

Three points found at Punta Barcos south of the Rio Deseado estuary, Argentine Patagonia, Lat. S. Collected by Senor Dietrich Amalung in an area of shifting sand dunes and shell deposits on generally low land. Various types of artifacts present - projectile and knife points, skin and wood scrapers, many flakes. See Junius Bird 1966 on Amalung collection:

The three points sent for my inspection by Dr. Bird have a technological group of aspects which makes them most distinctive. They are very similar in form and all have bifacially removed channel flakes. However, the one made of "chocolate-colored" silicious material is broken at the distal end of the blade part of the point. This tip was broken either by use or by an accidental drop - and not during manufacture. During the earlier stages of fabrication, the tip was weakened as the result of an improper percussion flake termination.

The raw lithic material used for these points is very similar in texture yet there is a variation in colors. For purposes of identification of this analysis, the points will be referred to as numbers 1, 2, and 3.

1. The chocolate colored point
2. Cream colored point
3. Yellow, pink and purplish-gray varigated point.

The three seem to have originated from the same source of material. It appears to be a variety of jasper formed by a silicification of very fine or residual clays with other minor impurities. The material suggests alteration by the thermal treatment. (See Tebiwa, Vol/7, #1, Crabtree and Butler)

Since all the original surface has been removed by flaking, we cannot, at this time, be positive of the heat change. However, it is uncommon for material with this degree of lustre to occur naturally. The points were preformed by the percussion technique from either large flakes, or by reducing nodules, cobbles, etc. to the desired size and form.

No.1 still retains a part of the original flake scar produced when the maker was striking the raw material to get the large flake for his artifact, indicating it was made from a large flake. This remnant of the original flake scar is near the lateral edge next to the barb. The other two points have been retouched over the entire surface and bear none of the scars made when the worker was securing his blank.

No.1 and No. 2 still bear portions of flake scars produced by the percussion technique with only a minimum of pressure retouch on the lateral edges of the blade part. All of the stem parts show the use of an alternate pressure technique. In comparison with points #1 and #3, point #2 is aberrant for it appears to have served a dual purpose; being first used as a projectile point and later modified into a different style - either a scraping or cutting implement. The lateral edges have been worked on opposing sides by shearing unifacially. The beveled edges are semi-abrupt with short flake scars and evidence of crushing; rather than by controlled pressure sharpening. This embryonic style of edge turning indicates that the alteration was made by a person, or persons, other than the maker for the original worker demonstrated that he had considerable control of his stone knapping.

The fluting, or removal of the channel flakes, was done prior to the secondary pressure retouch. The channel flakes are, no doubt, removed by pressure applied on a prepared platform. These channel scars extend from the base of the artifact to and beyond the barb and into the blade part of the artifact. The platforms for channel flake removal were

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were designed to leave a doubly concave base - sharp rather than thick. The channels lack the refinement of those on a Lindenmeier Folsom. The stems which bear the fluting scars show only one or two minor retouch flakes intersecting the channel flake scar indicating that the blade part was thinned and retouched after the channel flakes were removed.

The pressure flaking on point #3 shows excellent control by the maker, with the parallel flake scars directed from the marginal edges toward the base. This type of flaking leaves a series of scars which may be called "doubly oblique" or "herring bone". In order to replicate this retouch pattern, one must either be ambidexterous or be able to change flaking directions - applying pressure toward his body and also away from his body, producing an inverse oblique pattern. This type of flaking is unusual, but it does appear on artifacts found at the Vasequillo site in Mexico.

The points are designed to be left slightly thicker in the mid-section to increase the strength at their weakest point - either where the barbs start or where the shaft stops.

Point #3 is an exceptional example of precision pressure flaking, being well formed with straight sharp marginal edges. The lateral edges, <sup>ON THE STEM</sup> as well as the ears on the stems, on all three points have been ground. Because of the design of the stems and the size and weight of the points, a shaft larger than that used for an arrow would be necessary. The grinding and polishing of the edges would prevent severing the bindings which secured the points and the grinding indicates that the point is to be used repeatedly for thrusting. This grinding is not necessary when making just an arrowpoint.

Included is a point I made of Oregon obsidian which is my attempt to replicate the techniques of Point #3 of the Amalung artifacts. I employed the core technique and direct percussion for preforming, and used pressure for the balance of the work, including the removal of the channel flakes.

The technological aspects of points #1,2 and 3 resemble the early man points found in North America. The Amalung points resemble the El Inga points in form <sup>but I CANNOT MAKE COMPARISONS</sup> in the technological aspects without actually examining either the casts or the originals of the El Inga material. (See: El Inga Projectile Points - surface collections by William Mayer-Oakes, American Antiquity, July, 1966 and Early Man in the Andes, Scientific American, 1963, Vol. 208, also by Oakes.)

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