

CAVES, PLAZAS, AND GODS:
THE IMPACT OF GEOMORPHOLOGY ON TAÍNO UTILIZATION OF CEREMONIAL
SITES

by

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CAVES, PLAZAS, AND GODS:
THE IMPACT OF GEOMORPHOLOGY ON TAINO UTILIZATION OF CEREMONIAL
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The Classic Taíno culture was spread across Puerto Rico and Hispaniola. Their shamanistic religious beliefs included spirits and gods, referred to as *zemís*, which were tied into the landscape. Geology had influence on not only the placement of ceremonial sites, but also the ways in which these sites were used. In this study, special attention was paid to four sites, El Manantial de la Aleta, Caguana, Cueva Lucero, and Atajadizo, which contrast different aspects of geographical settings. These sites were compared in two ways, first on a larger scale in relation to the surrounding landscape and other similar sites. Also considered were the individual sites in relation to their counterparts, taking into account aspects such as artifact occurrence and usage of space within the sites to ascertain the differences between the two sites and what role the geology of the site may have played in influencing utilization.

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INTRODUCTION

The first people encountered by Europeans in the New World, the Taínos, migrated into the Caribbean from northern South America around A.D. 500. One thousand years later, the Classic Taíno culture was spread across Puerto Rico and Hispaniola and was characterized by large settled villages, a system of chiefdoms, and sophisticated agricultural practices (Rouse 1992, Wilson 2007). Perhaps the most extensively studied aspect of Taíno culture is ceremonial sites, which held both religious and political connotations. Taíno ceremonial sites were certainly some of the most visible remains, and because of this many were discovered and excavated during the early twentieth century. Open air dance and ball courts were often lined with earthen embankments and standing stones, some of which bore carvings of *zemís*, a word which refers to both Taíno gods and pictorial representations of them¹. These courts often served as the centers of villages and ceremonial centers (Wilson 2007). Caves, often used as places of burial, were also areas with high occurrences of petroglyphs and pictographs representing *zemís*.

The study of Taíno ceremonial sites has been aided by the inclusion of the historical sources of Spanish chroniclers who accompanied early explorers. Men such as Ramon Pane, Peter Martyr D'Anghiera and Bartolome de Las Casas paid special attention to religious aspects of Taíno life, and it is from combining these accounts with the archaeological record that we have been able to begin to understand Taíno religious thought (Arrom 1999, Sanderline 1992). Recently, scholars have begun to attempt to integrate these beliefs into research dealing with

¹ A glossary of Taino terms is included in Appendix A

political organization and the location of ceremonial sites, which often served dual administrative and religious functions. For example, in his work dealing with organization of individual chiefdoms in Hispaniola Peter Harris argued that the perception by the Taínos of the island of Hispaniola as a living entity, a “monstrous living beast of the female sex” as recounted by Peter Martyr, adds an aspect of cosmological significance to the chiefdom of Higüey in the Dominican Republic (Conrad et al. 2002). This perception of the landscape as an active rather than passive element implies that the geology of an area may have played a large part in the selection and utilization of ceremonial sites. This study hopes to investigate how the physical environment intertwined with cultural beliefs and to see how this is expressed through the use of sites.

In pursuing the above research, special attention was paid to four sites which contrast different aspects of geographical setting. Of these four sites two, El Manantial de la Aleta and Cueva Lucero, are cave sites. El Manantial de la Aleta (henceforth to be referred to as La Aleta) is a submerged sinkhole in the Dominican Republic with unique geomorphology and chemistry which has facilitated excellent preservation while Cueva Lucero, located in Puerto Rico, represents the uses of the more common dry cave sites (Beeker et al 2002, Hayward et al 2009). The final two sites, Caguana located in Puerto Rico and Atajadizo in the Dominican Republic, are open air court sites (Alegría 1983, Maggiolo et al 1976). The purpose of the examination of these four sites is twofold. In order to understand the ways in which the geology of these sites may have affected their use it is necessary to look at them on a larger scale in relation to the surrounding landscape and other similar sites. It is at this scale that aspects of Taíno religious beliefs and their incorporation of a cultural view of the landscape become important. Also considered were the individual sites in relation to their counterparts, taking into account aspects such as artifact occurrence and usage of space within the sites in order to ascertain the

differences between the two sites and what role the geology of the site may have played in influencing utilization. Once again elements of Taíno religion and cultural beliefs came into play. In looking at the relationship between something so permanent as the geology of a site and something so transient as the beliefs and perceptions of people who we cannot ask directly, making any type of concrete statement would be at best impossibly naive. However, I have illustrated the differences in use of these four sites based on their locations and physical attributes and demonstrated possible influences of Taíno spirituality

HISTORICAL CONTEXT

Geographical Context

The islands of Puerto Rico and the Dominican Republic are centrally located in the Caribbean, where they are two of numerous islands which form the island chain of the Antilles. Both islands are part of the northern Greater Antilles, which also include Jamaica and Cuba. The southern stretch of islands, the Lesser Antilles, consists of hundreds of small islands which curve towards the southeast to the coast of Venezuela (Figure 1). Together, the Antilles enclose the Caribbean Sea and create a route from South America to Florida which makes it possible to “island hop” between the two land masses as almost all of the islands are within sight distance of another island in the chain. The Caribbean islands are composed of either volcanically produced metamorphic rock or are a part of the Caribbean Ocean Plateau. This plateau is a vast shelf of relatively soft coral limestone formed over millions of years, which is susceptible to percolation of water and underground waterways that form caves (Hayward et al., 4-5, Picó 1974:1-3). The geological make-up of the region was created through the interaction of several tectonic plates, including the Caribbean Plate with the North American Plate to the north and the South

American Plate to the east and south. Pressure buildup along these convergent plate boundaries caused the buildup of underwater mountains which eventually broke the surface to form the islands of the Antilles. The convergent plates have also left the entire area prone to volcanic activity and earthquakes (Bachmann 2001). The islands are formed primarily of limestone which formed in the warm shallow Caribbean Sea as calcium carbonate shells and skeletons of marine organisms and the remains of coral reefs accumulated over several million years.

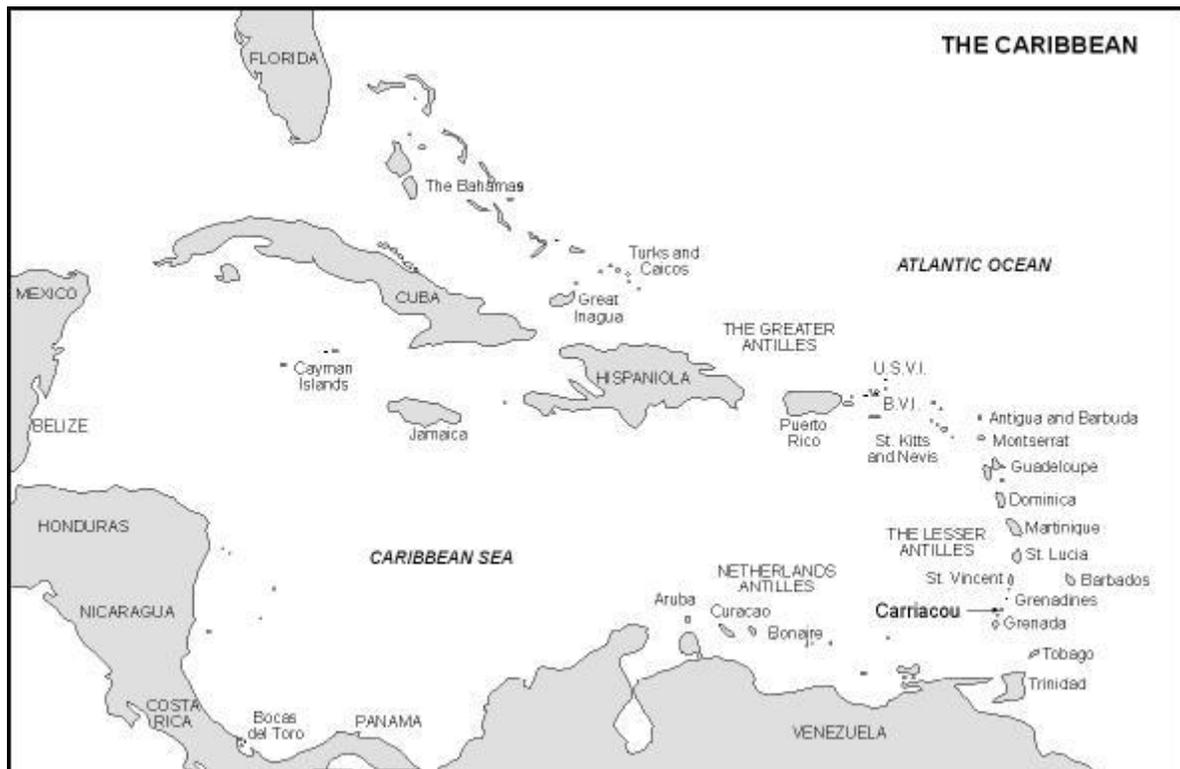


Figure 1. The Caribbean (Fitzpatrick 2004)

Puerto Rico is the smallest island in the Greater Antilles, having a total area of 13,790 km², or roughly three times the area of Rhode Island (CIA World Factbook 2010). It measures approximately thirty six miles north to south and one hundred miles East to West. A mountain chain, the Cordillera Central, crosses the country from the east to west coast, reaching heights of approximately 4,000 ft. Slopes on these mountains is often steep, an “almost one-fourth of

Puerto Rico consists of steep slopes of 45 degrees or more” (Pico 1974:14). The majority of the island is covered in some type of undulating landscape, with only an estimated one third of the area being classified as level. The central mountains recede into rounded hills further from the center of the island and finally flatten out into coastal plains. Pico estimates that mountains account for 40 percent of the island's area, hills 35 percent, and coastal plains 25 percent. The landscape is formed in part by calcareous rock, in which many caves form, with the caves in the northern part of the country tending to be larger than those in the south (Fewkes 1907:102).

The Dominican Republic, which shares the island of Hispaniola with Haiti, is nine times larger than Puerto Rico. Although very similar to Puerto Rico with mountainous regions, hilly land and coastal plains, the arrangement of these features in Hispaniola are much more complicated than those of Puerto Rico. Three mountain ranges, three karst landscapes (a landscape which is formed by the dissolution of a layer or several layers of some type of soft, soluble rock, in this case limestone) and approximately fifteen intermountain valleys create an area rife with caves and other natural formations (Hayward et al. 2009:90). Another aspect of the landscape which is mentioned by Spanish chroniclers Bartoleme de las Casas and Peter Martyr are limestone sinkhole springs which the natives referred to as *zagueyes*. These sinkholes were known to be sources of cool, clean, sweet drinking water (Conrad et al. 2002:3). Puerto Rico and the Dominican Republic are both firmly within tropical zones, and because of this seasonal variation in temperature and rainfall are far more subtle than they are at more extreme latitudes. There is no land which could be considered desert, and the area is well watered throughout the year (Fewkes 1907:102).

Cultural Groups of the Caribbean

In order to understand the Taíno people, it must first be put into perspective the cultural landscape of the Caribbean during the late pre-historic period (Figure 2).

The Guanajatabey

The first migration of people into the Caribbean which has been estimated to have occurred between B.C. 5000 and 1000 during a time period coined the Archaic or Pre-ceramic. Evidence in Puerto Rico and Hispaniola places the first human inhabitants around B.C.1000. The

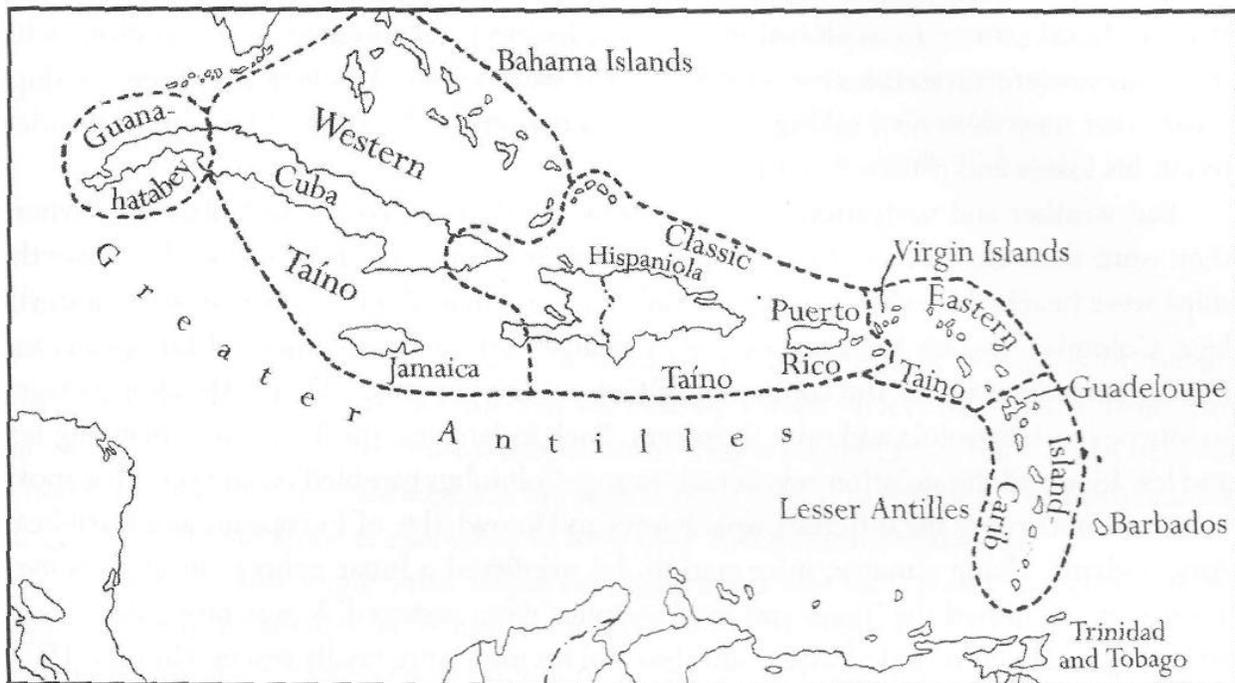


Figure 2. Caribbean cultural groups at time of contact. (Rouse 1992: Figure 2)

Guanajatabey, a people who occupied western Cuba, seem to have been a relic of some of these first people in the region. Although the Guanajatabey people were wiped out very quickly following contact, what Spanish chroniclers do say about them refers to them as “savages”, noting their lack of permanent homes and farming (Rouse 1992:20). Archaeological evidence has

produced a picture of these people that correlates with these accounts, finding that the Guanajatabey were primarily hunters and fishermen who lived in bands rather than villages and lacked any ceramics technology. It is believed that these diverse Pre-ceramic cultures once dominated the Caribbean, but later migrations either integrated their people or in other cases forced their remnants northward into western Cuba (Rouse 1992:20). It is unknown if these people entered into the Caribbean from North, South, or Central America as no ethnohistoric accounts of the Guanajatabey language exists to offer linguistic clues.

The Island-Carib

The Island-Caribs, the people from which the Caribbean takes its name, was a culture which entered into the region very late around A.D. 1400. (Saunders 2005: xv). The Island-Caribs were a warlike people who after entering into the Lesser Antilles proceeded to raid established Taíno groups for resources, land, and women. It seems likely that the invasion was undertaken by male warriors who stole native women as wives. The Caribs were farmers who, like the Taíno, lived in villages. However, Island-Carib villages had separate men's houses. The social structure and art of the Island-Caribs were also less sophisticated than that of the Taínos (Saunders 2005: xv). The Taíno people are recorded as telling the Spanish stories of their feared neighbors including tales of the eating of captives. It is unknown how much of these accounts were truthful, but it is from these tales and the name of the Island-Caribs that the modern word and meaning of cannibal come from (Rouse 1987:86).

The Taíno

Unlike the Guanajatabey or the Caribs, the people who Columbus first encountered in the New World did not identify themselves by one unifying name despite sharing a common culture.

They were called *Borinquen* in Puerto Rico, *Lucayan* in the Bahamas, and *Quisqueya* in Hispaniola (Saunders 2005: 99,227). Almost every group identified themselves by the island on which they lived and the Spanish identified them as “Taínos”, a name which came from the word which the people called out to the Spanish upon their arrival. The greeting, meaning peace, was used in order to identify themselves as different from the warlike Caribs. The ancestors of the people we identify as the Taínos were the result of a second migration into the Caribbean which arrived in Hispaniola and Puerto Rico around 500 A.D in a migration known as the Saladoid after the name for their ceramics typology (Wilson 1997:5). By the time of Spanish contact, the Taíno people had been in the Caribbean long enough to forget their origins outside of the islands and defined themselves by their current homes. However, there are indicators of their origins. Their language, also referred to as Taíno, is a form of Arawak, a central South American language spoken in the Amazon Basin.

The path of Taíno ancestors’ migration most likely spread up out of Venezuela, through the Lesser Antilles before reaching their northernmost extremes when they pushed against the older Guanajatabey population. Later, the entrance of the Caribs pushed against the eastern Taíno population. It is conventional to divide the Taíno population into three different aspects: the Sub-Taínos (also known as the Eastern Taínos or the Ingeri) in the east, the Classic Taínos which inhabited Puerto Rico and Hispaniola, and the Western Taíno in the Bahamas, Jamaica, and eastern Cuba. These three different groups maintained similar enough cultures and languages to still be considered a single cultural group, but internal differences were enough to create subcultures. The number of Taínos in both Puerto Rico and Hispaniola at the time of contact has been calculated several times by using the historical accounts of Spanish chroniclers and records of natives given as slaves to various Spaniards. Estimates of population of the Taínos at the time

of contact vary from millions throughout the Caribbean to a more conservative estimation of half a million in Hispaniola and smaller populations on the smaller islands (Poviones-Bishop 2001).

Classic Taíno Social and Governmental Organization

Classic Taíno culture was flourishing at the time of contact. People lived in settled villages with populations ranging from one to two thousand people. These villages were usually made up of houses which served as homes where several family groups would live. These villages were usually arranged around a central plaza which served both ceremonial and religious purposes (Saunders 2005:xiv). The social groups described include two basic groups: a noble class, the *nitaino*, and a commoner class, the *naboria*. Each village was ruled by a *cacique*, or chief, who presided over their village, who could be either male or female. Their responsibilities included the storage of and distribution of excess goods, acting as hosts to visitors, taking charge of political relations between villages, and organizing public feasts and dances (Rouse 1992:16). Caciques were also afforded privileges including living in special houses called *caney*s which were larger than other dwellings and served as a council house, sitting on throne like stools known as *duhos*, and being carried in litters rather than walking (Saunders 2005:xiv). Caciques were also identified as wearing *guanine*, ornaments which were fashioned from beaten gold and silver traded for from South America. Taínos made and used large, elaborately carved canoes to regularly travel and trade between islands (Saunders 2005: xiv). *Caciques* were unified under district chiefdoms which were in turn ruled by one of the strongest village chiefs. These district chiefdoms were then tied together into regional chiefdoms that were headed by the most prominent chief (Rouse 1992:9). Decisions of these higher organizations included issues such as the decision to go to war. In Hispaniola, these regional chiefdoms are referred to as *caciazagas*. *Caciazagas* lacked fixed borders, instead centering on core areas and fluctuating in border

zones. Peter Harris has proposed a division of the island into eight province groups of which six were further divided into three north-south pairs (Conrad et al 2002:2).

Taíno culture was matrilineal. All descent was traced through the women's line, and material and status was also inherited through the mother. Men resided in the villages of their mother, however, in the case of marriage with a woman from outside of the village that woman would come and live with her husband's village. Polygyny, the practice of taking several wives, was present and well known. However, economic factors usually allowed for caciques and other high status nobles to take many wives. While a commoner may work for a time period for the family of the woman to pay for their loss of her, a cacique was often able to simply pay the family, which was impossible for most common people (Rouse 1992:16-17). Some *caciques* had as many as thirty wives, implying that marriage was used for political purposes (Saunders 2005:xiv).

Classic Taíno Religion and Ceremonial Life

Zemís

One of the aspects of Taíno civilization which is most well documented by Spanish chroniclers is religion. Taíno religion was based on shamanic traditions brought with their ancestors from South America. Plants, animals, and landscapes were all infused with spirits from ancestors and the natural world so that in the eyes of the Taíno, “all things possessed sacred and secular importance” (Saunders 2005: xiv). Spiritual entities were seen as residing not only in the natural world but also in cultural items. The most important spiritually charged item which the Taínos produced was the *zemí* (alternatively spelled *cemí*) which was the physical representation of either an ancestral spirit or a god also identified as a *zemí* (Figure 3)

The most important of the *zemís* is a being known as *Yúcah*, a god of fertility and the sea. He is also the spirit of cassava, the staple food of the Taíno diet. The second most important is a female goddess known as *Atabey* (Saunders 2005:1). *Atabey* is the goddess of freshwater, including rivers and rain, women's fertility and childbirth. She is identified as the mother of *Yúcah*, who has no male ancestors. The importance of this sole maternal ancestor of the most important god is reflective of the Taíno emphasis on matrilineal descent (Povines-Bishop:2001). Other *zemís* vary throughout Taíno populations, with local variants holding varying amounts of



Figure 3. Example of a three pointed zemí. (www.tomkinscollection.org)

influence. *Zemís* were made from a variety of materials including stone, wood, shell, cotton, and in some cases the bones of high ranking individuals were used to create a skeletal framework over which cotton was stretched (Hayward et al 2009:92).

Role of Caves

Caves played a large part in the beliefs of Taíno people. Burial practices of Classic Taíno people varied from island to island, but generally the dead were either buried, usually in domestic contexts, or they were placed into caves. This contrasts with earlier groups who buried their dead in groups in designated areas removed from the village. Curet and Oliver (1998) theorized that the change reflected an increasing importance places on individual households over larger kinship groups. Alternately, Siegel (1997) argued that it represented a shift from a purely egalitarian society to one more structured and hierarchical, as reflected in the increase in high status grave goods (Povines-Bishop 2001).

It was believed that after death, the spirits of the dead, known as *op'a*. These spirits were faceless, their forms mutable, unlike the spirits of the living which were solid in their form, and they lacked navels. The dead dwelt in caves, which they would venture out of at night in the form of a bat to feast on guava fruit (Povines-Bishop 2001). Various stories of creation also involved caves. In Hispaniola, it was said that people emerged from a mountain cave called *Cacibajagua*, which translates to Cave of the Jagua (jagua being a type of fruit). In the beginning times, people emerged only at night, and those who were caught in the rays of sunlight were transformed into several different elements of nature, including stones, trees, and bird (Povines-Bishop 2001). Additionally, certain caves in Hispaniola were known to possess names and specific characteristics such as the cave *Iguanaboína*, where the sun and the moon were understood to have emerged from (Hayward et al. 2009:92). According to Spanish chronicler Peter Martyr, the Taínos of Hispaniola spoke of the island itself as a living female beast, where “a large marine cave in the western end of the island was seen as the vagina and anus of the beast” (Conrad et al 2002:4). It has been argued that paired sinkholes at the eastern edge of the

island represent the creature's eyes. Caves were also the site of large amounts of artwork, including pictographs and petroglyphs. The design of this art varies from humanoid figures interpreted as representations of specific *zemís* to anthropomorphic and zoomorphic figures and geometric designs.

Shamanism and *Cohaba*

Shamans, known as *behiques*, were the primary spiritual leaders and healers of Taíno villages. A shaman dealt with matters of the spirit world through the inhalation of *cohaba* smoke. *Cohaba* was a hallucinogenic powder used by shamans and caciques both to commune with the spirit world, including ancestor spirits and *zemís*. The powder was made from the pulverized seeds of the *Anadenanthera peregrina* tree, a plant which is related to *A. colubrina*, the source of sacred hallucinogenic snuff utilized in South America (Saunders 2005:67). The shamans would contact *zemís* through the use of *cohaba* to identify the causes of illness and obtain advice. The tools utilized by the shamans included stone pestles for the making of *cohaba*, *cohaba* vessels, forked tubes to inhale *cohaba*, and vomiting sticks. These long, intricately carved sticks were used to induce vomiting as a type of ritual purification (Povines-Bishop 2001). *Duhos*, ceremonial stool on which the elite sat, were usually made from “powerful spirit wood and covered with intricate patterns of circles and spirals”, images which may have been inspired by hallucinogenic imagery brought on by the use of *cohaba* (Saunders 2005:66). The importance of *cohaba* is evidence in its incorporation into several myths of creation of various elements of the world (Saunders 2005:67).

Ceremonial Courts

Some of the most visible remains of the Taíno people available to us today are ceremonial courts.

Most towns and ceremonial centers were arranged around the courts, and they were often located directly in front of the caciques dwelling. The courts themselves vary in size, with those in Puerto Rico being smaller but more numerous and elaborate than those in Hispaniola (Saunders 2005:24). They were usually of a rectangular shape with the edges bounded in either earthen embankments or standing stone which are sometimes decorated with carvings of *zemís*. In this way, the images were viewed not as representations of the events that took place inside of the courts, but rather as active participants (Hayward et al. 2009:129). These courts served the dual purpose as the grounds for ceremonial dances undertaken to celebrate events such as religious events, marriages, and alliances, and also to host ball games. The ceremonial dances, called *areytos*, involved dancing and singing which acted out history and events and often involved a listing of the accomplishments of the current cacique. All aspects of the community took part in *areytos*, which often include the use of *cohaba*. Although the Spanish interpreted such events with slight distain because of their wild nature (it was said that the *areyto* wouldn't be considered over until everyone had passed out) their purpose was to connect the spiritual and the living world in a manner relevant to the living, which often involved an altered state of mind (Wilson 2007:122) .

The second use for the ceremonial courts was the playing of ball game called *batey* (Saunders 2005:23). This game shared several characteristics with similar Mesoamerican ball games. In it, two teams of ten to thirty players would attempt to keep a rubber ball in motion and get it to the opposite side without touching it with their hands and feet. Players would instead use their shoulders, hip, and buttocks to hit the ball. Equipment was often wore during the game, including stone collars and elbow stones, which may have served the dual purpose of protecting the player and help to deflect the ball more effectively. Although it shares many components and

was previously thought to be imported directly from Mesoamerica, archaeologists now consider it to have evolved parallel to similar games elsewhere (Saunders 2005:24). The game was highly culturally important, with both men and women playing, albeit not together, and when compared to the great political and cosmological importance similar games in Mesoamerica it is likely that *batey* held some type of similar meaning. The more elaborate examples of stone collars and other equipment may have served a ceremonial as well as a functional purpose. The placement of the courts may also reflect political interactions. While courts were placed often in towns, there were also large scale courts in areas where there is no evidence for a village or settlement of any permanent nature. These courts have been interpreted as being set in neutral territory between settlements where villages could come together to hold competitive meets. It is known that at intervillage competitions, caciques would often hold contests with prizes for the winners.

METHODOLOGY

In order to explore the influence which the geomorphology of ceremonial sites may have had on their use the four sites of Atajadizo, Caguana, La Aleta, and Cueva Lucero were analyzed using two methods. This involved comparing the large scale aspects of site usage. Topographic maps from the U.S. Geological Survey (USGS) and information obtained from previous studies of the sites were used to facilitate an examination of their orientation in regards to the surrounding landscape. Aspects of the sites which were taken in to consideration include their location in relation to other similar sites, major rivers, and any specific geological formations known to have some type of cultural significance. This type of analysis focused on the open air sites of Atajadizo and Caguana, simply because the nature of these sites lends them to more subjectivity in regards to their location, but it also took into account the cave sites in relation to other sites of

a similar nature.

The second method of investigation of the sites focused on looking at the sites internally. A comparison of the sites on a smaller geological scale looked at the spatial organization of the sites in regards to unique geological formations and features. For example at the Atajadizo and Caguana court sites, for which I referenced plan maps of the sites from Mason's 1942 publications of his excavations of Caguana and Maggiolo et al's 1976 publication *Arqueologia de Yuma*, aspects such as spatial organization and orientation of courts were taken into account. The cave sites of La Aleta and Cueva Lucero were also analyzed in regards to spatial organization to see how the perception of the caves physical aspects might have interacted with cultural beliefs to influence their use. This included looking at aspects of the sites such as the placement of any pictograms and petroglyphs within the caves and location of artifacts recovered from the caves. Graphical depictions of La Aleta and information regarding artifact assemblages were made available by the work done by Geoffrey Conrad, Charles D. Beeker, and John W. Foster (Beeker et al. 2002, Conrad et al. 2001), and information regarding Cueva Lucero was obtained from information compiled in *Rock Art of the Caribbean* by Hayward et al. (2009) and through my own personal observations made during a visit to the cave in January of 2011. During this time spent in Puerto Rico I visited the sites of Caguana and Cueva Lucero with the intention of gaining first hand impressions regarding the physical spaces.

In addition to looking at the physical locales, I also explored the artifacts assemblages of the sites. This not only provided information regarding the ways in which the sites were used, but it also was particularly useful in looking at the court sites to see if these sites were purely ritual or if they also had some type of domestic use, as Atajadizo is already know to have, and to see if the differences between Atajadizo and Caguana, a site with no signs of permanent occupation,

may have been caused by their surroundings. The processing of data from the sites was done using data culled from the sources mentioned previously, and was accomplished using Microsoft data processing software Excel.

ANALYSIS

The Four Sites

La Aleta

La Aleta is located in the southwestern corner of Hispaniola, in the East National Park Region of modern day Dominican Republic. It is located approximately 5km inland from the nearest shoreline (Conrad et al 2001:6) (Figure 4). The land surrounding it is made up of flat limestone bedrock, through which ground water percolates. The site includes the cavern (El Manantial de la Aleta), and four ceremonial plazas 75m from the Manantial at their closest point. These four plazas are the most at any known site in Hispaniola, and have led to the site being considered a major ceremonial and political center for the region. In addition, the site does not appear to have served as a permanent settlement for a large number of people, further alluding to its primarily ceremonial function (Conrad et al 2001).

La Aleta is distinct because of its unique chemical and geological properties illustrated in Figure 5:

Accessible through several small holes in the ground surface, the subterranean chamber drops 16m to the surface of the water, a roughly circular pool about 40m in diameter. The submerged part of the cavern descends to a rock cap, the tip of a hill formed by rubble collapsed from the upper part of the sinkhole, at a depth of 34m below the surface of the water. The slopes of this hill reach a maximum depth of 73m below the surface. The upper water column is clear to a depth of 10m, where there is a milky, sulfide-laden layer that blurs visibility until the water clears again at depths over 20m (Beeker et al. 2002:8).



Figure 4. Approximate location of La Aleta. (Conrad et al. 2001:2, Figure 1)

Analysis of the cavern has revealed that there is no water flow in and out of the cave, making fresh rainwater the only source of replenishment. The lack of flow and the inability of light to penetrate the sulfide layer has created a “dead zone” of anaerobic water, greatly encouraging preservation. There is very little sedimentation on the floor of the cavern, which is covered in rock debris from ceiling collapse, and the water temperature “is a fairly consistent 24.2° C” (Conrad et al 2002:8).

The conditions in the cavern have facilitated high levels of preservation of organic materials, of which a sample was collected by surface survey in a series of field seasons between August of 1996 and August of 1999 by a team of researchers from Indiana University and California State Parks (Conrad et al 2001).

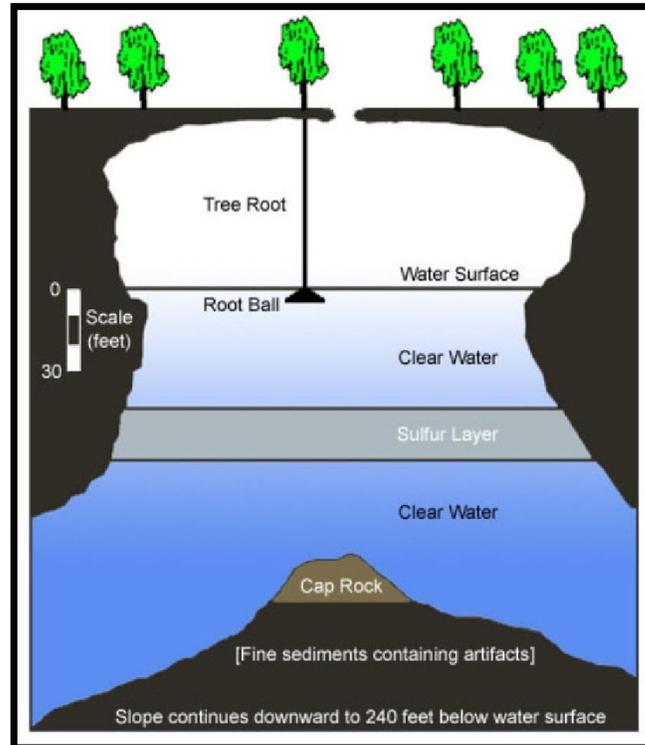


Figure 5. Cross section of El Mantantial de la Aleta (Conrad et al. 2001:3 Figure 2)

Cueva Lucero

Cueva Lucero is a cave site located in southern Puerto Rico near the town of Juana Díaz, and is described by Alvarado Zayas as representative of “a number of cavern within the Cerro de las Cuevas limestone hills of the south-coast Juana Díaz Municipio” (Hayward et al 2009:122). The cave has been known throughout historic times to contain examples of Taíno rock art. The cave consists of four galleries: B, A, C, and D (Figure 6). Entering the cave through Gallery B, a long, low passage, one enters into Gallery A, the largest gallery at approximately 20x26m (Hayward et al 2009:122). This space is brightly lit by a large opening in the roof, however Hayward posits that taking into account the occurrence of human bone and ceramics found beneath the rubble which date to approximately A.D. 1200-1500, it is likely that this opening was caused historically by a major earthquake in 1918 (See Figure 11 below). Prehistorically, only a few

small openings would provide diffuse light in the chamber.

At the north side of Gallery A, the entrance for Gallery C presents itself on the right. This gallery is filled with rubble, and accessing the back of the Gallery requires climbing up a steep incline (Personal observations). To the northwest of Gallery A lies the entrance to Gallery D, which can be accessed only by crawling through a constricting tunnel approximately 70cm high, 80cm wide, and 15m long (Hayward et al. 2009:124). After passing through the tunnel, one enters into a spacious open area with a high ceiling. It is in this area that contains the majority of the images in the cave. The figures depicted have a range of subjects, including zoomorphic, anthropomorphic, and abstract themes, which will be further discussed later in this paper.

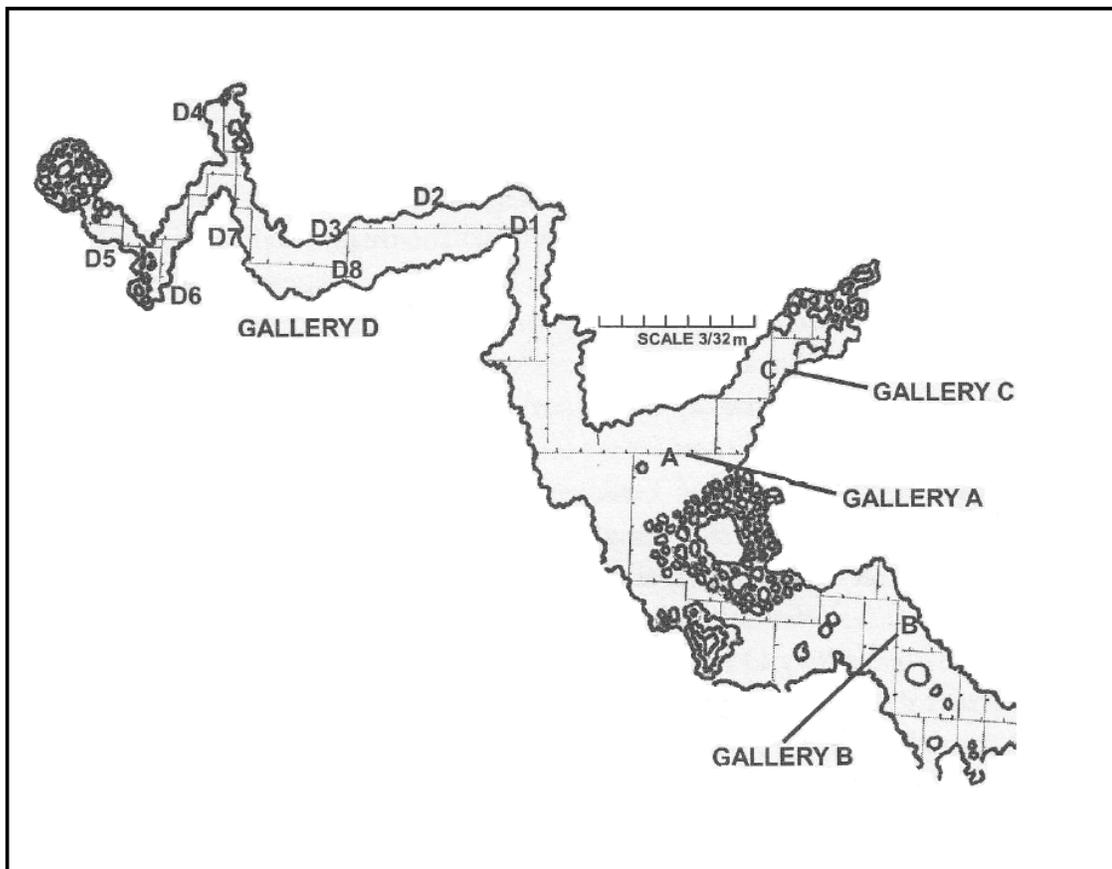


Figure 6. Plan Map of Cueva Lucero. (From Hayward et al. 2009:123 Figure 9.3)

Caguana

Caguana, alternately referred to as Capá in older texts, is the largest and most ornate ceremonial plaza site in Puerto Rico. Located in Utuado province, it is situated on a small plateau overlooking the Tanamá River in the west-central mountainous region. The valley in which it is located is situated between two different types of geologic formations. To the north are karstic limestone hills interspersed among small fertile valleys, while the southern edge of the valley is flanked by igneous mountains (Oliver 1998:6). Excavated in 1915 by J. Alden Mason, it consists of ten stone marked plazas oriented around the main plaza, Plaza A (Figure 7). Ceramic evidence points to the site's earliest use around A.D. 700 , and its use continued nearly until the time of contact, although historical evidence seems to indicate it was abandoned prior to Spanish arrival (Siegel 2005).



Figure 7. Orientation of Plazas within Caguana. (Caguana Indigenous Ceremonial Park)

There is little evidence indicating that the site was occupied by large numbers of people for extended times. This, combined with the number of courts present at the site, indicate that it was likely an important regional gathering site which served religious and political functions.

El Atajadizo

The site of Atajadizo was located in southeastern Hispaniola approximately two kilometers from the Boca de Yuma and along the banks of the Yuma River (Figure 8). The site was occupied in two phases. The first phase, referred to as the Atajadizo phase, was an Ostionoid habitation ranging from sometime after A.D. 540 through the 10th century A.D. During this period of occupation, the site was characterized by seasonal occupation, slash and burn agriculture, an informal layout with large extended family residences and the burial of the dead beneath the house floors. The second phase of occupation is called the Guayabal phase. Lasting from the end of the Atajadizo phase in the 10th century A.D. into the post contact era, this phase is distinct from its predecessor in the many changes in the utilization of the site. The village was now a permanent settlement with “small, circular nuclear family houses concentrically arranged around the plaza on top of artificially constructed mounds” (Samson 2010:64). Additionally, slash and burn agriculture had given way to the construction of agricultural mounds, and the burial of the dead was moved away from dwellings and into a designated cemetery area. The layout of the village was formalized; mound construction and dwellings were organized around a central plaza. It is argued that this shift was the result of the rise of chiefdoms in Taíno culture. Atajadizo experienced its main period of habitation from A.D. 1200-1300.

Comparison of Sites

Caguana and Atajadizo: Geographical Comparison

The first aspect of geographical placement of the two sites of Caguana and Atajadizo to be discussed is the sites' locations in regards to overall geographical areas. Caguana, located in the

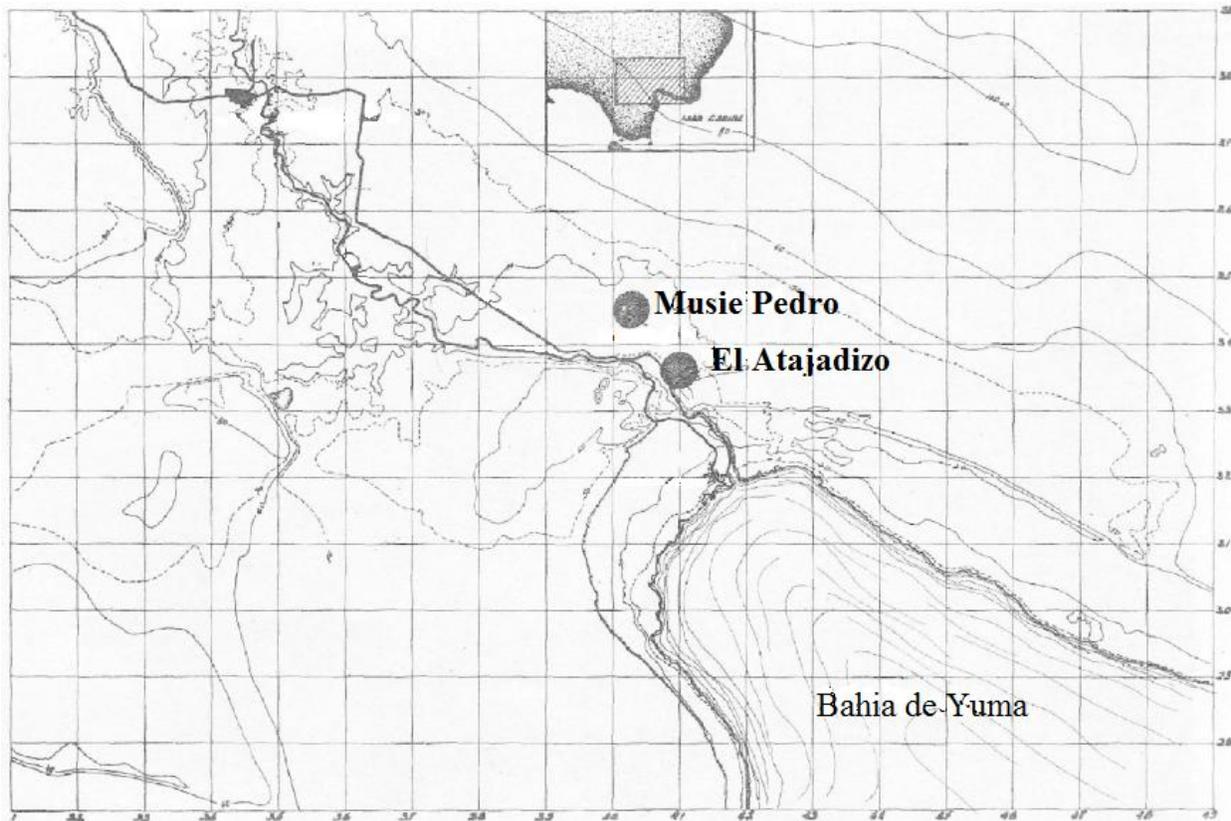


Figure 8. Approximate Location of Atajadizo. (Maggiolo et al. 1976:9)

mountainous central region of the island, seems to follow a general trend of the Taíno of Puerto Rico. Stone demarcated plazas occur with a much higher frequency in the central mountainous region, while conversely very few sites of this nature have been found on the coastal plains (Figure 9). An argument could be made for preservation bias, that agricultural activity on the coastal plains may have simply destroyed many plazas before recording could take place. While it is possible that historical destruction of sites was likely, it should also be noted that agriculture extended over much of the island. The land immediately surrounding the alluvial and colluvial terrace at Caguana used for the production of sugar cane well into the 1930's (Siegel 2005).

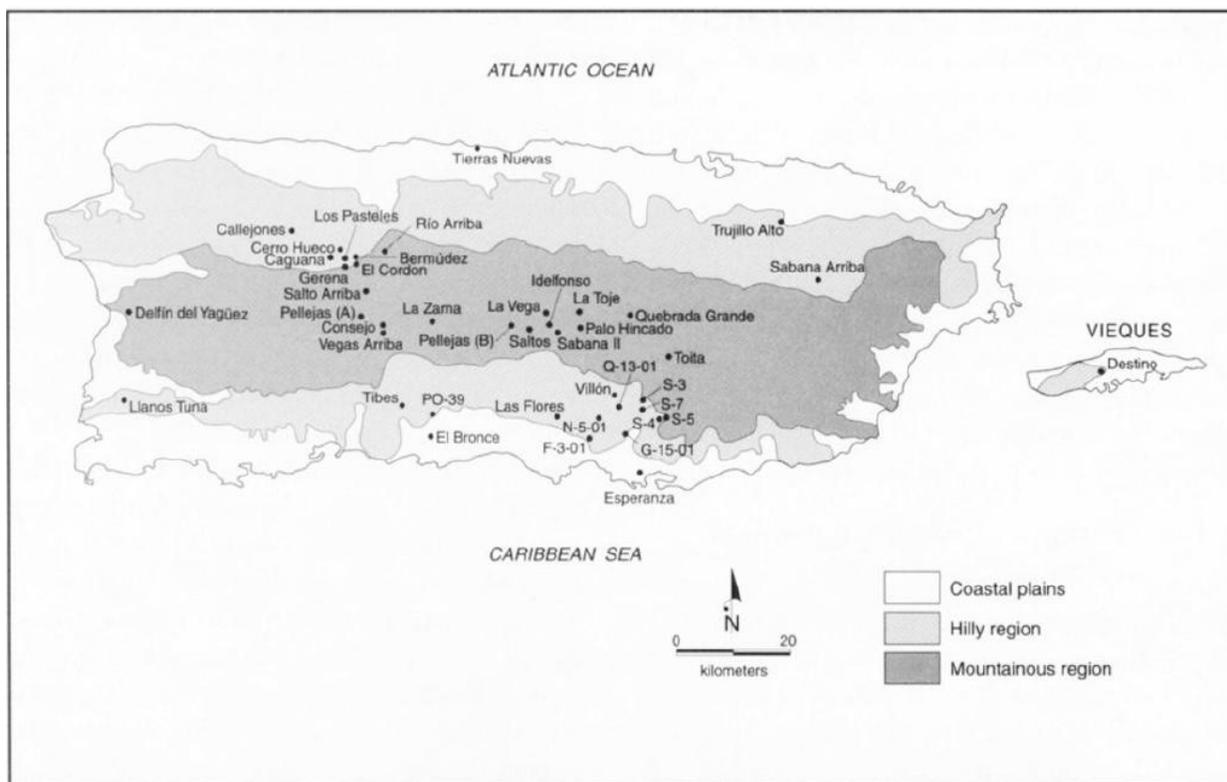


Figure 9. Location of stone-demarcated plaza sites in Puerto Rico. (Oliver 1999:232 Figure 7.1)

In the case of Atajadizo, the opposite is true. Atajadizo is not located in one of the mountain chains of Hispaniola. Rather, it is located on a coastal plain in the southeastern corner of the island, approximately two kilometers from the Bahía de Yuma (Figure 8). This difference in placement may stem from the difference in the primary purposes of the sites. In the case of Caguana, all evidence indicates that the primary function of the site was to serve as a ceremonial center which was never intended to support a large settlement of people. In contrast, Atajadizo was primarily a settlement, and the central plaza and surrounding burial areas were also functional units of the site, built to fulfill a need which the inhabitants had for a religious, cultural, and political “city center”. Accommodating the needs of the settlement was in this case far more important than orienting the *batey* in the landscape.

The presence of culturally significant landscape features at Caguana may have played a large role in the selection of the site for a regional ceremonial center. One formation in particular stands out as an example of sacred topography. Cerro el Cemí, a karstic formation to the northwest of the site, resembles, as its name suggests, a three-pointed *zemí* (Figure 10). Antonio M. Stevens-Arroyo in *Cave of the Jagua* goes into some detail in his discussion of *zemís* and their metaphysical meanings in Taíno society. He compares the use of *zemís* in Taíno culture to the use of saint sculptures in the Catholic religion. In both cases, it is not the statue itself which is the holy item, but that which they represent. *Zemís*, like saint statues, “were holy only as long as they served as a connection to the numinous”. *Zemís* served as “links between the psychic world of humans and nature” (Stevens-Arroyo 2006:58).

The ubiquitous nature of *zemís*, of perceiving the numinous in everyday objects through signs, is stressed. The following eyewitness account illustrates this:

When a native was passing by a tree which was moved more than others by the wind, the Indian in fear calls out, “Who are you?” The tree responds, “Call here a *behique* or priest and I will tell you who I am.” When the priest or shaman had come to the tree and had seated himself before it, he performed certain prescribed ceremonies and rose up to recount the titles and honors of the principal chiefs of the island. He would ask the tree, “What are you doing here? What do you wish of me? Why have you asked to have me called? Tell me if you wish me to cut you down and - if you wish to go with me - how shall I carry you, whether I shall make you a house and a farm and perform ceremonies for a year.” The tree answered these questions, and the man cut it down and made of it a statue or idol. (Relación: 41-42)

This example shows how a detail of the object, some measure of unusualness which sets it apart from the rest, implies a holy aspect. Stevens-Arroyo explains that “the Taínos perceived uncanny formations of stones or wood as special manifestations in nature of the numinous” (Stevens-Arroyo 2006:59). Cerro el Cemi at Caguana, on the other hand, illustrates an example of this uncanniness at work in a large scale. If Taínos were accustomed to looking for and



Figure 10. Zemí mountain as viewed from Caguana with Plaza A in foreground. (Personal photograph)

assigning meaning to unassuming detail, then the impact of a feature as decidedly assuming as Cerro el Cemí would have been striking. The mountain is considered by many as one of the reasons for the construction of Caguana site.

José R. Oliver has also ascribed meaning to the landscape surrounding Caguana, particularly the geological makeup of the surrounding hills. Oliver has argued that the meeting of the karstic hills to the north and the igneous mountains to the south had special meaning to the Taínos. Referring to work by Peter G. Roe (1993a) which posits that the western igneous row of stone monoliths of Plaza A represents feminine aspects, while the eastern limestone row

represents the masculine, Oliver contends that the igneous monoliths, which were not quarried from the surrounding hillside but rather collected by the nearby Tanamá River, represent a distinction in Taíno thought. This dynamic associates the dusk and westerly direction with femininity, river water, and the downwardly direction. Dawn and the east are connected to masculinity, morning dew, and an upwardly direction (Oliver 1998:205). Based on these theories, the fact that Caguana is literally at the center of the meeting of these two opposing forces with the limestone hills to the north and the igneous hills to the south would have made it an ideal location symbolically for a ceremonial center.

In contrast to Caguana, Atajadizo does not show any signs of culturally significant landscapes. The site sits approximately two kilometers from the ocean and adjacent to the Yuma River. The river at the site has a slow flow, which increases as it nears the mouth of the river (Maggiolo et al. 1975). Just over a half kilometer to the southeast of the site the ground level descends from approximately thirty-six meters to twenty eight meters, and then continues gradually descending until reaching sea level at the coast. Once again, this lack of significant landmarks seems to reflect the use of the site primarily as a settlement. While the plazas at Atajadizo do not correlate to surrounding landmarks like at Caguana, the entire settlement itself is located close enough to the sea to utilize marine resources while at the same time engage in the horticultural practices of the Taínos. The placement of Atajadizo is very similar to other village sites in the Altagracia Province, which are also situated near the coastline (Figure 11).

Finally, both sites are located along, or near the banks of a river. However, the use of the two rivers likely varied. In the case of Caguana, the river may have had two meanings. As stated previously, some (Roe 1993a, Oliver 1998) have theorized that the Tanamá River, the source of



Figure 11. Location of Atajadizo in relation to other coastal sites. (From Samson 2010:67, Figure 4)

several of the igneous monoliths within the site, would have represented the feminine aspect of the cosmos. However, the river also had a practical use. A stone walkway leads to the edge of the terrace. This walkway likely originally led all the way down the embankment to the edge of the river, but has long ago been destroyed by cultivation of the valley (Figure 12). The walkway implies that the original entrance to Caguana led up from the river. The river in this case would have been akin to the modern highway, used to transport the large amounts of people who would periodically gather at Caguana. The Yuma River near Atajadizo probably also served functional



Figure 12. Stone walkway at Caguana. Edge of terrace in background. (Personal photograph)

purposes, as a source of water, food, and an easy route to the coast for the inhabitants of the region.

Cueva Lucero and La Aleta: Intersite Comparison

While comparison of the landscape surrounding Caguana and Atajadizo is necessary in investigating the geological aspects of the two sites, looking at the surrounding landscape of cave sites such as Cueva Lucero and La Aleta is not able to produce as much information. After all, while *bateys* are made by humans, and therefore their location is subjective, caves as a naturally occurring formation are not affected by the same influences. Instead, it is beneficial to look at the

ways which the sites were used internally.

In many ways, Cueva Lucero is representative of many dry caves used by Taínos. Most of the evidence of use is expressed through petroglyphs and pictographs etched or painted onto the surface of the caves walls. As the layout of the cave has been described elsewhere (pgs. 24-25) it will not be described again here. However, it is important to note the various galleries and the type of rock art contained within each. The figures within Cueva Lucero are a mix of anthropomorphic, zoomorphic, and abstract images which are grouped within each gallery (See Table 1).

Table 1. Distribution and type of rock art in Cueva Lucero. (From Hayward et al. 2009)

Gallery	# of Figures	Types of Art	Types of Figures	Natural Light
B	18	Both	Anthropomorphic	Ambient
A	18	Petroglyphs	Anthropomorphic	Diffuse
C	10	Pictographs	Zoomorphic	None
D1	1	Pictographs	Anthropomorphic	None
D2	5	Pictographs	Anthropomorphic, Zoomorphic	None
D3	10	Pictographs	Zoomorphic	None
D4	7	Pictographs	Abstract	None
D5	12	Pictographs	Zoomorphic	None
D6	3	Both	Anthropomorphic	None
D7	7	Pictographs	Anthropomorphic	None
D8	34	Pictographs	Anthropomorphic, Zoomorphic, Abstract	None

In addition to the rock art present, ceramics and human bones have been recovered from Gallery A, implying that the cave may also have been used for burials, a common purpose of Taíno cave sites. However, these remains were recovered from underneath the rubble of the collapsed ceiling in Gallery A. If there were burials in the cave, it is probable that they are buried beneath the large stones and are not accessible for study (Figure 13).

Gallery D, with the most figures of all of the galleries, seems to be the area of primary importance in the cave. There are several unique characteristics of this gallery which sets it apart

from the others. The first and most obvious is the entrance into the gallery. Upon entering the cave, one has to crouch to enter into and through Gallery B, but it is not a constricting or particularly unpleasant feeling, especially with the aid of natural ambient light guiding the way. Gallery A is wide and airy, and Gallery C has a squat, but wide opening that, with the exception of a bit of climbing, is not difficult to pass through.

Gallery D, on the other hand, has a low, constricting entrance which necessitates crawling through on hands and knees. Although the passage is not especially long, approximately 15m (Hayward et al 2006:124), it is an imposing feeling to crawl through the passage, especially for someone who does not spend a lot of time in caves (Personal observations). The passage would have been even more difficult for pre-contact people to explore and move about in aided by only torches made from bound fibrous materials, of which some evidence has been recovered from the cave, to light the way. (Katrina Kruse, personal communication). Caves were considered by the Taínos people as a part of the world of the dead, *Coabey*, and a theme which spans this area of research is the idea of “passing through” from one world to another through areas which acted as portals. Having to crawl through a dark and cramped passageway may have been seen as one of these portals, and the act of moving through to Gallery D would have represented accessing a part of another realm.

Although Gallery D is listed as having no natural light, it is well known for a small opening at the roof which creates the illusion of a star-like light, hence the name of “Cueva Lucero”, literally meaning “cave of the bright star”. The light from the opening is negligible and not enough to actually illuminate the chamber, and so the natural light has been listed as “none” in Table 1 (Personal observation). This illusion of having a star in the ceiling of the chamber may



Figure 13. Gallery A with rubble in foreground from rood collapse. (Personal photograph)

have reinforced the idea of entering into another realm, one which has a night sky of its own like the human world does. The nighttime is known to be considered by the Taínos as the time that the dead wander the human world (Arrom 1999:18) and the illusion of a world that has eternal night might have been more evidence of the otherworldiness of this place. Finally, several colonies of bats make their home in Gallery D. Bats, said to be one of the forms which the dead take when they venture out at night to feed on fruit, held much cultural significance to the Taínos, and the presence of a revered animals would have added to the importance of the cave (Poviones-Bishop 2001).

La Aleta is also has unique characteristics which informed its use. Artifacts recovered from La Aleta reflect ritual use of the cave, unlike other caves within the East National Park such a Cueva de Chico, a comparable sinkhole which was used functionally as a source of fresh water. Artifacts recovered from caves like Cueva de Chico tend to be utilitarian items such as minimally decorated *potzias* (bottles). Alternately, La Aleta has produced preserved organic items which are known to have specific religious function (Table 2).

Table 2. Organic artifacts recovered from La Aleta. (From Conrad et al. 2001)

Artifact Type	# of Artifacts	Y/N Presence of Decoration
Duho seat	1	N
Duho fragment	1	N
Bowl	6	Y
Small vessel	1	N
Large haft	3	Y
Small haft	1	N
Carved crocodilian figure	1	Y
Canoe paddle fragment	1	N
Macana (war club)	1	N
Vomiting spatula	1	N
Unidentified Fragments	4	N

The presence of *duhos* and vomiting spatulas in particular indicate a ritual use of the cave. *Duhos* are small ceremonial stools which served both ritual and political functions, serving as literal seats of power. The *duhos* recovered from La Aleta are extremely small, measuring only 19cm long by 9cm high. It is theorized that they were not meant to be the seats of a human *cacique*, but rather a *zemí* (Becker et al 2002:11). A vomiting spatula, used in *cohaba* rituals to purify through regurgitation, and a small wooden vessel tentatively labeled as a bowl to hold *cohaba* seeds of snuff indicate sacrifice of high value items.

Ceramic items recovered show a greater variety of form than those recovered from comparable sites. Although Cueva de Chico produced only bottles, the types of ceramics

recovered from La Aleta include bowls, jars, bottles, platters, and burns (Table 3). Also of interest is the condition that many of the ceramics were in. Surveys of the floor of the cave revealed ceramics which were broken into large pieces representing more than 50% of the whole vessel and intact vessel. Of the ceramics recovered, 27 out of 191 were whole, while 53 were sherds large enough to constitute at least 50% of the vessel.

Table 3. Ceramics recovered from La Aleta by form and subform.(Beeker et al. 2001:14, Table 1)

FORM	Subform	Number (Subform)	Number (Form)
BOWLS	Simple profile (incurved)	50	51
	Composite profile (double-bulbous)	1	
	JARS		
BOTTLES	<i>Potiza</i>	11	12
	Double-bulbous body	1	
PLATTERS			4
BURENS			6

This condition implies purposeful depositing of vessels into La Aleta. Additionally, artifacts were not distributed evenly on the floor of the cave. Rather, there were clumpings of artifacts in areas which seems to suggest a repeated, formalized action regarding their deposition (Figure 14).

Beeker et al. (2001) proposes that La Aleta was a site of regional importance. The depositing of objects known to have ritual importance in reverent, systematic method along with the lack of evidence for large permanent settlements at the adjacent *batey* site seems to indicate an area which operated as a political, social, and religious gathering place for the inhabitants of

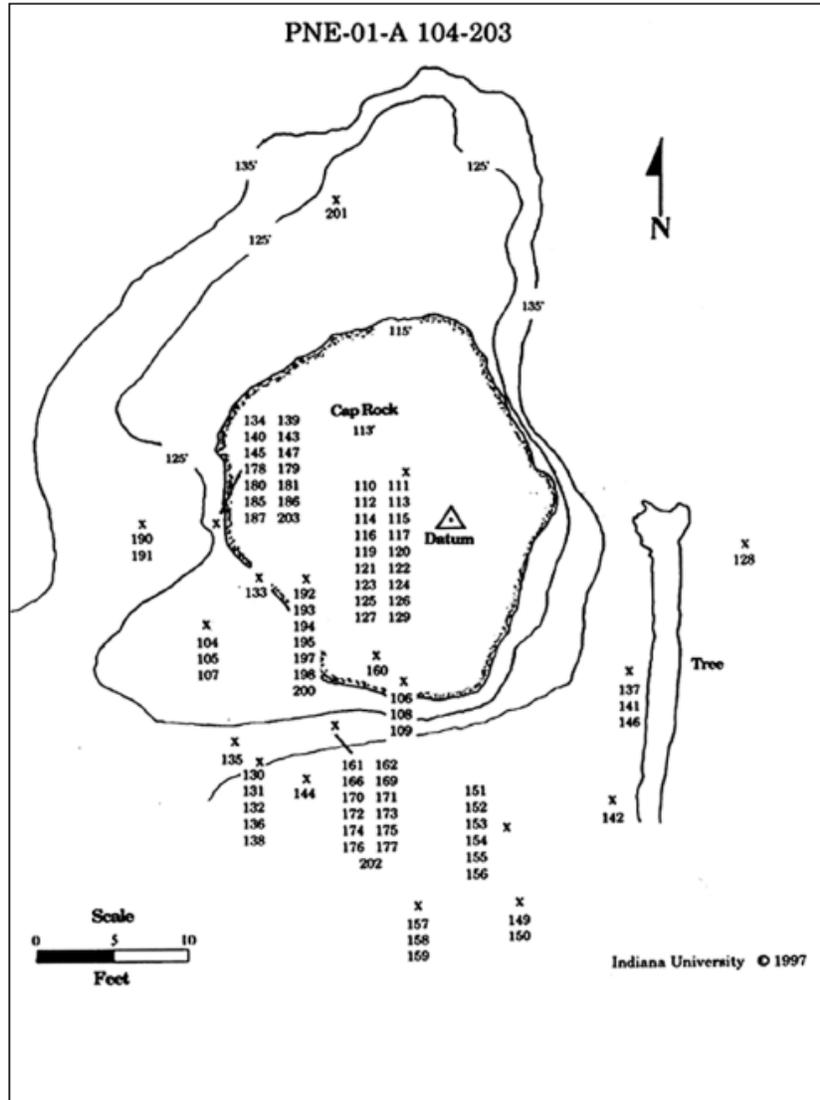


Figure 14. Distribution of artifacts in La Aleta. (Conrad et al. 2001:4, Figure 3)

the *caciazaga* of Higüey. It is suggested that La Aleta reached such levels of importance because the cave itself was viewed as a portal to Coabey. When looking up from the surface of the water, one can see the sky, and when looking down into the cave from the surface, the murky surface of the water which is the gateway between realms. It is “argued that to the Taínos of the region, this view upward was essentially a view along the *axis mundi* that united the surface world of the

earth with the heavens and the underworld” (Beeker et al 2002:20).

Three physical attributes of the site are referenced as highly influential in the use of the site. First, the vertical nature of the cave lends itself to the idea of the *axis mundi*, an idea which requires a straight shot, so to speak, between the underworld, heavens, and the earth. Other caves, even other submerged caves, which have a horizontal approach rather than a vertical one do not evoke the same imagery. Second, the water in the cave is very deep, obscuring the exact depth and adding to the illusion that the cave is in fact bottomless. Finally, the sulfide layer in the water also adds to this mystique. Objects deposited into the water would sink to a certain depth before disappearing in the murky layer, which it is argued would have been interpreted as the exact moment of passing out of the human world and into the underworld (Beeker et al 2002).

In comparing the usages of Cueva Lucero and La Aleta, there seem to be more differences than similarities. Although they are both locales which would have been considered to be part of the underworld of Coabey, they display drastically different artifacts and, seemingly, levels of importance. It would be unfair to state that this is simply a result of La Aleta being a submerged cave. As has been mentioned, other submerged caves in the area do not have the same connotations as La Aleta and seem to have been used as little more than sources of fresh drinking water. It would seem instead that La Aleta stands out amongst submerged caves, while Cueva Lucero can be used as an example of dry caves without showing signs that it was of particular importance.

It seems that the main reason for this is the unknowable aspect of La Aleta. Cueva Lucero, while having ties to the ideas of *Coabey* and portals to access it, is ultimately a physical space that the native people were capable of exploring. Being able to know the extent of the

cave, the simple fact that it does have an end and parameters, decreases the mystery and the characteristic of being unknowable, of being beyond human perception. Alternately, La Aleta was not a space that prehistoric people could explore because of its depth. Even if a person was to be lowered into the surface of the fresh water lens, it would be impossible for them to gain an understanding of the true depth of the cavern.

Caguana and Atajadizo: Intersite Comparison

The site of Caguana has very little evidence for long term human occupation. Most of the evidence for standing structures is located in and around the Plaza C and D in the form of a series of post holes, and these most likely represent ceremonial structures and the few dwellings present on the site. In addition to the appearance of post holes, the area in and around Plaza C contains several ash lenses, likely representing phases of construction of the plazas, where existing structures were removed by burning (Oliver 1998).

The area immediately surrounding Caguana shows a large amount of sites ranging from other ceremonial precincts to proposed agricultural terraces (Figure 15). Habitation sites surrounding Caguana are dispersed, and are believed to be composed of single household farmsteads. (Siegel 2005)

In contrast with Caguana, which exhibits many surrounding sites but a relatively small population, Atajadizo is only within immediate proximity with one other site. While Atajadizo places its earliest dates (based on pottery styles recovered from the site) at A.D. 625 at the earliest, the site of Musie Pedro approximately 1 km away has produced ceramics which date the site as early as B.P. 2250 \pm 80 (Ramos et al. 2008:51). These sites were not contemporary with each other, and the placement of Atajadizo so close to the former site of Musie Pedro may

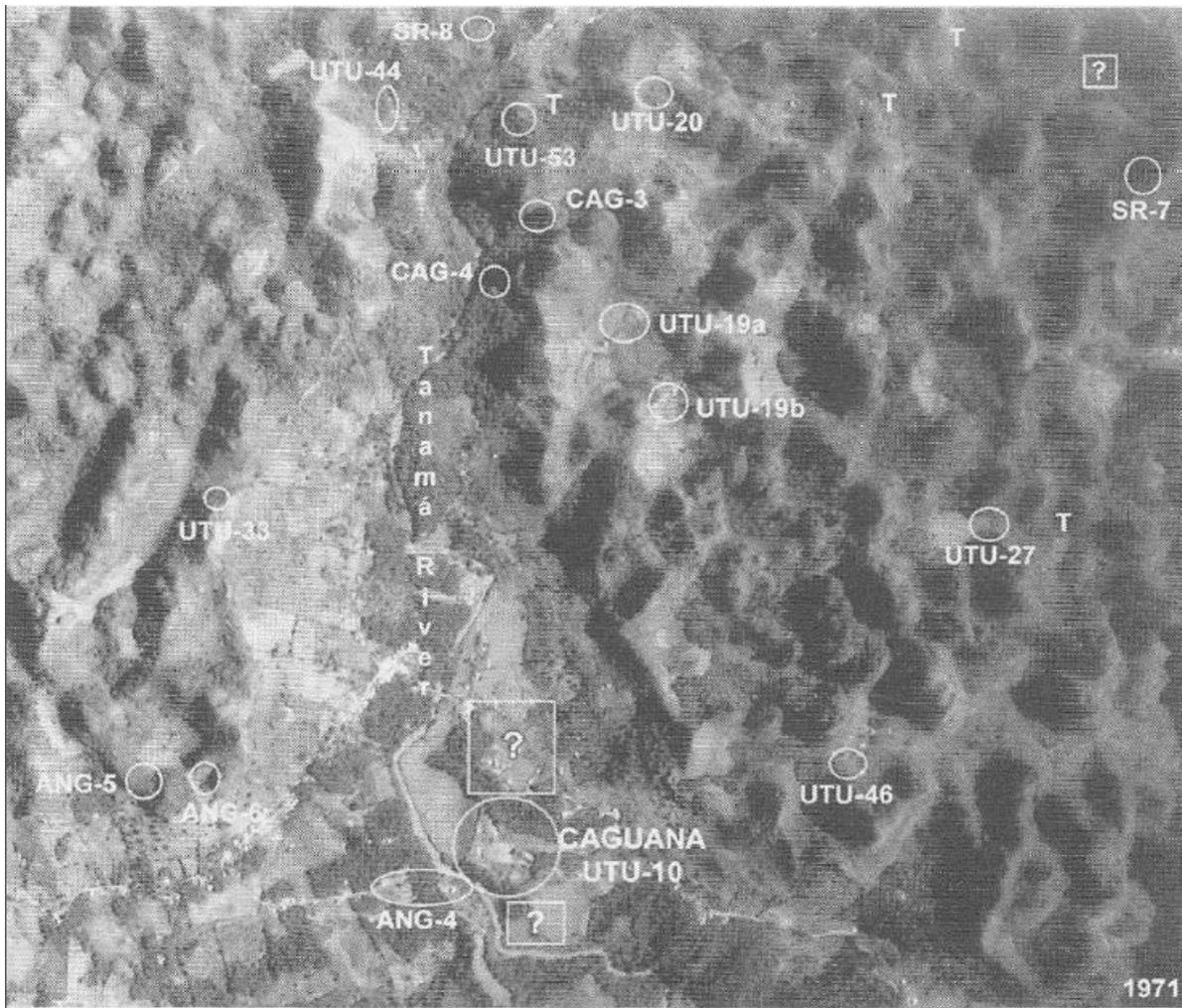


Figure 15: Locations of archaeological sites in the vicinity of Caguana (Site U-10). Aerial Photo 1971. Autoridad de Carreteras de Puerto Rico. Circles and ovals: archaeological site. Squares with "?": confirmed ceremonial precincts, now destroyed. "T": surveyed agricultural terrace complexes. (Oliver 1999:233 Figure 7.2)

simply have been the result of the new inhabitants of the area taking advantage of the same resources that had attracted previous groups. Most of the evidence of the relatively large population at Atajadizo comes from within the site itself.

The layout of Atajadizo during the Guayabal phase during which organization of mounds and dwellings became centered around the central plaza reflects a focusing in Taíno culture on the political center of power, the *cacique*, whose role in society was complimentary to that of the

behique. During this time, a marked increase in importance of ritual activity at Atajadizo can be seen through examining archaeological evidence (Figure 16). Additionally, burials which were no longer in household contexts were moved to designated cemeteries. Secondary burials in nearby a nearby cave system also began to occur. Veloz Maggiolo theorized that these changes came about because of a shift from “tropical forest culture” to a chiefdom society (Samson 2010:64). The increased emphasis on ritual in the later phase of occupation seems to be an organic evolution of the sites, which changes along with the culture of its inhabitants.

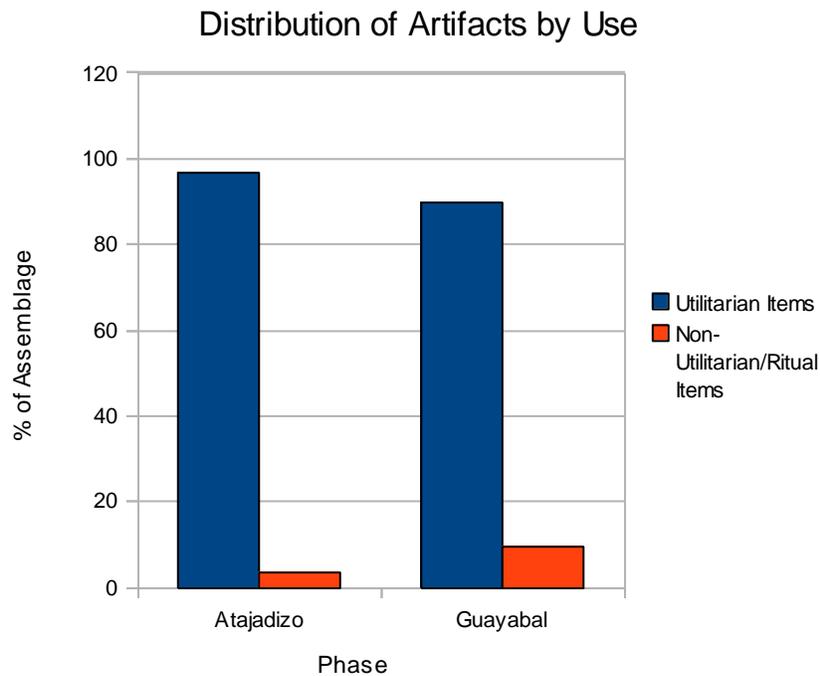


Figure 16: Distribution of artifacts in phases of Atajadizo by use.

In contrast with the evolving role of ritual at Atajadizo which expands over time as the Taíno culture changed, there is evidence to suggest that Caguana was carefully planned. Caguana shares many characteristics with another plaza site located in southern Puerto Rico called Tibes. There are obvious similarities between the site layouts (Figures 17 and 18). Like Caguana, Tibes

was a civic-ceremonial plaza site, with several stone-demarcated plazas. Tibes began as a Saladoid village between B.C. 200 to A.D. 600. Originally, the site consisted of a single multipurpose plaza which was also utilized for burials, a common use for plazas during the Saladoid period. However these burials ceased as Tibes moved into the Ostionoid period, a larger major central plaza and additional plazas were constructed with stone boundaries, much like those at Caguana. The central plaza at Tibes also hosted petroglyphs carved into the igneous marker stone, concentrating on the eastern and western rows of monoliths, very similar to Caguana. Tibes became the largest civic-ceremonial site in Puerto Rico by A.D. 900 and began its decline around A.D. 1200-1300, just about the time that Caguana was rising in importance. José Oliver questions whether Caguana was somehow involved in the downfall of Tibes through political means, or if it was a result the balance of power shifting in “an island wide realignment of political leaders and territorial boundaries” (Siegel 2005:238). Either way, if Caguana was the intentional successor to Tibes, then the choice of locations for the site is even more intriguing. It would be shrewd for a rising power to choose to create a new civic-ceremonial center in a location with as much symbolic religious meaning as Caguana, especially when taking into account the deep connections between *caciques* and *behiques*. Control of the site could have validated their rise to power and secured that position for some time to come.

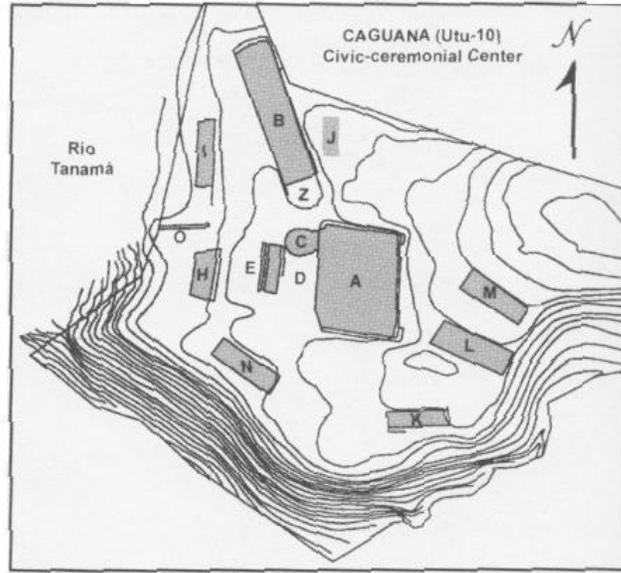


Figure 17. Orientation of plazas within Caguana. (Oliver 1999:240 Figure 7.6)

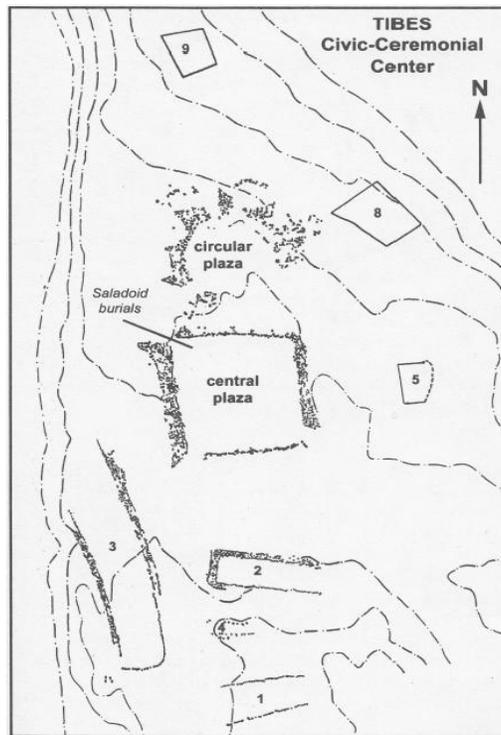


Figure 18. Orientation of plazas within Tibes ceremonial center. (Oliver 1999:239: Figure 7.5)

CONCLUSIONS

In examining these four sites and how they are used, three main trends can be identified. First, when comparing Caguana and Atajadizo it is clear that the difference between a site's primary function affects how much it will or will not be affected by culturally significant ideas regarding landscapes and their symbolic meaning. Simply stated, a site which was intended to become a ceremonial center will be more influenced by its geological setting of its situation than a site which developed from a large habitation. In a habitation site, the primary function of the settlement is to provide for the needs of the residents. In the case of Atajadizo, the site was primarily a habitation locale, and the construction of a central plaza and the surrounding mound structures was meant to serve the needs of the people who were already populating the site. Its configuration developed not because of its symbolic geomorphological characteristics, but because of its practical qualities in supporting a population. Throughout the use of the site, as the culture of the inhabitants changed, they altered the site to create culturally appropriate settings within the existing landscape. The construction of a central plaza served the need of the population for a center, spiritually, culturally and politically since in Taíno culture religious theory underwrote all of these social spheres. The idea of caves as a sacred place and portals to the world of the dead is an old idea which Taíno people shared with many other peoples throughout Meso and South America, so it is likely that the presence of caves close to the Atajadizo phase settlements did not go unnoticed. Later, during the Guayabal phase, the use of the caves as burial grounds began as the people adapted to shifting customs and beliefs ushered in by the new political order of the chiefdom.

This adaptation to the pre-existing landscape of a settlement contrasts with the way that a ceremonial site such as Caguana was used. In the case of a site which was intentionally chosen as a ceremonial complex, much more consideration would have been put into the placement of the site into a culturally significant landscape. This type of site would not have necessitated taking into account human needs, and so more emphasis could be placed on the symbolic aspects. Not only is there much more freedom in choosing the site, there is also much more importance in choosing the *correct* site. Caguana was a regional ceremonial and political center of great importance. Placing it in a location like Caguana with a landscape with as much meaning as Cerro de Cemi would have given the area a sense of legitimacy, a serendipitous sense of having been shown through signs that this is where the center is supposed to be.

The second trend is apparent when looking at the cave sites. It would seem that a contributing factor to a ceremonial site such as a cave being elevated over other similar cave sites is the site's tendency to be inaccessible, thus creating the aura of the unknowable, of the world beyond the human world. Notice that in the three caves which were mentioned, two of them, Cueva Lucero and Cueva de Chico, were accessible to humans. Cueva de Chico was used as a mundane source of water, while I have made the argument that aspects of Cueva Lucero reinforced the idea of passage into Coabey and the realm of the undead. But although Cueva Lucero was obviously used ceremonially, it was not the focal point of a ceremonial complex like La Aleta. The difference may be the inaccessibility of La Aleta coupled with its unique geological traits. Humans could explore Cueva Lucero and Cueva de Chico. In Cueva de Chico they could even gaze into the water and see the bottom of the cave. But they had no way of entering into La Aleta to understand the physical space, and the chemistry of the water made it difficult to estimate the depth of the water that to the Taínos and even the later Spanish who

gazed upon the water, seemed bottomless. Therefore it was conceptualized through a construct which made logical sense to the Taínos; that La Aleta was a portal to Coabey, and therefore a sacred place. More than that, it was a *unique* portal, one unlike any other.

In looking at all four sites, the regional importance of Caguana and La Aleta make them stand apart from Cueva Lucero and Atajadizo in terms of their impact as ceremonial sites. The reasons for this are varied, and likely include a variety of political as well as religious factors. Geologically, the aspects of these sites that sets them apart from others that served similar purposes lies in what Stevens-Arroyo deems “the uncanny”. He proposed that the idea of the uncanny held great importance for the Taíno in order to recognize signs of the numinous in the human world. The example of the Taínos man recognizing a tree as a *zemí* spirit based on the unusual way it blew in the wind shows how perceptive their culture was to small details. The landscapes of the significant sites of Caguana and La Aleta are an inversion of this search for small detail. Instead of being a small sign, the unusual geomorphology of these sites made them billboards of meaning. Conversely, Atajadizo was a court site which was created by humans, and while important to the inhabitants of that area, had less influence regionally because it did not have any of these types of unusual aspects that would have a wide-reaching, regional importance to it. Cueva Lucero falls into the same category. It was a sacred place because it was a cave, but as an explorable place without mystery or a culturally relevant aspect to make it stand apart from other caves like it, it was one of many instead of being the one and only.

Finally, we should keep in mind that in Taíno culture religion and politics were closely tied together. A political leader who understood the power behind religious symbols would be in an excellent position to use these associations to his advantage. This does not mean that every ceremonial site is the result of a power struggle between rising *caciques*. Even out of the sample

of four sites which have been examined only one, Caguana, seems to lend itself to this situation. But considering in the long and colorful history of politics throughout the world, it does seem unlikely that the Taínos were somehow exempt from political machinations.

Understanding the landscapes which held ritual significance to Taínos may help in the future location of sites. Due to the geography of the region, detailed pedestrian surveys are often difficult. Taking into account some of the basic ideas explored here could aid in concentrating efforts to locate new sites in areas which exhibit similar characteristics to known sites.

Additionally, because of the intertwined nature of Taíno religion, political structures, and social interactions, understanding the role that the sacred landscape played may help to better understand the cultural meanings of the sites, and furthermore the meanings that they had within the society as a whole.

The existence of historical documents supplies us with confirmation that in the case of the Taínos the landscapes were actively considered, and they played a large role in the placement of sites intended for ceremonial use. Using this example, it may be possible to observe similar trends in other shamanistic cultures for which there are no ethnohistorical accounts. However, caution should be exercised in extending this model of behavior too far onto cultures wherein the only aspect of culture shared with the Taínos is evidence of shamanistic activity. Similarities in subsistence patterns and social stratification would strengthen such a comparison.

BIBLIOGRAPHY

- Arrom, Jose Juan (ed.)
1999 *An Account of the Antiquities of the Indians: Chronicle of the New World Encounter*.
Durkham: Duke University Press.
- Alegría, Ricardo E.
1965 *On Puerto Rican Archaeology*. *American Antiquity* 31(2): 246-249.
- Anati, Emmanuel
2010 *World Rock Art: The Primordial Language*. Archaeopress: Oxford
- Beeker, Charles D., Geoffrey W. Conrad, John W. Foster
2002 *Taíno Use of Flooded Caverns in the East National Park Region, Dominican Republic*.
Journal of Caribbean Archaeology 3:1-26.
- Bercht, Fatima, Estrellita Brodsky, John Alan Farmer, Dicey Taylor (eds.)
1997 *Taino: Pre-Columbian Art and Culture from the Caribbean*. New York: The Monacelli
Press.
- Bidó, José Gabriel Atilés, Michele H. Hayward (trans.)
2009 *Rock Art Studies in the Dominican Republic*. In *Rock Art of the Caribbean*. Tuscaloosa:
The University of Alabama Press.
- Caguana Indigenous Ceremonial Park
2011 *Parque Ceremonial Indígena de Caguana*. Promotional pamphlet.
- CIA World Factbook
2010 *Central America and the Caribbean: Puerto Rico and the Dominican Republic*.
<https://www.cia.gov/library/publications/the-world-factbook/geos/rq.html> and
<https://www.cia.gov/library/publications/the-world-factbook/geos/dr.html>. Accessed
November 26, 2010.
- Conrad, Geoffrey W., John W. Foster, Charles D. Beeker
2001 *Organic Artifacts from the Manantial de La Aleta, Dominican Republic: Preliminary
Observations and Interpretations*. *Journal of Caribbean Archaeology* 2:1-20.
- Curet, L. Antonio, José R. Oliver
1998 *Mortuary Practices, Social Development, and Ideology in Precolumbian Puerto Rico*.
Latin American Antiquity 9(3): 217-239.
- Fitzpatrick, Scott
2004 Carriacou Archaeological Survey Project, West Indies. Electronic document,
<http://www4.ncsu.edu/~smfitzpa/research/carriacou.html>, accessed December 4, 2010.

- Hayward, Michele H., Peter G. Roe, Michael A. Cinquino, Pedro A. Alvarado Zayas, Kenneth Wild
2009 *Rock Art of Puerto Rico and the Virgin Islands*. In *Rock Art of the Caribbean*. Tuscaloosa: The University of Alabama Press.
- Keegan, William R. (editor)
1992 *Spanish Boarderlands Sourcebooks: Earliest Hispanic/Native American Interactions in the Caribbean*. Garland Publishing, Inc. New York
- Maggiolo, Marcio Veloz, Iraida Vargas, and Mario Sanoja O.
1976 *Arqueología de Yuma*. Santo Domingo, Dominican Republic: Taller
- Mason, John Alden
1941 *A Large Archaeological Site at Capa, Utuado, with Notes on Other Porto Rico Sites Visited in 1914-1915*. Scientific Survey of Porto Rico and the Virgin Islands, Vol 18, part 2: 209-272. The New York Academy of Sciences: New York.
- Oliver, José R.
1998 *El Centro Ceremonial de Caguana, Puerto Rico: Simbolismo, Conográfico, Cosmovisión y el Poderío Caciquil Taíno de Boriquén*. BAR International Series 727. Archaeopress: Oxford.
- Oliver, José R.
2005 *The Proto-Taíno Monumental Cemís of Caguana*. In *Ancient Borinquen: Archaeology and Ethnohistory of Native Puerto Rico*. The University of Alabama Press: Tuscaloosa.
- Picó, Rafael
1974 *The Geography of Puerto Rico*. Adaline Publishing Company, Chicago.
- Poviones-Bishop, Maria
2001. *The Bat and the Guava: Life and Death in the Taíno Worldview*
J. I. Kislak Foundation, Electronic document,
<http://www.kislakfoundation.org/prize/200103.html>, accessed October 4, 2010.
- Rouse, Irving
1992 *The Taínos: Rise and Decline of the People Who Greeted Columbus*. New Haven: Yale University Press.
- Samson, Alice V.M.
2010 *Renewing the House: Trajectories of Social Life in the Yucayeque (Community) of El Cabo, Higüey, Dominican Republic*. Sidestone Press, Leiden, Netherlands.
- Sanderline, George (ed.)
1992 *Witness: Writings of Bartolome De Las Cases*. Mayrknoll, New York: Orbis Books.

Saunders, Nicholas J.

2005 *The Peoples of the Caribbean: An Encyclopedia of Archaeology and Traditional Culture*. Santa Barbara: ABC-CLIO.

Tomkins Collection

2005 Greater Antilles, Zemi, trigonolito. Electronic document,

http://www.tomkinscollection.org/static/object_142.html, Accessed April 28, 2011.

Stevens-Arroyo, Antonio

2006 *The Cave of the Jagua: The Mythological World of the Taínos*. Scranton. University of Scranton Press.

Wilson, Samuel M., ed.

1997 *The Indigenous People of the Caribbean*. Gainesville: University Press of Florida.

Wilson, Samuel M.

2007 *The Archaeology of the Caribbean*. Cambridge: Cambridge University Press.

Appendix A: Index of Taíno Terms

Atabey – Mother of Yúcah. Main female diety responsible for human reproduction and fresh water.

Areytos – Dancing courts found in Puerto Rico and eastern Hispaniola.

Arawak – South American language group of which Taíno language was descended.

Batey – Ball game played by Classic Taíno people. Similar in many regards to other games played throughout Central and Mesoamerica.

Behiques – Taíno shaman.

Caciazagas – Regional chiefdoms of Hispaniola.

Cacibajagua – Mythical cave in Hispaniola where it was believed that humans had sprung from. Name translates to Cave of the Jagua.

Cacique – Chief of a Taíno village.

*Caney*s – House of the cacique. Often served dual religious/ceremonial and political purposes.

Cassava – Bread made from processed manioc flour.

Cohaba – Hallucinogenic plant smoked and snorted by behiques in healing and religious ceremonies.

Duhos – Intricately carved wooden thrones of the noble class.

Guanajatabey – Inhabitants of northwestern Cuba. Culturally distinct from Taínos.

Guanine – Beaten silver and gold personal adornments traded down the line from South America.

Iguanaboína – Mythical cave in Hispaniola where it was believed that the sun and the moon sprung from.

Island-Carib – Inhabitants of the Lesser Antilles. Newly introduced at the time of contact, with a warlike culture.

Manioc – Tuber which formed the staple of the Taíno diet.

Montones – Mounds constructed in which to grow manioc and sweet potatoes.

Naboria – Taíno common class.

Nitaino – Taíno noble class.

Op'a – Spirits of the dead. Resided in caves and travelled out during the night in the form of bats to eat fruit.

Taíno – Prehistoric inhabitants of much of the Greater Antilles. Chiefdom societies with intricate ceremonial and horticultural practices.

Yúcah – Main deity. Son of Atabey, responsible for seas.

Zagueyes – Limestone sinkholes

Zemís – Spiritual beings including ancestors, gods, and natural spirits. Also refers to the physical representations of these beings in stone, wood, cotton, and other materials.