also found.

*Probable relationships of the type:* It seems to have been born in Late Point Peninsula times and the prototype may have been a rocker-stamp.

OWASCO PLATTED (Figs. 39, l-n; 41, d)<sup>14</sup>

*Paste:*

*Temper:* Grit of medium size (ca. 2 to 3 mm. in diameter).

*Texture:* The sherds are flaky and, in the earlier components (Wickham, Carpenter Brook, and Jack's Reef), crumbly in texture.

*Color:* Although there is some difference from site to site, the sherd exterior is usually charcoal gray (later examples are sometimes orange) and the in-

terior black. The cross section shows a gradual transition from the black interior to the gray exterior.

*Hardness:* Average 2.0.

*Surface finish:* Body surface finish on four restored pots is fine cord-marking; one of eight sherds shows smoothed-over cord marks; the remainder are finely cord-marked. Neck surfaces are smooth.

*Decoration:*

*Designs:* The commonest design is a plat of corded-stick imprints on the neck. These plats consist of short, horizontal, cord-wrapped stick impressions (about 1 inch long), one above the other, which form vertical or oblique rows. Usually above these plats the exterior and interior rim surfaces bear short, oblique, corded-stick impressions reaching across the lip. Some variation of decoration is present, for occasionally the accessory embellishments are absent from the rim, and in a few examples from each site there is a herringbone pattern consisting of two oblique corded impressions above the plats.

*Techniques:* The plats were formed by impressing a cord-wound stick or cord-wrapped paddle edge, having three to five cords, on a smoothed wet clay surface.

*Form:*

*Rims:* Outflaring.

*Lips:* Usually flattened.

*Necks:* Constricted.

*Bodies and bases:* Whole pots show an elongated body with a conoidal base in the earlier period and a rounded one from Castle Creek times on.

*Diagnostic features of the type:* Vertical or oblique plats of corded-stick imprints on an outflaring rim.

*Temporal range:* This type is present throughout the Owasco period and becomes more dominant in late Owasco times.

*Geographical range:* New York State, northeastern Pennsylvania, northwestern New Jersey. Similar types appear in the Sebonac and Bowman's Brook cultures of the Long Island Sound area.

*Probable relationships of the type:* The ancestral type is unknown, but may be foreshadowed in the late Point Peninsula. This style of decoration seems to be waning in very late Owasco times. It also appears related to the Owasco Horizontal type, as it shows the same trend in time.

OWASCO CORDED HORIZONTAL (Fig. 39, o; Fig. 41, a)<sup>15</sup>

*Paste:* Grit having considerable range in size and quantity.

*Surface finish:* Three whole pots and a number of sherds exhibit fine cord-marked bodies, with two sherd exceptions, one of which is coarsely corded or fabric-marked, the other greatly smoothed-over cord-marked. Necks are smooth.

*Decoration:*

*Designs:* The dominant design is a series of short ob-

<sup>14</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 18, 3, 4; 20, 2, 3.

<sup>15</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 17, 5; 19, 4.

lique impressions above rows of horizontal impressions that encircle the neck and upper rim. On some of the sherds the upper oblique lines are absent and the horizontal rows extend to the lip. Lips may be decorated by cross or parallel impressions or may bear no decoration at all. The rim interiors are usually embellished by oblique impressions.

**Techniques:** The design appears to have been executed with a cord-wrapped stick or the edge of a cord-wrapped paddle. The horizontal encircling lines are composed of a series of neatly fitting corded-stick imprints.

**Form:**

Rims: Outflaring.

Lips: Flattened and sometimes cord-roughened.

Necks: Constricted.

Bodies: Elongated.

Bases: Conoidal on the three entire vessels, which pertain to the early or Canandaigua Focus.

**Diagnostic features of the type:** Horizontal cord-wrapped stick impressions, with or without oblique corded decorations above the main theme, on outflaring rims.

**Temporal range:** This type appears early, at the Carpenter Brook site, and continues throughout the Owasco period, increasing in popularity.

**Geographical range:** Much of New York State, northeastern Pennsylvania, northwestern New Jersey, and western Vermont.

**Probable relationships of the type:** Similar types appear in the western Long Island Sound area, in Massachusetts, and in the upper levels of the Waterside shell heap in Maine. This suggests a temporal link between these various cultures. The Vinette Dentate and Point Peninsula Corded types may be prototypic, while the Owasco Corded Collar type may have developed therefrom.

**OWASCO CORDED OBLIQUE (Fig. 40, a, b)<sup>16</sup>**

**Paste:** Grit of varying size and quantity.

**Surface finish:** Four whole pots and some dozen sherds show fine cord-marked surfacing. Necks are smooth.

**Decoration:**

**Designs:** The dominant decoration is a series of short, parallel, oblique impressions on the rim exterior and interior. Occasionally these lines extend down onto the neck. Sometimes a second offset row occurs below the first. A possible subtype has only two or three parallel, oblique corded-stick impressions extending from the rim down over the neck.

**Techniques:** The motifs were executed with cord-wrapped stick or cord-wrapped paddle edges.

**Form:**

Rims: Outflaring. Weak rim points or castellations are present on several sherds.

Lips: Flattened.

Necks: Constricted.

Bodies and bases: Elongated in the earlier (Canandaigua) focus with conoidal base; semiglobular or

globular with rounded bottom in Castle Creek times.

**Diagnostic features of the type:** Oblique cord-wrapped stick impressions on a smooth outflaring rim.

**Temporal range:** Occurs throughout the Owasco period reaching its dominance in Middle Owasco times.

**Geographical range:** Much of New York, northeastern Pennsylvania, and northwestern New Jersey.

**Probable relationships of the type:** Unknown.

**OWASCO CORDED COLLAR (Figs. 40, c, d, h; 41, e)<sup>17</sup>**

**Paste:**

Temper: Crushed shale or granitic grog (ca. 2 mm. in diameter).

Texture: Flaky and somewhat porous.

Color: Surface range from charcoal gray to ochre yellow. In cross section the sherds are black from the interior to almost the exterior surface, where the color changes sharply.

Hardness: Ca. 2.5.

**Surface finish:** The seven complete pots and six sherds available have finely cord-marked surfaces.

**Decoration:**

**Designs:** The dominant collar design consists of from three to six (usually three) horizontal rows of corded-stick impressions. Often at a castellation, and sometimes where this feature is absent, there are three rows of vertical or diagonal cord-wrapped stick impressions. A few sherds exhibit oblique corded-stick impressions on the collar, while on still others are opposed triangles composed of similar impressions. However, since we were unable to establish a significant difference between these sherds and the others of this type, we did not feel justified in defining a new type. On the vessel neck may occur plats, oblique lines, horizontal rows, or three parallel oblique lines forming triangles of corded-stick impressions.

**Techniques:** All decoration is by cord-wrapped paddle edge or cord-wound stick.

**Form:**

Rims: All have collars with a channeled interior. There is a general tendency for the rims from the later sites to be straighter and slightly taller. However, the majority have a convex exterior.

Lips: Usually flat. The earlier sherds from the Sackett site sometimes have plain lips, while the later ones are usually decorated.

Necks: Invariably constricted.

Bodies: Range from elongated to globular.

Bases: Round in all known examples which pertain to the Castle Creek Focus.

Appendages: Two vertical lugs were often applied to the collar below the castellations.

**Diagnostic features of the type:** A collar with horizontal rows of cord-wrapped stick impressions, combined with a similar style of neck ornamentation.

**Temporal range:** The type first appeared in Middle Owasco times (although two sherds were found at the

<sup>16</sup> Cf. the detailed drawings in Ritchie, 1944, Pl. 17, 1.

<sup>17</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 17, 2; 18, 1; 19, 1, 2.

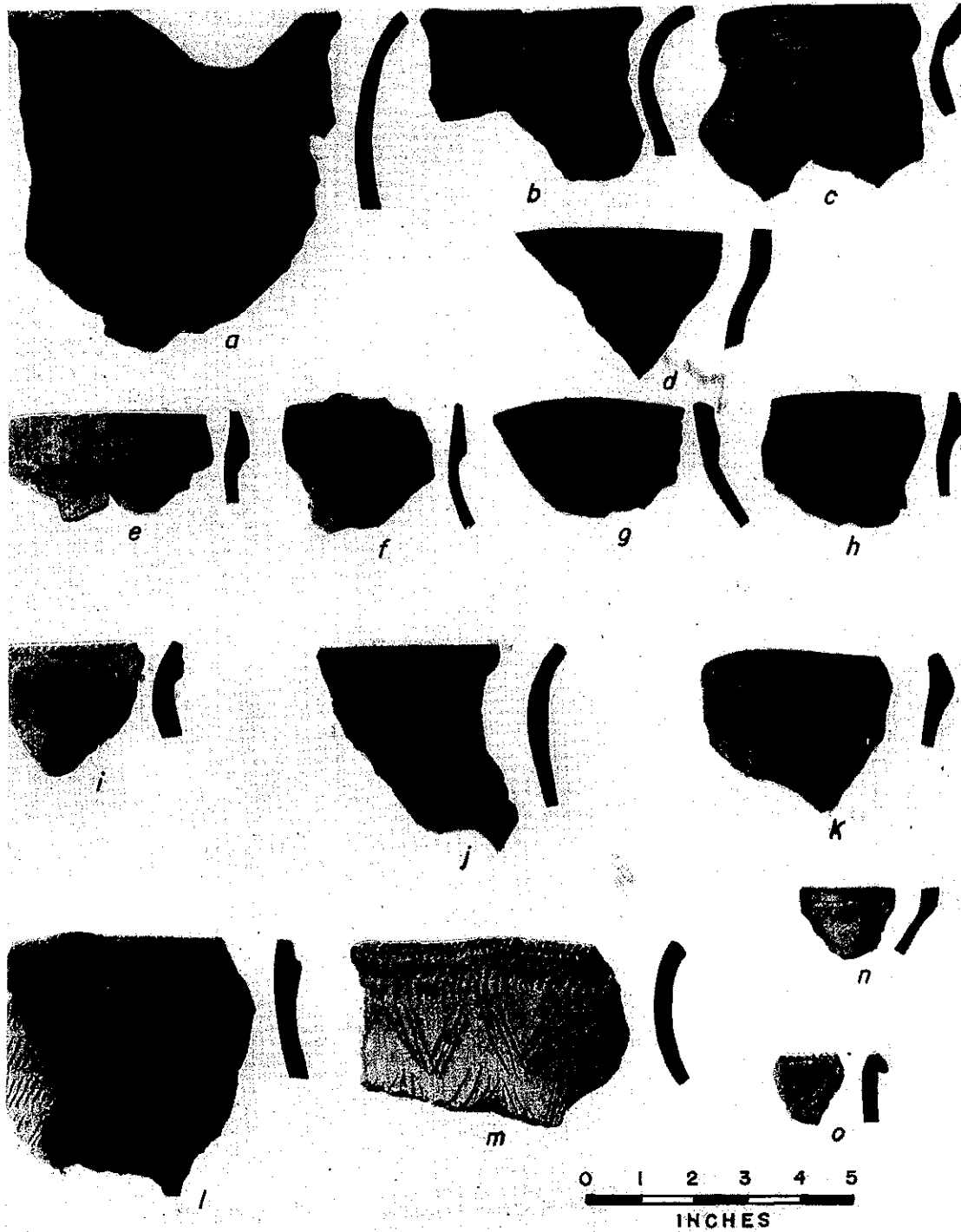


FIG. 40. Pottery types of the Owasco series, New York State: *a, b*, Owasco Corded Oblique; *c, d, h*, Owasco Corded Collar; *e-g*, Castle Creek Punctate; *i, l*, Castle Creek Beaded; *j, m*, Castle Creek Incised Neck; *k*, Bainbridge Collared Incised; *n*, Bainbridge Linear; *o*, Bainbridge Notched Lip.

Wickham station) and constituted a major Late Owasco form.

*Geographical range:* The type is found over much of New York State east of the Genesee Valley, in northeastern Pennsylvania, and northwestern New Jersey.

*Probable relationships of the type:* We believe this type to have great chronological significance and it may temporally link cultures over a wide area of the northeastern United States. The prototype may be either the Levanna Corded Collar or Jack's Reef Collared types. It would appear to MacNeish that this type develops into the early Mohawk Oak Hill Corded.

CASTLE CREEK BEADED (Fig. 40, *i, l*)<sup>18</sup>

*Paste:*

Temper: Grit of *ca.* 1 mm. in diameter.

Texture: The sherd interior is laminated and has a tendency to be flaky.

Color: Charcoal gray to cinnamon brown. In cross section the sherds show relatively even firing, with the inside wall only slightly darker than the exterior wall, while the centers are darker than either.

Hardness: *Ca.* 2.

*Surface finish:* Forty sherds of one pot can be connected with a rim and these sherds show coarse cord-roughening. Three sherds from as many vessels are finely cord-marked. A large restored pot has a check-stamped body.

*Decoration:*

Design: On the exterior rim there are usually two or three horizontal rows of short vertical lines. Rarely rows of punctations replace the other design elements. Below these are lines on the neck which may be either incised triangles or horizontal lines of cord-wrapped stick impressions, or a continuation of the rim design. Lips usually have parallel transverse lines, while the lip interior always bears short oblique lines.

Techniques: The oblique, vertical, or horizontal rows of lines on the rim exterior are usually made with the edge of a cord-wrapped paddle, or a linear stamp, and are about  $\frac{1}{4}$  of an inch long.

*Form:*

Rims: Characteristic of this pottery type is a rim with a flattened (and often broadened) lip having a small bead or ridge below it. Oblique or vertical elements of the design occur above and below this bead.

Lips: Usually flattened and decorated.

Necks: Concave or insloping with the rims outflaring from them.

Bodies and bases: The one complete pot has an elongated body with rounded base.

Appendages: Castellations appear as slight elevations of the lip. The bead is appliquéd to the vessel rim with the lower portion smoothed into it, while the upper portion is at right angles to it. The line of fusion is often evident.

<sup>18</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 17, 4; 19, 6.

*Diagnostic features of the type:* Pots with a beaded rim having a row of short vertical or oblique design elements above the bead and another below it.

*Temporal and geographical ranges of the type:* The type occurs mainly at the Castle Creek site and rarely at the Bainbridge, Bell-Philhower, and Calkins farm sites. All these sites are of late Owasco times though not necessarily at the end of the period. Three sherds of this type were found at the Wickham site and may represent the beginning of the type.

*Probable relationships of the type:* It is possible that this type arose from the Owasco Oblique type, flourished during the Castle Creek stage, then died out leaving no descendants. Of particular significance are the Wickham sherds which may indicate a possible areal relationship, viz., of Wickham to Castle Creek rather than Wickham to Levanna.

CASTLE CREEK INCISED NECK (Fig. 40, *j, m*)<sup>19</sup>

*Paste:*

Temper: Small to large particles (less than 1 mm. to more than 3 mm., occasionally to 6 mm. in diameter) of pulverized crystalline rock. This was obviously derived from the large pebbles of burned, friable, granitic and gneissic rocks found on Owasco sites, which were probably crushed with a hammerstone in the peculiar mortars having one or more deep conical pits.<sup>20</sup>

Texture: Coarse, sometimes laminated and porous.

Color: Buff, brown, gray, or orange on both surfaces and extending inward for some 2-3 mm. from the outer surface and *ca.*  $\frac{1}{2}$  mm. from the inner surface. Paste interior nearly black in most instances.

Hardness: *Ca.* 2.5.

*Surface finish:* Fine cord in four instances, coarse cord or rough fabric impression on body of restored pot.

*Decoration:*

Designs: The primary element consists of groups of rudely incised parallel lines placed obliquely on the neck to form open triangles. Occasionally two zones of these occur, in one case separated by a narrow band of punctations. On this same sherd a plat composed of identical punctations obliquely transverses the doubly incised neck. In every instance the surmounting rim area is embellished with a single, or much more commonly, a double row of oblique lines, often constituting a rude herringbone design. This was executed with a corded stick or a linear punch. The lip is obliquely and/or horizontally cord-imprinted, and similar short impressions appear on the inner rim. The shoulder also carries a single line of oblique corded-stick imprints or in one case weak punctations.

Techniques: The neck ornamentation is incised in a crude, hesitant fashion, clearly demonstrating what we know from the development of Owasco ceramics, viz., that the potter was experimenting with an un-

<sup>19</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 17, 6; 18, 6.

<sup>20</sup> Ritchie, 1934, Pl. XVI, 1; 1944, Pl. 27, 11.

familiar technique. Cord-wrapped stick impressions, in the old tradition, and rarely punctuation, were employed in the remainder of the embellishment.

*Form:*

Rims: Everted.

Lips: Flat and sometimes outslipping. Weak rim points or castellations often occur.

Necks: Concave and smooth, with incised decoration.

Bodies: Semiglobular.

Bases: Round.

*Diagnostic features of the type:* Incised triangular motifs on the vessel neck.

*Temporal range:* Late Owasco times.

*Geographical range:* This type is best represented at the Castle Creek site but it is also present at Bainbridge.

*Probable relationships of the type:* This is a logical prototype for the Bainbridge Collared Incised type. It is one of several types (Castle Creek Beaded, Castle Creek Punctate) of the same time period which frequently portray incised neck decoration.

**BAINBRIDGE COLLARED INCISED<sup>21</sup> (Fig. 40, k)<sup>22</sup>**

*Paste:*

Temper: Grit usually of about 1 mm. or less in diameter, with occasionally a large inclusion (3 mm. in diameter).

Texture: Coarse and laminated, with a tendency toward flaking.

Color: Colors range from a yellow ocher to a charcoal gray on both surfaces. Paste interior is almost always black. Sherds in cross section show the black extending to about 1 mm. from the exterior surface where there is a distinct change to lighter color, superficially resembling a slip. We interpret this to mean that a quick, hot fire was applied to the exterior of the pot and that in all probability the vessel was fired with its mouth inverted, so that fire could not directly reach the interior, which was thus in a reducing atmosphere.

Hardness: Exteriors are about 2.5 with interior much softer.

*Surface finish:* Of seven whole pots, five have finely cord-marked bodies, the remaining two being check-stamped.

*Decoration:*

Designs: The collars of this type usually bear three encircling rows of cord-wrapped, paddle-edge decoration. Sometimes these rows are broken by three vertical lines of corded-stick marks, usually occurring under castellations. In rare cases there is a series of oblique lines of corded-stick imprints; two sherds present triangular decorations done in the same technique. The lip bears either a single-corded stick impression horizontally placed, or small, evenly spaced (ca.  $\frac{1}{2}$  inch apart), transverse, cord-wrapped stick lines. At the base of the collar there

may be short vertical corded-stick impressions. The necks are always rudely incised with lines, usually in sets of three, forming rhomboids or triangles. At the junction of the neck and body short, oblique, cord-impressed lines often occur.

Techniques: Incising characterizes the neck ornamentation, while cord-wrapped stick or paddle-edge impressions are found upon the collar.

*Form:*

Rims: All have a definite collar of varying height, prevalently low, with a slight interior channel and a convex exterior.

Lips: Flat.

Necks: Concave and smooth, with incised decoration.

Bodies: Semiglobular.

Bases: Round.

Appendages: A vertically applied ridge of clay is often found below the castellations.

*Diagnostic features of the type:* Incised lines on the vessel neck, and collar decorated with cord-wrapped stick impressions.

*Temporal range:* The type appears only in late Owasco times.

*Geographical range:* This type predominates at the Bainbridge site and a few examples occur at the Castle Creek and Bell-Philhower sites.

*Probable relationships of the type:* This form seems to have emerged from a union of the concepts involved in the earlier Owasco Corded Collar and the late Castle Creek Incised Neck types, and seems to be related to Bainbridge Linear. Sherds similar to the type occur at the Ivey site in Jefferson Co., New York, and in upper levels of the Chipman's Point Rock Shelter at Orwell, Vermont. The subsequent development of this type is not known, but it may have given rise to the Chance Incised and Oak Hill Corded types of early Mohawk, in which incised neck lines forming triangles occasionally occur.

**BAINBRIDGE LINEAR (Fig. 40, n; Fig. 41, c)**

*Paste:*

Temper: Small pieces of shale.

Texture: The sherds have a gritty feel, have a tendency to be flaky, and the cross section shows laminations.

Color: The inside of the sherds is usually black with exteriors ranging from a yellow ocher to charred gray color. This would appear to indicate a low firing temperature resulting in oxidation of the exteriors.

Hardness: Average 2.5.

*Surface finish:* The one whole pot shows a check-stamped surface. However, since fine cord-marking and check-stamping are the dominant surface finishes at the Bainbridge component it is probable that either style is correlated with this type.

*Decoration:*

Designs: Three horizontal lines encompass the center of the collar with short vertical lines above and below them. At the two castellations of the whole pot there are three vertical parallel lines. On the lip there are two parallel incised lines. Below the collar

<sup>21</sup> Only a small sample (25 sherds) was examined, as many of the total are whole pots.

<sup>22</sup> Cf. the detailed drawings in Ritchie, 1944, Pls. 17, 3; 18, 5.

the decoration consists of either a series of parallel, oblique, linear markings or cord-wrapped, paddle-edge impressions. Necks appear to be decorated by three parallel incised lines forming rhomboids.

**Techniques:** On the collar and the lip the decoration consists of short connecting incisions or overlapping linear punctations, while just below the collar there may be either cord-wrapped, paddle-edge impressions, or linear punctation. Neck decoration is incised.

**Form:**

**Rims:** A  $\frac{3}{4}$  to 1 inch high thin collar was added to the rim. The collar interior shows a channel, while the exterior is slightly convex. The collar may either increase or decrease in thickness toward the lip.

**Lips:** Flat with two parallel lines of linear impressions on the surface.

**Necks:** Concave, smooth, and bear incised decoration.

**Bodies:** Elongated with a tendency toward globularity. **Bases:** Round.

**Appendages:** Two short, pointed castellations appear on one vessel.

**Diagnostic features on the type:** Horizontal bands of linear impressed decoration on a short collar, combined with incised decoration on the neck.

**Temporal range:** The type appears only during late Owasco time, and may be considered a terminal Owasco form.

**Geographical range:** It has been found only at the Bainbridge site near Bainbridge, Chenango Co., New York, and at the Bell-Philhower site near Montague, Sussex Co., New Jersey.

**Probable relationships of the type:** The earlier and partly contemporaneous Bainbridge Collared Incised type would seem to be a logical prototype for this form. The sherds from Goodyear Lake near Oneonta, New York; from the Oak Hill site near Ft. Plain, New York; and those from the upper levels of the Chipman's Point site near Orwell, Vermont (called early Mohawk by MacNeish), which have parallel lines of linear punctation on a high collar with short vertical punctations above and below them are sufficiently similar to suggest some sort of relationship.

**BAINBRIDGE NOTCHED LIP (Fig. 40, o)**

**Paste:**

**Temper:** Grit, ranging from pieces  $\frac{1}{2}$  cm. to 2 cm. in diameter.

**Texture:** Coarse and laminated.

**Color:** Ranges from a burnt sienna to a charcoal gray.

The exterior surface and ca. one-half of the exterior wall are fired to an orange color (oxidized), while the interior is black and flaky. Since the sherds are relatively thin (except at the lip), measuring about 4 mm., this may account for the better firing.

**Hardness:** Ca. 3.0.

**Surface finish:** It was impossible to correlate the rims with the body sherds, but since this type is dominant at Bainbridge, where finely cord-marked and check-stamped surfaces predominated, it was probably one of these.

**Decoration:**

**Designs:** The decoration on the flattened and overhanging lip consists of one or two incised lines encircling the center of the lip, which is notched along either edge. On the inside of the rim there are oblique, parallel, incised lines, although at least one sherd has cord-wrapped paddle-edge impressions instead of incising. On the neck and rim occur rows of short, oblique, vertical impressions made by a cord-wrapped stick, or incised oblique lines.

**Techniques:** Incising is the dominant kind of decoration, although use of a cord-wrapped paddle-edge is combined with it on some neck sherds.

**Form:**

**Rims:** Generally outcurving and expanding. A portion of the rim at the lip slightly overhangs. Superficially it appears that a flat appliqué of clay was affixed to the lip.

**Lips:** Flattened to a great extent to receive decoration.

**Necks:** Definitely constricted.

**Bodies and bases:** No rim sherds could be connected with body sherds but the curvature of the neck sherds leads us to suspect that the bodies and bases were round.

**Appendages:** One rim sherd is slightly raised to form an incipient castellation.

**Diagnostic features of the type:** Chief differentiating features are the thickened lip with marginal notches and incised lines around the center.

**Geographic and temporal ranges:** The only sherds of this type were found at the Bainbridge site and are considered as belonging to very late Owasco times.

**Probable relationships of the type:** It is very similar in shape and design to the contemporaneous Bainbridge Collared type, although the technique of decoration differs. It is possible that both were derived from the thickened lip variants of the Owasco Herringbone and Owasco Horizontal types. The Bainbridge Notched

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**EXPLANATION OF FIG. 41.** *a*, Owasco Corded Horizontal, Angel site, near Mt. Upton, Chenango Co., N. Y.; *b*, Point Peninsula Rocker-Stamped, Wickham site, Oswego Co., N. Y.; *c*, Bainbridge Linear, Bainbridge site, Chenango Co., N. Y.; *d*, Owasco Platted, Bell-Philhower site, Sussex Co., N. J.; *e*, Owasco Corded Collar, Bainbridge site, Chenango Co., N. Y.; *f*, Wickham Corded Punctate, Wickham site, Oswego Co., N. Y.; *g*, Carpenter Brook Cord-on-Cord, Fall Brook site, Livingston Co., N. Y. (Rochester Museum cat. nos.: *a*, AR28948; *b*, AR38200; *c*, AR28631; *d*, AR42071; *e*, AR28632; *f*, AR38424; *g*, AR34501.)

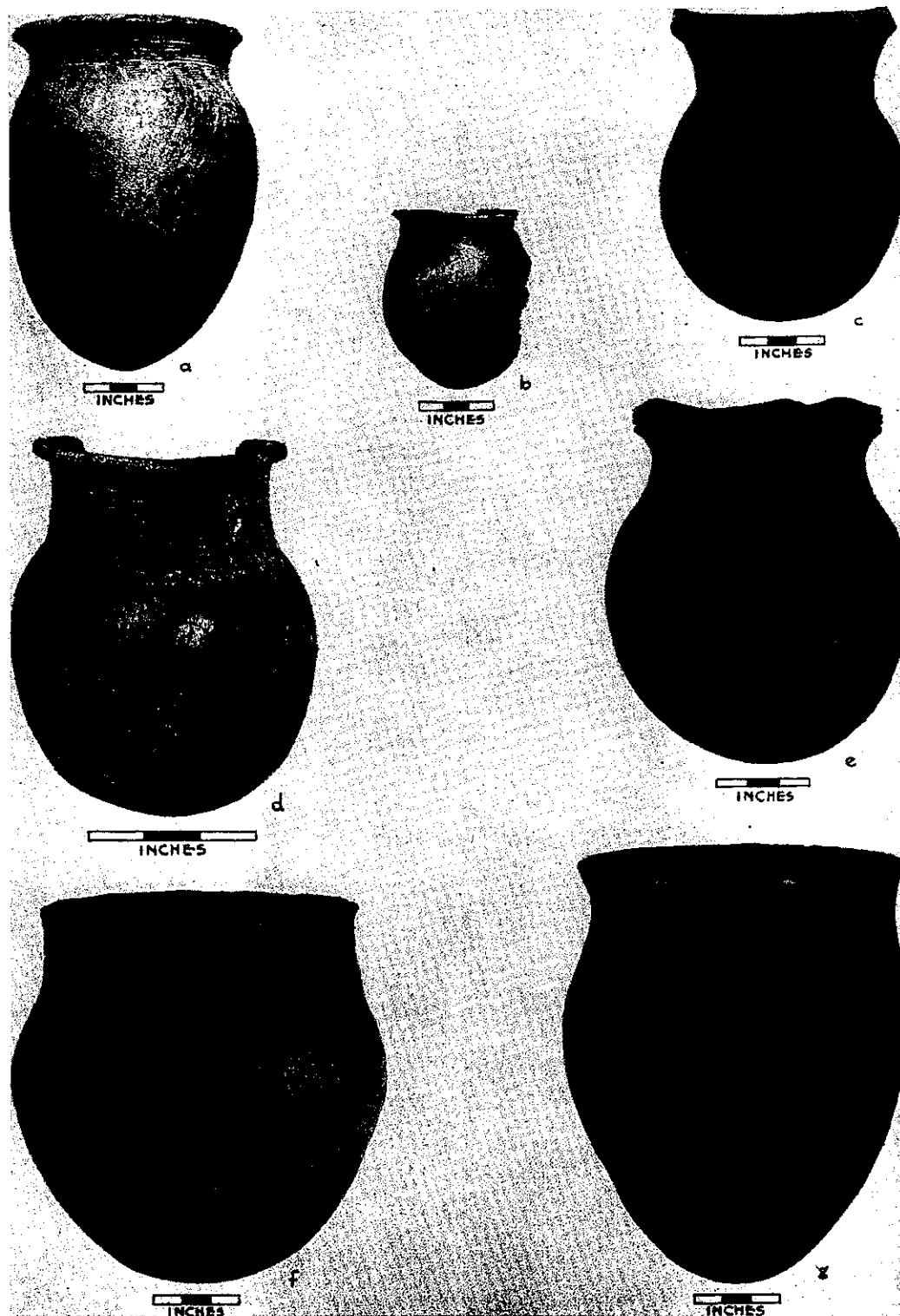


FIG. 41. Restored pottery vessels of the Point Peninsula and Owasco cultures. (See facing page for explanation.)

TYPES	Wickham Corded Punctate	Carpenter-Brook Cord-on-Cord	Levanna Corded Collar	Canam design Plain	Levanna Cord	Castle Creek Punctate	Owaseo Herring bone	Owaseo Platted	Owaseo Corded Horiz- ontal	Owaseo Corded Oblique	Owaseo Corded Collar	Castle Creek Beaded	Castle Creek Incised Neck	Bain- bridge Linear	Bain- bridge Notched Lip
Bain-bridge 363							.08 29	.05 20	.12 45	.02 7	.21 76	.02 9	.01 4	.39 143	.03 10
Bell-Philhower 332						.01 3	.04 12	.37 122	.32 107	.07 23	.16 54	.015 5		.01 4	.005 2
Castle Creek 446					.02 9	.02 10	.12 54	.17 76	.13 59	.15 66	.13 57	.12 54	.05 21	.09 43	
Sackett 391					.09 35	.01 3	.13 50	.15 60	.03 11	.46 181	.07 27				
Levanna 192		.26 50	.04 8	.02 4	.23 53		.24 45	.03 6	.05 10	.06 12					
Wickham 302	.10 85				.03 30		.04 36	.03 29	.12 106	.06 57	.005 3	.005 3			
Carpenter-Brook 437	.20 59				.05 20		.02 8	.03 14	.04 19	.004 2					

TYPES	Vinette 1	Vinette Dentate	Vinette Complex Dentate	Point Penin- sula Corded	Point Penin- sula Rock- stamped	Point Penin- sula Plain	St. Lawrence Pseudo Scallop Shell	Wickham Incised	Wickham Corded	Wickham Punctate	Wickham Kipp Island cross	Jacks Reef Dentate Collar	Jacks Reef Corded Collar	Jacks Reef Corded Punctate
Jacks Reef 241		.126 30	.025 6	.16 39	.43 113	.025 6					.03 8	.04 10	.06 15	.01 3
Upper levels of Vinette 732	.11 64	.18 132	.11 79	.10 70	.45 325	.02 15	.01 8			.005 4	.002 2	.001 1	.001 1	
Wickham 338	.18 61	.15 43	.11 37	.04 13	.20 67	.02 7	.03 10	.12 41	.02 7	.04 15	.02 6	.03 9	.02 6	
Middle levels of Vinette 352	.166 234	.11 39	.05 16	.04 14	.12 42	.01 3	.01 2	.01 2						
Lower levels of Vinette 167	.185 147	.05 6	.01 1	.01 1	.06 10									

FIG. 42. Distribution of the New York pottery types: top, Owaseo series; bottom, Point Peninsula series.

Lip type bears definite similarities to the Mohawk Notched type in rim shape, design, and design technique, but differs in that the latter type has no neck designs. MacNeish believes that the Bainbridge Notched Lip type is ancestral to the Mohawk tribal diagnostic form.

### INTERPRETATIONS

Included in the type descriptions just given are brief references both to horizontal and vertical distributions, as well as to the possible genetic relationships of the types. The data on these significant points are admittedly fragmentary. From certain other sites which we believe to be very important no valid data whatever are available, because for the most part they were dug by amateurs without regard to the relationship of the material found and, in many cases, without the retention of a sufficient sample of the potsherds. In other instances sites explored by the Museum were too small to yield an adequate statistical sample. Wherever possible, however, we have alluded to such sites in the general reconstruction of our archaeological picture. Here in the final section, we shall concern ourselves primarily with component relationships and the broader affiliations implied in cultural classification, rather than with type comparisons.

In both the Point Peninsula and the Owasco series definite trends are observable and, indeed, certain of these trends appear to link the two discrete series, while in turn, some of the observable Owasco tendencies seem to continue on into Iroquois. Thus there is the suggestion in a part of the total ceramic seriation of continuity with change. However, there remains a substantial number of discontinuities between the respective aspects, a fact which suggests either that the key linking sites are still undug or that movements of new peoples have taken place from time to time, in which case the observable trends reflect varying measures of acculturation.

In the Point Peninsula seriation, which is in complete agreement with the stratigraphic evidence, the chief observable trends comprise a continuation throughout the entire temporal span of Hopewellian-like decorative techniques, i.e., rocker-stamping, dentate, and complex dentate, and an associated non-Hopewellian corded decorative feature (Fig. 42, *bottom*). The presence of this corded decoration in the lower level (Early Point Peninsula) at the

Vinette site, even though as a mere trace, constitutes its earliest known occurrence anywhere, for, if our assumptions be correct, this level is of pre-Hopewellian age.<sup>23</sup> Subsequently, in late Hopewellian times, this type of embellishment seems to have disseminated southward, occurring, for example, as a minority ware in the Clear Lake site, Tazewell County, Illinois, and somewhat later in the Maples Mills Focus of the same state.<sup>24</sup> It is also present as a minor element of the Goodall Focus (late Hopewellian) in Michigan.<sup>25</sup> Recently Ritchie has found it at Rice Lake and elsewhere in lower Ontario.<sup>26</sup>

The pre-Hopewellian provenience of this type in the New York area is indicated by its association with Vinette 1 type sherds in the lower or Early Point Peninsula level of the Vinette component at Brewerton.<sup>27</sup> The closest affinities of Vinette 1 are with the Fayette Thick type in Kentucky and elsewhere, and with the Red Ocher Type 6 in Illinois,<sup>28</sup> both of which are on the Adena time level, as indicated by stratigraphy in Illinois and seriation of burial traits in Kentucky.<sup>29</sup> If this association of our sherds with the Adena be valid, then some of our Hopewellian pottery decorations have an earlier appearance in the northern than in the southern United States. The cultural assignment of Vinette 1 pottery is sustained by the total evidence of the other traits and by the fact that the Middlesex culture, with only this double-corded pottery type, has a majority of traits in common with Adena.<sup>30</sup>

In Middle Point Peninsula times (Early Middle Woodland), as represented in the middle and upper levels at the Vinette site, Pseudo Scallop Shell, Wickham Incised, and Wickham Punctate types appear, signifying still other connections, and definite separation from Hope-

<sup>23</sup> Corded decoration may be equally early in the Upper Great Lakes area, but if so, the evidence has not been published.

<sup>24</sup> Cole and Deuel, 1937, pp. 187-98, 200.

<sup>25</sup> Quimby, 1941, Type II-B pottery, p. 71 and II-D, p. 72.

<sup>26</sup> During the 1948 excavations of the Rochester Museum of Arts and Sciences on East Sugar Island, Rice Lake, Peterborough County. It occurred here in lowest levels of a stratified site, with Point Peninsula Rocker-Stamped and other early forms (Ritchie, 1949, Fig. 5).

<sup>27</sup> Ritchie, 1944, pp. 163-4.

<sup>28</sup> Griffin, 1945, pp. 221-8.

<sup>29</sup> Webb and Snow, 1945.

<sup>30</sup> Ritchie, 1937, pp. 186-7; 1944, p. 187.

well levels in general. The combination of the former type with rocker-stamped, dentate, and punctated sherds, many of types already identified in our series, has a wide geographical distribution across lower Ontario eastward into the Maritime Provinces and Upper New England, and westward for a still unascertained distance.<sup>31</sup> The Pseudo Scallop Shell and Wickham Incised types seem to be regional variants

confirmation afforded by the trends in surface finish, in which the corded and smoothed-over corded treatments carry over from one series to the other while the smoothed exterior and channeled interior (Fig. 38, *t, v*) treatments show a steady decline (Fig. 43, *bottom*), provide some measure of support for the theory of continuity in the non-pottery linked traits of the two cultures.<sup>32</sup>

<i>SURFACE TREATMENT</i>	Finely Corded	Coarsely Corded	Smoothed-over Cord	Smooth	Check Stamped	Corded (all types)
COMPONENTS Bainbridge 1,080	.49	.05	.08	.02	.36	.62
Bell-Philhower 737	.54	.055	.32	.05	.04	.915
Castle Creek 981	.60	.17	.03	.01	.20	.80
Sackett 869	.36	.48	.07	.01	.07	.91
LeVanna 253	.26	.62	.12			1.00
Wickham 1,648	.465	.13	.31	.09	.001	.91

<i>SURFACE TREATMENT</i>	Corded	Smoothed-over Cord	Smooth	Comb or Brush Marked	Smooth Interior	Channeled Interior
COMPONENTS Jack's Reef 412	.62	.20	.18	.002	.90	.10
Vinette 290	.15	.04	.79	.02	.79	.21

FIG. 43. Distribution of surface treatment on New York pottery: *top*, Owasco series; *bottom*, Point Peninsula series.

in the Northeast, while the punctation technique has a much wider distribution.

In the later level of the Vinette site, and in much greater abundance at Jack's Reef and the lower component at Wickham's, innovations appear in the form of Kipp Island Crisscross, Jack's Reef Dentate Collar, Jack's Reef Corded Collar, Jack's Reef Corded, and Point Peninsula Corded Punctate. The latter three, and the earlier Point Peninsula Corded, seem to have generic resemblances to types which, in varying strength, occur in the early Owasco horizon. This raises the crucial question whether continuity or acculturation, or a mixture of both processes, are involved in the picture. The ceramic evidence already adduced, plus the

Indications against continuity comprise not only the numerous non-ceramic differences, especially in the diagnostic traits of each culture,<sup>33</sup> but the near absence from the Owasco series of the dentate and the total absence of the rocker-stamping techniques, both of which are strongly represented in what we believe to be the later stages of the Point Peninsula at Jack's Reef. Dentate stamping, to be sure, was already on the decline at that time, but the trend in rocker-stamping was still ascendant. Also, the collared types at Jack's Reef, although faintly present at LeVanna, are lacking from the presumably earlier Owasco stations of Wickham and Carpenter Brook, and do not

<sup>31</sup> Ritchie, 1946, p. 17.

<sup>32</sup> Ritchie, 1944, p. 52.

<sup>33</sup> Ritchie, 1944, pp. 50, 116-7.

re-emerge in strength until full Owasco times (Sackett site) without, however, the dentate decoration. It should also be pointed out that, while all Point Peninsula collars are appliquéd, early Owasco collars, except for the rare instances at Levanna, are of the channeled type, the appliqué technique not being in evidence until the late Owasco of the Castle Creek Focus. The crisscross decoration of the later Point Peninsula horizon<sup>34</sup> likewise has no parallel in Owasco.

Despite these serious discrepancies, it seems to us that the evidence for continuity with change is somewhat stronger. At the same time we recognize that key elements of the picture are yet lacking and that some other culture complex may somewhere exist which will serve as a better ancestor for the early Owasco.<sup>35</sup>

Within the Owasco seriation, too, we can readily discern some threads of continuity (Fig. 42, *top*). The Owasco Herringbone, Owasco Platted, and Owasco Corded Horizontal characterize the whole aspect. The latter two types increase in frequency until the final phase, while the Herringbone reaches its acme in middle Owasco times. The following are early types which disappear prior to the maturation of Owasco culture: Wickham Corded Punctate, Carpenter Brook Cord-on-Cord, and Levanna Cord-on-Cord, all of which have late Point Peninsula affinities, as already indicated. In the middle or full Owasco period Canandaigua Plain and Levanna Corded Collar appear as minority types, while Owasco Corded Oblique reaches its heyday. Late Horizon types comprise Castle Creek Punctate, Castle Creek Beaded, and Castle Creek Incised Neck, all of which lose their prominence before terminal Owasco times. Owasco Corded Collar and Bainbridge Collared Incised are also late types, but these seem to be ascendant towards the end of the period, while Bainbridge Linear and Bainbridge Notched Lip are types which characterize the terminal phase of the period.

In broad perspective this picture suggests a long process of internal development with cer-

tain salient trends in the direction of collared and incised types, a rising incidence of castellations, a tendency toward better levigated and fired paste, and an increase in the frequency of checked-stamp surface treatment (Fig. 43, *top*), all of which bear in the direction of the Iroquoian configuration.<sup>36</sup>

However, it has been shown that incised decoration occurs only on Castle Creek pot necks, not on the rims as in the prevailing Iroquoian parallels for the late Owasco Corded Horizontal, Owasco Herringbone, and Owasco Corded Oblique types. It may be that certain undug sites will provide the missing connections but this still remains an assumption.

The finer sequential site differentiation having been established, insofar as the data permit, we may attempt to apply it to the interpretation of the chronological position of other cultures within the area. Middlesex ceramic remains are quantitatively small, but since all pertain to the Vinette 1 type we conclude that this period antedates or is contemporaneous with the Early Point Peninsula on an Early Woodland horizon, an hypothesis which is sustained by the testimony of the other cultural traits.<sup>37</sup> The New York Hopewellian, in terms both of non-pottery elements and its pottery types, which include Vinette 1, Genesee Cord-Marked,<sup>38</sup> and Point Peninsula Corded,<sup>39</sup> patently overlaps both the Middlesex and Early Point Peninsula manifestations.

Certain possible areal differentiations, of significance when more data are available, may be hinted at, especially in the Owasco series. For instance, the Levanna Corded Collar type is closer typologically to the Jack's Reef Corded Collar type of the late Point Peninsula, than it is to any of the types which occur in the presumably earlier Owasco, Carpenter Brook, or Wickham horizon. This may conceivably mean that Levanna and Jack's Reef are genetically related, while Carpenter Brook and Wickham's might derive from some other later Point Peninsula manifestation. Another lineage

<sup>36</sup> Numerous non-pottery traits are shared by Owasco and Iroquois cultures (Ritchie, 1944, pp. 41, 46).

<sup>37</sup> Ritchie, 1944, pp. 186-7.

<sup>38</sup> This is very similar in paste and form to the Vinette 1 type, from which it was doubtless derived. The major distinction consists in the absence of interior cording, the inside of the pot having been smoothed. A number of the sherds have smoothed-over cord exterior surfaces.

<sup>39</sup> Known only from a single pot at one site (Ritchie, 1938, p. 134, and Fig. 3).

<sup>34</sup> This type takes its name from Kipp Island, where it is relatively more abundant than elsewhere (Ritchie, 1944, pp. 132-43 and Pl. 58, 8, 11).

<sup>35</sup> Ritchie's Canadian material, excavated in 1948 from a stratified site on East Sugar Island in Rice Lake, contains Owascoid sherds and a broad triangular arrowpoint which hint at Middle Woodland Owasco prototypes in this area (Ritchie, 1949, pp. 9, 19-20, Fig. 5).

might include the Wickham and Castle Creek sites, which are linked by the presence on both of the Castle Creek Beaded type. This slender evidence might be interpreted to mean that the Wickham complex is an early ancestor of the Castle Creek, while the Levanna and Sackett components underlie some still undefined late Owasco manifestation. Both the Bell-Philhower and Bainbridge components appear to be derivatives of the Owasco developmental stage revealed at the Castle Creek station, but to represent respectively, different later historic tribal groups. Recent excavations at the Bell-Philhower site lead to the inference that the Munsee possessed the Castle Creek culture on their entry into northern New Jersey from southeastern New York,<sup>40</sup> while the Bainbridge variant, on ceramic grounds, may have developed into the culture of the Mohawk Iroquois.<sup>41</sup> Thus it seems conceivable that we have in the cultural composite designated the Owasco, the tangible products of two discrete linguistic groups, viz., Algonkian and Iroquoian, which bifurcated in southeastern New York state in late prehistoric times. Such an explanation would, in terms of existing evidence, shed light only on the genesis of the Mohawk subdivision of the Iroquois pattern. It is also possible that an exceedingly detailed comparative scrutiny of the sites (providing they can still be found) forming the direct lineages of the Bell-Philhower and Bainbridge components, respectively, might disclose significant differences both in ceramic and non-pottery traits, now obscured by our imperfect picture of the aspect.

The general trends in culture development, just indicated in terms of pottery for the New York area, have parallels in many parts of the eastern and central United States. When other elements of the cultural picture are added to the pottery sequence, e.g., projectile points, the bone constituents, settlement patterns, and mortuary traits, the resemblances are enhanced. In a word, over a very broad geographical range, one finds double-corded pot types, associated with broad stemmed and notched projectile points; the use of native copper tools and ornaments; large bone implements, including the comb; the tubular smoking pipe; bar- and boatstones; tubular and discoidal shell beads, etc., all linked to sizeable settlement

sites evidently predicated upon horticulture, and correlated with a remarkable emphasis on mortuary matters. This early period of florescence develops into a brilliant climax, when the cult of the dead stands forth starkly as a pivotal point in the orientation of cultures as far separated as Louisiana and New York. Smooth-bodied pots with over-all or zoned decoration done in dentate, rocker-dentate, or plain rocker-stamp technique, appear over a very wide area, while straight<sup>42</sup> and elbow pipes evolved from tubular prototypes in the Northeast.

This cultural maximum evidently represents the diffusion of an intensely religious institution, centering around the dead, which had come to dominate the value-attitude systems of many widely-separated groups. The paraphernalia everywhere show striking similarities, and comprise such devices as the platform pipe, various forms of the gorget, the use of sheet mica and copper, cut animal jaws and teeth, pearl beads, copper ear spools, conjoined copper tubes, flat copper axes, conch shell containers, flake knives, large corner-notched points, cache blades, etc. Mortuary customs of general distribution include cremation, extended inhumation, the use of burial mounds, and a rich panoply of grave goods. The latter were, evidently, in large part ritualistic in character, since they have few counterparts in the common utilitarian artifacts found in the habitation sites.

This concept of the Hopewellian configuration as a religio-ceremonial phase, analogous to a "church," is somewhat at variance with currently entertained notions. Its development seems to have taken place not in the south,<sup>43</sup> but within the northern United States, for its inception seems already faintly visible on the Archaic horizon.<sup>44</sup>

Until the end of Hopewellian times the eastern United States appears to have been essentially a single "culture area." After its decline, for still unfathomed reasons, the sundry regions encompassed by the Hopewellian tradition began to develop individually along diver-

<sup>42</sup> The straight pipe, in our terminology, differs from the tubular pipe in that the former has a well formed bowl chamber connected with a sharply constricted stem tube, similar to that found in the elbow type, while in the tubular form the bore diminishes gradually.

<sup>43</sup> MacNeish, 1947, p. 12.

<sup>44</sup> Ritchie, 1945, pp. 21-2.

<sup>40</sup> Ritchie, n.d. a.

<sup>41</sup> This subject will be considered by MacNeish in a future paper on the Iroquois.

gent paths in the Late Woodland and Early Middle Mississippi periods.

The Northeast witnessed the rise of the Owasco culture, which demonstrates a complete lack of preoccupation with mortuary matters and a total absence of any of the traits of the Hopewellian religious complex. The subsistence pattern is now clearly founded upon maize and bean horticulture, and large, permanent, fortified towns prevail. The ceramic complex, although showing some Point Peninsula features, as pointed out above, is launched upon a distinctive pathway which has already been traced in part.

The earliest post-Hopewellian period in the Midwest is a generalized Woodland manifestation, which is gradually submerged by the diffusion of Middle Mississippi, ultimately to emerge as Upper Mississippi cultures. Diagnostic traits are large river-bottom villages subsisting upon corn raising; truncated pyramid mounds; shell- and grit-tempered pots of globular form with flaring rims and handles; and a new set of mortuary customs marked by inhumation in cemeteries, usually with offerings of pottery, a specific non-Woodland trait.

Generally speaking, the growth of the Middle Mississippi pattern follows upon the decline of the Hopewellian horizon in the Southeast. In the northern part of the area a feeble Woodland is soon supplanted by the vigorous Middle Mississippi manifestation, which ultimately derives from Middle American sources, and is broadly defined by large cere-

monial centers with truncated pyramid mounds arranged about a central plaza; wattle and daub house construction; intensive corn horticulture; cemetery inhumations, occasionally with elaborate grave goods; a wide variety of new pottery forms, such as bottles; salt pans; wide-mouthed, globular, handled jars; effigy vessels; and negative painting.

Despite these great regional differences, a number of common traits prevail over the whole eastern area, probably diffused from more than one center. Chief among these are triangular arrowpoints, elbow pipes, incised pottery decoration, globular-bodied pots, a strong emphasis on ceramics and shellwork, and a correspondingly weak use of chipped stone, with an almost complete absence of problematic polished stone forms, like the gorget.

The total impression created by this scrutiny of a large segment of eastern American prehistory, and specifically of the New York sequence, is one of gradual transition from a primitive semi-nomadic culture based upon a subsistence economy, as seen in Archaic and early Woodland periods, to a more urbanized way of life predicated upon horticultural activities which afforded the means for relatively stable residence and the elaboration of cultural devices. A stratified society with a priestly caste seems indicated, as well as the differentiation of artisan groups who gave wide expression to individual creative ideas in a number of media. This broad generalization, we believe, is widely applicable and relates, rather than separates, our area to other culture centers.

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Rochester Museum of Arts and Sciences  
Rochester N. Y.  
University of Michigan  
Ann Arbor, Mich.  
February, 1949

## ARCHAEOLOGY OF FAR FAN BEACH, PANAMA CANAL ZONE

DONALD S. MARSHALL

### INTRODUCTION

PEABODY Museum, Harvard University, contains two collections of archaeological materials from Far Fan Beach, Panama Canal Zone. The first was given to Mr. Frederick Johnson in 1931 by an army engineer, without any stratigraphic or other data. The collection comprises some ten sherds picked up while excavating a gun position, and correlates exactly with the collection of some thousand specimens obtained by Dr. David B. Stout of Syracuse University during his work with the San Blas Indians in 1941.<sup>1</sup> This second series was discovered in much the same fashion as the first, though fortunately Dr. Stout was able to get to the site while a few pieces remained *in situ*.

Excavation of the site in the midst of war-hastened construction did not permit the detailed work desired by Dr. Stout, but the results are felt to be a step toward piecing together the

<sup>1</sup> The writer is indebted to Dr. Stout for the kind permission to use his field notes as well as for permission to publish the results. Dr. Alfred Kidder, II has been of utmost assistance in reading and criticizing the manuscript, as well as in devoting many hours to discussion of the problems at hand. Dr. S. K. Lothrop has graciously allowed the author to read the manuscript of his report on the archeology of Veraguas, now in press.

background of Panamanian archaeology. Present trends of thought see the Isthmus of Panama as the scene of fluctuating migrations of peoples in the past, and an understanding of the archaeology will aid materially in establishing the course of American prehistory. While Dr. Samuel K. Lothrop and others have made an admirable and extensive start in establishing ceramic sequences in the Coclé, Veraguas, and Chiriqui areas of Panama, the writer is aware of only one work at present which deals with the archaeology of Darien. Linné's *Darien in the Past*<sup>2</sup> covers the area in extensive, though necessarily superficial fashion.

### LOCATION

Far Fan Beach is at present a bathing and recreation area for Canal Zone employees. Since it is located in the heart of the defended zone and surrounded by gun positions and army posts, future work must be carried out with military sanction. The beach itself is on a small arm of Panama Bay and lies about 500 feet from the former mouth of the Far Fan River, which has now been diverted so that it flows into the bay at a different point (Fig. 44, A-C). In addition to recreation buildings,

<sup>2</sup> Linné, 1929.