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20 Comments on the settlement on the middle Rio Grande section during the Middle Archaic Period

The section of the Río Grande river valley in which Pernil Alto is situated is limited by two narrow areas north and south of the site. The northern narrowing is located at a distance of about 10.2 km, and the southern one at a distance of about 5.8 km from Pernil Alto. The narrowings in the north and the south, together with the flanks of the hills in the east and the west, limit a reasonable settlement area that included the plane fertile river valley bottom and water supply during the entire year. The bottom of the fertile river valley covers 16.36 km² in this area. It is therefore likely that this area would have offered enough resources—in the form of year-round water access, land suitable for horticulture, a dense cover of plants offering consumable fruits, freshwater shrimp, and guanaco herds during their seasonal movementsfor more than one settlement in the Middle Archaic Period, if a schematic radius of 3km for an agricultural settlement is assumed and the reconstruction of the environment (Chapter 4.3) is correct. Taking into account that the resources outside the river plains were composed of grassland during the Middle Archaic Period, and that in the following periods nearly all settlement activity is attributed to the river plains, more Middle Archaic sites in the same river section can reasonably be expected. Nevertheless, no other Preceramic sites besides Pernil Alto are known from this area so far. Even in the systematic surveys of the detailed and long-lasting Proyecto Arqueológico Nasca-Palpa only sites of ceramic periods have been detected on the surface in the middle section of the Río Grande river valley. Pernil Alto itself was originally registered because of massive architectural remains and ceramics. The earlier preceramic occupation was not detectable from the surface but was discovered during later excavations (see Chapter 5).

Incorporating the new information from the Middle Archaic Period, a surface reconnaissance survey was conducted in the middle section of the Río Grande valley in 2009. The limits of the surveyed area were the narrowings in the north and the south, and the uprising hill flanks east and west of the river valley bottom. The area of this survey is indicated in Figure 157. This survey was not conducted across the entire area but concentrated on the outer edges and especially the sharp transition zone

between the valley bottom and the uprising flanks of the hills. The expectations to detect any sites within the valley bottom were very low, even for sites from which ceramic remains could be expected, because the alluvial deposit in the area is very thick and covers cultural remains. The river changed its course continually over time, thus probably destroying cultural remains in its newer beds. Furthermore, the area is today under intense agricultural use and covered relatively densely with vegetation, making the detection of site remains on the surface of the fertile river valley extremely difficult. Nevertheless, sites and even settlements can be expected even in the fertile river valley bottom, as the detection and excavation of the site of Jauranga from the Paracas culture in the bottom of the fertile valley of Palpa illustrates (Isla et al. 2003). However, detections of sites in the fertile zones rely mostly on favorable circumstances like construction works and information transfer to specialist personnel. Another possibility for detecting archaeological sites in the alluvial sediments are cut banks produced by the water flow in river bends.

Taking these considerations into account, the surveyed area was the area of the actual river flow and the outer edges of the river valley bottom. It sought to map the locations comparable to the one of Pernil Alto and to detect archaeological material that was typologically similar to the cultural material found in the preceramic layers at Pernil Alto (lithic artifacts, beads, pendants, textiles, wooden artifacts). Comparable locations to the one of Pernil Alto were topographically defined as being:

- 1. located directly on the outer edge of the fertile river valley but in close proximity
- 2. elevated some meters above the plane river valley bottom
- 3. preferably sheltered on one or more sides by rock-faces or hill flanks
- 4. have a relatively plane area on top
- 5. preferably situated close to plane embayments of the fertile river valley bottom (e.g. ancient river meander situations)

These are the most important location factors of Pernil Alto that are of topographic nature. Topographic situa-

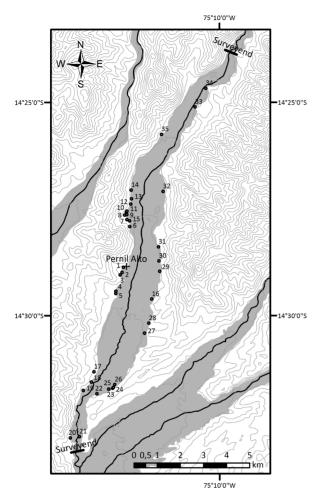


Figure 157: Map showing the survey area in the middle Río Grande section and the found locations. In the north and the south, the limits of the survey are indicated. The grey zone represents the river valley bottom.

tions like this offer easy access to water from the river and to the wild plant resources in the river plain. They are saved from periodic flooding of the river, and have lower soil moisture making them more hygienic. Rock-faces and hill flanks shelter the locations from stronger winds.

Locations were mapped that were suitable for settlements comparable to the Middle Archaic settlement of Pernil Alto. As no information regarding the topographic situations of other site-types or settlement locations of the Middle Archaic Period from the research area are known—despite rock-shelters in the case of Las Brujas and the sites located directly on the Pacific shoreline—it is not possible to estimate locations for other site-types or settlement situations in the area. These could have been production sites, butchering sites, ritual/burial sites, hunting stations, or settlements with different economies. The locations of these sites could only be determined by following "logical" considerations, but

without valid archaeological information about certain patterns of an archaeological period, results produced in this manner remain invalid. Even the results of the new survey of the area are based on one piece of topographic information and restricted to certain parts of the river valley section. Furthermore, later modifications of the landscape took place in modern times (including the construction of the Pan-American Highway, roads, irrigation channel and regulations of the river bed) as well as in the past (including the construction of irrigation channels, terraces, buildings and other intrusions). Thus the shape of the recent river valley section does not accurately represent the shape of the river valley section in preceramic times. A large scale systematic survey covering the entire zone and explicitly examining preceramic remains, completed with non-intrusive sub-surface prospection (as geomagnetic prospection, or geoelectric prospection) as small scale test excavations could provide a more detailed picture of preceramic activities in the area.

Nevertheless, the survey carried out as described previously in the months of August and September of 2009. Within the river bed no single location was found that produced preceramic material or could be associated with any preceramic activity. The same is true for the edges of the river valley bottom, however 35 locations were mapped there that fit the criteria described above (Figure 157). These points were named "locations", because labeling them as sites would be inappropriate (descriptions of the locations can be found the digital supplement). The locations form clusters in three groups. One group includes locations 1–5 and is situated directly south of Pernil Alto. Locations 1-3 are located in the same ancient river meander as Pernil Alto. Another group is located north of Pernil Alto and includes locations 6-15, while Locations 6-11 are located on the same ancient river meander. The third group is located to the south of the river valley section and includes Locations 17-19 on the western valley side and locations 22-26 on the eastern valley side. The other locations are distributed more widely. The gap of locations in the area between location 5 and 17 on the western side of the river valley is probably in part a result of the modern Pan-American Highway that has recently been built there.

Locations 17–26 are located on the southern end of the river valley section. These locations are situated in an area that was crossed by guanaco herds as they moved towards the coastal lomas when they were in bloom.

As mentioned before, none of these locations provided any material that was datable to the preceramic period. Nevertheless, the distribution shows that there were indeed more (35) locations that would have been suitable for the establishment of a Middle Archaic settlement

comparable to the one of Pernil Alto. At the moment it cannot be determined if Pernil Alto was the only settlement during its time of occupation or if more settlements were located in the middle section of the Río Grande valley. Nevertheless, the middle section of the Río Grande valley had the potential for more settlements in the Middle Archaic Period. Furthermore, shifting the settlement from Pernil Alto to another location in the middle section of the Rio Grande valley by the inhabitants would have been feasible within a small range.

Thus, the inhabitants could have changed the location of their settlement in small time periods and within a small area, which would be difficult to determine with the archaeological material. The settlement of Pernil Alto was, considering all results so far, a sedentary settlement. Nevertheless, permanence on the site could have been variable, with settlers moving to other close-by places and then coming back to the previous location after a few years. Thus, a single group of inhabitants could have settled the entire middle Río Grande section.