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Dominican Bohío. Origins and Evolution

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Introduction

The bohío, still used by a large part of the Dominican rural population, has its origins in the bohío taino, or the dwelling of the aboriginals who the Spanish found on the island at the moment of contact in 1492. These dwellings have evolved until becoming the type of bohios we see today, constructed with organic materials and which are the expression of vernacular architecture in the Dominican Republic.

In accordance with documents written by Christopher Columbus, the Chroniclers of the Indies and other individuals who lived through this encounter between Spanish conquerors and the people who lived in the archipelago of the Antilles can affirm that the Española island principally was populated by the tainos (of the Arawak group), who lived under a chiefdom system (*sistema cacical*), situated in many small villages and large towns where the houses of the principal caciques were located.

The dwellings in these population centers did not have an apparent order, except in the large towns where the layout of two crossing streets is mentioned, which gave a certain order to the town and where the buildings of the caciques were arranged in relation to the central plaza, where political and religious power converged as an expression of collective activity, which converted them into the centers of communal action. The large towns had various plazas or bateyes, where ball games developed, some of which had seats to watch the games, often located under shady trees. These plazas had a ritual meaning because they were the primordial places for meetings and decision-making in pre-Columbian society.

As regards the architecture, we have found four types of buildings: *bohios* or dwellings, kitchens, temples and atarazanas or sheds to protect the large canoes. To this we can add the barbacoas or elevated warehouses to store grain and other foodstuffs, which also might have been used as bases for scaring off birds that came to feed on the corn. There is not much information available about the atarazanas and barbacoas which makes it difficult to describe their basic form and method of construction.

The dwellings could have had a circular floor, which were called caneyes and were the most common, or they could have had a rectangular floor, which were called bohíos, although this term was used, at least by the Spanish, generally as a synonym for house. On the island of Haiti or Española, the majority of the bohíos housed a nuclear family, even though others of greater size are mentioned that served as residences for extensive or extended families comprised of multiple generations.

The basic structure of the bohío was based on thick beams, 25 cm in diameter, with the top in the form of a fork which supported the soleras or wall plates. These posts were buried 80 cm and the space between them was filled with poles or canes placed vertically. The soleras supported large poles, which were criss-crossed by canes, latas or laths in order to make them more solid, which they put two by two, a foot apart. All of these elements which comprised the structure of the bohío were tied with vines (bejucos o lianas), as the Indians had not discovered the use of the nail. The roof

basically was made from *yaguas* (*shaft leaves of the royal palm*), leaves of cane palm, royal palm, guano, *bihao* or straw. The *caney* with a circular floor had a conical roof of great height and the bohío with a rectangular floor had a gabled roof.

The dwelling had a sole access point, of approximately 1.25 meters in height, devoid of doors. To close it, they were limited to crossing sticks to indicate that one could not enter, or using mats like curtains. Even though a window is shown in the drawing of the bohío of the cacique that appears in the General and Natural History of the Indians of 1535, by Gonzalo Fernández de Oviedo, in no description is this element mentioned.

The interiors of the houses were simple and typically had no internal divisions, although it appears that the large dwellings did have partitions which formed different spaces or rooms. The principal decorative elements were the mats which occasionally covered the walls. The floors were dirt and well swept, but there are descriptions of floors made of small bricks, black or white, with ornamental designs, of which we have not heard of any archeological evidence. Woven mats of vegetal fibers also were used to cover the floors.

The houses or palaces of the caciques, as we already have described, were very different from the rest because they were much larger, and were rectangular with interior divisions, galleries, gabled roofs and external kitchens. There is also information about the use of *embarrado* (mud plaster) in the partitions or dividing walls. The interiors, in addition to the brick floors and mats, also were decorated with polychromatic cotton hangings and had as additional furniture a *dais*, where the principal cacique sat to meet with his caciques and guests. Regarding the exterior kitchens of the caciques' houses, we know only that they were large and capable of simultaneously accommodating forty Indian cooks.

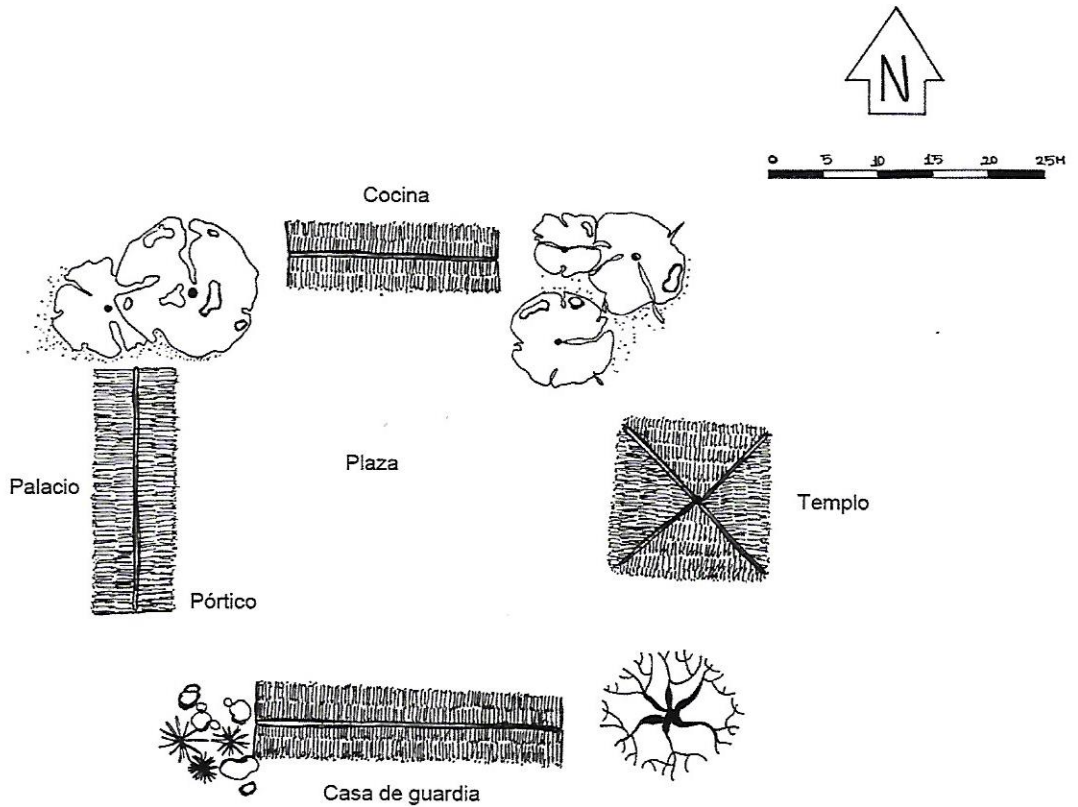


Figure 1. Interpretation of the plaza with the palace of Guacanagarí

Another type of building was the temple, which in the case of the town of Guacanagarí was square with sides 16.80 meters long and walls 4.20 meters high, with a pyramidal roof. It had decorated black brick floors, and on the walls were fine colored tapestries, on which hung idols made of wood and gold. In the center of the temple was found a square altar of 1.68 meters in height, covered by cloth panels similar to the tapestries.

Even with all of the information that we have succeeded in collecting, historical documents as well as archeological reports, there are still great holes and inaccuracies in relation to indigenous architecture on Española. It is important to keep looking in documents and ancient books in search of any information that could answer all of these pending questions. Reports and studies made by archeologists, in the island of Santo Domingo and in the rest of the region, must be painstakingly analyzed in order correctly to interpret the remains of post holes. The still on-going investigation of the taino site of Los Buchillones in Cuba, as well as of the Los Cabos and Nisibón sites in the Dominican Republic, could provide reliable information about the shape, materials, measurements and proportions of the bohíos and the types of constructions made by taino groups, as well as data about their settlements.

The analysis of the Relations of Rodrigo de Escobedo of 1492 was of singular importance to this investigation, as it led us to determine that the drawings of the bohío and caney that appear in the *Historia General y Natural de Indias* by Gonzalo Fernández de Oviedo, are copies of those made by Pedro de Salcedo, a servant and later a representative on the Spanish island for Admiral Christopher Columbus, that formed part of the Relations of Escobedo.

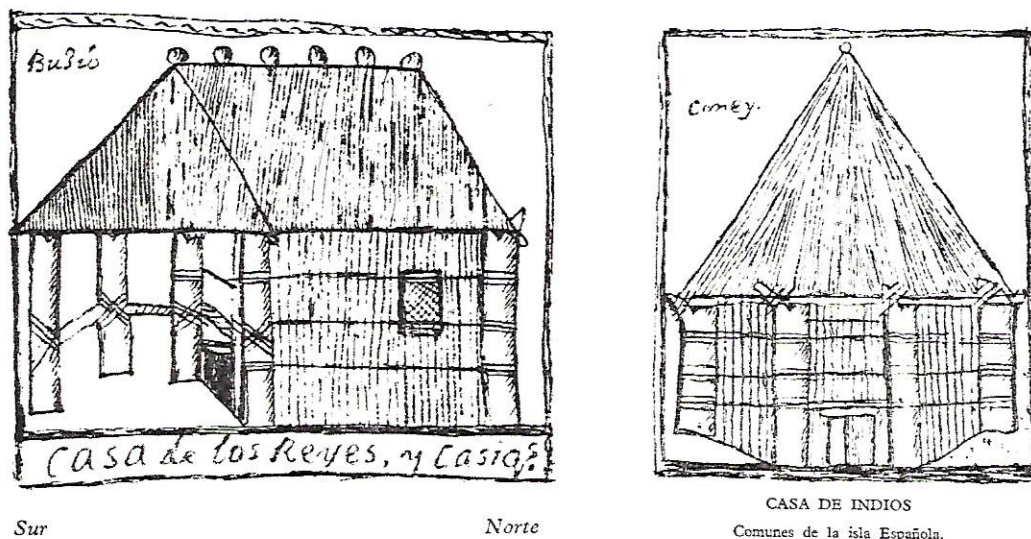


Figure 2. Bohío with square floor (left) and caney with circular floor (right).

The information provided by Escobedo confirms the existence of *bohíos* with a square floor prior to the arrival of the Spanish, contrary to the theories sustained by some archeologists and historians. As a result of the study of the rural architecture of Spain, it has been possible to identify certain types of dwellings or huts that bear some similarities to Dominican *bohíos*, such as with the case of the *barraca alicantina*, the *choza trebujena* and the *pallabarro gallego*.

Of all of these, the *barraca* is the one that has left more evident marks on the Dominican *bohío*. We can see this above all in the spacial distribution consisting of two settings, one for sleeping that constitutes the bed chamber, and the other that doubles as a living room and dining room, divided by a wall as high as the *solera* (wall plate), with a hole in the middle in which a curtain is placed. Additionally, one can also observe the great similarity in the furniture and some customs, such as the placement of religious images and family photographs.

With respect to the *chozas* or *chozos*, in addition to their similar interior, they have a great similarity to the *bohíos* of *bajareque* (wattle and daub) and roofs of palm leaves, which usually are called *chozas* in the Dominican Republic. The Spanish *choza* traditionally was constructed of mats and coverings of branches and straw, even though the *choza* with walls of stone and mud plaster was more prolific.

In these two types of dwellings, as well as in the *pallabarro gallego*, it was usual to find walls of *tabiques* or, in other words, strips of wood with a mud covering, similar to the *bajareque* reported in the *bohío taino* and to that still used in the *casa maya*. This construction technique also can be seen in the archipelago of the Philippines, which was a Spanish colony for a long period of time.

All of this information regarding *paredes de tabique* in Spain and its territories, as we mentioned before about the *bajareque* of the Antilles and the American Continent, demonstrates that this technique was not introduced to the island of Santo Domingo by the black slaves, as Dominican architects and historians contend. It was a construction method utilized more by the *negros cimarrones* (Maroons) or *libertos* (liberated slaves), because they already were familiar with it and because the necessary materials were easy to obtain, but it was not introduced by them to the island of Santo Domingo.

The Spanish adopted the *bohío taino*, which is confirmed by the Chroniclers, but they began introducing modifications, such as the use of boards made with metal tools which were unknown by the indigenous people, as well as the use of iron nails to attach them. It is important to note that at the moment of the Spaniards' arrival on the islands of the Caribbean, some types of vernacular architecture from the South of Spain were very similar to the indigenous *bohíos*, which facilitated their assimilation into the new Dominican vernacular architecture.

The use of boards nailed horizontally caused the circular model of the *bohío* to fall into disuse, and the model with the rectangular construction to dominate, to which the Spanish introduced the interior division, presuming the accuracy of the reports that the houses of the *caciques* were divided into different spaces.

Another modification which the Spanish introduced to the *bohío* was the greater height of doors and walls, as well as the proliferation of doors and windows. Just as rural dwellings in Spain were studied, the same was done to rural African dwellings, in the regions from which it is confirmed that the greatest number of slaves came to the island of Santo Domingo, which corresponds to the central region of West Africa.

Upon analyzing the rural dwellings of this region, it was noted that there were various similarities to the indigenous architecture of the Spanish, as already houses with circular floors dominated and the construction techniques of the *barareque* and the planted sticks were used in the construction of walls, typical of primitive architectures in diverse parts of the world. It was also noted that in fact very few types of African dwellings have any relation to modern Dominican *bohíos*.

In the majority of cases of traditional dwellings, whose construction continues to be circular, there is a single interior space, and if they have more than one bedroom, these are made out of separate constructions, forming annexes around a central patio. Many rural African houses that have rectangular floors and interior divisions have a Portuguese influence, which is attested to by different authors dealing with the subject¹⁰. The technique *pau-a-pique* or *bajareque* was promoted by the Portuguese, for they found it well suited to the region. The interior divisions, in some places, were imposed by the authorities and missionaries, who felt that parents and children should not sleep in the same room.

Independently of the use of walls of planted sticks, a construction technique utilized more by the indigenous Caribbean people, and the walls of *bajareque*, used by the *Tainos* and by the Spanish, important contributions of the Africans to the dominican *bohío* are not noted. Perhaps the most obvious contribution of the Africans to the *bohío* is the drawings on the mud plastered walls, which have a great religious content, a tradition to which Haitian immigrants have greatly contributed.

We can summarize by saying that the *bohíos* have a simple layout of a single floor, with the majority having roofs of cane palm leaves, whether with two or four gables, with walls being of three distinct types: earthfast posts, *bajareque* (wattle and daub) or flat slabs of palm wood.

It is precisely the materials and construction methods of the walls which have been considered most significant in Dominican vernacular architecture and which have been taken into account in establishing a typology of the *bohío* of the country.

Thus, we can state that there are three basic types of *bohíos*:

1. *Bohío* of earthfast posts.
2. *Bohío* of *bajareque*.
3. *Bohío* of flat slabs of palm wood.

The fact may be highlighted that the support structure of the *bohío*, which includes the vertical support elements and the *varazón* or roof structure, is similar in all types of vernacular Dominican architecture and, due to the simplicity of the system, is similar to other universal architectures for which they may be considered indigenous, even though today in place of fastenings with vines metal nails are used to join the composite elements.

With respect to the roofs of natural materials, two types have been identified, those of *yaguas* and those of palm leaves, whether *cana* or *yarey*, which is clearly reported by the Chroniclers used by the indigenous Antilleans, and therefore are indigenous materials and construction techniques of the region without Spanish or African influences.

¹⁰ PRIETO VICIOSO, Esteban. El bohío como expresión de la arquitectura vernácula dominicana en la Región Sur. México, 2008. Doctoral thesis. Biblioteca Central Universidad Nacional Pedro Henríquez Ureña
<http://181.36.9.115/oasis/Documentos/TesisDoctoralEstebanPrietoVicioso.pdf>

The elements comprising the *bohíos* are:

a) The Walls

The walls play two basic roles because they serve as support structures for the roof and to separate the dwelling climatologically from the physical exterior, as well as to separate the interior spaces. The walls of the *bohío* basically are constructed of vegetable matter, covered in some cases with mud plasters. The vernacular Dominican architecture does not use bricks, nor *adobes*, nor rammed earths, nor walls of masonry, possibly because of the prevailing benevolent climate, in addition to the poverty in which the Dominican peasant always lived.

The three types of walls that dominate the *bohíos* are: earthfast posts, with or without mud plaster; *bajareque* or *tabiques*, with or without mud plaster; and flat slabs of palm wood, whether of royal palm (*Roystonea hispaniolana*), *cana* (*Sabal umbraculifera*), *yarey* (*Copernicia berteroana*) or *manacla* (*Prestoea acuminata*). The three kinds use a similar support structure based on posts sunk directly in the earth, topped with the wall plates and tie beams, which form the top perimeter frame of the wall structure, on which rests the roof structure.

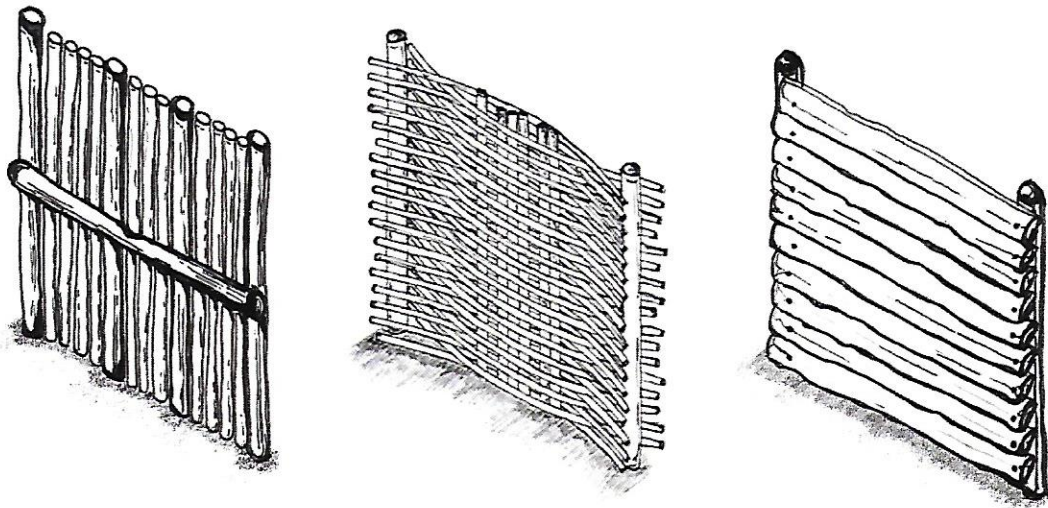


Figure 3. Different types of walls that dominate the *bohíos*

Walls of earthfast posts

The walls of earthfast posts, clearly of indigenous origin, are constructed based upon vertically-placed posts, one beside the other. Fernández de Oviedo describes this type of wall of indigenous *bohíos* and says that “from post to post they put canes sunk in the earth, shallow, and as close together as the fingers of a hand; and one to two others, they make a wall, and tied very well with vines.”

To bury the main posts or *pies derechos*, which are approximately 12 and 15 centimeters, they make round holes in the earth by means of a *coa*, with a depth of 0.60m and a width of 2 to 3 times the diameter of the post. Once the post is placed, the hole is filled in with layers of dirt and tamped down by the end of a post. Today, some holes are filled with stones and cement. The main posts are placed in the four corners, in the intersections of the interior walls and on both sides of the doors and windows. The intermediate posts also are placed with a separation of approximately one Castilian *vara*, or 0.80m.



Figure 4. *Bohío* with earthfast posts

The posts may have their top in the form of a fork, in order to receive the wall plates that serve as bracing, or may be previously prepared with a cut that provides a groove for them, which are fastened first on the long sides of the construction, at approximately 2 meters in height. Depending on the length of the *bohío*, the wall plates may be of a single piece or united at the center. On these are placed those of the narrower sides and of the interior walls, which are called *llaves*. On the *llaves* and in the longitudinal axis are placed the *pies de amigos* or vertical elements that support the ridgepole of the gabled roofs. On the frame that forms the wall plates or easels is placed the roof structure which will be described in the next paragraph.

Once the main posts are placed, the sticks are placed vertically, one beside the other, which are attached to the wall plates and to the earth, and additionally a horizontal stick is placed at a the approximate height of the wall plates, which is tied with a wire to each of the vertical sticks, giving a rigidity to the wall.

To achieve a greater separation from the exterior, a mud plaster made of clay and cow dung is applied to these walls, both on the interior and the exterior. The purpose of the cow dung is to provide the mixture with the necessary straw to stabilize it and to avoid the appearance of fissures in the plaster. Once the plaster is dry, the walls are painted with a lime paint usually mixed with ochre or red iron oxide, which is also called mosaic powder. It is also common to leave the walls with the natural white color of the lime. In the case of external kitchens, normally they are left without a mud covering, to allow for ventilation and the escape of smoke from the fires.

Walls of *bajareque* or *tabique* (wattle and daub)

The technique of *bajareque*, known by different names around the world, was already known in the area of Mesoamerica during the PreClassic Period, or from about 1700 years before the Christian era. This technique was used in the Antilles and the continent before the arrival of the colonizers, to the point where the word *bajareque* is of *Taino* origin. Some Dominican historians, sociologists and archeologists insist on saying that the *bajareque* was introduced to the islands by the black African slaves, an hypothesis with which we are not in agreement, as we already have indicated. What is possible is that the *bajareque taino* has evolved thanks to contributions made by the Spanish as well as by the Africans.

The structure of the houses with walls of *bajareque* is similar to that of the earthfast posts, but in this case the space between posts or *pies derechos* is closed by means of the interlacing of canes, strips of mangrove (*Conocarpus erecta*), leucaena (*leucaena leucocephala*) or of any other stake of green wood which maintains its flexibility.



Figure 5. *Bohío* of *bajareque*

This construction system consists in the horizontal placement of a series of poles or stakes between two beams, one leaning forward and the other leaning back, successively, with various poles placed vertically among them to achieve self-locking of the fence or panel. This system does not require nails or wire to unite the parts, which facilitates its construction and makes it more economical and thus more accessible to the poorest populations.

These walls normally come plastered with a mixture of clay and cow dung, to stabilize the dirt and avoid fissures in the mud plaster. The cow dung, which contains a high content of straw, must be fresh at the moment of its use. Afterwards, this plaster is painted with a wash of lime, with or without color. The interior walls have the height of the wall plates and sometimes of the lateral facade or *culatas*, the gables (*hastiales* or *cuchillas*) are closed with palm leaves rolled and tied among them.



Figure 6. Detail of a wall of *bajareque*

Walls of flat slabs of palm wood

The most utilized material in the walls of the vernacular Dominican house is palm wood, which normally is royal palm, even though other types of palm also are used such as *cana*, the *yarey* and the *manacla*, previously described. Although there are indications that the indigenous Antilleans used it, its development comes with the arrival of the Spanish who, as already stated, came with metallic tools that were unknown on the archipelago, which allowed them to make boards more easily and to attach them with iron nails to the wooden support structure.

The walls of palm boards, similar to the other types of walls already described, are composed of a series of sunken posts with approximately 85 centimeters between them and braced by wall plates, at 2 meters of height above the ground. In the case of *bohíos* of palm wood, the structure can have better finishing, including the main posts being worked with an axe on their four sides.

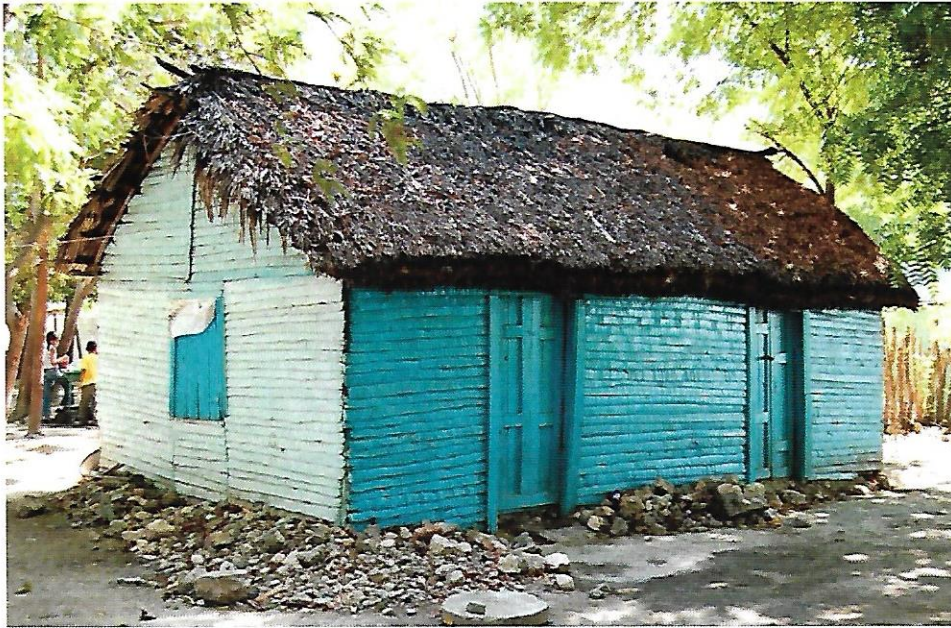


Figure 7. *Bohío* with palm boards

Once the structure is raised, including that of the roof, or when the *bohío* is "*parado en blanco*", the palm boards are nailed horizontally, from bottom to top, and overlapping one on top of the other two or three centimeters. The palm boards, with a width of approximately 10 centimeters, are placed with the epidermis facing out and nailed with one or two nails to each of the posts. Traditionally and above all when using wrought iron nails, which have a square cross-section, a small hole was first made on the board with a drill into which the nail was nailed because, due to the hardness of the palm board, if it was not done in this manner it would split. This good habit fell into disuse after the introduction of industrial galvanized nails, which have a circular cross-section.

For the interior part of the walls, the slits between the palm boards are filled with a mixture of cow dung and ash, to impede the entry of air, water or vermin. Recently this mixture is being substituted by one based on cement, lime and sand, which is applied to the entire interior of the wall and not just to the slits.

The walls of palm wood are white-washed on the inside and outside, but normally with some color based on a mineral pigment. Industrial paint is also used, due to its availability and ease of use, and due to the ample color spectrum available in the market.

b) The roofing

The *techumbre* or roofing is the total structure and elements that close the roof. It is comprised of the *amazon* or structure itself and the roof or *cobija*, which is the exterior part of the roof. The basic components for identifying a roofing are the characteristics of its structure, the number of its slopes and the characteristics of its eaves, together with the materials used in their construction.

The structural skeleton that constitutes the structure of the roofing is completely wood and has characteristics that are similar in all Dominican vernacular architecture. The basic difference comes in the number of slopes, whether of two or four gables. In both cases they have a top horizontal piece called ridge, of approximately 4" to 6" (0.10 a 0.15m) in diameter, which receives the *chorros*, and which in its other extreme rest on the wall plates.

In the case of roofs with two gables, the ridge is supported on the *pies de amigos* or vertical elements, which are supported in the central part of the transverse plates or *llaves*. Curiously, this vertical element does not continue to the floor, because below it are found doors and windows, which are always in the central part of the lateral facades and of the interior walls. The roofs with four gables may or may not have *pies de amigos*. Upon occasion these roofs only are supported on the four perimeter wall plates of the *bohío*, distributing the load that the ridge receives through four hip line that go from the extremes of the ridge to each one of the corners of the square made by the wall plates.

The *chorros* or upright beans, that have an approximate diameter of 3" to 5" (0.08 to 0.12m), are placed with a separation of one stick or 80 centimeters. On the *chorros* are placed the *enlates* or laths, with an approximate separation of 11" for the roofs of *cana* palm and of 15" for those of *yagua*. The laths, of approximately 2" in diameter, may be of wooden sticks, depending on the availability of the materials in the area. All of these elements of this shed are joined by means of galvanized nails that have substituted old nails of wrought iron with a square cross-section

Other elements that upon occasion form part of the structure of the roof are the *puntal* or strut, an inclined piece that joins the base of the *pie de amigo* with the ridge; and the *brazo*, a horizontal piece that forms a triangle at the joints of the wall plates. These pieces contribute to giving a greater rigidity to the structural skeleton.

The *cobija* or roof is the most fundamental part of a *bohío* and the most difficult to construct. It is the construction element with the least durability in the *bohío*, because it is the one most exposed to climatic conditions. In vernacular Dominican architecture there are two basic types of roofs: those of palm leaves, which are the most common; and those of *yaguas* (shaft leaves of the royal palm), which are not very utilized in the South of the island. The most common is the one using the leaves of *cana* palm, but also the leaves of *yarey* are used, which are smaller and thus do not cover as much.

It is common for the roof of a *bohío* to be constructed by a *convite* that is to say with community assistance. During the *convite*, *chuines* (couplets) are sung and upon finishing the shift, the members of the community that participated are compensated with typical food of the region and rum or some other type of alcoholic beverage.



Figure 8. *Convite* or work with community assistance

The leaves of mature palms, which are already dried, are placed in rows, from bottom to top, with an overlap that is determined by the thickness and durability of the roof. The leaves are placed with the petiole facing up and with the *haz* (top side) or adaxial surface concave and grooved facing down, in the majority of observed cases. The leaves are tied in the middle at the laths by means of strips taken from the same leaf.

In the case of roofs of *yaguas*, these are placed, just like the palm leaves, in rows from bottom to top, overlapping. The *yaguas* are placed with the outside part facing up. The durability of roofs of *yaguas* is much less than those of *cana palm* or *yarey*.



Figure 9. *Bohío* roofed with leaves of *palma cana* (left) and *bohíos* roofed with *yaguas* (right)

c) The floors

Traditionally, the floor of the *bohío*, during the time of the *Tainos*, was of packed earth, as was also common in rural Spanish architecture and in vernacular African architecture.

The dirt floor is prepared once the construction of the *bohío* is finished, packing three inches of earth with a wooden tamper, placing a sack of jute on the ground. Afterwards, the floor is mopped with water and dung and periodically is polished with ash. In periods of great heat, the floor is dampened to freshen the interior of the *bohío*. One characteristic of the dirt floors of the *bohíos* is their cleanliness, which extends to the interior of the same, which are swept constantly and with a lot of care. Wooden floors are rarer each day and only are found in very humid areas where the possibility of flooding exists.

Polished cement floors began to be used at the beginning of the 20th century, when cement arrived on the island. These cement floors could be any color, principally red or left the natural gray color of the cement. Often in the cement floor lines are made forming a mosaic floor, or bas relief drawings are made. These floors often extend outside the *bohío*, to 30 centimeters, as a kind of platform to protect the walls from rain water.

d) Openings in the walls

One element that was not known by the natives of the island were doors and windows, as they only left a hole which was closed by crossing some sticks, more to mark the territory. According to the evolution of the Dominican *bohío*, after the arrival of the Spanish the openings in the walls increased, which were closed with doors or windows, constructed with boards and secured to the beams by metal hinges.

Doors as well as windows have flat wooden lintels, which in the majority of cases are the same as the wall plates, with a height of approximately 2 meters. In the larger houses, the wall plates could be even higher, having the doors and windows one lintel below, called *quicio*, which are supported by the two posts that frame them.

In the Southern *bohío* the predominance of the doors and windows is noted, some having up to 12 doors, as can be seen in the *Barreras Mordán* and in *El Rosario*, in the province of Azua. Many houses in the region do not have windows.

The doors and windows may be of one or two sides and often open outwards. Usually they are of pine boards, often unpolished. In the *bohíos* found in the XIX century, the doors as well as the windows were fastened by hinges with *pivotes* of wrought iron. Today, the most commonly used hinges are type things.

The windows also may be of wooden shutters, which were used above all in the principal facades. These shuttered windows, and always on the main facade, may be attached to both sides of the doors, which is one characteristic detail of popular Dominican as well as Antillean architecture. The windows were approximately one stick (0.90m) in height, but in some towns it was not uncommon to find windows that went almost to the floor, with an approximate height of 40 centimeters, which allowed for exit through them when necessary.

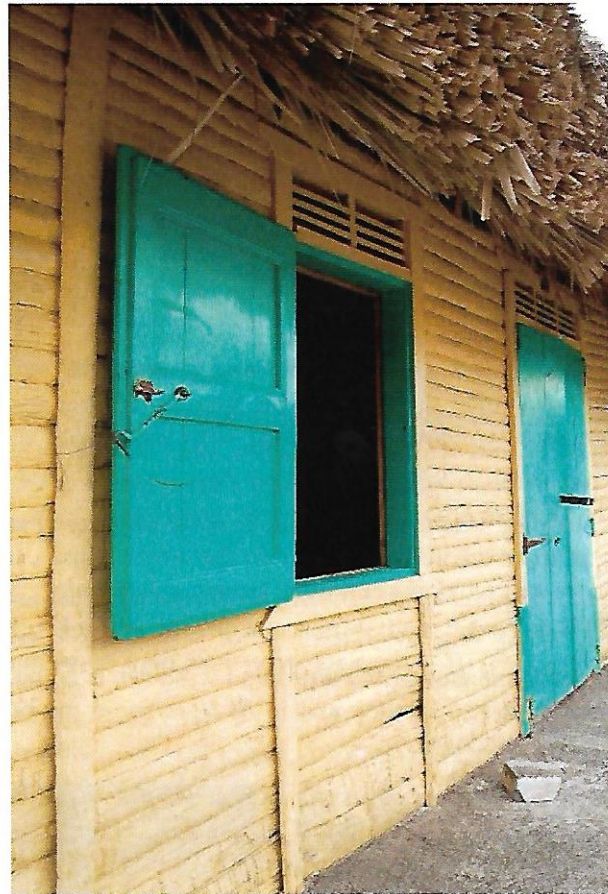


Figure 10. Detail of ventilation over the window

In some cases in the larger *bohíos*, above the doors and windows wooden screens may be placed which allow for the passage of air even when the doors and windows are shut. In a few cases of *bohíos* with cana palm roofs, small windows are found, in the high part of the *culatas* or lateral facades, which is more commonly seen in popular architecture.

e) Decorative Elements

In the Caribbean, color is something special, and due to its geographic condition, color fills all spaces. Therefore, for Caribbean architecture, color is an element of great value among its inhabitants, because it is more than a simple decorative element, it is identity. Color is an essential element with which the inhabitant imprints personal character and ownership onto his/her habitat, with the rural habitat being the most rooted in terms of local cultural identity.

Unfortunately, there is not a lot of research into from where this coloring that we find in Caribbean dwellings comes. Nor is there much information on the subject, because there are no descriptions by chroniclers in which color in the dwellings is mentioned. Nor have archeologists found traces of color in the indigenous dwellings. Nor do the natives who still live on the shores of the Orinoco, the place from which the *Tainos* came, use color in the architecture. Therefore, we assume that this custom of painting the houses must have been acquired as part of the acculturation, either from the Europeans or from the African slaves.

In the Caribbean, specifically in the Dominican Republic, we find ourselves with a panorama very different from that of Africa but very similar to that of European towns, for all dwellings, rural as well as urban, are painted with many colors, without any hesitation about combining them. In general, Dominicans paint their houses with two or more colors, highlighting the frames that are placed around the doors and windows, painting them white like the tradition from the Canary Islands of painting them white to ward off evil spirits.

In some areas of the Southern region of the country, *bohios* of *bajareque* are found with drawings on their outer walls, which have been studied and classified by Elpidio Ortega in his book *Expresiones Culturales del Sur*.

In his conclusions Ortega says that:

... after studying the frequency charts and the graphics we can come to the conclusion that the drawings made on the walls of the peasant *bohios* of the South of the island maintain a close relationship, consciously or unconsciously, with the popular religions, especially voodoo, as the predominant drawings, such as the fitomorfos, hearts, points and geometric shapes, are associated with the *veves* of this ritual, and also we can determine that the religious drawings and those with messages were made with an imminently Catholic character and that, in general, they reflect the sentimental, religious and psychic aspect of the peasant; when we speak of sentimental it is because we see drawings that represent the love of a peasant for women and nature; and religious because in the drawings they represent their beliefs, associating many times crosses and catholic phrases with symbols of other pagan rituals.

It is important to know what a lime painting is in order to understand its properties and its coloring. The *Guía Práctica de la Cal* defines lime painting as:

...a material comprised of binders, pigments and solvents that when mixed in appropriate proportions creates a liquid more or less dense, used to cover a surface with color, protecting and decorating it. The difference between some paints and others is the binder (mineral, organic or inorganic) and solvents (alcohol, hydrocarbons, ketones, water, etc.) present in the mixture.

It is very difficult to achieve vivid colors with lime paint. To do so very strong pigment colors must be added, since the white of the lime significantly lowers the tone, and thus the color of the painting when dried is reduced by 50%. Additionally, its alkaline properties permit only artificial iron oxide and natural earth pigments. The *bohíos* made of *bajareque* are painted with lime so that their colors are softer than those used on wooden *bohíos*, even though we find some palm wood *bohíos* that are still painted with lime. Today, we can say that the majority of *bohíos* made of palm wood are painted with commercial paints.

In general, the choice of color in the vernacular dwellings does not have a specific significance, other than that they are chosen from the pigments that are available in the area and that are produced by the different paint manufactures in the country. In this manner the combinations of colors reflect the individual tastes of the inhabitants.

In vernacular Dominican architecture, color is not only used on the outside, but also on the interior of the dwellings which are carefully painted, with colors that are as vivid and lively as those on the exterior.

Vernacular Dominican architecture is not characterized by having many decorative elements. Apart from the coloring of the walls, contrasting with the colors of the door frames and moldings, and of the play of colors on the doors and windows, decorative elements are almost absent. We can say that the only exterior decorative element that forms part of the architecture is the door frame, above all the lintel, which usually protrudes a little and has a 45 degree angle. In some towns, fans are used above the doors and windows which, although they have a utilitarian function, come from the decorative vocabulary of popular and Antillean architecture, where a large variety of designs of fans and skylights are found.



Figure 11. *Pasamanos* or colonnades in the interior of a *bohío*

In the interior they emphasize the *pasamanos* a kind of colonnades or element that divides the living room from the dining room, in the types of larger *bohíos* that can be seen above all in the *Baní* valley. On these *pasamanos* a variety of details can be found, on the columns as well as on the arches or lintels that are supported above them. Other decorative elements that one could add are the dish racks or shelves for placing plates and pitchers for daily use, and the corner shelves where brass lamps or religious images are placed. Lastly, we find cement floors, which may simulate mosaics or have floral or geometric drawings made in the fresh cement.

Such was the development of palm wood in the Dominican Republic that into the XVIII century a large quantity was exported, possibly to the Lesser Antilles. The use of palm wood was common also in vernacular architecture in Cuba and Puerto Rico.

Another evident Hispanic influence on vernacular Dominican architecture is the use of terms of Spanish origin to identify construction elements that comprise the *bohíos*. It is important to reiterate that in the Dominican *bohío* no term of African origin is used to identify construction methods, their materials or structural elements.

All of these considerations up to now expressed make us confirm our hypothesis that the indigenous *bohío* is the genesis of rural Dominican architecture, that the African slaves did not make great contributions to the Dominican *bohío*, and that the Spanish adopted the indigenous *bohío*, incorporating new forms, new construction technologies and new construction materials whose resulting typology has remained practically invariable through time.

Another erroneous assertion that is often heard in the Dominican Republic is that the great coloring of its vernacular architecture has been influenced by the black African slaves. In the study conducted on African vernacular architecture in the regions from which the slaves originated, one can observe that the use of color is almost exclusively for the personal adornment of the inhabitants.

But all of this use of color in Africa is not manifested in the architecture because, in general, rural African dwellings lack color, except in a few regions where it is limited to the drawing of figures and scenes on the exterior walls of some houses, or as in the particular case of the town of Kassena in Burkina Faso and Ghana, where the tribes of hunters and farmers have since time in memorable decorated their dwellings with mud with geometric designs, using exclusively using black and white, inspired, according to them, by cosmic mythology.

As has been mentioned, recent research in Spain has demonstrated that before the fashion of painting all houses white, it was common in Spanish towns and in rural architecture to use a great variety of color to paint the facades.

The choice of color in Dominican vernacular architecture generally does not have a specific significance, but rather the colors are chosen from the pigments available in the region, or from the color charts produced by the paint companies.

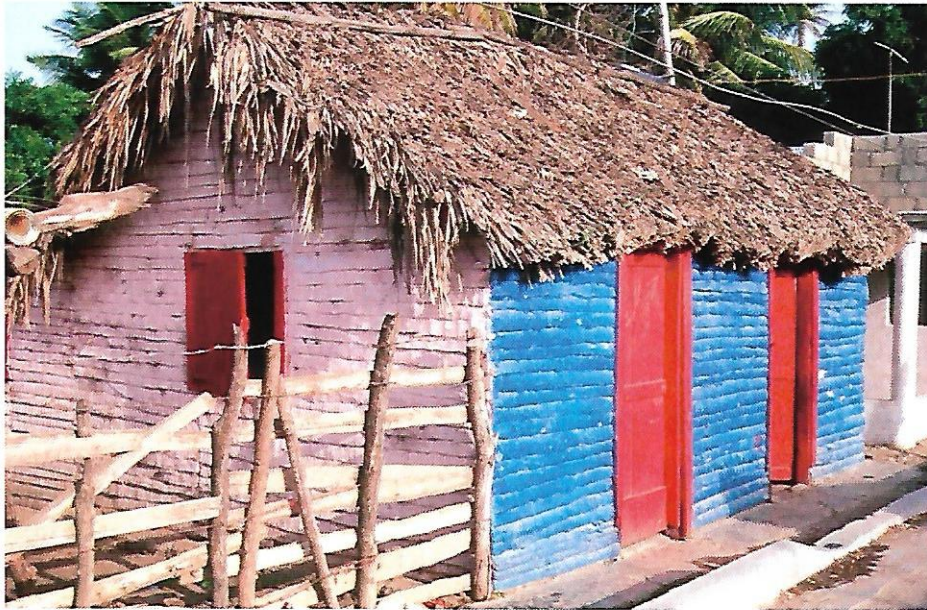


Figure 12. *Bohío* with industrial paint

However, in the Greater Caribbean a coloring has developed that characterizes its architecture and that has risen above the original influences that created the Caribbean palette. The study of old *bohíos*, some built more than 150 years ago, reveal that the vegetal matter employed in the different construction tasks are appropriate for the purpose and environment in which they are found, because they have endured in good condition over all this time. The boards of royal palm (*Roystonea hispaniolana*), for example, have proven to be an ideal material for the construction of walls, for their hardness and for their resistance to attack of all types of termites. Similarly, the selection of types of wood in each region demonstrates an authentic understanding of the qualities and characteristics of each one, and of the appropriate role they play in the structure of the *bohío*.

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