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A BIRD GEOGLYPH NEAR CASMA, PERU

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During a brief visit to the Casma area in 1983, John Rick fortuitously discovered a bird geoglyph or ground drawing located near the site of Huaynuná. In 1986, he revisited the area while Thomas and Shelia Pozorski were conducting excavations at the site and informed them of his previous discovery. Using a grid of 2 m squares, they subsequently mapped and recorded this fragile feature unique to the Casma area.

General description

The geoglyph is located on a fairly wide and steeply sloping *quebrada* or dry drainage. It lies east of the Cotton Preceramic component of Huaynuná in the southern half of the *quebrada*.¹ The *quebrada* surface consists mostly of silty sand and small angular granules and pebbles. These granules and pebbles are more densely concentrated on the surface than below the surface because wind action has removed most of the lighter surface particles. The entire *quebrada* surface is now in a slow process of erosion.

The simple technique used to produce the bird geoglyph appears to be virtually unique on the coast of Peru. The figure was created by incising a few narrow, shallow lines into the wind-deflated *quebrada* surface. A simple implement such as a wide wooden stick probably served as the tool. Some of these lines clearly overlap one another (Figure 1), indicating that the implement used for making the lines was lifted from the surface and then the line restarted several times to continue creating the figure. These data suggest that creation of the figure probably began with the beak and head and ended with the line forming the tail and breast.

The component lines are discernible because surface pebbles were moved laterally during the incising process to reveal slightly lighter-colored sand below. This technique differs somewhat from the usual, more substantial technique of producing much wider lines through removal by hand of numerous stones from a darkly patinated rocky desert surface to reveal lighter soil below (Briones M. and Chacama R. 1987: 17; Hadingham 1988: 135-137; Morrison 1978: 28-29; Silverman 1990: 440-441; Wilson 1988: 797). Indeed, the bird figure was probably executed in a matter of hours rather than the "several weeks" estimated for the construction of the recently reported geoglyphs from the Santa Valley (Wilson 1988: 795). Since the creation of the figure, wind deflation has removed many of the finer particles from the exposed surface within the lines, leaving them much the same color as the surrounding *quebrada* surface. Because of both the lack of soil color differentiation and the narrowness of its lines, the geoglyph is extremely difficult to see in any type of light and is hardly distinguishable from motorcycle tracks on the same surface. Its similarity to modern motorcycle tracks also suggests that the figure was probably not much more clearly visible at the time of its creation.

Overall, the bird is fairly large, measuring 27 m long and 19.5 m high (Figure 1). The head of the bird faces approximately N45°E. The ground on which it lies slopes most steeply from the top to the bottom of the figure, but there is also a downhill slope from the southwest to the northeast. This latter slope is most pronounced in the vicinity of the separate wing feathers. The lines composing the bird are 7 to 10 cm wide and 1 to 3 cm deep. The depth of the lines generally coincides with the

¹ The description of the location of the geoglyph is deliberately imprecise to protect the fragile feature from damage by visitors.

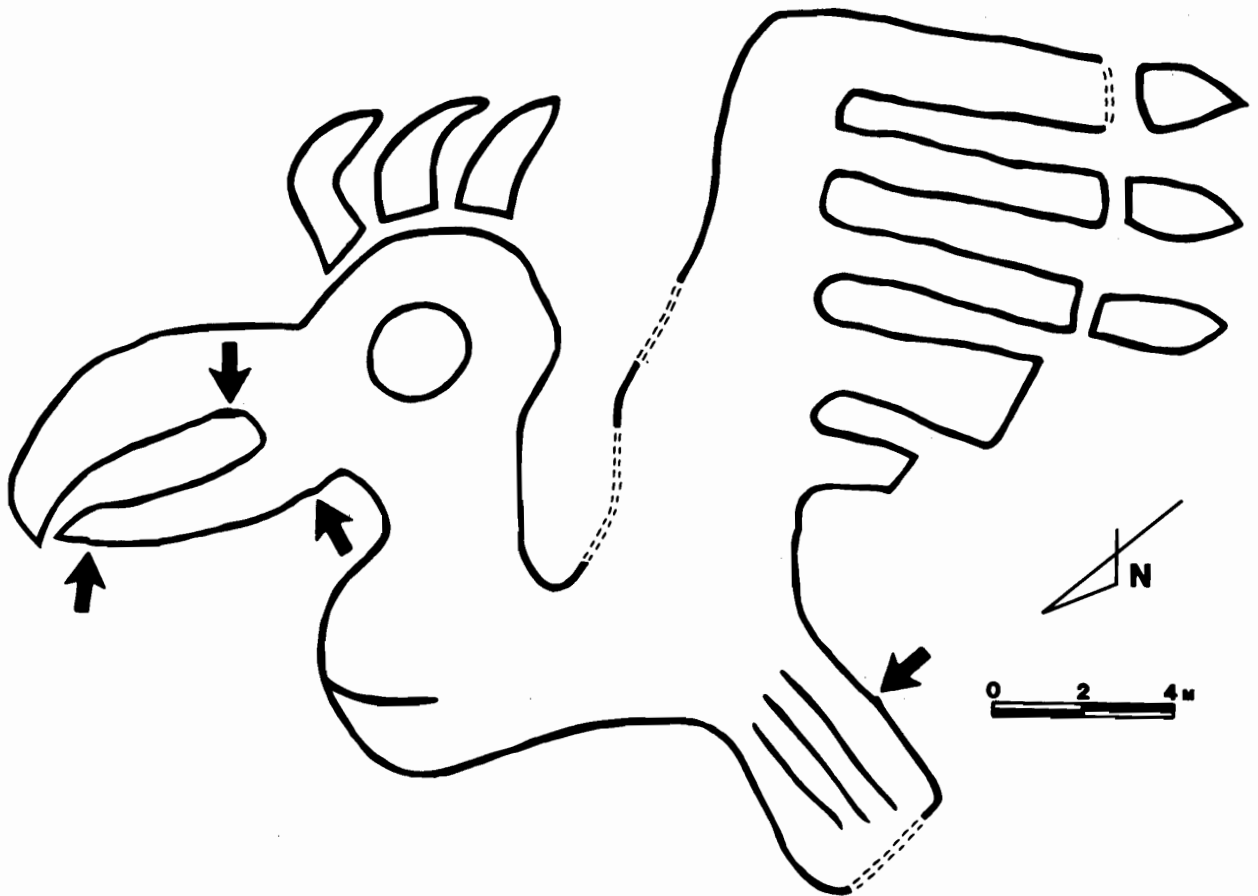


Figure 1. Scale drawing of a flying bird (parrot?) geoglyph near Huaynuná north of the Casma Valley. This drawing was rendered to reflect the exact nature of the lines composing the geoglyph. Hence, overlap of lines (indicated by arrows) is notable, especially in the area of the beak and tail. Note the use of separate lines to depict the feathered crest, the ends of the wing feathers, the feathers of the tail, and the chest marking.

irregularities of the *quebrada* surface. The deeper parts of the lines cut through raised parts of the *quebrada* surface where soil is better-developed. The shallower sections of the lines occur where they cross shallow gullies which generally run downhill from the top to the bottom of the figure and contain less well-developed soil.

The figure is readily recognizable as a profile bird with a large beak, a large round eye, a probable crest on the head, an outspread wing, and tail feathers. Given the large round eye and the shape of the curved beak, it is possible that the bird represents a parrot, a type of bird often depicted in the art of the Early Intermediate Period and Late Intermediate Period (see for example Banco Popular del Peru 1979: 71-72; Benson 1972: 18; de Lavalley 1985: 144, bottom figure; de Lavalley and Lang 1982: 111, upper right figure; Donnan and Mackey 1978: 110-111; Kauffmann Doig 1983: 484). The presence of a crest, however, casts some doubt on this interpretation. Crested birds in ancient Peruvian art include Moche examples identified as "raptorial birds" (Kauffman Doig 1983: 360, figure 3, 499, figure 6) and another Moche example identified as a cormorant (Lapiner 1976: 140, figure 310). In view of the outspread wing and absence of feet, it is also likely that this figure represents a bird in flight with the legs folded underneath the body and not readily visible.

One notable stylistic aspect of the bird is the use of separate lines to depict the feathered crest, the ends of the wing feathers, the feathers of the tail, and the chest marking. At least in the case of the separate wing tips, it is possible that these separate elements represent feathers or feather tips of a different color from the other parts of the bird. The use of separate lines for wing parts is present in the bird geoglyph reported by Wilson (1988: 798, figure 4, 799) from the nearby Santa Valley. However, the Santa Valley figure is stylistically distinct.

More importantly, the use of separate lines in rendering geoglyphs is quite different from the use of a single continuous line to construct the better-known figures on the plains near Nazca (Hadingham 1988: 76-80; Kosok 1965: 58). This may be purely due to stylistic differences between peoples separated by hundreds of kilometers or it may imply a different function for the Huaynuná bird figure. It has been proposed that the use of one continuous line in the Nazca area to draw figures may be due to their use as ceremonial walkways (Aveni 1990a: viii-ix, 1990b: 29-37; Clarkson 1990: 159; Hadingham 1988: 76-80; Kosok 1965: 58). Given the use of narrow, discontinuous, fragile lines, the Huaynuná bird figure could not have been used for that purpose. It is possible, however, that, like the ground drawings in Nazca, the bird geoglyph of Huaynuná was at least an ephemeral part of the ceremonial life in late prehispanic times, perhaps depicting a deity believed to be located in the sky or in high places of the surrounding topography (Hadingham 1988: 106-119, 240-260; Reinhard 1985: 55-56). Kauffmann Doig (1983: 497-499, figures 5, 7) associates two bird figures, somewhat similar to the Huaynuná bird, with the bird-man deity Ñaymlap of the North Coast.

Dating

The dating of most geoglyphs is difficult at best, and the Huaynuná bird is no exception. The bird is not sufficiently distinct stylistically to readily assign a cultural affiliation. Several options are possible given its proximity to Huaynuná, which has major components dating to the Cotton Pre-ceramic Period, Initial Period, Early Horizon, and Late Intermediate Period (Pozorski and Pozorski 1990). There are physical indications, however, that the bird dates to a later prehispanic time period, probably the Late Intermediate Period, rather than to an early ceramic or even pre-ceramic time period. Jay Noller, soil geology graduate student at the University of Colorado at Boulder, who was conducting a study of soil development along the desert coast of Peru at the time of our geoglyph study, examined the soil crusts of the bottoms of the artificial depressions forming the bird and compared them to the surrounding unaltered *quebrada* surface. Based on his comparative experience with soils in the Casma area and surrounding valleys, Noller (personal communication 1986) estimated that the soil development of the line bottoms is on the order of 1,000 years or less (a late ceramic period date) as opposed to about 5,000 years (a pre-ceramic period date). It should also be noted that

the gullied surface on which the bird rests has not been significantly recut by subsequent erosional events. Only very minor superficial gullying has affected portions of the body, wing, and tail of the bird (Figure 1). Little erosion suggests a later date rather than an earlier one.

Additional evidence consists of an eroded red press-molded sherd (probably dating to the Late Intermediate Period) found on the surface near the tail feathers of the bird. Additional sherds, including some Late Intermediate Period Casma Incised pottery, were occasionally found scattered on the *quebrada* surface leading to and away from Huaynuná. Though these surface finds are not conclusively associated with the bird geoglyph, they are the closest artifacts to the figure and probably represent occasional communication between the contemporary Late Intermediate Period occupations at Huaynuná Bay and Tortugas Bay located just south of the hills separating it from Huaynuná Bay.

Discussion

Ground drawings have been known from coastal Peru for over 40 years, principally on the plains of Nazca (Aveni 1990; Hadingham 1988; Kosok 1965; Kosok and Reiche 1949; Morrison 1978; Reiche 1978; Reinhard 1985). The bird geoglyph near Huaynuná represents another example of ground drawings that are increasingly being reported not only from the Nazca area (Herrán 1985; Silverman 1990) but outside as well (Isbell 1978; Rosselló Truel 1978; Wilson 1988), including examples from as far south as northern Chile (Briones M. and Chacama R. 1987). Like some of the Nazca figures, the Huaynuná bird figure is partially visible from nearby hills, but, because of the narrowness of its lines, it is not clearly discernible from these heights. Its orientation, with its head and wings to the east and breast and tail to the west, make the geoglyph upright when viewed from the west, toward Huaynuná Bay. It is not upright, however, when viewed from any of the nearby hills.

Comparable additional figures may never be known given the difficulty in locating and recognizing such figures and the likelihood of their destruction by natural or human agents. Because of its ephemeral nature, the Huaynuná bird figure is not closely comparable to the more substantial and well-known geoglyphs of the Nazca area. However, the Huaynuná bird figure is similar to the Nazca figures in the sense that it is a large geoglyph that can only be fully viewed from the air. Its subject matter is similar, and perhaps it represents a deity figure, as suggested by Wilson (1988: 801), or an animal important in the lives of the local Late Intermediate Period inhabitants of the area. Thus the Huaynuná bird figure adds some insight into the ceremonial life of the coastal people in the Casma area during the Late Intermediate Period.

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