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Marika Labash

University of New Hampshire, Durham

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The Geoglyphs of The Atacama Desert: A Bond of Landscape and Mobility

By Marika Labash

In the northern-most area of Chile, stretching six hundred miles down the coast of South America and expanding more than forty thousand square miles into Bolivia, Peru and Argentina lies the Atacama Desert. This massive, barren landscape consists of expansive salt flats, out of which towering volcanoes extend, reaching twenty thousand feet into the sky. The Atacama Desert is known to be the driest desert in the world, with a landscape resembling that of Mars (Vesilind 2003). Despite this extreme and often harsh environment, the Atacama Desert has been home to a diverse population since as early as 10,000 B.P.. Emerging out of a transfusion of The Late Formative Period and the Period of Regional Developments (between 1000 and 1450 A.D.), a new tradition began (Briones 2006) that involved indigenous peoples branding the earth over which they traveled and these impressions remain today. These structures are called “geoglyphs” and embody the most fundamental aspects of archaeological landscape, including feelings of deep attachment to the earth, means of survival, and religious vestiges.



Fig. 1 Dry Riverbed, Punta Chorro, Chile.

Typologies and Techniques

Now, what exactly is a geoglyph? Encyclopedia Britannica defines “rock art” as being “ancient or prehistoric drawing, painting, or similar work on or of stone...includes pictographs (drawings or paintings), petroglyphs (carvings or inscriptions), engravings (incised motifs), petroforms (rocks laid out in patterns), and geoglyphs (ground drawings)” (Promeet 2007:1). In the specific focus of geoglyphs, there are two techniques by which they are created. The “extractive” technique, the more common of the two, involves scraping away the top layer of soil on the hillside, allowing for the soil beneath to create distinguishing designs on the surface. The “additive” process entails gathering materials such as rocks and piling them on the soil surface to create a raised outline (Briones 2006). In the extractive process, the designs will appear lighter than the surrounding soil and in the additive process the designs will appear darker. There is also a third technique that is a complex combination of the additive and extractive processes which allows for a combination of light and dark colored figures (Briones 2006). It is thought that there are as many as 5,000 of these formations atop the deserts of Chile, including geometric, zoomorphic, and anthropomorphic figures. Of the geometric symbols, Briones notes, “many resemble designs on textiles and ceramics, such as circles, concentric circles, circles with dots, rectangles, equal-sided crosses, arrows, simple parallel lines, complex parallel lines, spirals, simple and complex rhombuses” (Briones, 2006, 13). The category of zoomorphic figures includes, “...camelids in pairs or in lines, figures of felines, birds of lakes, sea or land, such as flamingos, seagulls, eagles, rheas, serpents, toads, lizards, foxes, dogs, monkeys and fishes, especially open-sea species like dolphins or sharks” (Briones 2006: 14). Briones describes anthropomorphic figures as being



Fig. 2 The Atacama Giant

related to activities such as hunting, fishing, religion and also some figures show evidence of hierarchical organization (Briones 2006: 16).

Interpretations

Although there is a significant amount of information available on the geoglyphic construction and typology, less is known about the ways in which they may have been used in the past. The most recent research into the purposes of geoglyphs has revealed that many of the figures can be directly related to



Fig. 3 A herd of domestic alpaca

migration routes of the early desert peoples. The term used to describe this movement of people is called “caravan activity” which can be described as groups of people moving along a set route with caravans of early breeds of alpacas and llamas. One piece of empirical evidence for the travel to and from the coast would be at Alto Sur, where chemical analysis has shown

that a sort of red paint was used on the glyphs, which was made from iron oxide and seawater (Briones 1984:10).

The travelers were moving between the coastal regions to the highlands with their herds, and they needed to utilize the natural resources of each geographic location they encountered. Although the extreme conditions of the desert were daunting, it needed to be traversed, and geoglyphic symbols could have marked sources of water and even noted the quality of it as well (Briones 2006).

The ways in which early Chileans navigated the vast desert is not unlike the ways the Inuit use their intricate maps and memories to navigate their snow covered landscapes. Peter Whitridge’s “*Landscape, Houses Bodies, Things*” describes how the Inuit used place-names along with carved maps to create permanent recognition of the places in which they encountered. He writes, “Alongside a rich and culturally distinctive body of place-based spatial conceptions were technical practices that reified space in a manner hardly distinguishable from Western scientific spatialities” (Whitridge 2004: 222). In this case,

the Inuit were using their memories of carved maps (because of the fact that they were not portable) along with place-names to maneuver the coastlines and snowy plains in ways that were highly technical and advanced. The indigenous peoples of the Atacama Desert may have been using similar techniques to cross their landscape, including using their complex geoglyphic patterns to designate landmarks along the migration route, alongside oral maps and landscapes drawn from memory. Difficult and often formidable landscapes seem to create a theme amongst early travellers. The need to survive in bitter and scorching environments alike caused them to invent distinctive but logically similar systems of navigation which were passed down for many hundreds of years.

For many, the idea that the geoglyphs represented more than trail markers creates skepticism, however, others believe that the geoglyphs represent characters and divinities of Andean myths, such as Nazca or Cuzco (Briones 2006). One thing that is clear through all of the research and theory is that the indigenous peoples of this time associated greatly with their landscape. On the one hand, they marked the land as a necessity in order to survive in the formidable and grueling desert environment. On the



Fig. 4 Carved Wooden Inuit Map of the Coast of Greenland

other hand, the production of geoglyphs was astonishingly interrelated to the social and political changes to the indigenous ways of life. These people felt so literally connected to the landscape by ways of spirit, ancestry and tradition that they marked the hills with figures of their own selves, their animals and their geometric designs. Movement of agriculture and domestication along with social integration likely caused the indigenous Chileans to create markers on the land that not only literally marked paths of travel but also represented ideological locations of great meaning for Chile's earliest settlers. Briones (2006) notes however, that, "The precise reasons why certain groups of travelers who crossed the Atacama Desert felt the need to mark it, integrate it, recreate it or make it sacred by means of the geoglyphs are likely to remain an enigma" (2006: 22-23).

An example of connections to political and ideological changes is in the disappearance of the zoomorphic and anthropomorphic figures by the Contact period in 1540 A.D. and the emergence of, "...crosses, stations of the cross and church towers" (Briones 2006: 18). The European influence on the indigenous Chileans caused them to abandon their traditional markers and create landmarks that literally represented European-based religious practices and monuments.

Although the migration-route theory is the most contemporarily researched, some have suggested a correlation between these and the Nazca Lines in the adjacent Nazca Desert of Peru. The similarities between the Nazca Lines and the geoglyphs of the Atacama are striking. When speaking of a German archaeologist's research in Peru, archaeologist Andrew Curry writes, "There were puzzling gaps, like the absence of temples and large plazas in Nasca towns...Reindel began to suspect the lines evolved locally as a form of religious

expression" (Curry 2009: 35). From this, the idea emerged that these mysterious desert markings could have been used as "prayer walks", similar to a Christian labyrinth, where the participant will walk on their knees through the maze while praying until they reach the center or emerge on the other side, having reached clarity or enlightenment. The proximity of the Nazca



Fig. 5 The Nazca Spider

Desert to the Atacama is compelling as well as the fact that neither the Atacama

geoglyphs nor the Nazca Lines are associated with prominent settlements (or any other structures at all for that matter). However, no direct connection has been made between the two anomalies.

Outside of scholarly interpretations, many concepts also circulate in public imaginations about geoglyphs, which can be more suspect. Some say that the "Atacama Giant" contains possible alignment to solar eclipses and lunar phases. Supposedly, each of the four spikes protruding from the giant's head

will align with the sun or the moon during specific times of year. Others have even suggested that they were created by other-worldly visitors.

Personal Conceptions of Landscape

One gets a general sense that the Atacama geoglyphs are an “enigma”, a mystery encapsulated in the past, which we will likely never solve. I encountered these feelings that the geoglyphs may hold undiscovered messages for the future when I spoke with a Chilean man who discussed specifically the Atacama Giant by saying:

“Considering the existing limitations at the time it was built, the ‘Giant of Atacama’ has succeeded to stand strong for centuries, which makes me think the message it contains was a very relevant one for the former inhabitants of the Atacama Desert, and surely there is still something valuable for the coming generations to decipher.”

Though the enigma framework is limiting, certainly the archaeological and historical community has and continues to make solid discoveries and connections about these features. One approach we can take to try to gain some insight on the past thought of these perplexing people is to bring oral histories to the archaeological datasets. Although many of these migration paths are no longer used today as major routes of transport, it would be quite enriching to know if the Chilean people still feel as strongly connected to these creations as they did a few thousand years ago. An intriguing approach to gaining this type of personal knowledge has been employed by Barbara Bender. Bender’s *“Time and Landscape”*, a piece that discusses an area Bodmin Moor in Cornwall, England, resonates the ideas that contemporary peoples can comprehend the ways in which their ancestors may have felt about their landscape:

We move around between houses, out through doorways, down drove-ways, along stone rows, and up to the high tors, trying to understand how people might have engaged with the land as they built their homes and enclosed their fields, moved around with their herds headed down to the spring or the ford over the river, stopped at a field shrine, or walked the length of the ceremonial stones (Bender 2002: s108).

Bender’s technique involved immersing herself and her peers directly into the landscape in order to truly discover how her ancestors would have interacted with their landscape. In the mind of an archaeologist,

this sparks an interesting conception: one way to really know how Chileans feel about their own history with the geoglyphs is, quite simply, to ask them.

In speaking with another Northern Chilean man, we discern quite swiftly how deeply connected a person can truly feel to the landscape by which they surround themselves. Growing up in a small Atacama town, this man's connection to the rocks grew beyond a childhood fascination, and he became a geologist so he could further study the environment of the Atacama. When I asked him in what ways he felt interconnected with these structures he said:

"I deal with rocks, I am able to talk to them and get answers. Thus, rocks for me are living things. When I see that people who have left a shadow on the Earth through working with these rocks are able to leave a message to the future, it is very impressive to me. When I touch these geoglyphs, I feel that I am receiving a message from a very distant past."

This man found that his own history was so deeply rooted in the history of these historical markers that he could almost speak to the ancient peoples who once read the geoglyphs when he touched the stones and carvings. Briones and Alvarez (1991) have used the term "ethno-perception" to describe these feelings of connection to the landscape and environment, defined by deep feelings of, "appreciation of space" (Briones 2006: 12).

Speaking with this man raises another notion: the idea that a structure on the landscape can affect a person greatly both emotionally and physically. This concept was evident in Keith Basso's *Wisdom Sits in Places*. His ethnography details how the Western Apache use place names to give meanings, tell stories, and teach lessons. The Apache wanted to pass wisdom on to their children through these stories attached to places carried down through the generations. When speaking of the Apache migrations, Basso writes, "The families traveled long distances...they had able leaders who told them what to do, and despite the hardships involved they took pleasure in their journeys. And wherever they went they gave place-names and stories to their children. They wanted their children to know about the ancestors. They wanted their children to be wise" (Basso 1996: 125). This strong connection that the Apache feel towards their places and their migration stories could have been similar to the way the Chileans felt about their geoglyphs. They were not complex or intricate edifices, and they were not places of settlement or habitation, yet they held great meaning to the travelers who used them as guides. It is

possible that simply stating the name of a certain glyph could create a mental map for the nomads, a place that was embedded into their history of migration.

Another man that I spoke with shared similar feelings of connection and even a slight sense of pride in the ability of Chilean ancestors to create such a marvel for the future. When I asked him if he thought these sites were an important part of history for Chileans he said, "Definitely, I am proud to learn that these large geoglyphs are located in my country. I feel this kind of archeological site only shows us the wisdom and simplicity of our ancestors. We must keep this for future generations to know".

Conclusions: Future Outlooks

In discussing the purposes and ideologies behind these impressive earthen structures, many themes begin to appear. Firstly, indigenous Chilean peoples created a relationship with their harsh desert environment in order to use it to their benefit and to survive their necessary migrations. Carved landmarks, visible from the migration path, spoke to travelers, telling them stories of the landscape; where they would be welcomed by nourishment and where they would be discouraged by desolation. Briones (2006:23) writes, "...the associated socio-cultural indicators prompt us to define these manifestations as the product of a long intellectual process motivated by the desert landscape and inserted into selected places already chosen by their predecessors". This begs the question, who traversed this infertile landscape first, and what commenced the need for such impressive guides?

Secondly, spiritual and ideological interpretations of the geoglyphs show a deep and continual connection to the earth over which they traveled. It is even possible that the extreme and formidable nature of the desert would have caused travelers to create religious geoglyphs along the migration routes just in order to conjure feelings of contentment and relief from the difficult migration. In this case, theories concerning migration and spirituality can be combined to create an all-encompassing hypothesis in which indigenous peoples felt as connected to their landscape as they did to their deities. More recently, concepts have emerged regarding geoglyphs as sources of creative and artistic outlets of religious expressions, but the research regarding the art history has been meager. Luis Briones, a major contributor to this research, plans to continue his studies in this unknown area of pre-contact Chilean art and expression.

One theme I encountered in speaking with the Chilean people was that there is a great desire to

preserve these sites so that future generations can enjoy their magnificence and discover their history.

When I asked one Chilean man what the next step should be in the life of the geoglyphs he said,

“I think these geoglyphs are an important part of world heritage which should be taken care of and protected by the local authorities. They should be made open for studies by universities, colleges and non-profit sociological foundations around the world in order to better understand the way of living of the ancient people and to ensure their preservation for future generations.

Another person I spoke with shared the same sense of pride as many of the others by saying, “Anytime our country can attract international attention for something positive and that can contribute to our progress in understanding how we have evolved into what we are today, is good. I feel there should be a sense of pride in sharing these findings with the world.”



Fig. 6. A modern highway cuts through the Atacama desert.

Much can be said for the creation and use of ancient Chilean geoglyphs, most importantly, the impact of indigenous travelers on the landscape, and even more, the impact that the landscape had on them. Deeply rooted feelings of spiritual and contextual connection remain embedded in the dry hills of the Atacama

Desert, including complex ideologies surrounding spirits and ancestors, many of which remain waiting to be discovered.

The views expressed in this article are the author's own and do not necessarily reflect the views of the Department of Anthropology and University of New Hampshire.

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Images:

Figure 1: Labash, Thomas. *Dry Riverbed*. 2011. Punta Chorro. Web. 3 May 2012.

Figure 2: Briones, Luis. *The Atacama Giant*. 2006. Web. 3 May 2012. <<http://archaeology.about.com/b/2010/07/21/more-atacama-glyphs.htm>>.

Figure 3: Labash, Marika. *Alpaca Herd*. 2011. San Pedro de Atacama, Web. 3 May 2012.

Figure 4: *Inuit Carved Coastal Map*. Greenland National Museum and Archives. Web. 2 May 2012. <<http://www.learner.org/courses/amerhistory/interactives/cartographic/1-2.html>>.

Figure 5: *Nazca Spider*. Latin American Studies. Web. 5 May 2012. <<http://www.sacred-destinations.com/peru/nazca-lines>>.

Figure 6: Labash, Marika. *Highway 5*. 2008. San Pedro de Atacama, Web. 3 May 2012.