

LEAF-SHAPED POINTS IN THE WESTERN ARCTIC

by

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Thanks largely to work being done in coastal areas there is beginning to emerge a relatively coherent picture of the prehistory of northwestern-most North America. Even now, however, one might echo the sentiment expressed fourteen years ago by Skarland and Giddings for our knowledge of the prehistory of the vast interior region is still distressingly meager (Skarland and Giddings, 1948: 116). To be sure, the picture is not as dark as it was in 1948, yet we are still largely dealing with material from open sites and with finds accidentally discovered. Granting the limitations of such data, interpretation of them is not altogether ruled out. Accordingly, it is my purpose here to record and describe several recent finds from central Alaska and to try to relate these to finds of similar material elsewhere in the north.

As has been noted by a number of authors, leaf-shaped, Lerma, or Lerma-like points are widely distributed in the Americas (Wormington, 1957: 95-99 and elsewhere; MacNeish, 1956: 95-97; 1959a: 5-6; 1959b: 46-47; Butler, 1961: 1-6 *et passim*; Harp, 1961: 52-56). While the cultural significance of the total distribution may be questioned, it appears probable that on a more restricted scale significance does inhere in these resemblances.

The artifacts described below were selected because, of the miscellaneous collections turned in to the University Museum in the course of the past twelve years, this type has been the most frequent in occurrence.

Recent Finds from Interior Alaska

(A) This specimen is 7 cm. long, 3 cm. wide at a point below mid-section, and 0.9 cm. thick. The material is opaque obsidian of good quality. As with all following specimens the implement is bifacial. The flaking is irregular and the edges are retouched. It retains the flake characteristic in being plano-convex in cross section. The edges are dulled from use about 2 cm. down from the point on both sides. The latter attribute suggests use as a knife. This piece was picked up on the surface at the Fort Egbert airfield at Eagle.

Figure 1 shows the approximate locations of this and following finds. The specimens themselves are shown in Figure 2.

(B) This specimen was found with the one above. The basal section is missing but the incurving of the sides toward the base suggest

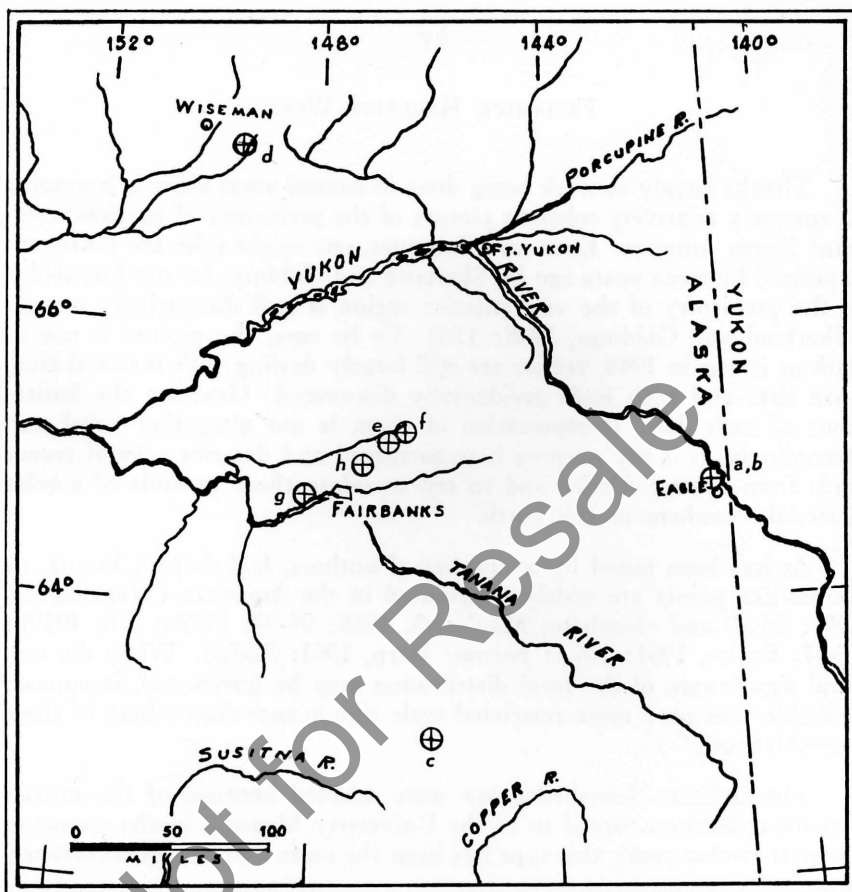
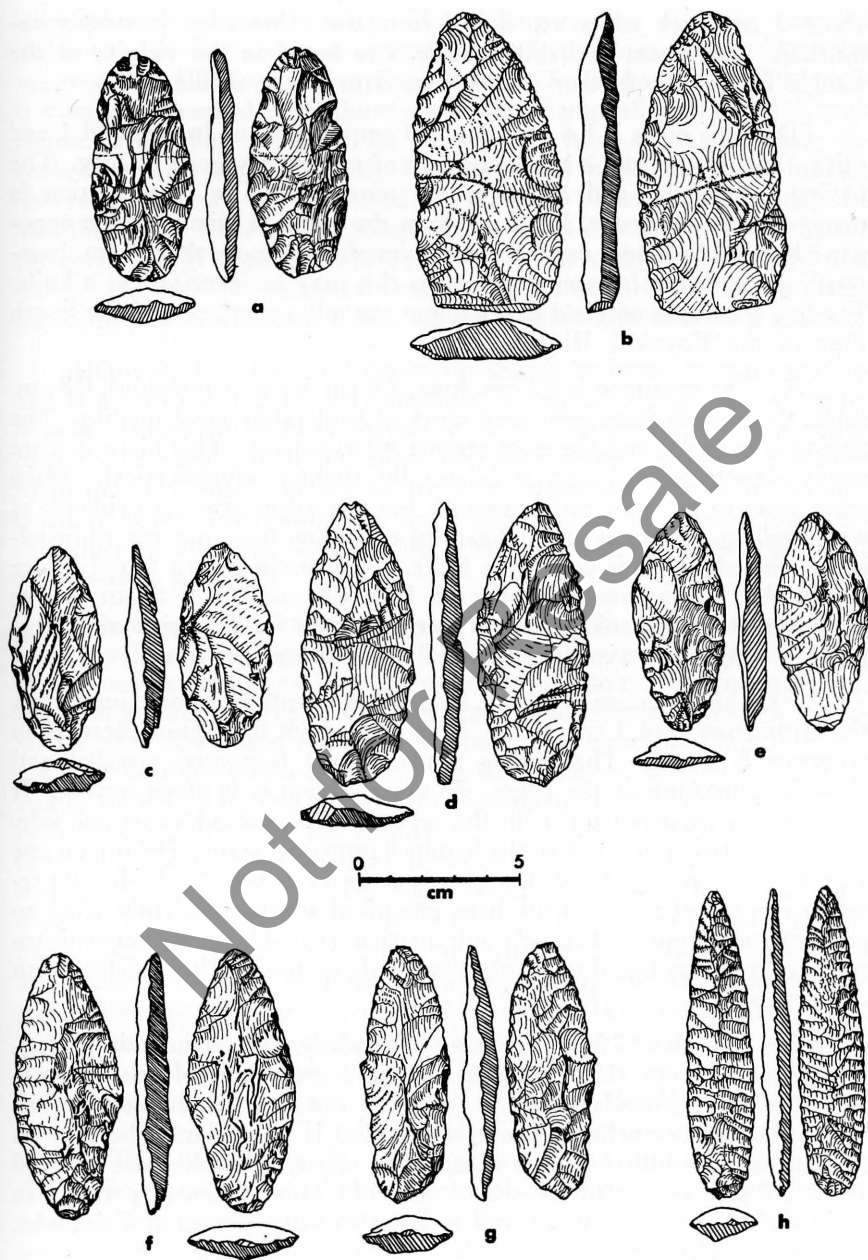


Figure 1. Locations of finds described in this paper.

that it likewise was rounded. As found, the piece is 9.2 cm. long but the probable former length was 10.7 cm. It is 4.4 cm. wide at midpoint and 1.2 cm. thick. The cross section is lenticular. It is made from a bluish-grey chert which is badly veined and of rather poor quality. The flaking is irregular and the edges retouched. This specimen is slightly asymmetrical bilaterally with one edge more flattened. The opposite edge is dulled from use from the point about 3 cm. baseward. This was probably a knife.

(C) Specimen C is 6.2 cm. long, 2.8 cm. wide at midpoint, and 1 cm. thick. It is made of black cherty siltstone of poor quality. The piece is bifacial, and the flaking irregular and rather crudely executed. It is plano-convex in cross section. From the point downward a distance of

*Figure 2.*

about 2 cm. both edges are dulled from use. One edge is steeply retouched. This piece, probably a knife, was found in the vicinity of the Tangle Lakes. No further provenience data are available.

(D) This piece is 8.6 cm. long, 3.4 cm. wide at midpoint, and 1 cm. thick. It is made from a black obsidian of moderately good quality. The flaking is irregular and all edges are retouched. The cross section is plano-convex. One edge, just back from the point, is missing. The opposite edge is dulled from use from the point slightly more than 1 cm. baseward. As with the foregoing specimens this may be identified as a knife. The find was made on Gold Creek about ten miles northwest of the South Fork of the Koyukuk River.

(E) The specimen is 6.7 cm. long, 2.8 cm. wide at midpoint, 0.8 cm. thick. It is made from light grey chert of moderately good quality. The flaking is irregular and the cross section plano-convex. This piece is more nearly double-pointed and is bilaterally slightly asymmetrical. Flake scars seem to be worn rather smooth but the edges give no evidence of water rolling. There are no indications of dulling from use nor of grinding at the edges. It is possibly a knife. This specimen was found before World War II in muck deposits at Last Chance Creek about twelve miles north of Fairbanks. With it was found the basal section of a large point of Angostura type (i.e., lanceolate with straight base).

(F) This specimen is 8.1 cm. long, 3.3 cm. wide at a point just below the midsection, and 1 cm. thick. It is made from light grey chert as in specimen E above. The flaking tends toward transverse parallel and there is retouching at the edges. In cross section it is plano-convex. It is bilaterally asymmetrical with the suggestion of a shoulder on one side. In appearance it is not unlike the Sandia I projectile point. Dulling on one edge from the point 1.8 cm. downwards suggests its use as a knife. Its resemblance to other specimens here presented seems sufficiently close to warrant its inclusion. The only information available on its provenience states that it was found on Fairbanks Creek, or ten to fifteen miles north of Fairbanks.

(G) Specimen G is 7.8 cm. long (tip missing), 2.7 cm. wide at midsection, and 1.1 cm. thick. The material is a grey chert of poor quality. The flaking is irregular with a tendency towards transverse parallel. The edges are retouched. The cross section is lenticular. There is no evidence of use dulling at the point. The edges, from the base upward about 2.7 cm. appear to have been ground. This specimen, perhaps to be identified as a knife, was found at Ester Creek just west of Fairbanks. No further information is available.

(H) Specimen H, decidedly more lanceolate, is 9.5 cm. long, 2 cm. wide at a point below the midsection, and 0.9 cm. thick. It is made from

black obsidian of good quality. The flaking is very skillfully executed and is parallel diagonal running from upper left to lower right. One edge appears dulled from use from the tip about 3 cm. baseward. The piece is virtually identical with those shown by Campbell as typical Kayuk points (1959: Fig. 1 b-g). This piece differs from those previously described in being more distinctly lanceolate and in the flaking technique. Otherwise, it may be suggested as related. Functionally it may be identified as a knife and typologically it seems to fall into the Lerma category (cf. Wormington, 1957: Fig. 71, 3rd specimen; Fig. 46, plus Krieger, 1958: 973). Accession information states only that the specimen was found on Goldstream Creek which is north and west of Fairbanks.

Although these finds are random it should be borne in mind that by and large truly out-of-the-way localities of central Alaska are not represented. Among those finds turned in to the University which seem to conform to particular styles, these described seemed to be significantly frequent. The total number of artifacts found and turned in is quite small, however, and it would be quite unwarranted to suppose that anything like an adequate sample of the prehistoric cultures of central Alaska was thereby obtained.

It is impossible to assign ages to these pieces. For whatever value such a subjective judgment may have, only specimens E and F seem of themselves to suggest any considerable antiquity. Specimen E was found in a muck deposit in the course of a gold mining operation. Specimen F may have been found under similar circumstances but this cannot now be substantiated. Of the remaining pieces, specimens A, B, C, and D were all found on the surface. Specimen H was found by a placer miner but whether from the surface or in muck is not known. Specimen G is supposed to have occurred under 60 feet of muck. The nature of such discoveries, however, i.e., as a result of hydraulicking out muck deposits, leaves so much to be desired that it is best considered a surface find. (Two other artifacts were found with specimen G and since they are made of identical material the association of the three seems relatively firm. Both these pieces are quite crude. One displays an outline approximately like the specimen described except that it is distinctly shouldered below which is a tapered stem. The second associated specimen appears to be a point. It is broad, gently shouldered and with a broadly tapered stem. The length of all three specimens is about the same.) There is undoubtedly some significance in the fact that specimens E and F appear to be made of identical material. Of further interest was the finding with specimen E of the basal section of a lanceolate point apparently of *Angostura* type.

There is, to be sure, a rather wide degree of variation within the class here described. This is especially notable in the case of specimen H.

Nevertheless, all seem to be variations upon a basic theme. All are essentially round based and lenticular in outline. Of interest in this connection is the functional identification of six of the eight specimens as knives. Formally the most aberrant piece in the collection, specimen H, apparently also was a knife rather than a projectile point. This specimen conforms in every respect to those described by Campbell as Kayuk points from the Kayuk site in Anaktuvuk Pass. It seems likewise to have a logical place among the artifacts described here. Furthermore, it and Campbell's Kayuk specimens are readily encompassed by the Lerma type. Nevertheless, in recognition of the distinctiveness in the north, at least, of these Kayuk specimens perhaps it would be appropriate to speak of them as the Kayuk subtype or variant of the Lerma type.

Five of the eight specimens (A, C, E, G, and H) easily fit the Lerma category. Specimens D and F appear to be so close to the type description and so similar to four of the "typical" five that it appears wisest to include them. Specimen B because of its large size perhaps should not be termed a Lerma, however its outline and its inferred function suggest relationship to the smaller specimens.

That four of these northern knives were found in the Fairbanks area may be seen as simply reflecting the fact that Fairbanks is a population center and that there has been a great deal of activity in the surrounding countryside. The occurrence of the remaining pieces at Eagle on the Yukon border, at Tangle Lakes on the south slope of the Alaska Range, and at the South Fork of the Koyukuk River on the south slopes of the Brooks Range is perhaps sufficient to suggest a widespread distribution in central Alaska.

The Distribution of Northern Lerma Points

Figure 3 suggests the distribution of leaf-shaped points or knives in the north—that is, northern Lerma points. One should be particularly cautious in viewing this map since the nature of the mapping procedure followed gives as much weight to localities from which one or two finds are reported as to those from which there are multiple finds. Furthermore, scale difficulties have made it necessary in a couple of instances to employ one symbol to denote multiple finds from a region. This applies for the Thelon River area and for the Fairbanks vicinity. The data, however, are altogether too sparse to allow any sort of quantitative mapping.

To date, the most important finds of northern Lerma points are those reported by Harp from the Thelon River west of Hudson Bay (Fig. 3: 1) (Harp, 1961), the Klondike site (Fig. 3: 2) (MacNeish, 1959a), the Engigstciak site on the Yukon Arctic Coast (Fig. 3: 3) (MacNeish, 1956, 1959b) and the Kayuk site of Anaktuvuk Pass in the

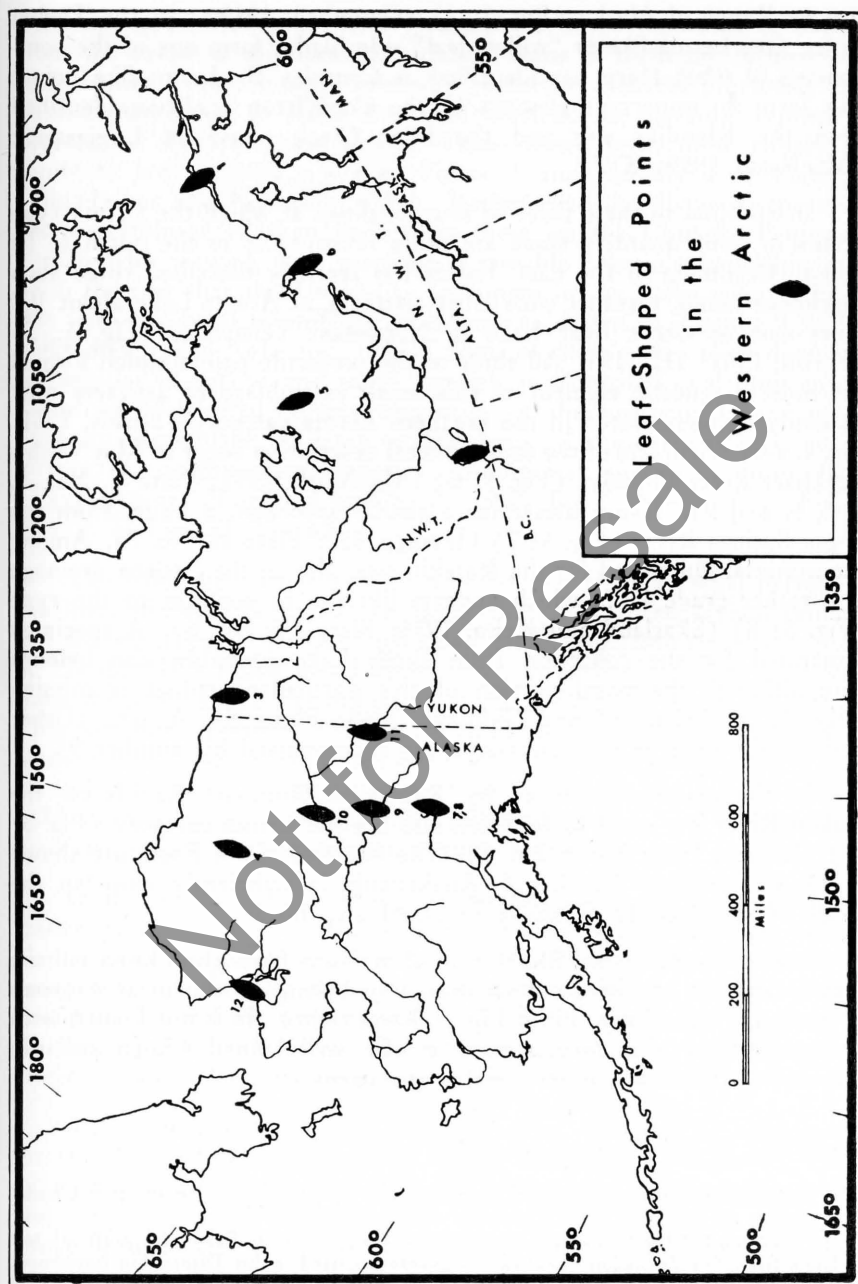


Figure 3.

Brooks Range of Alaska (Fig. 3: 4) (Campbell, 1959). In the Thelon River sites Lerma-like or "willow-leaf" side blades form one of the components of what Harp has identified as Complex B. Lerma-like points also form an important element of the Cordilleran tradition identified from the Klondike site and the Flint Creek phase at Engigstciak (MacNeish, 1959a: 5).¹

In addition to these three or four localities at which the Lerma type occurs in some quantity there are other occurrences in the north to be noted. Beginning in the east, Forbis has recently described three such specimens found, together with other artifacts, at Acasta Lake about 100 miles east of Great Bear Lake in Northwest Territories (Fig. 3: 5) (Forbis, 1961: 112-113). All three of the projectile points which formed the most diagnostic element of this small assemblage of artifacts may be easily accommodated in the northern Lerma category (Forbis, 1961: Fig. 1, a-c). Artifacts of the same general description occur in MacNeish's Lockhart River Complex (Fig. 3: 6) (MacNeish, 1951: Plate V, Nos. 2, 4, 6, 8, and 9). Irving illustrates a similar specimen, a knife, from the upper Susitna River (Fig. 3: 7) (Irving, 1957: Plate II, No. 7). Among the material illustrated for the Ratekin site, also in the Susitna drainage is a rather crude knife which appears likewise to conform to the type (Fig. 3: 8) (Skarland and Keim, 1958: Plate IV, No. 6). A specimen illustrated for the collection from Birch Lake probably also belongs here although the basal portion of this particular artifact is missing (Fig. 3: 9) (Skarland and Giddings, 1948: Plate XV A, q). (Other finds of the general Fairbanks area are encompassed by number 9).

In the material collected by Rainey at Rampart Rapids on the Yukon River is a small knife which also fits the Lerma category (Fig. 3: 10) (Rainey, 1939: Fig. 6, No. 5). The two finds from Eagle are shown as 11 of Figure 3. Number 4, Anaktuvuk, is sufficiently close to the locale of specimen D of above to stand also for it.

A recently published illustration of artifacts from the Choris culture reveals another specimen which may also belong in the present group (Fig. 3: 12) (Giddings, 1961: Fig. 9, lower right). It is not known with what frequency this form occurs in the well-defined Choris culture; presumably there are other similar specimens.

Some Old World Resemblances

Attention may be directed to the Lake El'gytkhyn site on the Chuk-

¹Through a serious oversight on my part, Harp's Dismal Lake area material was excluded from this discussion. Leaf-shaped points occurred in his Dismal-I:a component and in his Kamut Lake collection. Figure 3 should carry a symbol in that area south of Coronation Gulf indicating these occurrences. (See Harp Jr., Elmer, "Prehistory in the Dismal Lake Area," *Arctic*, Vol. 11, No. 4, February 1959.)

chi Peninsula (Okladnikov and Nekrasov, 1959). A number of objects from the cache at this locality, although some of them are termed possible blanks, compare quite favorably with the artifacts previously discussed. Moreover, to judge from the illustrations, marginal retouch is present on some of these pieces. Those which seem most closely resemblant are numbers *a* - *g* of Figure 3 and possibly *a* of Figure 5 (Okladnikov and Nekrasov, 1959). Rather than the distance separating the westernmost Alaskan finds from these on the Chukchi Peninsula, a reason for viewing with suspicion a possible genetic relationship may lie in the fact that the Lerma-like specimens in the cache seem to be at one with the total assemblage of bifaces as shown in Figures 2 and 3 (Okladnikov and Nekrasov, 1959). Some of these pieces seem distinctly rectangular in outline and range through an elongated oval form to the round based pointed objects suggestive of the northern Lerma point. Such an assemblage, at least on the basis of present evidence, seems foreign in northwestern America. Additional specimens from Lake El'gytkhyn are illustrated by Chard (1960: Fig. 5, Nos. 1, 2, 3; Fig. 6, Nos. 2, 3; Fig. 10, No. 4).

The following formal resemblances gleaned from a casual perusal of the literature may be noted. In Japan there have been several finds of leaf shaped artifacts. At the Tachikawa site in Hokkaido there was found at Locality II a round based knife which in outline conforms well with those discussed above (Yoshizaki, *et al*, 1959: Plate 16, 4 and end chart). This particular specimen, however, is unifacial. More closely similar is an artifact from Locality III which is bifacial (Yoshizaki, *et al*, 1958: Plates 18 and 19, No. 6). Similarities were also noted in two other Japanese publications dealing with sites on Hokkaido. It has not been possible however to have the appropriate sections translated.

In the southern Trans-Baikal at the Botoiskaia Pit were found two rather crude, generally leaf-shaped implements which bear some resemblance to Lerma points (Okladnikov, 1960: Plate 6, lower). These are grouped with Paleolithic finds of this region. At the late Paleolithic cave site of Ust'-Kanskaia, what appears to be the only bifacial implement of the entire assemblage bears some resemblance to the class of artifacts under consideration (Rudenko, 1961: Fig. 15, h).

All of the sites, including Botoiskaia Pit, described by Okladnikov for the Trans-Baikal are termed Upper Paleolithic (Okladnikov, 1961: 493). Yoshizaki places the Tachikawa sequence in the final Pleistocene and early Recent (Yoshizaki, 1959: 62-64). The specimens mentioned above occur in the second and third stages delineated for the site. Perhaps it may be concluded, therefore, that these date from the latter stages at Tachikawa, although just what that may mean in terms of years ago is not clear. The Ust'-Kanskaia cave site is far earlier than any of the

foregoing. Rudenko dates the occupancy of the cave in terms of a "warm phase that preceded the last glaciation in the Altai" (Rudenko, 1961: 213). Such a dating tallies well with the artifact assemblage which generally has a Mousterian stamp (Rudenko, 1961: 209).

What relation, if any, these Old World occurrences have with the New World Lerma form is not at all clear.

Conclusions

In view of the probable genetic relationship between Lerma-like points in northern North America, it is proposed that those here discussed and those found in the future be termed Northern Lerma points. This would give recognition to possibly important regional distinctions but more importantly would readily reveal relationship to the Lerma type.

Age determinations for northern assemblages containing leaf shaped, Lerma-like points or knives are few but of considerable importance. Harp, in his discussion of the Thelon River sites suggests that human occupation of the region came about after 3,000 B.C. (Harp, 1961: 55). MacNeish dates his Cordilleran tradition, of which the early Flint Creek phase at Engigstciak and the Klondike site at Fort Liard are members, at about 6,000 B.C. (MacNeish, 1959a: chronological chart). It seems unlikely that any guess dates for surface collections in which these artifacts occur would place them any earlier (cf. Irving, 1957: 47; Skarland and Keim, 1958: 81). If these age estimations are approximately correct, it would appear that Campbell's recent suggestion of six to eight thousand years ago as an age for the Kayuk Complex must err somewhat on the early side (Campbell, 1961a: 3). If, as suggested here, the Kayuk projectile point is simply a specialized variant of the more generalized Northern Lerma, then it is strongly suggested that it must be later than many or most of the other finds considered here. Perhaps the Kayuk subtype represents nothing more than a fusion of the diagonally flaked, lanceolate tradition with that of the lenticular Lerma tradition.

Taking what appear to be the earliest dates for Lerma points in the north, and we hope this may be subject to revision in the direction of precision, it would seem that they appear no earlier than 7,000 B.C. This, of course, is considerably later than their occurrence in the Pacific Northwest and elsewhere (Butler, 1961). Having once arrived, to show up in the earliest portions of the Flint Creek phase, there is the further suggestion that the style lingered for quite a long time. This is borne out by the occurrence of Lerma forms in the Choris culture of approximately 1,000 B.C. and probably into later horizons as well. As suggested above, and freely admitting the limitations of such a judgment, only two of the eight recent finds described for central Alaska appear ancient.

The total number of Lerma finds in the north is probably not great, but then, excepting coastal areas, the total number of finds of any other one artifact type is not great. Population densities in the past were probably always as low, or lower, than those recorded ethnographically. It cannot be expected, then, that archaeological remains either in terms of numbers of sites, or in terms of quantity of material from any one site, would be great. This being the case, then, distributional data are apt to play a more important role in our reconstructions than might be the case elsewhere. As suggested by Harp for the Thelon River area of the Canadian Shield, so it appears in the west, that as glacial conditions ameliorated, areas recently glaciated came to be occupied and utilized by nomadic hunters (Harp, 1961: 55). This move apparently took place earlier in the west than in the east. It would appear that the Lerma knife or point was among the earliest cultural materials thus brought into those areas.

As Butler has shown, leaf shaped or Lerma-like points occur in considerable numbers and in great diversity in the Pacific Northwest (Butler, 1961). Moreover, there is convincing evidence that leaf shaped points make their appearance in that area as early as 10,000 B.C. (Butler: 63-64). Without having any reference then to the occurrence of Lerma points farther south or eastward in the Plains, it may be suggested that the likely source for this tradition in the north was the Pacific Northwest. The relative chronologies of the two areas do not appear to support the hypotheses of Butler and MacNeish (MacNeish, in Forbis, 1961: 113) that the move of the Lerma tradition was north to south, but rather the reverse—from south to north. Another point to be borne in mind in this chronological question is that some of the earliest-appearing contexts in which Lerma is found in the north are in areas that could not possibly have been occupied much before 8,000 B.C. as prior to that time they were under ice.

While reversing the direction of movement obviously leaves the question of the ultimate origins of this tradition dangling, the time differences do seem to make a conclusion of this sort inevitable. Future investigation, indeed, may reveal the Pacific Northwest as the origin point for the Lerma tradition throughout the New World. Certainly at the present time primacy seems to belong there.

The appearance of these points and knives in the far north suggest the northward withdrawal of people already adjusted to the environment of tundra and taiga. Such an adjustment could have been worked out to the south (Pacific Northwest) in response to periglacial conditions there. The subsequent movement into the north would then represent a logical expansion into newly created areas of similar ecological aspect. This is not, obviously, to suggest that there is some necessary correla-

tion between periglacial conditions and Lerma points, but simply that this was one item of equipment used by peoples who, in these areas at least, had worked out the requisite adaptations in other aspects of their culture.

Somewhat in the same vein the northern evidence does not seem to lend good support to this as a part of a Cordilleran culture. Indeed, in cultural terms, the implications of such a label are rather nebulous. In any case, the association of northern Lerma points with mountainous areas does not seem supported. If we were dealing with a clearly defined culture instead of one element the situation might be different—if the association of the culture type and a particular kind of physiography were present. However, in this instance we obviously have to deal with an element which could and did cross-cut cultural differences and which persisted for a long time.

In brief, the evidence thus far does not support an Old World origin for Lerma points. The mere fact of their occurrence in the north as well as to the south, cannot of itself be made to read this way. In view of the chronological differences, such a suggestion seems to turn the problem on its head. It is certainly not the writer's intention to erect a wall at Bering Strait—that was long ago beaten down. In fact, it is quite possible that the Lake El'gytkhyn leaf-shaped points are the result of diffusion of the trait from America.

Future investigation of this problem may disclose that the ultimate source for American leaf-shaped implements is in Central Asia with the Ust'-Kanskaia cave site as one of its earliest manifestations. Ultimately too, perhaps the Szeletzian and Solutrean leaf forms and the other *blattspitzen* of Europe will be found to have been derived from Central Asia—in which case we may end up with the conclusion that *all* leaf-shaped points in America and northern Eurasia are genetically related. Long before such a conclusion is reached, however, a great deal of further work must be done; leaf shaped points would have to be found in the north in contexts sufficiently early to suggest a parental relationship to those farther south. At the present time and with the present evidence it appears we must view Lerma points as a peculiarly American development.

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