

Lithic net weights: subsistence and strategic uses of space at the El Porvenir site, in Colombia

Abstract

The following article presents some of the findings associated with the site of El Porvenir, in the department of Cesar, in the northern region of Colombia. It presents some of the subsistence strategies and possible uses of space of the ancient inhabitants of the site, based on the evidence of fishing activities, which reveal the establishment of social relations associated with aquatory, symbolic constructions in aquatic spaces, and the establishment of a social network associated with the use of the site.

Keywords: aquatory, net weights, uses of space, subsistence strategies, ethnoarchaeology

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Introduction

Fishing: A group of men and women walk under the scorching sun of a savannah, attentive to the distant village on the horizon. They have been walking for hours, and although they look tired, they carry with them the load of fish they went to look for days before. It has been a successful task, and not even the sun and the heat that characterize the territory they inhabit, can erase from their faces the laughter they carry as evidence of the gift their nets gave them.

Days before leaving, while planning their work, some went in search of the coveted tree that hundreds of years later others would call “Majagua”. It is a large and leafy tree from which the bark can be stripped off and, when hit with a wood, it releases fibrous threads with which it is possible to make fabrics, including different fishing nets. The women, for their part, scoured the savannah and the bed of a stream in search of flattened rocks, river pebbles, which they would then take to the village to “covarlas”, that is, to carve a kind of lateral notches that allow tying the fibers of the nets, so that, when thrown, these can sink in the water and, before the rapid dragging, catch whatever was left inside the net.

Their technique is different from those of their neighbors who live near the beaches, and with whom they have come across and perhaps exchanged raw materials, polished axes or food. Theirs are more sedentary forms of fishing, with wider nets, which require larger and heavier weights, because they are located in the sea and the animals are faster. Fishing in the river is different. They require lighter nets, smaller weights and greater agility in the laying and dragging of fabrics, but in their case, inhabitants of an enormous plain between two mountain ranges, it is much more useful, since they are constantly moving towards the nearest rivers, which are, on the one hand, a source of water and food, and on the other, of lithic raw materials useful for their tools, and of clays and sands, fundamental for their ceramics.

The women carry fish tied in majagua fibers; a man carries the net, from which hang flattened rocks, ballast; another carries a backpack-like fabric in which he carries what is left of the provisions. It is hot, but they do not slow down. The village of huts in the form of circular drums, the smoke coming out of the stoves, the skins stretched out in the sun, come closer and closer. As they approach, they spot a group of children who have seen them in the distance and are waiting for them. They run to greet them in a hullabaloo as they wave. Indeed, the children are waiting to hear the story of the river, of how the riverbed was and which of the fishermen caught the most fish, of how they wove the nets, of how they waited in the canoe or on the banks

until they knew when to cast the net. After all, they may be fishermen later, and isn't the story a way of passing on knowledge from one generation to the next?

The context of the story: The above story is a fictionalized way of hypothesizing the spatial and technical relationships of the ancient inhabitants of the site of El Porvenir, in the municipality of La Paz, in the department of Cesar, in the northern region of Colombia, in the coordinates X:4976773, Y: 2703848,4555, MAGNA SIRGAS. Fishermen returning to their community after a long journey and carrying with them the fruits of their catch can show in a didactic way how the materials found in the archaeological excavations could have been used. However, although the material record of the culture is evidence that indeed in the area associated with the El Porvenir site, human groups inhabited and developed the logic of their lives, what is really important is that this materiality, together with the traces imprinted in the landscape and the evidence of specific cultural activities, attest to contexts that have to be interpreted beyond the inventory of rocks and ceramics (Figure 1).



Figure 1 Geographical location of the El Porvenir site, municipality of La Paz, Cesar, Colombia. Courtesy of Ana Milena Londoño.

Such inventories are important in that they allow us to locate the materials in technological traditions and perhaps bring us a little closer to specific cultural manifestations, but they can tell us nothing if they are not interpreted in relation to the spaces and resources to which the ancient settlers could have had access. In this order of ideas, it is not enough to make descriptions of a materiality in itself, because we could be redundant in objects for objects, and we would be stuck in the dilemma of matter.¹

This is why the story invites a contextual view of the materiality, that is, one that allows observing the totality of the environments of signification,² which refer to the relationships that contribute to unveil the meanings of the objects. Such a discovery does not take place in the object itself, but rather in the interaction between object, space and time, that is to say, a kind of framework without which no interpretation would be possible. But it is necessary to start from the idea of the framework of which Ian Hodder³ speaks in order to explain his contextual archaeology, on which the discipline is based and which departs from the work of antiquarians or collectors. Thus, the context interweaves and connects, weaves things into concrete situations or sets of situations, which allows material culture to be meaningful.

In this way, the group of fishermen walking through a savanna, carrying nets, fishing, and encountering a village of houses in the form of circular drums, expose a context in which textiles, rocks selected for net weights, housing structures, food, etc., actors evident in the excavations at the site of El Porvenir, are all found. The story, which might seem a whim of the archaeologist who writes, is a way to understand the relationships between people, spaces and objects, relationships that ultimately allow us to perceive objects and their meanings.

The material record of culture is, in this order of ideas, a text. In this sense, we wanted to read the story behind the net weights found at the site of El Porvenir, in the municipality of La Paz, Cesar, for which we will try to clarify the contextual relationships they have with the spaces and other materialities. We will make a description of these objects in relation to samples found in other contexts, and then describe the use of ballasts in an ethnographic reality. With respect to ethnographic observations, these are not intended to assume that the processes of prehistory are the same or that they literally explain the relationships of the past, but they do allow us to elucidate technological attitudes in current human groups that would facilitate the interpretation of past contexts.

Methods and findings

In the areas surrounding the El Porvenir site, we observed a geomorphological unit in which prehistoric cultural material is found on the surface. It is a platform of alluvial origin, with slopes between 10 and 20°, with rock formations on the surface and silty-sandy material resulting from wind and alluvial activity. The general area of the platform is 178,736m² and is crossed by a road that connects the urban center of the municipality of La Paz with the village (Figure 2).

The exposed material, found in large quantities scattered throughout the unit, would indicate the presence of people from the past throughout the area, so we decided to conduct a survey through a systematic reconnaissance that would allow us to identify concentrations of cultural material, in search of the interpretation of a wider study area. For this, the systematic reconnaissance that we carried out sought to understand the dynamics of the settlements and the logics of abandonment of materiality of the past societies related to the site, trying to make a contrast with the information provided

by the Reichel-Dolmatoff in the work carried out in the vicinity of the El Porvenir hacienda, property in which the unit object of our observation is located. Although this lot is not included in the areas proposed in the archaeological management plan, it is part of what we call easement, hence it is important not only the description of the unit itself, but the report of an archaeological context with great potential that continues to be of great interest.



Figure 2 Alluvial plain, El Porvenir, La Paz, Cesar.

For the reconnaissance of this unit, we proposed as a methodological tool the superficial verification of the area by means of walking tours. Thus, due to the vegetation, which in this case is shrubby and arboreal, we selected an initial area that we called systematic reconnaissance area 1, located to the west of the platform, explored in 15 quadrants of 50m², in 5m linear transects in a south-north and north-south direction.



Figure 3 Systematic recognition área.

Among the findings made during the tours we have a large number of ceramic fragments between bodies and diagnostics. Due to the fact that this is an alluvial plain that suffers floods at various times of the year, this material is in a high degree of deterioration; however, the presence of pottery suggests specific activities associated with food processing and preservation, as well as others in which ceramics could play an important role, such as rituals or the establishment of relationships with other groups through exchanges.

With respect to lithic material, we found a large number of flakes in basalt, andesite, chert, quartzite and diorite generally, carving waste and exhausted cores, in addition to grinding and metate hands in supports of intrusive igneous rocks, that is, granular, with clear traces of use associated with friction, pounding and crushing, evidently related to food processing, which supports the idea discussed above with respect to ceramics. In relation to polished artifacts, we located a significant number of axes on basalt supports, with traces of use by pounding. In addition to this, we found plates and macerators, again useful artifacts for the processing of plants and grains.

However, although all these artifacts represent a support for the interpretations of the stratified material, we are much more interested in asking questions about some specific elements found in this survey. These are pebbles 73mm long, 64.8mm wide and 150.6g on average, with lateral notches (covado) and on basalt, granite, microgabbro and chert supports, useful as light trawl weights. The following table clearly describes the individual characteristics of these artifacts (Table 1).

Table 1 Morphological characteristics of El Porvenir net weights

Long (mm)	Width (mm)	Weight (g)	Raw materials	Location of the covado	Form
93	70	214.1	Chert	Deep side	Oval form
58	57	117.9	Granite	Deep side	Oval form
80	72	202.4	Microgabbro	Deep side	Oval form
67	55	94.6	Microgabbro	Deep side	Oval form
67	70	121.3	Basalt	Deep side	Oval form

Regarding the preparation of the supports, the rocks selected for these weights were possibly collected in riverbeds. It is necessary to take into account that the El Porvenir site is located near the Aguas Blancas stream (2 km away), the Pesquería river (5.2 km away) and the Cesar River (10.5 km away), where not only could these materials have been collected, but also different activities such as fishing itself could have been part of the social life of the groups and their symbolic interpretations of the territory in relation to the aquatory (Figure 4).



Figure 4 Disc-shaped weights, EL Porvenir. The detail shows the lateral carvings, useful for tying the fibers.

Likewise, the elaboration of the weights could seem simple, since they only have lateral or transversal notches (covado), made by means of direct percussion, as shown in the photographs. However, the elaboration of these tools goes beyond the apparently expeditious carving. The process of search and selection of the support's attests to a clear technical knowledge and a specific cultural impression, which can bring us closer to the assimilation of concrete knowledge in relation to the access to resources and the use of space. The proximity to water sources would allow us to hypothesize about spatial relationships with rivers as territorial extensions, and from there establish connections with other technologies such as the weaving of nets, the selection of fibers for such work, the recognition of varieties of fish, among others.

The hypotheses I have just described could be supported by some research that shows the presence of net weights in archaeological contexts close to aquatic spaces, as is the case of the site of El Estorbo, in the Gulf of Urabá, explored by Professor Gustavo Santos,⁴ where weights were found on small to medium-sized boulder supports,

generally with percussion cut-outs towards the sides or vertices of the transverse axis of the rocks (which we decided to call Covado, alluding to the concept used in the context of the traditional fishermen of the seatory of Taganga, Magdalena).

According to Santos, the materials used for the weights from the Gulf of Urabá are varied, and materials such as basalt, chert, jasper, quartz and sandstone can be found. He also identifies three average sizes: small (3.8 x 2.8 x 1.2cm), medium (6.5 x 3.8 x 2cm) and large (10.5 x 7.5 x 4cm), which indicates that, as in the case of those from El Porvenir, they are weights for light trawls.

However, in other Colombian contexts there has not been much discussion about weights as evidence of the relationship of prehistoric people with aquatory or seatory. They have been exposed in sites associated to Tumaco-La Tolita,⁵ while Norton, Lunis, & others⁶ register weights in relation to the manteña phase of the Salango site, already in Ecuador, in addition to those exposed by Iglesias Aliaga & Gutiérrez Usillos,⁷ of the Atacames type, also in the Ecuadorian context. In Argentine sites such as those of the San Matías Gulf, in Río Negro, professors Scartascini & Cardillo⁸ show evidence of pebbles with lateral notches, flat section and oval or sub-oval contours, interpreted as lithic weights. Meanwhile, Torres E⁹ analyzes the sets of net weights collected in early and late Patagonian canoe sites in Chile, which have been identified through ethnographic sources, and which could be associated with terrestrial hunting groups, for whom the use of nets for fishing has been reported. For their part, at the Laguna de la Flecha 10 site, in Musters Lake, in Chubut Argentina, Reyes & Peralta G¹⁰ refer net weights as artifacts of two forms: globular with perimeter groove, and flattened boulder with notches on edges.

Beyond this evidence, which facilitates a comparative approach to understand the weights of the site in Cesar, in a collection, the result of a finding in an archaeological practice in the department of Antioquia, at km 68 of the road between the municipalities of Sopetrán and Santa Fe de Antioquia, on an alluvial terrace of the Cauca River, a set of nine net weights were collected that served as references for the interpretation of those of the El Porvenir site. They are, like many of those referenced in other investigations, flattened boulders with lateral or transversal notches carved in an expeditious manner, which allow the tying of fibers (Table 2) (Figure 5).

Table 2 Morphological characteristics of reference net weights, western Antioquia, Colombia

Artifact	Long (mm)	width (mm)	Weight (g)	Raw materials	Location covado	Form
1	64	46	92.8	Granite	Deep lateral/incipient lateral	Oval form
2	74	47	81.2	Basalt	Deep sides	Oval form
3	71	46	67.2	Basalt	Deep sides	Oval form
4	76	45	84.3	Diorite	Deep lateral/incipient lateral	Oval form
5	73	46	53.1	Basalt	Deep sides	Oval form
6	67	36	47.3	Basalt	Deep sides	Oval form
7	57	43	59.3	Microgabbro	Deep sides	Oval form
8	72	51	85.7	Basalt	Deep sides	Oval form
9	73	49	145.8	Granite	Deep sides	Oval form
Average	69.7	4.4	79.6			



Figure 5 Reference net weights. Western Antioquia. In the detail, lateral sizes for fiber tying.

As can be seen in the table, the width, length and weight averages are similar to the weights from the El Porvenir site, as are the shapes and location of the notches or covado. The following photographs show the morphological characteristics of the reference weights. Thus, the materiality shows that the ancient inhabitants of the site of El Porvenir were in a direct relationship with the river sources and took advantage of the resources they provided. The place, then, played an important role because it was not only an extension of land, but it was in direct relation with the ways of life of the people, with the construction of meanings and with the social complexity of the groups that inhabited them. The evidence of net weights, along with other findings such as seeds and mollusk shells collected in the stratigraphic sections, speaks directly of a broad spectrum of economies associated with the territory, food processes, and specific knowledge and techniques.

In morphological terms, the net weights of El Porvenir are of the discoidal type, of medium size, useful for mooring small light trawls, perhaps similar to the funnel-shaped atarrayas, which can be launched into the water from boats such as cayucos or canoes, or from elevated places on the shore. These types of nets open when thrown, and when they come into contact with the water they close due to the effect of gravity, which causes the weights to join quickly and the net catches whatever is inside⁷(Figure 6).



Figure 6 Experimental net weight mooring El Porvenir.

On the other hand, they are far from other weights used in sedentary fishing nets, such as chinchorros or trammel nets, which are usually larger in size, as is the case of those used by traditional fishermen in the village of Taganga, in Magdalena. In this ethnographic context, generally intrusive igneous rocks, mostly granular, found on the

seabed, are used. The processes of collecting and drilling (covado or anchoring) are carried out in ways similar to how they may have been done in the pre-Hispanic past. These two activities, with the modifications of the present, are living legacies of the ancient inhabitants of the region. In the Taganga context, the anchor/covador fisherman carves the rock with the help of a striker by means of water friction, until he drills a hole through which he then passes the net fiber, as illustrated in the following images (Figure 7).



Figure 7 Covado/foundation of rock for net weights. Taganga, Magdalena, Colombia.

Conclusions

We can conclude the ancient settlers of El Porvenir did not drill the rocks, because their relationship with the water sources did not demand sedentary fishing, as it perhaps demanded of their beach-dwelling neighbors. For the preparation of the light trawl weights, the anchorman/covador only had to strike with a striker directly on the support, extracting one or two scrap flakes, thus generating notches that allowed him to tie the fibers. Thus, the design parameters of this tooling required the investment of low energy consumption. However, although this could pose a problem when interpreting the tools,¹¹ given that these are expedient techniques that generate artifacts with arbitrary morphologies, in this case they are the evident result of clear selection and manufacturing processes, exhibiting complex technological knowledge.

These artifacts, as we could see in the work of other archaeologists in different sites of our America and the world, are represented in different coastal areas and with different temporalities,¹¹ but their presence explains much more than fishing activities. In El Porvenir, the weights are an argument of complex interweavings around the search for and production of food. They speak to us of broad-spectrum technologies, especially if we establish contextual relationships with the high number of grinding and metate manos, plates and metates, macerators and seeds, among which taxa of *Arecaceae*, *Graminae* and *Fabaceae* have been identified. Fishing would then be only one of the activities by means of which the people of El Porvenir made a living, but it is of great importance because it reveals spatial and territorial relationships that exhibit cultural complexities and significance.

However, it is essential to recognize that this is a very small sample, which does not allow us to speak of light trawl fishing as a single technique, even though we do not have clear evidence of hooks, harpoons, knives and so on that could be associated with other forms of fishing. However, it is clear that, as a subsistence resource in the savanna, fishing was an important element, and specific knowledge about the light trawl system is evident.

In the case of our research, the ancient fishermen are related to small active fishing nets, which require less energy investment than

coastal fishermen, with larger nets and heavier weights, as in the ethnographic case of the Taganga fishing communities in Magdalena, which require large crews of men and women to prepare anchors, weave nets, dig ballast rocks, lay and pull fishing nets, among others.

Finally, the ballast found at El Porvenir may generate new questions about other technologies: How did they select the fibers for weaving the nets? How were they woven? Did gender play an important role in weaving and fishing activities? Where were the fibers collected for weaving? Were they seasonal fishing operations? Were they large crews? In short, many questions that can be answered with other research in archaeology or ethnohistory, but that will have to be based, if I may, on critical foundations and, moreover, far from simple inventories and reclassifications, which have prevented our discipline from talking about many things that it still has to say.

Ethnographic exercises play an important role in understanding the social attitudes of prehistory because, although people today are different in many ways from those of the past, the human condition persists and cultural dilemmas often have great similarities. The fishermen and fisherwomen of Taganga defend the indigenous techniques they have inherited from their elders, as do the fishermen of the Atrato River in the Chocó who keep techniques learned from the people who preceded them; the net weavers of eastern Antioquia resist the loss of their rivers as aquariums, while struggling to continue subsisting on the fruits of the river. In the end, there are many examples of human groups that could help us contextualize our findings, which, in the end, speak of us, of those of today, of those of yesterday and of those to come.

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Conflicts of interests

Author declares there are no conflicts of interests.

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