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Archaeological Textiles of Sechín Bajo – A Formative Site of the North Coast of Peru: Preliminarily Results

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Abstract

In spring 2014, I took part in an archaeological project carried out by a German-Peruvian team of archeologists in the Sechín Valley, next to the Valley of Casma, on the North Coast of Peru. The project started more than ten years ago and has been taking place parallel to some other important archaeological projects on the North Coast. Its aim was to unearth the temple mounds and to reconstruct the parts of the various phases. The earliest layers date back to the Pre-Ceramic Period. During the wall construction of the temple, many textile fabrics such as nets and ropes were used and some very early textile fabrics were found. The site was abandoned after thousands of years and a cemetery was placed on top of it. The cemetery comes from a later time period and contains tombs from different phases of cultures of the north Coast i.e. Moche and Chimú. My task was to examine these archeological textiles. The aim was to classify the textile objects and create an initial source of data. In this article I will present the textiles of the excavation and some particular examples with their typical characteristics. The textile artifacts were excavated in a small but very concrete area and the fabrics reflect a very long period of time.

Keywords: Archaeology, Casma Valley, North Coast of Peru, Sechín Bajo excavation, textiles

Textiles Arqueológicos de Sechín Bajo - Un Sitio Formativo de la Costa Norte del Perú: Resultados Preliminares

Resumen

En la primavera de 2014, participé en un proyecto arqueológico llevado a cabo en el valle de Sechín, cerca al valle de Casma, en la costa norte del Perú. El proyecto se inició hace más de diez años y se realiza paralelamente a otros proyectos arqueológicos de importancia en la Costa Norte. Su meta ha sido excavar los montículos de templos y reconstruir en parte sus varias fases de construcción. Las capas más tempranas datan al Período Pre-cerámico. Durante la construcción de los muros del templo, varios materiales textiles como redes y sogas fueron utilizados y se encontraron algunos materiales textiles muy tempranos. El sitio fue abandonado después de miles de años de uso y un cementerio se ubicó encima. El cementerio data de un época más tardía y contiene tumbas de diferentes fases culturales de la costa norte, eg. Moche y Chimú. Mi tarea ha sido examinar estos textiles arqueológicos. La meta fue clasificar los objetos textiles y crear una fuente inicial de datos. En este ensayo, se presentan los textiles de la excavación y algunos ejemplos particulares con sus característicos típicos. Los artefactos textiles se excavaron en un área pequeña pero muy concreta, y los materiales reflejan un rango temporal muy largo.

Palabras claves: Arqueología, Valle de Casma, la costa Norte del Perú, excavación de Sechín Bajo, tejidos

Introduction - The Site Sechín Bajo and the archaeological project

The Sechín Bajo project is an archaeological project with the aim to reconstruct the building stages of the Complex

at Sechín Bajo. It is an archaeological investigation of the site from the late archaic to the formative period in the Peruvian region of Casma. Peter Fuchs is the director of the project (Fig. 1).

Figure 1. Panoramic view of the archeological site Sechín Bajo. The photos are property of the © Excavation Project Sechín Bajo and are published here with its permission. They are a part of the documentation and Fig. 1 and Figs. 4 -27 were made by the author of this article.

The history of the project

The first inspection of the site took place in 1998 but the excavations did not begin until two years later, in the year 2000. The site of Sechín Bajo was examined six times since then. The phases of excavations were carried out in the years: 2000, 2003, 2005, from 2007 to 2008, and finally in 2012 and 2013. Our campaign was the last one and lasted two months, with the preceding five campaigns each six months long. During the last and closing examination of the site in 2013-14, the architectural discoveries and the findings from the previous excavation campaigns were examined, the textile artifacts evaluated, and the data prepared for a final publication.

From February till March 2014, I worked as a research fellow on this project and was present at the site. The aim of the project was to unearth the temple mounds and to reconstruct the parts of the various phases. The earliest layers

date back to the Pre-Ceramic Period. During the construction of the wall of the temple various textile fabrics were used and some very early textile fabrics were found. The site was abandoned after thousands of years and a cemetery was placed on top of it. The cemetery comes from a later time period and contains tombs from different phases of cultures of the North Coast like Moche, Moche-Huari and Chimú.

The textile finds

About 800 textiles were collected and numbered. The largest part of the textiles has its origin in the tombs, which were set on top of the construction much later. Although it is possible to present some textile fragments as examples of the different textile techniques of the Pre-Ceramic Period from the context of the construction, the number of these items is significantly smaller than the number of the textile objects from the graves.

The task was to examine and to classify the textile objects found, and to create a database. I did not participate in the excavations myself but analyzed the objects found, and defined the material, the type of the yarn construction, the textile structure and the thread count. As part of the documentation, I made photos and gathered the data systematically. In the following paragraphs, I will present some of the artifacts found over the fourteen years of the project. The uniqueness of the project lies in the fact that the artifacts were excavated in a small but very concrete area and that the fabrics represent and reflect a very long period of time.

The age of the textiles from the construction is defined through the age of the specific sequence of the construction, the place where the textiles were excavated. It must be strongly emphasized that although they belong characteristically to the type of pre-ceramic textiles not one of these examples is of real pre-ceramic origin, because the location of few pottery sherds indicates that they could be older than these textile fragments.¹ The age of the textiles from the tombs is more difficult to define, and absolute dating is not possible. Only by examining the layer at which they were found, relative dating is possible. At most, an association with a culture, for example Moche-Huari, could be made.

Environment

The Peruvian Pacific coast is one of the driest deserts in the world with an average annual rainfall of less than 10 mm. Along the coast, lots of smaller rivers flow into the ocean. They get their water from the Andean Mountains, from periodic rain, and from snow melting. Each river builds an oasis in which agriculture with irrigation is possible, as developed by the local population. The two rivers of Sechín and Casma build one agricultural area, which lies some kilometers inland from the sea. The Sechín River flows into the wider Casma River. The Sechín Bajo site is located in the valley oasis of Rio Sechín on the Peruvian North Coast, about 360 km north of Lima. The two different crossings, one in blue for the two rivers, Sechín and Casma, and the other in black for the North-South-highway, the Panamericana and the highway to the mountains, over the Cordillera Negra to Huaraz, provide an important commercial and cultural center. The two meeting points of the two rivers and of the roads are almost identical. The city of Casma, the Casma River, and the whole area around it was a center of cultural and social interaction (Fig. 2).

Because of a higher sand dune directly at the coast, the

Casma River makes a big turn to the right and after 12 km arrives at the Pacific Ocean. For that reason, the settlement does not have a direct access to the coast, and it is not a fishing settlement. There is no point at which the area is wider than one kilometer and about 7 km long. Compared with the climatic conditions on the South coast this area has more humidity.

The history of the site

The Casma Valley distinguishes itself, compared to the neighbouring valleys, by a large number of monumental sites from the 3rd and the 2nd millennium BC. Located along about 4 km in the Sechín River Valley, upstream from its junction with the Casma River, is a complex of archaeological ruins that composes the sites Sechín Bajo, Cerro Sechín, and Taukachi-Konkan. These were created as a result of a fundamental change from subsistence economy – with intense exploitation of the sea resources and the fauna and flora near the beach – to intensive agricultural utilization of the inland floodplain with artificial irrigation. The Casma Valley was populated long before the monumental construction began. The oldest carbon 14 date found at Sechín Bajo is from 3500 BC. Archeological investigation of the Valley began in 1937 when Julio C. Tello, a Peruvian archaeologist, examined a number of sites, first Cerro Sechín, then Moxeque, and, finally, Pallka. Later, Donald Collier, an anthropologist and archaeologist who worked with Tello, presented the first sequence of ceramics from the Casma Valley.

In 2008, a German and Peruvian archaeological team found a circular plaza, 10-12 meters in diameter, constructed of rocks and rectangular adobe bricks. A nearly 2 meter tall frieze was dated at 3600 BC. Both the plaza and the frieze are the two oldest examples of monumental architecture discovered until now in the Americas.² Sechín Bajo is a large archeological site with ruins dating from 3500 BC to 1300 BC. It is one of the oldest centers of civilization in the Western Hemisphere. Sechín Bajo may, therefore, be considered, together with the sites of Caral, as the oldest urban settlement of the Americas.

The Complex of Sechín Bajo

The investigations showed an over two thousand year old array of monumental architecture, a series of at least three structures with their internal stages of construction which

1. Peter Fuchs, personal communication

2. Panoramic view of Structure 1 of Sechín Bajo. In: Fuchs et al., 2009, 64, Fig. 12-13.

Figure 2. Map of the environment of Sechín Bajo and of the city of Casma. Graphic design: Archaeological Project Sechín Bajo.

originated already in the 4th millennium BC.³ The later structures were raised on top of the earlier ones, which were carefully filled in and secured. This method shows that the builders had a strong attachment to the place, the location. It seems that the custom of the „Temple Entombments“, documented at the sites discovered in the central Andean region, Kotosh or Huaca Lucía at Batán Grande had its origin in the Casma Valley.⁴ According to the 37 carbon-14-dates from the site, the length of the time needed for the construction of the Sechín Bajo site and the time it was used can be limited approximately from 3700 to 1300 BC i.e. 2400 years. The descriptions that follow summarize the changes in the construction over this long period of time.

Structure 1: The first structure consists of a rectangular plaza made of stone and clay of 20 x 50 meters laterally.

Later on, a circular excavation 12 meters in diameter was sunk into that plaza, which was expanded at least five times later on and each time provided with an additional sunken plaza. All carbon-14 data regarding this structure indicate a construction time and utilization period for the entire second half of the 4th millennium BC. Structure 1 of Sechín Bajo belongs to the oldest of its kind in the central Andean region.⁵ However, the textiles found do not belong to the earliest building phase. The enlargement of the complex lasted until about 1500 BC and the artifacts found can be associated with the last phase and thus dated.

Structure 2: In the period following, a part of the plaza of Structure 1 was covered with another building structure. According to its ground plan, it was 35 x 39 meters wide and about 8 meters high and its axis was aligned in

3. Description of the construction and its structures: Fuchs et al., 2006 and 2009.

4. Fuchs P. R., R. Patzschke, 2012, 89

5. Drawing of Structure 1 of Sechín Bajo. In: Fuchs et al. 2009, 63, Fig. 11.

North-South directions. The walls were made of rubble set in a clay mortar, covered with clay plaster and their corners were rounded off. This building shows a regular internal structure of nine rooms arranged in three rows of three rooms. Later, the central room was modified in such a way that a niche wall with rounded corners and 18 niches was created. The walls are covered with a multi-layered plaster of a high quality and the floors with a compact mud layer. It is still unclear when building 2 was created. It was renovated over and over again: the plasters were repeatedly renewed and the evidence of modifications and changes made to the entrances is available. The information used to date the structure came from the first phase of renovations and it was identical with the last reconstruction phase of the neighbouring Structure 3. The last of these phases was dated in the 16th and the 17th centuries BC. Graffiti was created on the South-West facade of Structure 2.

Some fireplaces, only sporadically used, with a number of broken ceramic vessels in them, were uncovered at the foot of this wall. These artifacts are similar to the first pottery found in the nearby Cerro Sechín. Both provide evidence of the first appearance of ceramics in that region, described as the Laguna Complex by Peter Fuchs in 1990 and 1997. Because one of the biggest clay reliefs found present some people in a presumably ritual situation and dressed accordingly, the description of this scene will follow.

Clay Relief

The clay relief was uncovered on a surface of approx. 10 m². It is a frieze of three people facing frontally with their arms spread. They are dressed in a skirt or a tunic. Their feet are open sideways and look out from under their garments. There is an oblong object, maybe a knife or a scepter, in the right hand of every figure. In their left hands, they hold a round object sticking out from a head of a snake. These round objects could be identified or interpreted as mollusks (*Spondylus*). The heads of the figures are depicted differently and a collar-like fabric lay on their shoulders. The hair partially falls around their face with the rest tied into three tufts on top of the head. This kind of presentation of the hair is reminiscent of trophy heads from Cerro Sechín. One can assume the figures in the relief are people, who are possibly witnessing a ritual, perhaps even, in Court 1.⁶

Structure 3 is the largest of the site. The ground plan shows a structure of about 145 x 125 meters, which is about 15

Figure 3. Isometric reconstruction of the construction with the three building. View from the East side. Graphic design: Archeological Project Sechín Bajo. In: Fuchs et al. 2009, Fig. 16.

meters high and is surrounded by a wall, about 2 meters in height and 3,5 meters wide. The rounded corners of the structure are aligned with the cardinal directions. Along a central axis there are four courts placed one after another in an ascending order, two on each level, connected with each other by various stairs. The walls of Courts 2 and 4 contain different numbers of niches that also differ in size. These niche-walls were built in later, similar to the niche wall in the centre room of the earlier Structure 2. There is a great sector stretching north-west from Court 1. This sector is bordered from a side by a flat *plaza* that probably served as a space for larger crowds but is used agriculturally today. In front of it there is a staircase, about 3 meters high, which leads to Court 1 (Fig. 3). The staircase, first with an open access, was replaced with a double staircase with a common bottom step. The development of turning staircases on the sides of the newly created Courts 2 and 4 underline a new social orientation within the structure and a reinforce physical separation. The access restrictions already found in Structure 2 exist here as well. This structure is the most monumental with both public squares and private areas. Structures 2 and 3 were constructed in such a way that they face Cerro Sechín on the other side of the Sechín River, only two kilometers away. Therefore, a presumption can be made that the builders of the two partly contemporary mounds interacted with each other.⁷

6. Clay relief of the third building (Structure 3) of Sechín Bajo. Description and fig. 18 in: Fuchs et al., 2009, 67

7. Fuchs P. R., R. Patzschke, 2012, 90

Textile artifacts found during the excavations in Sechín Bajo (2000 – 2012)

Around 800 textile artifacts were found. The sample of excavated textiles can be divided into two groups – the earlier and the later ones: Group 1: Context of the construction: the early textiles and Group 2: Context of the burials: the late textiles. The *earliest* means the oldest textiles and date from the period about 1500 BC and the latest date from the graves around 1500 AD.

The origin of the early textiles

According to the information gathered through the process of the excavation, the building was abandoned in a planned and organized manner approximately in 1500 BC.⁸ The indication of that is the fact that the rooms were swept clean. There was no garbage and no other objects left behind. Textiles, mainly cords, from the time of construction and different phases of expansion of the whole site, were used as a part of the architectural components and thus correspond to the respective construction phases.

The origin of the late textiles

When the construction was no longer in use, the area surrounding the mound and the surface of the construction itself were used as a burial site. All late textile artifacts came from the graves. 140 of them were excavated. The dating of the graves can be seldom confirmed, and very few of these textile artifacts can be exactly dated.

All further textile finds, consisting mainly of fiber fragments, came from the graves. The graves at the site remained undisturbed for the most part (except the placing of a new grave could damage an old one). The cemetery near and around the site at the foot of a small hill is much more disturbed. The destruction can be seen on the small craters making the area look like a moonscape. Most of the graves are made in a 'simple' manner, consisting of no more than a plain outer frame made out of little stones, and the frames are irregular, due to bad preservation. There is very little information about the city of Casma and its cemetery, neither from the time of the Inca rule nor from the Colonial Period. Although the two settlements, 'Casma La Alta' and 'Casma La Baja' are referred to in the chronicles of the 16th century, cemeteries belonging to them were not mentioned.⁹ The main non-textile objects group consists of ceramics, different kind of cups, and vessels. In addition to the fabric

fragments, the finds in the graves include cords, which served as packaging material for the body of the diseased.

Two different contexts of the textile artifacts

The textiles of Sechín Bajo can be organized in two completely different groups. The first one contains textiles belonging to the building construction. The second one includes all the textile artifacts that came from the burials. Until now it seems that the two groups must be dated in a completely different manner. The age of the textiles from the construction is determined by the age of the exact position and stages of the construction itself, that is, the place where the textiles were excavated. Meanwhile, the objects in context of the building structures are as old as the last sequence of the building.

At this point it is only certain that a long period of time must have passed between the first and the last activities done on the building (or the ones done in the ritual context when the textiles were embedded).

This fundamental distinction of the archaeological textile objects must be clarified for the purpose of a better understanding of the results of the evaluation of the research database. Also, the volumes of these two groups are considerably different. The group connected to the construction is made up of very few, remarkably small fragments, whereas the other group, the group of the textiles from the burials, is significantly bigger. It is worth mentioning at this point that that the size of the fragments from the second group is not much larger than the fragments in first one. The difference results from the circumstances of preservation and the reasons for it also vary in both cases.

The building construction has been left behind in a planned and organized manner, so the structure was evidently cleaned up and there was no intention of leaving any objects behind. Therefore, it is possible that the few small textile fragments found are more or less only accidental remnants from that time, whereas the small size of the textile artifacts from the graves is due to the conditions inside the tombs. Although the climate in Sechín Bajo is dry, as it is along the whole Peruvian Coast, even a little bit of moisture can cause intensive decay of textiles. There are more textile remnants left from the graves of children than adults. This can be ascribed to the size of the body. Not mummified bodies but bones of complete skeleton were mostly found in the graves.¹⁰ The decaying body produced so much fluid that the textiles fell apart and this happened more in the tombs of adults.

8. Peter Fuchs and Renate Patzschke, personal communication

9. I appreciate Peter Fuchs supplying this information.

Jahr	Kisten-nr.	Nummer	jeir	Cuadri-cula	Area	Corte	Name des Objektes	Länge, cm	Breite	Material1	Farbe1	Material2	Farbe2	Material3	Farbe3	Faden- aufbau1/ Kette	Faden- aufbau2/ Schuss	Faden- aufbau3
2000		6.5B-/240c		13g		4 Aus dem Verst	Gewebef	8	5,5	BW	Braunbeig, RAL 1013					Zwimbinc 2/25	2/25	
2000		6.5B-/240e		13g		4 Versturz im Ho	Gewebef	8	2	BW	Nussbraun 8011					Zwimbinc 2/25	2/25	
2000		6.5B-/245b		13g		4 aus Hofverfüll	Gewebef	6	3,5	BW	Nussbraun 8011					Zwimbinc 2/25	2/25	
2000		6.5B-/273b-1-2		14g		4 Versturz, Wand?	Gewebe	8	7	BW	Nussbraun 8011					Zwimbinc 2/25	5/22	
2005		1.5B-/874		17k-l		6 50-70 cm	Gewebef	8	6	BW	Kastanienbraun 8015					Zwimbinc 2/25	2/25	
2005		5B64/878		17l	6A	70 cm	Gewebef	4	3	BW	Beige Braun 8024					Zwimbinc nicht erken	nicht erkennbar	
2007/8		33.5B-/2675		7-8f		13 Versturz	Gewebef	25	8	BW	Gelborang BW		Orangenbraun 8023			Zwimbinc 2/25	2/25	
2007/8		33.5B-/3014		1-3f-i		11 Versturz	Gewebef	11	10	BW	Perlweiß 1013					Zwimbinc 5/22	2/25	
2007/8		33.5B-/3015d		1-3f-i		11 Versturz	Gewebef	6	4	BW	Grauweiß 9002					Zwimbinc 5/22	5/22	
2012		7.5B425/3625b		3f-h		14 Verfüllung	Gewebef	11	5	Pflanzentf	Nussbraun BW		Braunbeige 1011			Zwimbinc 2/25	2/25	
2013		7.5B425/3702		2-3g		14 Grava-Verfüll	Gewebef	7	1,5	BW	Tiefschwarz 9005					Zwimbinc 2/25	2/25	
2012		7.5B425/3891		3h		14 Verfüllung, Ho	Gewebef	6	4	BW, rein	Beige 1001					Zwimbinc 2/25	5/22	
2012		7.5B426/3930		4g-h		14 Geröllschüttu	Gewebef	4	2,5	BW??, mil	Schwarzbraun 8023					Zwimbinc 2/25	5/22	
		5B426/3932		4g-h		14 Geröllschüttu	Gewebefragment									Zwim? Dreher?		
2012		7.5B425/4004		4h		14 Grava-Verfüll	Gewebef	12	8	BW	Schwarzbraun 8023					Zwimbinc 2/25	5/22	
2012		7.5B425/4017		4g		14 Grava-Verfüll	Gewebef	12	3	BW	Tiefschwarz 9005					Zwimbinc 2/25	5/22	
2012		7.5B425/4024		4h		14 Grava-Verfüll	Gewebef	16	4	BW	Tiefschwarz 9005					Zwimbinc 2/25	5/22	
2012		7.5B425/4080b		4g-h		14 Grava-Verfüll	Gewebef	10	5	BW	Schwarzbraun 8023					Zwimbinc 2/25	5/22	
2012		7.5B425/4300		3-5g-h		14 Grava-Verfüll	Gewebef	17	17	BW	Beige Braun 8024					Zwimbinc 5/22	2/25 (feinere Schuss)	
2012		7.5B425/4342a		3-4g-h		14 Grava-Verfüll	Gewebef	10	4	BW, rein	Beige Braun, BW		Beige 1001			Zwimbinc 2/25	2/25	
2012		5B423/4441, i	Piso/ Estrich			14 Estrich Hof 1/1	Gewebef	ca. 15	15 cm	BW + Pfla	Graubeige 1019					Zwimbinc 2/25	2/25	

Figure 4. Section of the table for documentation. Graphic: author.

Excavation and protection of the textile objects

Immediately after the excavation, the textiles were, at least partially, immersed in tap water, dried, and bagged.¹¹ Some larger textiles fragments that could be laid out were placed on a piece of cardboard, which was sometimes covered with a fleece cotton fabric. Many of the fragments are, however, only smaller or bigger lumps of fiber. These, as well as other three-dimensional objects which could not be flattened, were bagged and thus protected. The objects were stored in plastic boxes kept mostly dust free in sealed, transparent, and labeled bags. They were protected from vermin with the use of the moth and bug repellent: *naphthalene*. The boxes were stacked in a small building created especially for this purpose where textiles were stored on shelves.

Documentation

To present the gathered data a data sheet was created. The numbers of each item listed on this data sheet refer to the time and place and are listed with the *cuadrícula*, the quadrant where the excavation of the object took place. The numbering allows the findings to be assigned to the site with certainty and was later used in the creation of the list of objects incorporated in the graphic shown (Fig. 4). The following data was collected:

- year (the date of the finding)
- number (evidence) Sechín Bajo
- the place of the finding -more precise data: *cuadrícula*
- cut: *area*
- layer; the depth of the object

- size
- form category / item (however, naming is often not possible, since only a little fragment was preserved)
- material and color or colors
- technique
- yarn – spinning direction (S- or Z-rotation)
- thread count of warp and weft
- selvages (warp or weft edge; top/bottom)

While the investigation and the analysis of the facts from the study is not completely finished yet, some results seem to be definite. Some of them will be presented here

1 The Early Textiles

The fragments of the Early Textiles are, without exception, so very small that identification of any motif is impossible and only in very few cases periodical or continuous decoration is recognizable. Only enlargements can make those details visible at all.

Sometimes one finding consists of more fragments of different quality and techniques. For instance a cluster of small fragments from a secured context of the construction, presented the techniques of twining, looping and plain weaving (Fig. 5).¹² Also, remnants of a chunk of clay with cotton yarn belong to the textile finds. Such examples come predominantly from the construction and from the landfills.

Twining

The textiles located in Sechín Bajo exhibited different kinds of textile techniques. Comparing to other formative excavations reporting on textile techniques, twined and looped fragments are the most important examples (Fig. 5).

10. Many thanks for this kind information from the physical anthropologist Dr. Bernd Trautmann.

11. Peter Fuchs and Renate Patzschke, personal communication

12. All textile photos were made by the author and are a part of the documentation.

Figure 5. SB-/240a-d; a small sample of fragments from the context of the construction

Twining is a non-loom technique. Originally only the weft elements were flexible, the elements of the warp direction were stiff plant elements, totora reed stripes or straw-like *junco* reed, fixed by the weft parallel next to each other.¹³ In its basic form each vertical warp element is held in place by a pair of twisted horizontal weft threads. “The term *twining* indicates that the weft yarns twine or turn about the warps, instead of interlacing or interweaving.”¹⁴ Particularly impressive is the fact that not only one kind of twining technique but more variants are represented among the examples produced with this technique. Twined textiles show variations with different kind of grouping of the warps and different directions of twining. Differences of plain twining are based on the handling of the warps: they are single or paired. Two fragments are examples for the category of twined textiles with paired parallel warp, Bird named this group “plain twining” (Fig. 6).¹⁵

Another example has similar paired warps but the direction of the twining by the wefts alternates. The item with the number SB-/273 can provide a better image of the structure of plain twining with paired warps (Fig. 7). There are also examples for the use of the opposite direction of the twining, different patterning and motive design.¹⁶ Gloria Olivera Alegre explains a special version of twining

Figure 6. Plain twining with paired warps; fragment SB-/2675

from “precerámico de Paraíso I, Huacho”. She describes it: “La preferencia por los hilos de urdimbre con retorsiones distintas da origen a los aspectos de “V” o ZIGZAG en el tejido”.¹⁷ Another example from the group of the twined textiles of Sechín Bajo has the same appearance and was made on the same way (Fig. 5, bottom right).

Comparison with other sites of the Pre-Ceramic Period

The textile fragments from the Late Pre-Ceramic Period from Sechín Bajo are so tiny, that it is difficult to interpret their role or their use. For that reason I decided to compare them with the textile finds in other preceramic archaeological sites hoping for more insight. The site reports for additional materials from the Late Pre-Ceramic and Initial Ceramic Context, especially for textiles, make a comparison possible. The most important result of the evaluation of these Early

13. Grieder, 1988, 154

14. Bird et al., 1985, 112

15. Bird et al., 1985, 146

16. Variations of twining techniques see Bird, 1985, 112 and 114, Table 11

17. Precerámico de Paraíso I, Sitio 50, Huacho. Olivera Alegre, 2006, 107f, Fig. 17

Figure 7. Plain twining with paired warps and wefts with alternate direction; fragment SB-/273a

Textiles of Sechín Bajo is the fact that all of them are comparable with other archaeological textile artifacts found earlier and published in corresponding reports. This comparison shows that these kinds of textiles existed in a bigger area and through a longer period of time in the Pre-Ceramic Period. Following well-known preceramic sites were chosen for the comparison: Huaca Prieta in the valley of the Chicama, La Galgada on the Tablachacha tributary of the Santa River, and Salinas de Chao near the coast north of Casma, where Gloria Olivera made a special investigation of the textiles.

Materials of the oldest textile example

The preceramic textiles of Sechín Bajo have been made mainly from cotton and sometimes also cotton was mixed with plant fibers, a kind of bast. Among all the textile

Figure 8. Mixed plant fibers of the oldest twined textile of the site: cotton and bast; SB425/3625

findings in the context of the construction the oldest textile object is the fragment SB425/3625 (Fig. 8). This piece has been dated after the layer where it was found and the context of it is presumably not preceramic.¹⁸ This means that none of the textile items can be considered as a real “pre-ceramic textile” and that this oldest example made from the blend of cotton and plant fiber is not definitely a pre-ceramic product. This piece of information that came from the process of the excavation is of great significance, since this quality of mixed cotton is thought to be older than the examples of pure cotton fibre.

This textile was also produced with the technique of twining. It is the only one from Sechín Bajo where the fibres of the cotton were still mixed with plant fibers, a kind of bast still not identified. Such a combination of plant fiber and cotton was also discovered by Junius B. Bird in Huaca Prieta.¹⁹ These plant fibers are also not identified. Due to the very few examples of the Sechín Bajo Early Textiles a thorough comparison of the material and yarn quality was not possible.²⁰ This oldest example is the only one with a spot of red, which is probably a pigment.²¹

Decorated textiles of the Pre-Ceramic Period

Junius B. Bird excavated several textile artifacts where the use of the transposed warps was used for making decorative effects.²² “The technology of the construction is highly

18. Peter Fuchs, personal information

19. Bird et al., 1985, 103f

20. Similar vegetal or bast fibers from La Galgada and from Huaca Prieta have been examined by botanists. Nor the investigation of the team of Grieder nor of Bird yielded any results (Grieder, 1988, 154 and Bird et al., 1985, 103).

21. See also Bird et al., 1985, 143

22. For transposed-warp see also Bird et. al, 1985, 115

Figure 9. Holes in twined textile with crossed warps; SB425/4342a

significant, for it was used to create patterns and designs which are the earliest known art in American textiles.”²³ In a piece from Sechín Bajo another kind of decor made with the technique of transposed and crossed warps was found. A regular row of small holes was created, probably for a special purpose (Fig. 9).

In the iconography of Chavín, the main figures that appear (“el lanzón”, Tello-obelisk, Stele-Raimondi) were probably those of the Pantheon gods. They were accompanied by some different zoomorphic figures. One of them is a condor. It could be one of the oldest figures, which appeared already around 2000 BC – a fact we know from a cotton textile fragment from the excavation of Huaca Prieta. Here, directly at the coast, the figurative twined textile with the motive of the condor was found. As already mentioned at Sechín Bajo all twined textile fragments were small and behind the regular alternating transposed warps it was not possible to identify

a motif. However one fragment has a possible motif. From the group of the Early Textiles, the fragment SB 425/4017 is the most complex, and the only one with a probable design. This fragment is still too small to see any part of the possible motif, but its existence becomes clear through its comparison with the work and one description of Milica D. Skinner.²⁴ Because the description of this fragment from Sechín Bajo could be very similar, this suggests that a creation of a design was also intended (Fig. 10). The intense black color has here obviously an important role in the creation this piece. The fact that elaborate art was produced in a Pre-Ceramic context is not surprising in view of the evidence from Huaca Prieta, recorded already by Junius B. Bird in 1946²⁵, “... the twining represents the largest group of textiles”.²⁶

Colors

Important aspect of decoration is color. In the small textile sample from the construction at Sechín Bajo the range of cream-beige-tan is dominant, most of which is natural undyed cotton. The usage of the intense black color is a fact at Sechín Bajo. There are also some fragments made of threads dyed bluish black. The dye may have been indigo, and an analysis is in the works. The only fragment with a motif, mentioned above, also has this kind of black. To emphasize the role of the black color at Sechín Bajo the sample is too small. Evidence for the use of black dyed threads together with natural tan threads has been also found. Red was also noticed during the excavation. Later, when they were studied, this color could no longer be seen, but differences in the quality of the yarns indicated that some of the yarns were dyed before weaving. “It appears that a considerable range of dye colors was known at La Galgada and its trading connections before 2000 B.C.”²⁷

Nets

Two types of net are presented here. One small fragment from the context of the construction is a net made of cotton with the looping technique (Fig. 5, top right). Because of its tiny size, no definition of its function is possible. It has a sturdy edge and it is probably the main reason that exactly this part of these nets survived.²⁸ This is different in regard to another net object (SB-/2857); it is bigger and almost

23. Bird et al., 1985, 146

24. Milica D. Skinner describes the textile with the design of the “Spread-Winged Male Condor with Snake in Stomach” and this leads to my understanding of the technique: “Twining, Z, paired warps, zigzag warps with occasional diamonds – upper warps remain on top except when angle of zigzag is changed.” (Bird et al., 1985, 161f and 164f, Figs. 109-111)

25. It was published later by John Hyslop and Milica D. Skinner in 1985.

26. see also Table 10 (Bird et al., 1985, 113)

27. Grieder, 1988, 181. Colors and dyes through the Pre-Ceramic Period and their analysis are described also: Bird et al., 1985, 142f

28. Olivera Alegre, 2006, 63, Foto 24

Figure 10. Design with transposed wefts. Fragment of a twined textile; SB425/4017

identical to the “junco bag” from Huaca Prieta. It is also made out of *junco*.²⁹ The structures of the bags are similar: first a ring is formed and the strands are attached around it. They are linked and twisted into each other and form a flexible bag (Fig. 11).³⁰ The “junco bag” from Huaca Prieta was already 1994 mentioned by Katterman, she compared it with a looped network fragment from Hacha.³¹ Some other net-like textiles that belong to this group are mostly closely related to pieces from other pre-ceramic sites such as Huaca Prieta, Salinas de Chao, or La Galgada.

Plain weave

The type of rich decorated looped cloths, like the textile sample at La Galgada, is not represented in Sechín Bajo.³² As mentioned before, the construction was cleaned before it was abandoned and probably that is the reason that only some tiny fragments have been excavated. The only textile object left behind presumably as a whole item is a big plain-weave cloth. The dates of the stratigraphy indicate that this is the second oldest textile found from the building construction. This object is also damaged and consists of many fragments but, with its measurements, it is by far the largest textile artifact found. The piece is approximately 2.5 or 3 square meters in size. Some fragments of seams made

with accurate stitches demonstrate that this big cloth consists of more pieces. It was probably used in the entrance in lieu of a door or part of a room decoration. It was found on the clean floor of the Structure 3.³³ This piece is woven of natural light tan cotton, the warp threads are plied more tightly than the weft threads (both S-plied 2Z), the thread count of the warp is 4 / cm and of the weft 3 / cm. Some other smaller pieces of similar quality were also found but in another part of the building.

Distribution of the techniques of the Early Textiles

The diagram shows the distribution of the techniques of the Early Textiles in percentage. The biggest part was the technique of twining, 45 %. Plain weave was almost identical, 41 %; (several times with paired warp or weft, or both). The smallest group contains the nets or net-like objects, such as knotted nets, looping, and linking (Fig. 12).

2 The Late Textiles

All textiles that did not belong to the construction came from the graves. A great part of them clearly originated from one particular grave, which could be seen on the numbers

29. Junco is the common name of a group of gras-like plants on the Peruvian coast includes the sedges, *Cyperus* and *Scirpus*. Their leaves and stems provide valuable raw material. *Typha* has been reported from the coastal valleys. (Grieder, 1988, 148)

30. Bird et al., 1985, 199, Fig. 143.

31. Katterman, 1994, 40f, Fig. 2.

32. Grieder, 1988, 166f

33. Many thanks for the kind information from Renate Patzschke.

Figure 11. A junco bag, fragment; SB-/2857

assigned to these artifacts. In case of many other textile findings, specific grave assignment is not possible due to the destruction that the burial sites have suffered.

What should be mentioned here is that the graves were found during the archaeological excavations in the Complex and not searched for explicitly. These graves were found mostly above the walls and were recorded on the site map. The accumulation sequence in these quadrants (*quadriculas*) is clear. No remains of a Christian Cemetery of early Colonial Period were found in Casma or around it. Also, no written sources suggesting the existence of one were discovered there.

Condition and general description of the textile finds from the graves

Among the 140 excavated burials were many more children burials (younger than 15 years old) than adults. Less than

Figure 12. Diagram of the distribution of the textile techniques from the context of the construction

one third (31 %) of all burials were adults.³⁴ The majority of the findings from the tombs are small or tiny fragments of textiles. This is due to the conditions under which the items remained for centuries and is true of the general descriptions of many other archaeological excavations. The acidic, damp environment affects the yarns and triggers chemical reactions with the fibers, causing the cloth (entirely or partly) to disintegrate. This decay is not uniform; depending on their placement in the grave, the textiles were exposed to the destructive moisture differently causing different long-term changes to the woven fabric. The percentage of fragmentation can be accredited to the changing conditions of the preservation for centuries.

Furthermore, the textiles suffered during the excavation; they had tears or even fell apart. We were able to preserve the parts of the fabrics which were less affected by the destructive effects of the decomposition process. Only in a few cases can we talk of a fully preserved artifact. We also documented some cloths which were fairly well preserved. The children's graves were found in general better preserved than those of adults. One of the best preserved burials belongs to a child. This burial, No. 48, is presented in the following section.

Burial 48

The bundle of the burial 48 (SB222/2101) is special since it is one of the very few that was preserved in very good condition and its contents could be examined as a whole. The bundle belonged to a body of a female child approximately 3 or 4 years old (Fig. 13). Apart from the bones of the child the bundle consisted completely and only of textiles. The list of the textile artifacts could here serve as the basis for comparison with other burials.

The child was dressed in an elaborately decorated shirt, made of a cotton gauze fabric additionally decorated with stripes woven of valuable raw material (dyed camelid hair). Moreover, a yarn from red camelid hair was wrapped around the fingers of the child. Such burial rituals were common. The bundle of the child contained two more shirts. These differ from each other: the smallest one (possibly worn by the child as newborn baby) is simple but practical. It is a loose plain weave shirt made of over-spun cotton yarn which gives it elasticity, softness, and makes it absorbent. The second shirt is also a cotton gauze fabric shirt but the stripes are simpler and made of cotton.

Wrapping

Two striped cloths were used to wrap the body. Finding borders and selvages was of utmost importance during the process of unwrapping (Fig. 14 - 15). Two woven cotton fabrics, both decorated with stripes (dyed cotton warp stripes of warp face plain weave), covered the body of the child, which was wrapped first in the smaller shirt and after that in a bigger one. In order to achieve the required width of the cloth, two identical pieces were sewn together. The seam was sewn with a regular and solid stitch. For the wrapping, two such cloths are used, the first one was laid across on the second one, most likely to enhance the stability. The largest part of the recovered fabrics was in general used as burial cloths to wrap bodies. The direction of the path of the threads was chosen precisely to achieve the desired shape – either diagonal or straight. Due to the development of moisture during decomposition with subsequent drying out inside the grave, this diagonal thread path became hardened and kept its position preserved.

Garments: three shirts

A red string of camelid hair was wrapped around the fingers before the burial. The left forearm had a red bracelet also made of a red dyed camelid hair cord (Fig. 16). The child wore it most likely for a while before the death. The bundle included three cotton shirts, each in a different size. The child was dressed in the biggest one for the burial. The other two of pure cotton were placed next to the child (Fig. 17). It looked as if the body was rested on the smallest of the shirts. This smallest one was damaged the most. It was identified as a shirt only from the side-seams and the opening of the sleeves. The sizes of the shirts are as follows: 45 x 49 cm (biggest), 52 x 34 cm (middle), and 40 x 35-38 cm (small). The middle shirt is visibly narrower but also longer than the biggest shirt. The reason for this could be because of the specific development of babies: newborn, infant and toddler. A long shirt is not favorable if a child crawls around and learns to walk.

The two bigger shirts are almost entirely preserved. The technique of gauze weaving is clearly visible. Also, the decoration is clear and hardly damaged. The whole front side of the biggest shirt is covered with a complex motif. It was made with a combination of plain weave and gauze (Fig. 18). The front and the back were sewn together. The front side of the middle shirt is decorated with a horizontal checkerboard stripe, which was also made with a combination of

34. The demographic analysis of the tombs was performed by the physical anthropologist Dr. Bernd Trautmann. There are some methods to define the sex in early infancy; with their combined implementation an approach is possible but the result has to be interpreted carefully. Many thanks for his kind information.

Figure 13. Burial Nr. 48 (SB222/2101) of a female child (3-4 year old)

Figure 14. Unwrapping: Burial Nr. 48

Figure 15. Unwrapping: three layers of textiles; Burial Nr. 48

Figure 16. Bracelet and red yarn; Burial Nr. 48

the plain weave and gauze weave (Fig. 19). Both shirts were made of one piece, the warps run vertical. The shoulder part and the neck slit are created in the same way on both shirts – the big shirt and the middle one. To create the neck slit the warps were separated in the middle then the shoulder part was woven. A common phenomenon of both shirts is that a thick horizontal stripe under the neck slit protects it from tear. The stripe of the middle shirt is simple, two thick multiplied cotton weft yarns are woven across the whole width (Fig. 20). For the bigger shirt was this line embroidered with cotton yarns in two different shades of nature cotton (Fig. 21). The difference between the decorated front stripes of both shirts is that the decoration of the big shirt is more complete. Between two red stripes (weft-faced plain weave with red dyed camelid weft yarn) is a third one composed of a repeated small motif made of yellow dyed camelid fiber yarns (supplementary weft). Summarizing the documented facts of these shirts it seems that the child was dressed appropriate to its age and the decorations of the shirts became more complete.

Figure 17. The big and the middle shirt; Burial Nr. 48

Figure 18. The front of the big shirt; Burial Nr. 48

Other burials

In the following different kind of textile fragments of more burials are discussed. These consist of fragments of presumably decorated shirt or shirts and some different kind of plain weave and striped textiles as the covering or the wrapping.

The list of fragments of other (presumably) shirts:

- Burial 102 (SB352/2901) of a 2-4 years old boy (Fig. 22)
- Burial 125 (SB447/3738) of a 3-4 years old boy (Fig. 23), Detail of the shirt (Fig. 24)
- Burial 7 (SB64/876) 6 months old child (Fig. 25)
- Unidentified burial (SB-/2280a-d), presumably fragment of a shirt and fragments of a striped wrapping cloth (Fig. 26)
- Unidentified burial (SB426/3932), small fragment of a shirt (Fig. 27)

All fragments mentioned above belong presumably to the shoulder part of shirts made for children. These textile

fragments were identified on the base of the burial 48. Shirts with this kind of design for neck split and shoulder are until now not known and to find similar examples in museums and collections will be an interesting endeavour. The fact that the shirts belonged to children should make us cautious and consider that this design was used exclusively for children shirts. The decorative stripe has an important role, like a strong band that does not let the neck split to tear. These stripes have different designs, and are not always made from dyed yarns (Figs. 20-21-22). All dyed yarns are camelid fiber. Among all burial textiles the use of cotton is predominant; camelid fiber was used in general only for decoration.

Camelid hair

Camelid hair was found only during the later phase at the site; yarns made from camelid hair were found only in the context of the tombs. Only very few individual objects made exclusively from camelid hair were found. The camelid hair either had a natural solid darker color or was dyed. Only in one finely woven net camelid hair was used exclusively. It

Figure 19. Combination of gauze and plain weave- technique of the middle shirts; Burial Nr. 48

Figure 20. Shoulder part of the middle shirt; Burial Nr. 48

Figure 21. Shoulder part of the big shirt, decorated stripe with yellow and red wefts; Burial Nr. 48

Figure 22. Fragment of a shirt (SB352/2901); Burial Nr. 102 (2-4 year old boy)

Figure 23. Fragments of a shirt (SB447/3735a-b); Burial Nr. 125 (3-4 year old boy)

has a recognizable very dark blue color. The fine quality of the knotted net implies a decorative item, presumably a hair net, and less an object of use such as a fish net.

Summary

The early textiles of Sechín Bajo were produced with the same textile techniques as other examples excavated at other Pre-Ceramic sites at the North Coast, such as Huaca Prieta, La Galgada, and Salinas de Chao. This gives evidence that the same kind of textile production was practiced contemporaneously in an expanded area and makes us presume that the geographical conditions allowed these centers to be connected.

The small size of the excavated fragments is characteristic

Figure 24. Detail of a shirt (SB447/3735); Burial Nr. 125

not only for Sechín Bajo. At the archaeological site of Salinas de Chao the situation is similar but the presented fragments are more complete and sometimes have a sturdy edge, and so give more information. Gloria Olivera listed the Pre-Ceramic textile techniques as follow: looping, linking, knotting, twining and plain weave.³⁵ All these kind of textile techniques are to be found in Sechín Bajo too.

All the Sechín Bajo textiles from the context of the construction presented here belong to the third, and last of the building phases.³⁶

The comparison of the Early Textiles of Sechín Bajo along with the textiles of the other Pre-Ceramic sites demonstrates that before the new textile technique of plain weave was introduced, the textile technique of twining had already been practiced at a very sophisticated level. Also all the technical possibilities of ornamentation and design of motifs were utilized. When examining the little fragments, it is clearly visible that the pieces were made elaborately. However, the effect of the fine and subtle play of yarns can only be appreciated on a wider surface. The results of this investigation show that all Pre-Ceramic textile techniques and near all versions of the twining-technique known from the sites of Huaca Prieta, La Galgada, and Salinas de Chao, were also present in Sechín Bajo at about the same time.

The investigation of the techniques of the building construction of Sechín Bajo and the later built Cerro Sechín shows, apart from the changing of the construction form, the development of the production of the clay brick.³⁷ The simple platform that was still built in the first phase of

35. Olivera Alegre, 2006, 28f

36. Actual evaluation can bring more differentiated results.

37. Fuchs, P., R. Patzschke, 2012, 90

Figure 25. Small fragments (SB64/876); Burial Nr. 7 (ca. 6 months old baby)

Figure 26. Fragment of a shirt with different other fragments from a presumable burial (SB-/2280a-d)

Figure 27. Fragment of a shirt (SB426/3932), from a presumable burial

Sechín Bajo was substituted in Cerro Sechín by a stepped platform and the new conical form for the clay bricks introduced. This development took place simultaneously with the shift of the proportion between the techniques of twining, interlacing and weaving.

The portion of the textiles made with twining decreased while the plain weave textiles gained popularity. This development correlated directly with the decreasing amount of cotton fiber. The technique of the twining did not disappear but continued being used for making mats. The quality of cotton fiber provides a different quality, compared to bast fiber. The changing of the raw material, from bast fiber into cotton, not only allowed but simply required new technologies, and this was a long process.³⁸ Much more study is required in order to document this change more precisely. At the moment, the time line of the process cannot be set since not enough documented dates are available. It could prove helpful, however, to observe the parallel technological changes in different domains like building construction,

ceramic and textile production.

This article is based on the documentation, investigation, and on the evaluation of the dates gathered from the excavated textile material of Sechín Bajo. The aim of the author was to present two small parts of this sample, which are well defined and create distinguishable groups. Some clear and convincing conclusions were reached. The investigation and the evaluation of the whole material are still in progress. The intention with this article is to convey an impression of the finding and to introduce them as a mosaic of the history of the Pre-Columbian textiles.

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38. Woven textiles with twined warp end finish were excavated by Grieder at La Galgada and by Bird at Huaca Prieta. (Bird et al., 1985, 192, Fig. 137; Grieder, 1988, 159)

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