PREHISTORIC LITHIC PROJECTILE POINTS *

Prehistoric lithic projectile points, or the stone tips of spears and arrows used to wound and kill prey, are important to archaeologists for a number of reasons. For example, different groups of people manufactured projectile points in different styles, so the stylistic types can be used to identify social groups. In addition, because of the manner in which projectile points vary in stylistic attributes, and because that variation changes over time, points are used as chronological markers for determining when sites were occupied. This report focuses on the 12 stylistic types documented in the Eastern Woodlands (the eastern United States and southeastern Canada).

PROJECTILE POINT MORPHOLOGY

As illustrated in Figure 1 (Justice 1987:2), projectile points are divided into several parts. The blade is that portion of the point that is designed to pierce or cut prey; the sharp edge of the blade is the blade edge. The pointed distal end of the blade is the tip. The proximal end of the point is the stem or haft; it is the portion of the point that is bound to the arrow or spear shaft. Some projectile points have an angled area between the blade and stem; that area is called the shoulder. A shoulder that points toward the proximal end of the point is called a barb. Some points have projections on the stem; these are referred to as ears. The proximal end of a point, opposite the tip, is the basal edge (not illustrated below). It is important to emphasize that all points have blades and stems/hafts. However, not all points have a shoulder, ear, or barb; it depends on how the point was manufactured.

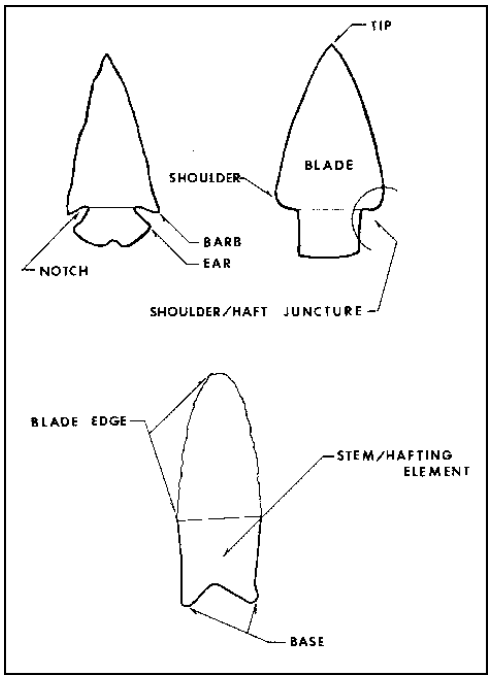

Figure 1. Parts of a typical projectile point (Justice 1987:2).

Most projectile points in the Eastern Woodlands are made of chert of flint, which are brittle materials that flake easily and hold sharp edges. Some points retain the weathered exterior or original rock surfaces from the material in which the flint or chert was found. This original rock exterior, which is illustrated in the figure (Justice 1987:7) below, is called cortex.

Projectile points are manufactured by removing flakes from the chert or flint raw material. There are several flaking techniques, several of which are illustrated in Figure 2 (Justice 1987:7). Percussion flakes are removed when the raw material is struck with another rock, a bone, or an antler. Pressure flakes are removed under more controlled conditions by the application of pressure on the edges of the raw material using another rock or an antler. Flutes are long, narrow flakes removed from the hafting area of a point and oriented parallel to the blade edges.

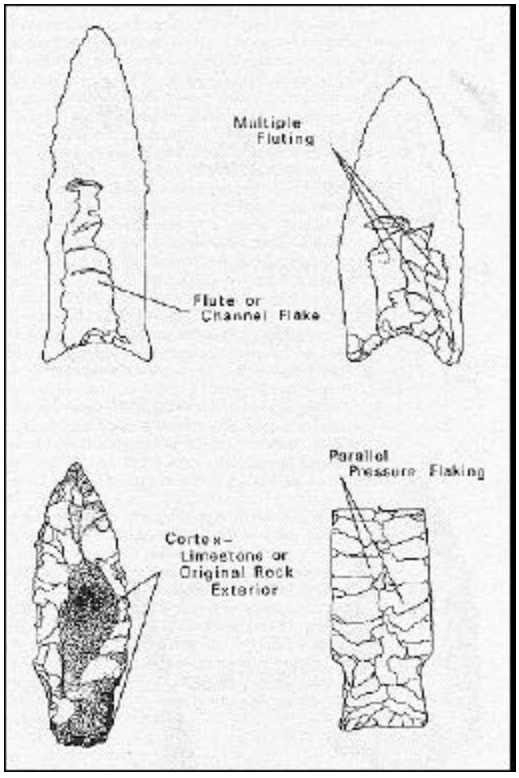

Figure 2. Point flaking techniques (Justice 1987:7).

As illustrated in Figure 3 (Justice 1987:8), in some points flakes are removed from the sides of the hafting area to form notches. Or, the stem of the point is thinned by removing basal thinning flakes. Serration, or tooth-like projections from the blade edge, results from pressure flaking. Edge bevels are steep, high-angled edges of the blade or base. In transverse cross section, as illustrated below, beveled edges take an s-shaped appearance around the tip.

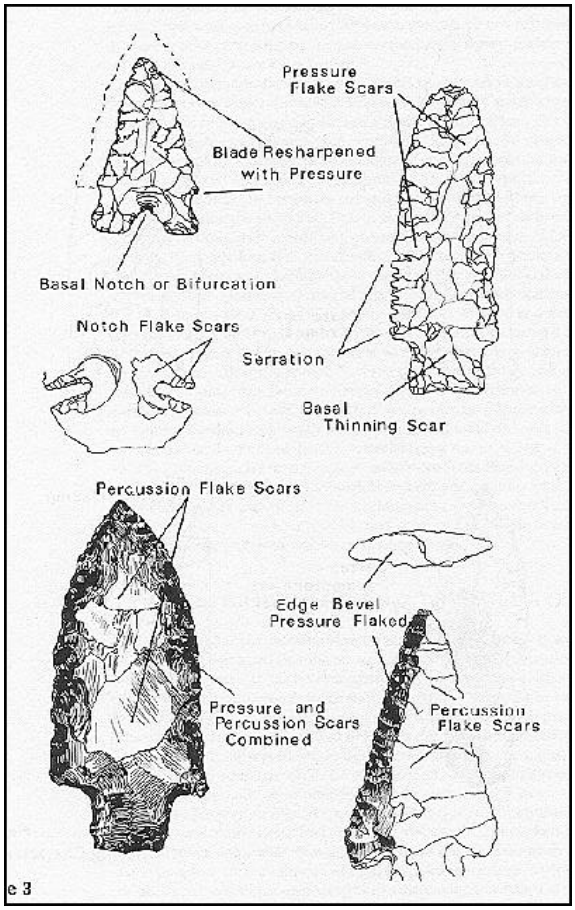

Figure 3. Point stem and blade flaking techniques (Justice 1987:8).

Terms used to describe blade shape include triangular and lanceolate (parallel blade edges). Additional terms that may be added to the preceding terms are incurvate (the edges curve in from shoulder to tip), excurvate (the edges curve out from shoulder to tip), and recurvate (combination of both incurvate and excurvate). So, a point may have an excurvate lanceolate blade or a recurvate triangular blade.

Terms used to describe the basal edge shapes of points include straight, concave (the edge curves toward the tip), convex (the edge curves away from the tip), and bifurcated (a notch is removed from the basal edge). A bifurcated base is illustrated in Figure 3.

Stems may be straight (parallel sided), contracting (reducing to a point), or expanding (widening to the basal edge).

Notching styles are defined according to where on the haft they are located. Notching styles include side notched, corner notched, and ear notched. The latter are side notches that occur very low on the hafting element, close to the basal edge.

Sometimes the basal edge and/or notches of a point are ground. Grinding refers to the application of abrasion to the edges of a tool in order to reduce the sharpness. This helps reduce the chances of the binding being cut by the haft of a point. Grinding is indicated by visible wear along the edges of the haft. Or, if you run your fingers along the point blade and the point haft, a ground haft should feel more dull than the comparatively sharp blade edge.

When points broke, they were often reworked so people could continue to use them. There are two kinds of reworking, resharpening and reuse. Resharpening refers to rejuvenating the edges of a point so it has roughly the same function as it did prior to breakage. In other words, resharpened points are still used as points. Reuse refers to modifying the broken and other edges of a point, resulting in its use in another capacity. For example, broken points were often modified for reuse as scrapers or drills.

PROJECTILE POINT STYLISTIC TYPES

NOTE: The scanned images of points are not represented at a uniform scale. Refer to the metric measurements given for each type to gain a sense of typical sizes.

KIRK CORNER NOTCHED

Kirk Corner Notched points were used during the Early Archaic period (7500-6900 BC). They have triangular blades, straight, concave or convex bases, corner notches, serrated blade edges, barbs, and no basal grinding (Justice 1987). Based on a site in North Carolina, Justice (1987:245) reports the following metric attributes: length ranges from 40 to 100 mm, width ranges from 20 to 45 mm, and thickness ranges from 6 to 12 mm. Examples of Kirk Corner Notched points are illustrated in Figure 4.

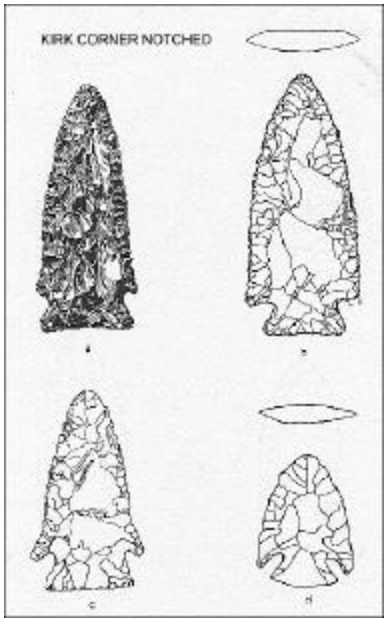

Figure 4. Kirk Corner Notched points (Justice 1987:73).

KIRK SERRATED

Kirk Serrated points were used during the Early Archaic period (6900-6000 BC). They have triangular blades, convex or straight basal edges, deep serrations of the blade edge, straight or slightly contracting stems, and biconvex or plano-convex cross sections (Justice 1987). Based on a site in North Carolina, Justice (1987:245) reports the following metric attributes: length ranges from 45 to 120 mm, width ranges from 25 to 35 mm, and thickness ranges from 8 to 12 mm. Examples of Kirk Serrated points are illustrated in Figure 5.

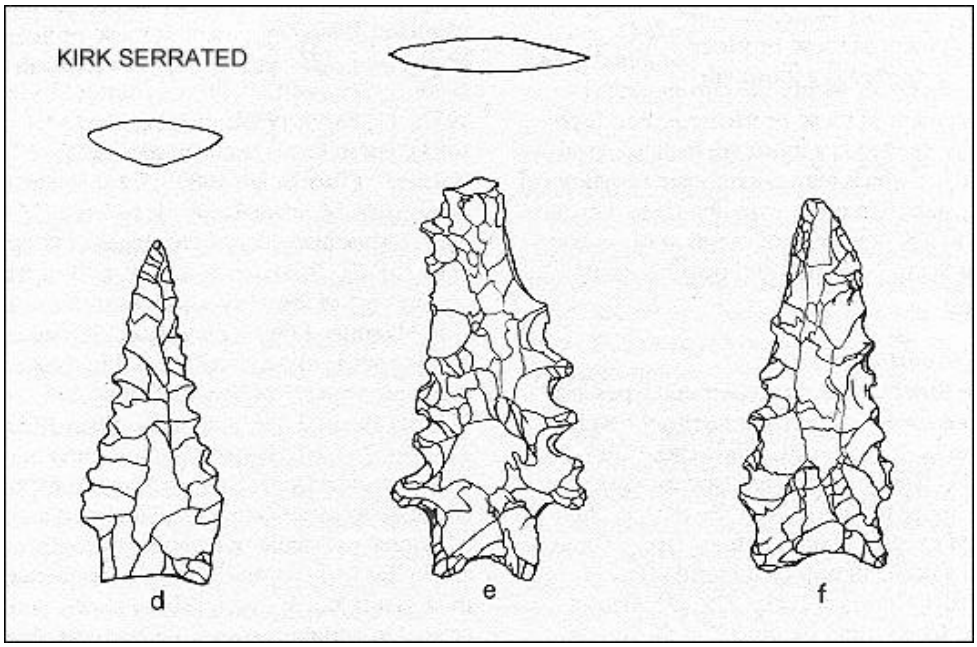

Figure 5. Kirk Serrated points (Justice 1987:245).

LECROY BIFURCATED STEM

LeCroy Bifurcated Stem points were used during the Early Archaic period (6500-5800 BC). They have triangular, serrated blade edges, bifurcated bases with pointed ears, deep notches, and some basal grinding but no stem grinding. Serration may result due to resharpening of blade edges (Justice 1987).

Based on a site in West Virginia, Justice (1987:246) reports the following metric attributes: length ranges from 19 to 35 mm, width ranges from 16 to 28 mm, and thickness ranges from 4 to 6 mm. Examples of LeCroy Bifurcated Stem points are illustrated in Figure 6.

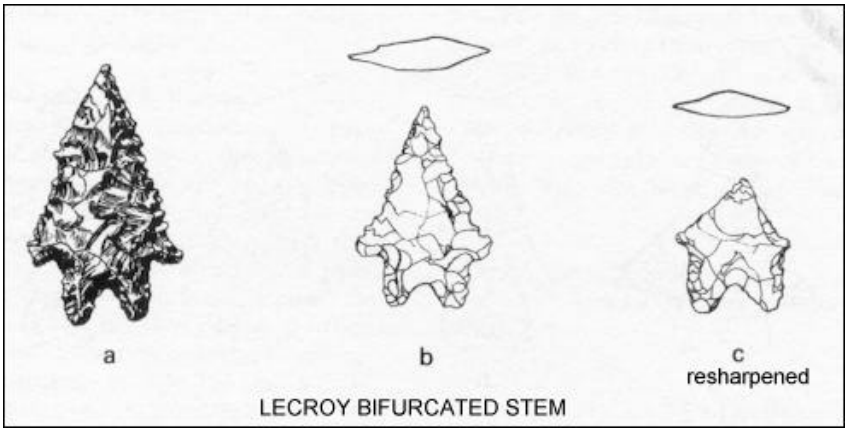

Figure 6. Lecroy Bifurcated Stem points (Justice 1987:93).

KANAWHA STEMMED

Kanawha Stemmed points were used during the Early Archaic period (6200-5800 BC). They have triangular blades with straight to incurvate edges, serration due to resharpening, bifurcated bases with shallow basal notches, and no basal grinding (Justice 1987). Based on a site in West Virginia, Justice (1987:246) reports the following metric attributes: length ranges from 19 to 48 mm, width ranges from 19 to 37 mm, and thickness ranges from 3 to 7 mm. Examples of Kanawha Stemmed points are illustrated in Figure 7.

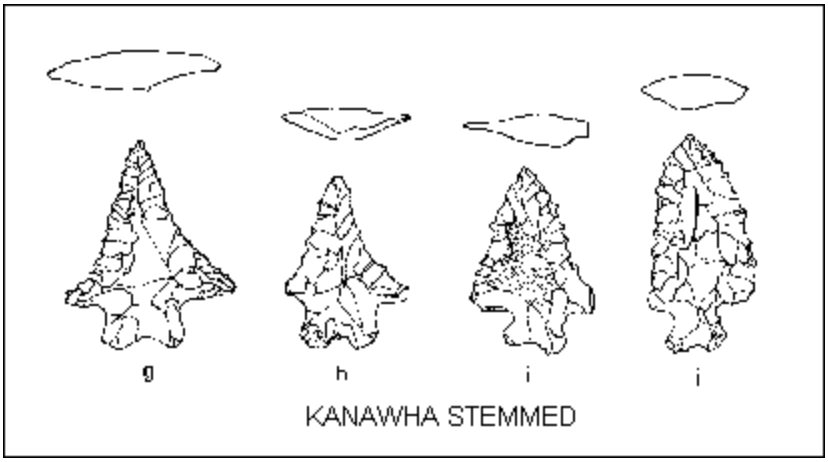

Figure 7. Kanawha Stemmed points (Justice 1987:94)

LAMOKA

Lamoka points were used during the Late Archaic period (3500-2500 BC). They are quite diverse, but often exhibit triangular blades, biconvex to diamond cross sections, thick cross sections, expanding to straight stems, sloping shoulders, thick haft areas, straight to convex basal edges, and cortex (Justice 1987).

Based on sites in New York and Wisconsin, Justice (1987:249) reports the following metric attributes: length ranges from 25 to 63.5 mm, width ranges from 19 to 23 mm, stem length ranges from 12 to 13 mm, and thickness ranges from 5 to 7 mm. Examples of Lamoka points are illustrated in Figure 8.

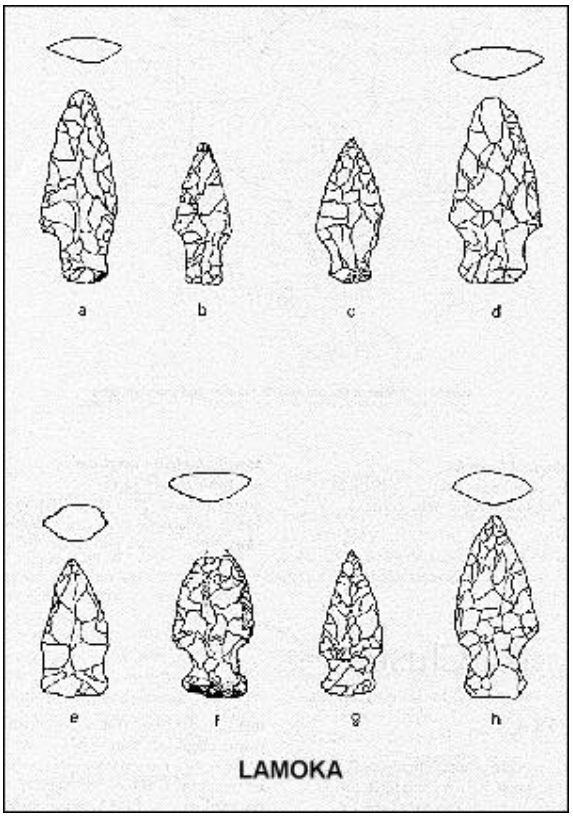

Figure 8. Lamoka points (Justice 1987:128).

MCWHINNEY HEAVY STEMMED

McWhinney Heavy Stemmed points were used during the Late Archaic period (4000-1000 BC). They have triangular to lanceolate blade shapes, short stems, long blades, side notches, straight to expanding stems, straight to convex basal edges, and biconvex cross sections. Diagnostic traits include cortex, medial ridge on one side, no basal grinding, and striking platform remnants on the stem (Justice 1987).

Based on a site in Ohio, Justice (1987:249-250) reports the following metric attributes: width ranges from 21-24 mm, stem length ranges from 7 to 14.5 mm, and thickness ranges from 7 to 12 mm.

Examples of McWhinney Heavy Stemmed points are illustrated in Figure 9.

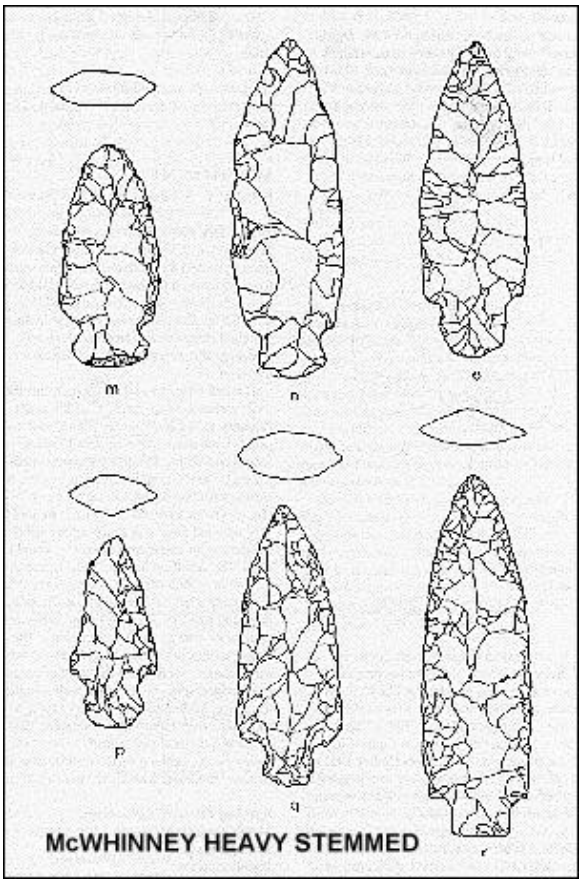

Figure 9. McWhinney Heavy Stemmed points (Justice 1987:137).

LEDBETTER STEMMED

Ledbetter Stemmed points were used during the Late Archaic period (2500-1000 BC). They have asymmetrical blades that are often recurvate, barbs on unequal shoulders, contracting stems, straight basal edges, no basal grinding, and biconvex cross sections (Justice 1987).

Based on a site in Tennessee, Justice (1987:250-251) reports the following metric attributes: length ranges from 76 to 140 mm, width ranges from 35 to 50 mm, and thickness averages 15 mm.

Examples of Ledbetter Stemmed points are illustrated in Figure 10.

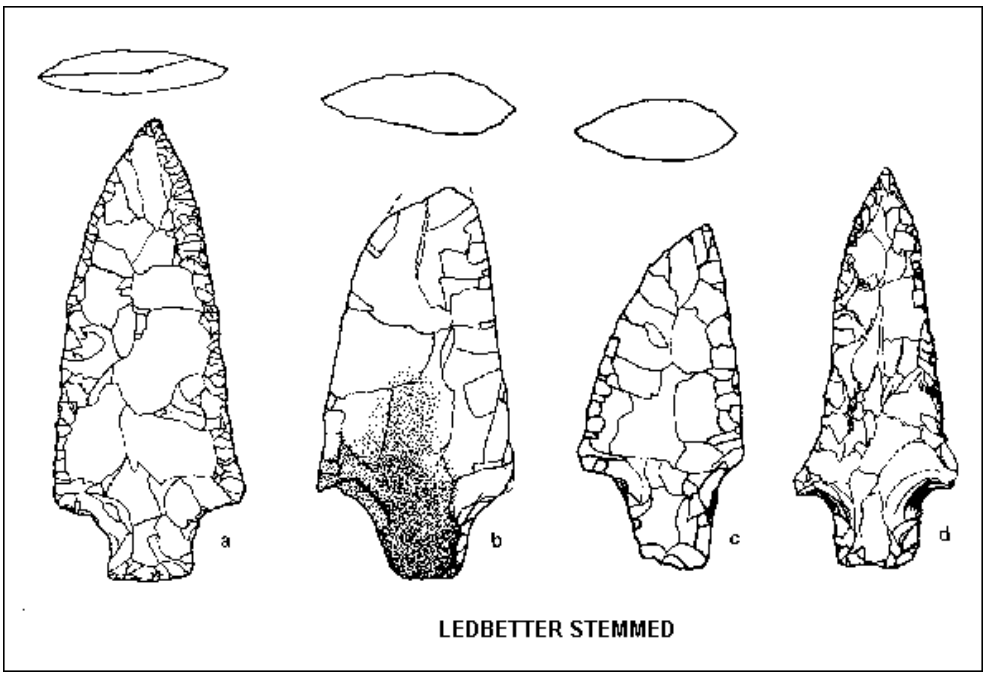

Figure 10. Ledbetter Stemmed points (Justice 1987:151).

KRAMER

Kramer points were used during the Early Woodland period (500 BC). They have lanceolate-shaped blades, long straight stems, heavy lateral grinding on the stem, straight stems, straight to concave basal edges, tapering shoulders, and biconvex cross sections (Justice 1987). Based on a site in Illinois, Justice (1987:253) reports the following metric attributes: length ranges from 39 to 71 mm, blade length ranges from 22 to 52 mm, stem length ranges from 16 to 22 mm, width ranges from 17 to 28, and thickness ranges from 5 to 8 mm. Examples of Kramer points are illustrated in Figure 11.

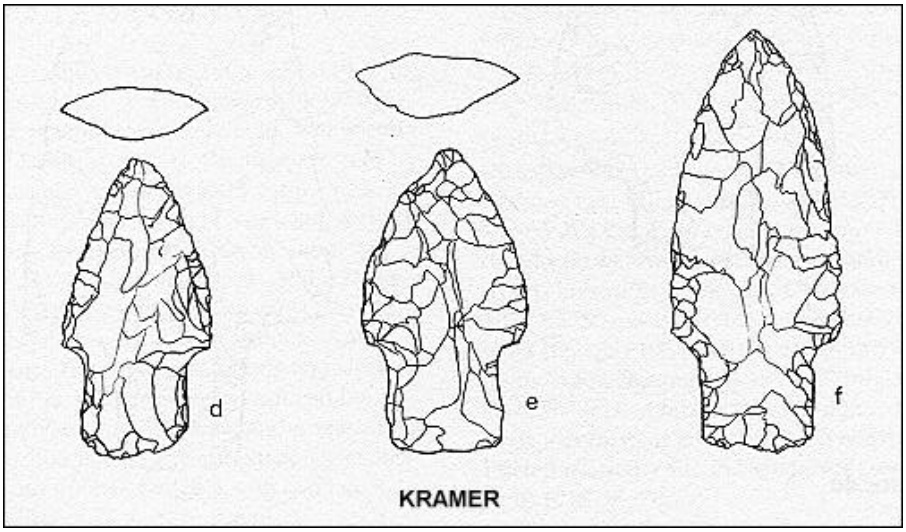

Figure 11. Kramer points (Justice 1987:185).

ADENA STEMMED

Adena Stemmed points were used during the Early Woodland period (800-200 BC) primarily, but may fall into the Late Archaic and Middle Woodland periods in some places. They have lanceolate blades, excurvate blade edges, contracting stems with an ovate shape, heavily ground stems, flattened to biconvex or lenticular cross-sections, horizontal shoulders, and symmetrical proportions (Justice 1987).

Based on a site in West Virginia, Justice (1987:253) reports the following metric attributes: length ranges from 34 to 150 mm, width ranges from 17 to 43 mm, and thickness ranges from 7 to 17 mm. Examples of Adena Stemmed points are illustrated in Figure 12.

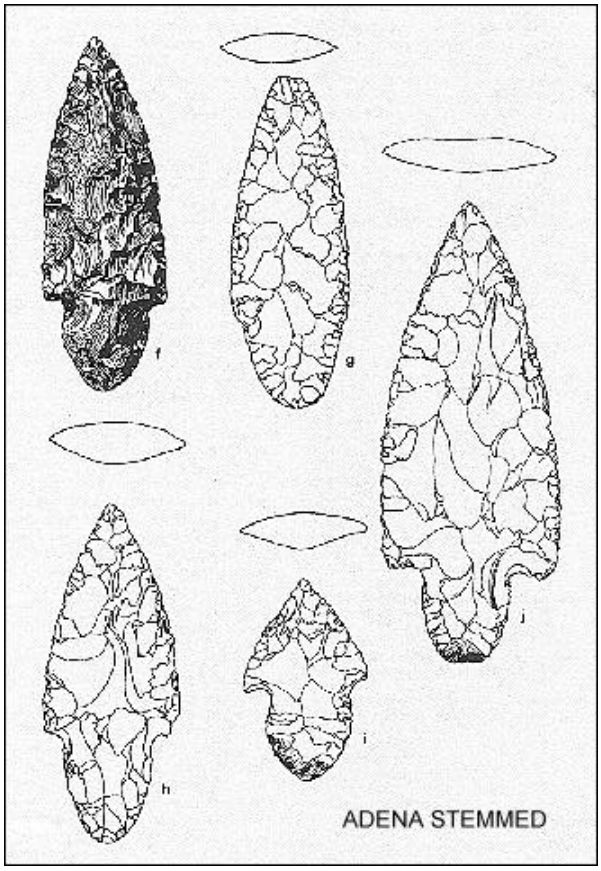

Figure 12. Adena Stemmed points (Justice 1987:194).

COPENA TRIANGULAR

Copena Triangular points were used during the Middle Woodland period (AD 150-500). They have triangular form, no stem, straight to excurvate or recurvate blade edges, biconvex cross sections, straight to concave basal edges, random flake scars, and occasionally lateral grinding near the base. Some have basal ears (Justice 1987).

Based on a site in Alabama, Justice (1987:254) reports the following metric attributes: length ranges from 45 to 54 mm, blade width from 25 to 30 mm, and thickness ranges from 5 to 10 mm. Examples of Copena points are illustrated in Figure 13.

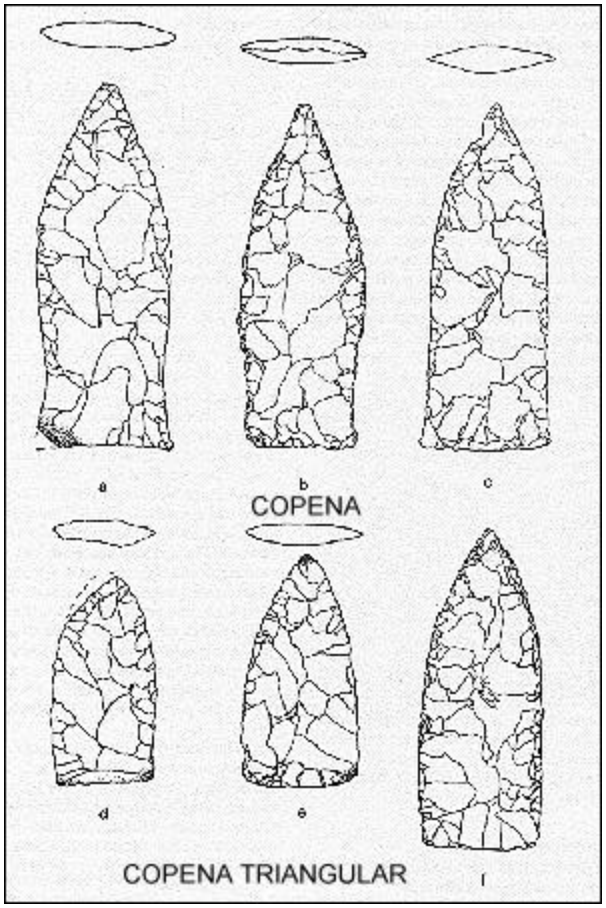

Figure 13. Copena and Copena Triangular points (Justice 1987:206).

MADISON

Madison points were used during the Late Woodland and Mississippian periods (AD 800-1300). They are triangular points with straight to excurvate blade edges, straight to convex basal edges, various cross sectional shapes, and maximum width always at the base (Justice 1987).

Based on a site in Alabama, Justice (1987:255-256) reports the following metric attributes: length ranges from 17 to 33 mm, width ranges from 12 to 21 mm, and thickness ranges from 3 to 6 mm.

Examples of Madison points are illustrated in Figure 14.

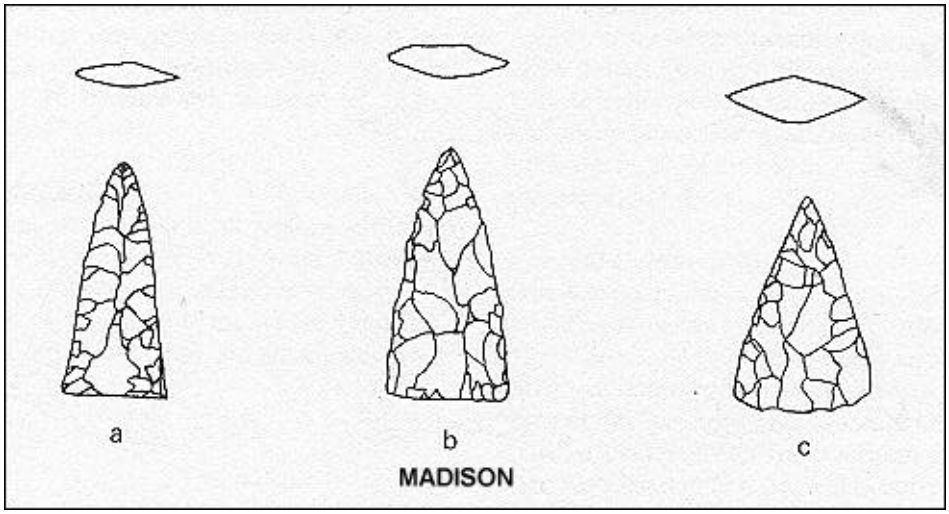

Figure 14. Madison points (Justice 1987:223).

LEVANNA

Levanna points were used during the Late Woodland and Mississippian periods (AD 700-1200). They are triangular points with broader bases than Madison or Fort Ancient. Levanna points have straight to incurvate to slightly excurvate blade edges, concave bases that may appear V-shaped, and flattened to lenticular cross sections. They tend to be as long as they are wide (Justice 1987). Based on a site in New York, Justice (1987:256) reports the following metric attributes: length ranges from 22 to 76 mm and thickness averages 4.75 mm. Examples of Levanna points are illustrated in Figure 15.

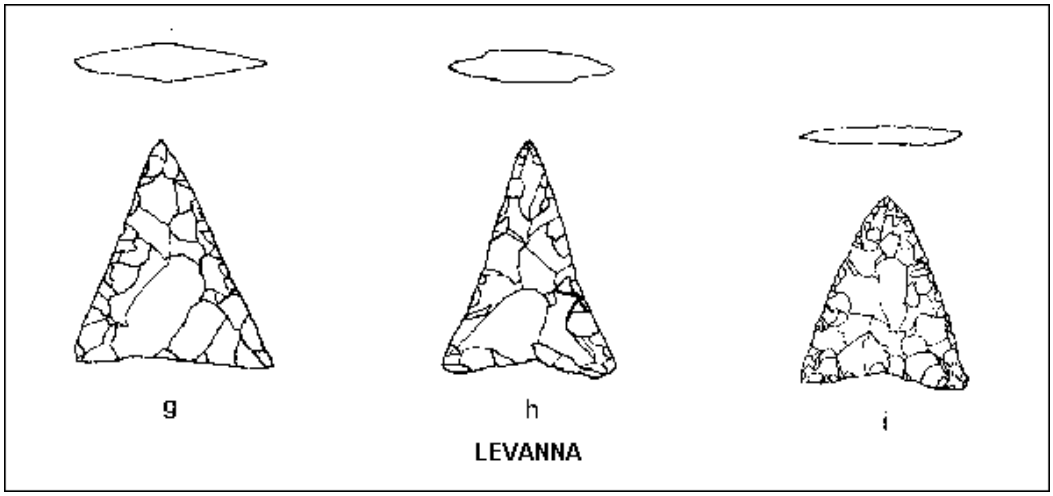

Figure 15. Levanna points (Justice 1987:224).

**** Material adapted from Projectile Point Stylistic Types, Dr. Darlene Applegate, Western Kentucky Univeristy.***

REFERENCE

Justice, N.D. 1987. *Stone Age Spear and Arrow Points of the Midcontinetal and Eastern United States*. Indiana University Press, Bloomington.