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Sector B. Analysis and Insights

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Abstract

In a northern sector of the administrative centre of Los Molinos, studied by the PALPA Project under the leadership of Dr. Markus Reindel (KAAK Bonn) and Lic. Johnny Isla Cuadrado (Instituto Andino de Estudios Arqueológicos, Lima), textile fragments were found in undisturbed strata dating to the Early and Middle Nasca Phase (325-620 AD). Archaeological data indicates that this area was a location used for ritual ceremonies. Detailed analysis, together with exact archaeological evidence offer an overview of the nature and quality of these remnants within the broad spectrum of material and textile analysis techniques. Could these findings provide us with further insight into the society of the Nasca?

Keywords: Nasca culture, excavation, textile findings, south coast of Peru

Nasca Textiles del sur de Perú, Los Molinos, Sector B. Análisis e Insights

Resumen

En un sector al margen norte del centro administrativo de Los Molinos, estudiado por el proyecto PALPA – bajo la dirección de Dr. Markus Reindel (KAAK Bonn) y Lic. Johnny Isla Cuadrado (Instituto Andino de Estudios Arqueológicos, Lima) – se han encontrado textiles en capas intactas de las épocas Nasca temprano y Nasca medio (325-620 d.C.). Los datos arqueológicos indican el uso de este sector para ceremonias rituales. El análisis y los datos exactos ofrecen una visión general de la naturaleza y la calidad de los artefactos y la gran diversidad de sus materiales y las técnicas textiles. ¿Pueden estos hallazgos contribuir a una mejor comprensión de la sociedad de los Nasca?

Palabras clave: Cultura Nasca, excavación, hallazgos textiles, costa sur de Perú

Introduction

Textile remnants discovered in an archaeological project in southern Peru offer us the opportunity to analyze objects from a precise archaeological context. All the archaeological information is available. The textiles underwent a detailed analysis. Combined with the data from the excavation, new questions were raised, which provide us with a deeper insight into the Nasca society.

The Nasca culture

The Nasca was a society located on the south coast of Peru with its main area in the region of the Nasca river basin and the region of the Ica River to the north.

Chronologically the Nasca were active in the Early Intermediate Period (Fig. 1). The phases relevant to my investigation are the Early Nasca Phase (325 – 440 AD) and the Middle Nasca Phase (440 – 620 AD). The Early Nasca Phase includes cultural phases Nasca 2 and 3; the Middle Nasca Phase includes cultural phases Nasca 4 and 5. The chronological table is based on the results of the Nasca-Palpa project.

The PALPA project

Under the direction of Dr. Markus Reindel and Lic. Johnny Isla Cuadrado in the years from 1998 to 2007, the archaeological project of PALPA was undertaken in order to research the region around the modern town of Palpa,

Fig. 1. Chronological table containing the archaeological and the physical dating results of the Nasca-Palpa project (Reindel/Wagner 2009, fig. 1.2)

Fig. 2. Map of the lower area of the Palpa valley with the sites of Los Molinos and La Muña (Reindel/Isla Cuadrado 2001, fig. 1)

Fig. 3. Aerial photograph of Los Molinos (Reindel/Isla Cuadrado 2001, fig. 37)

investigating the archaeological sites of the Nasca culture (Fig. 2). The investigated area is located in the region of the river Grande, Palpa and Viscas. Between the lower valley sections lies the most fertile zone of the whole area. The main focus was to study and map all of the geoglyphs and to see them in context to the nearby settlements. Geoglyphs are mostly geometrical forms visible as a result of stones having been removed.

In this, and in the following project, NASCA, diverse scientific specialists participated in the working group. For example, geologists studied indications of climate changes in south Peru. These investigations provide proof of changes from humid to an increasing arid climate (Reindel/Wagner 2009: 17-18) throughout the Paracas and Nasca Periods, peaking in the Middle Horizon (620 – 1000 AD) with an extremely arid climate. So, the zenith of the Nasca culture in the Early Nasca Phase can be explained in part as a result of climate.

The archaeologists mapped, in addition, all the archaeological settlements of the region – not only those of the Nasca period. Some locations were excavated. As part of the PALPA project, textile remains were discovered – almost all of them in the two settlements, Los Molinos and La Muña.

The site of Los Molinos

The photo in fig. 3 shows the site of Los Molinos. The view is from the west. Different areas of the site are located along the hillside. The excavated areas in the south are of small size and are outside the photo, on the right.

The site of Los Molinos is divided into different sectors: the central sector correlates with the centre of the settlement. Sector B is located to the north. Between both sectors lies an arid valley showing clear signs of geoglyphs. Sector C is located to the south of the centre (Fig. 4).

The largest sector is the centre of the settlement (Fig. 5). The architectural structures were built on five levels from west to east. A corridor in the lower part offers access to buildings to the north and south. The entrance to a bigger area in the south has not been excavated. The architectural structure of these buildings and the use of adobe bricks indicate administrative use. Smaller structures are situated in the upper part of the central sector. Here – on the fourth and fifth terraces – were located simple houses made of wattle and daub for domestic use. Nowadays the upper area has been almost virtually destroyed.

The sector C is an area further to the south. It is separated from the center by a small ridge. In this southern

Fig. 4. Plan of the Los Molinos site (Reindel/Isla Cuadrado 2001, fig. 3)

Fig. 5. Plan of the oldest construction phase of the buildings in the centre (sector A) of Los Molinos (Reindel/Isla Cuadrado 2001, fig. 5)

sector were found only very simple dwellings. This was, probably, the area where the ordinary people lived.

Over time central sector A as well as southern sector C were used as living areas.

In various phases tombs were dug in between the floor of the buildings. This has been documented only in sector A and in sector C. So during these phases there was a repeated change in function: activities of daily life alternated with the use of these areas as a cemetery.

Sector B as part of the Los Molinos site

Sector B of Los Molinos is located to the north of the main settlement. Archaeologists excavated an area of 40 m², where they discovered two platforms on different levels (Fig. 6). The arrangement shows many similarities to the architecture in the centre of Los Molinos, sector A. In both sectors, A and B, the different levels are connected by a central ascending corridor with walls left and right, from which you have access to both platforms.

According to the archaeologists, the centre of Los Molinos could have looked like the reconstruction in figure 7. At the top we can see smallish residential houses made of wattle and daub, in the foreground spacious buildings for administrative use. To the left the buildings have large roofs,

on the right a large square is visible, which could have been a gathering area. We can assume the platforms in sector B may be just as impressive.

The quantity of layers and the quality of repairs and reconstructions in the Early Nasca Phase show how intensively this sector was used at this time. However, these layers are empty of remains, that is to say, in the excavated area there are no signs of domestic use, no fireplaces, no domestic waste of any description. No tombs were found either. The structure of the buildings and the proximity of geoglyphs in the arid valley nearby lead us to believe that this area was used for ceremonial purposes.

In the Middle Nasca Phase, section B was re-used. This time for a shorter phase, but again, architectural findings indicate ceremonial use. Ceramic fragments depicting mythical designs from the Middle Nasca Phase support this theory. A fireplace dating from the Nasca 4 or 5 phase was discovered on the western platform. The separation of areas for ritual and domestic use was probably less well-defined during this time.

Chronological classification in Los Molinos B

During the excavation the archaeologists noted the extent of each archaeological layer. The horizontal stratigraphy

Fig. 6. Plan of the oldest construction phase of the buildings in the northern sector (sector B) of Los Molinos (Reindel/Isla Cuadrado 2001, fig. 10)

encompasses 40 m² and the vertical stratigraphy consisted of multiple layers. The sum of these two stratigraphies add up to a “correlation of layers”.

This “correlation of layers” makes it possible to identify objects from specific cultural phases. Therefore, textiles found in layers containing datable findings, eg. ceramic fragments will necessary date from the same phase. An important duration of settlement in Los Molinos B was during Nasca 3.

In Los Molinos B we are lucky enough to have further help in dating objects, namely clear evidence of different construction phases. Archaeological changes, eg. walls, floors and points of access, indicate these different phases. Four of them date from the cultural phase Nasca 3. The fifth construction phase took place later, in Nasca 4 and Nasca 5. In all of these construction phases textile remnants were found.

The analysis of the textile findings

For the analysis of the PALPA textiles, a detailed method of analysis was created. At the same time the results were stored in my specifically for this project created data-base.

Here all the archaeological, as well as textile-technological data were combined.

During the excavation the findings of each separate stratum (layer) and archaeological unit were put together. For the analysis, I sub-divided the objects and allotted each fragment its own number. For example, finding 312' would be sub-divided into 312-1 etc. according to how many different textile fragments were found. The specimens were not damaged, i.e. all analysis was non-destructive. Each textile was examined as one piece.

First each textile was classified by technical group, eg. weaves, braiding or looping.¹ A further group are yarn fragments, ie. simple yarns.

Within these groups, I further analyzed sub-techniques in the yarn structure, such as “plain weave” or “cross-knit loop”, and then analyzed the kind of material used, eg. cotton, camelid hair, as well as human hair. I analyzed the direction of twist and ply and the stages of the yarn fragments, and later refined my results according to the Splittstoser system².

Next I analyzed all the yarns according to colour. Over time, yarn colours can change (even along one single yarn) and so I examined each yarn on the basis of primary colours

1. For the classification I used the classifications of Annemarie Seiler-Baldinger and Irene Emery.

2. Splittstoser 2012.

Fig. 7. Hypothetical reconstruction of the excavated central area of the Early Nasca settlement Los Molinos (Reindel/Wagner 2009, fig. 25.7)

Fig. 8. Photo of a woven fabric with stripes, without selvage (finding 819-1).

and simultaneously recorded hue differences eg. red-blue or blue-red and also noted differences between the lightness and shade of colours.

Various patterns were produced using different yarns and colours, eg. checked, striped etc., not only in woven fabrics but also in braiding or looped textiles (Fig. 8).

The group comprising woven fabrics, supplies us with much more information than other groups: If we find fabrics with selvages, for example, we can differentiate between warp and weft selvages. The weft selvages are very simple (Fig. 9). In warp selvages, on the other hand, there are almost always weft yarns made of either foreign yarns or reinforced yarns of the same yarn as in the main body. This information can tell us which selvage is which and therefore give us information about the density of warp and weft. If the fabric still has two warp or two weft selvages, we can determine the length or width of the complete piece of fabric.

A further group of techniques, namely embroidery, seams and stitches, but also examples of darning, were always added to basic textile. Here I noted the kind of stitch used, the location of the stitches as well as the materials employed.

Braiding and looping groups demonstrate various finer techniques: Braiding techniques differ in the interaction of elements: One part exists of active and passive elements, eg. “two-strand twining”. The other part consists of active and active elements, such as “plain plait of three or more elements” (Fig. 10) and “three-dimensional round cords of 2 x 2 elements” (Fig. 11). In the example of a round cord in fig. 11 two different long knots with three and four turns, respectively, are added on the cord.

The looping techniques include all techniques with one element, ie. “simple linking”, “cross-knit loop” (Fig. 12), “simple looping” and different knots. The diverse techniques I recorded in detail. The density of the objects in the techniques of braiding and looping were noted with the quantity of elements per cm.

Fragments of yarns were documented, also. These findings give us a good idea of what kind of materials were formerly in use, even when the whole article no longer remains (Fig. 13). In addition, combinations of different materials, such as camelid hair plus cotton, or various colours twisted into one yarn, show interesting details.

Fig. 9. Photo of a woven band with warp stripes (finding 408-1).

Textile findings of the Early and Middle Nasca Phase of Los Molinos B

Only a few textile fragments were found in sector B. These findings are single pieces without any connection to each other. But, as I mentioned earlier, these textiles were excavated in the context of all five construction phases. So

we have a sequence of findings throughout the different cultural and even constructional phases (Fig. 14):

Plain weave of cotton yarns exists in all construction phases. Only those of the second phase are patterned with stripes. All phases included braided objects made of camelid hair. Looped objects were excavated in the third and fifth phases – mostly “cross-knit loop” of camelid hair. Yarn

Fig. 10. Photo of the finding 824-6 ("plain plait of five elements")

Fig. 11. Photo of a three-dimensional round cord (finding 824-9)

Fig. 12. Photo of the finding 833 in the technique of “cross-knit loop”.

Fig. 13. Photo of yarn fragments cumulated in the excavation as finding 429-20.

Not datable	Surface	401 (1-3)
Nasca Phases	Construction Phases	Number of object
Middle Nasca Phase – Nasca 4 / Nasca 5	Construction phase V	430 (1), 407 (1), 423 (2), 404 (1-2)
Early Nasca Phase – Nasca 3	Construction phase IV	847 (1-2), 849 (1-3)
	Construction phase III	408 (1), 428 (1-10), 429 (1-32), 812 (1-2), 833 (1)
	Construction phase II	824 (1-21) 822 (1-2) 819 (1-3)
	Construction phase I	422 (1), 862 (1) 420 (1)

Fig. 14. Table of the construction phases and the corresponding textile objects

fragments exist in very different quantities: in the first and the forth phases there was only one yarn, both of camelid hair. In the second phase 17 yarns, nine of cotton and eight of camelid hair. Most yarn fragments exist from the third phase: 32 fragments. Two thirds of which (21) are made of camelid hair, 11 of cotton. In the fifth phase all the yarns (six) are cotton.

So I came to the conclusion that all the techniques, material and other criteria identified in the textile findings of the third construction phase display the most variation.

The first four construction phases date to the Early Nasca Phase. At the end of this phase catastrophic rainfall interrupted the further development of the society. Of course, the population didn't change in the whole area, but changes in the structural and cultural order of the Nasca are detectable. To see clearer variation between the remnants we can contrast the objects of the Early Nasca Phase with those of the Middle Nasca Phase.

If we compare the findings of the Early Nasca Phase with those of the Middle Nasca Phase we can clearly see the variation between the remnants. But we have to consider that the objects of the Early Nasca Phase date to four construction phases, which were executed during the long cultural phase of Nasca 3. The findings of the last construction phase date to the Middle Nasca Phase, the cultural phases Nasca 4 and the beginning of Nasca 5. In this fifth construction phase sector B was only a short time in

use. Maybe for this reason, there are many more findings dating from the cultural phase from Nasca 3 than from the later phases.

Three textile objects were found on the surface. These are not datable. The undisturbed layers under the surface contained 82 objects dating back to the Early Nasca Phase and six objects from the Middle Nasca Phase.

If we begin with the woven objects, all plain weaves are made of cotton in the Early and the Middle Nasca Phases. Only in the Early Nasca Phase, do we have remnants with stripes. Dyed yarn does not exist in the Middle Nasca Phase, in the Early Nasca Phase half of the patterned and almost a third of the plain coloured woven objects are dyed. No difference was observed in the density of the warp and weft yarns of both phases. Selvages, the dimensions of warp and weft and seam stitches have only been observed on fragments dating from the Early Nasca Phase.

Objects displaying braiding techniques are only found in layers of the Early Nasca Phase. These show different sub-techniques and are mostly made of camelid fibre material in bright colours.

Fragments in "cross-knit loop" of the looping techniques exist in both phases. In addition, in the Early Nasca Phase there is an extra looping technique. In the Early Nasca Phase the variety of colours is extensive; but also one object from the Middle Nasca Phase sample is very elaborate. The density of the elements is identical in both phases.

Fig. 15. Photo of a tap in the technique of “cross-knit loop” (finding 423-1)

All the yarn fragments in the Middle Nasca Phase are made of cotton. In the Early Nasca Phase the majority are made of camelid hair, the minority of cotton. Half of the woolen yarns are twisted, another large quantity show initial twist. Several yarns exist of various stages of twist. The cotton yarns are mostly twisted and re-plyed. In the Middle Nasca Phase the yarns show an equally distribution of stages, initial twist, ply and re-ply.

As I mentioned earlier, sector B is likely to have been used for rituals in all phases, which leads to the question: “Can we observe distinctive features in the remnants that ended up in this area?”

In the overview of all textile findings from the site of Los Molinos I can see a clear difference in terms of variety and detail in the textiles from sector A, the centre of Los Molinos. This is possibly due to the great quantity of findings in the centre – 717 sub-objects dating back to the Early and Middle Nasca Phases. The findings of the sector A display a great range of techniques, materials and designs. Also here the quantity of variations and the complexity of combinations within one object are very extensive. The fragments of sector B – on the other hand – strikingly show yarns mainly made of camelid hair, instead of cotton.

Among all the textiles from sector B, one object attracts special attention: a small tab – part of a border – using the “cross-knit loop” technique which is made of one continuous strand of yarn (Fig. 15). This yarn changes colour from red to yellow to red, indicating a design. The dyeing must have been undertaken with a clear idea of the finished design. So it looks like “ikat” in the technique of cross-knit-loop.

Los Molinos as part of the settlement pattern of the Nasca society

The settlements in the region of the PALPA project are structurally diverse. Differences are demonstrated in the size, location, structure of settlement, style of architecture found, as well as in the pattern of surrounding settlements.³

By putting all this information together, it becomes apparent that a clear hierarchy existed between settlements. At the lowest level, we find ‘simple settlements’, then come ‘simple centres’. At the next level, and at one per valley section or the whole valley, are the ‘local centres’. The largest settlement, or ‘regional centre’, of which only one is known, is Cahuachi in the Nasca Valley.

3. Soßna 2012, pp 263–265.

Throughout the Nasca Phases, the importance of settlements waxed and waned. Los Molinos can be classified as a 'simple centre' in the Early Nasca Phase, whereas in the Middle Nasca Phase, it had lost this status. The hierarchical nature of the Nasca society is clearly mirrored both in the sophistication of the settlements themselves, as well as in the tomb architecture in the respective settlements. But this will be another subject

Conclusions

As shown in the presentation, the site of Los Molinos was allocated a special status as a "simple centre" in the Grande de Nasca valley in the Early Nasca Phase, when the Nasca culture was in the ascendancy. In the Middle Nasca Phase the site lost this status. The northern sector B was always used for ceremonies. The two platforms and their surrounding structures were built and rebuilt in various construction phases – in each of them textiles were excavated. The number of findings is low – the ritually used areas appear as almost empty layers. Nevertheless, the remnants of the Early Nasca Phase show, in general, a larger variation and quality. Many of the few textiles of the Middle Nasca Phase are of simple and well known quality. But elaborate fragments can be found from this phase, too.

The excavated yarn fragments of camelid hair in particular indicate the use of elaborate textiles in this ceremonial area.

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