

Full Length Research Paper

Elements in color: A symbolic approach to analyzing the Haitian flag

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The literature and artifacts associated with Haiti's history have puzzled its people for a long time. One historical symbol left open to interpretation is the Haitian flag, although its aesthetic appeal is apparent to many. Ascertaining precise meanings from the flag's design is difficult due to the lack of available information and alteration of the original design by successive political administrations. This study is an attempt to decipher the hidden significance embedded in the Haitian flag and explore various themes represented in its colorful elements. The themes that are displayed in the Haitian flag are an exemplification of symbols that carry several important messages pertaining to order, discipline, unity, self-control, strength, opportunities for commerce, economic development, stability, wisdom, and health. It embodies a bond in which the native takes pride in self-identifying with a culture rich in beauty and content. The artifact is a resourceful guide that elicits substantive lessons aiming at progress, nationalism, and governance. It is also a spatial-temporal ensign with positive connotations and an ongoing inspiration for the homeland.

Key words:Haitian flag, flag symbolism, national symbolism.

INTRODUCTION

Deciphering the meanings of the colors, signs, and symbols displayed in the Haitian flag is a broad, complex, and ambiguous task. Generally, the design of a flag is drawn from symbols that are meaningful to a culture; the flag then becomes, in itself, a national symbol (Madden, 2001). However, representation or what we derive from this representation, varies. The flag evokes both an individual and a cultural response that may depend in part upon subjective impressions rather than on any objective method, model, or archival data. The aesthetics of the Haitian flag's rich shades please the eye and its intriguing expression of themes stimulates the imagination.

Even the surface denotations of the images pose endless nuances of color and possibility for interpretation, and for some, a passionate urge for acknowledgement of a collective history.

Haitians celebrate their flag within and beyond the country's borders. One date engraved in the memory of most Haitian natives is May 18, the anniversary of Haiti Flag Day. This is a national holiday for the country and while not necessarily observed by Haitians residing in foreign countries, it has become a popular practice to choose a near date to hold festivities in honor of this occasion. In recent years, a full month has been dedicated

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to the anniversary. Haitian Flag Month, as it is now called, allows nationals to extend the events throughout the entire month of May, while still regarding this period as Haitian Flag Day. This is an approach quite typical in the United States, unlike in Haiti where observance for this holiday has remained traditional. Commemorative activities vary depending on location. In the homeland of Haiti, the day of recollection is a civic affair organized by governmental offices in remembrance of Haiti's independence. In the past, the parade, costumes, flag of the country leading the participants, national hymns, persuasive speeches, the presence of leaders in various functions, and the political ambience set the stage for a rousing patriotic event. Preparations for the festivity were extensive: the youth attending the lycées rehearsed for days; the majorettes marching on the streets gave bystanders a sense of martial fervor of national independence. Regrettably, such traditions disappeared or were transmuted toward the end of the last century, in response to the unforeseen political atmosphere that settled upon the Island.

In the United States, communities with a large population of Haitians approach Flag Day in a very different spirit. The planners tend to be business entrepreneurs, nonprofit organizations, or local political leaders aspiring to electoral positions, as well as those whose agenda is to promote personal causes. The day has become an opportunity for retail vendors to display and sell their merchandise. With the focus on publicity and monetary gain, and participating entities not necessarily known in the Haitian community, much of the original significance of the day has been lost. The message may appeal in a watered-down form to the younger generation through fashion merchandising and consumption. Catering mostly to a single ethnic group, the promoters draw attention to Haitian symbols represented by the flag.

Another aspect of this festivity outside of Haiti is that of the social gatherings that are in fact fund raising parties meant to generate profits for the organizers through the commodification of the flag logo in the form of smaller flags, T-shirts, mugs, hats, caps, ethnic food, and drink. This is a different time and different place. The festivities in honor of this occasion have been altered from the traditions of the native country in its early years. In the United States, the generation of Haitian immigrants and Haitian Americans adopted a business perspective that fails to address the chronic problems the mainland is facing and misses the opportunity to explore the meanings of the symbols represented in the flag. This is a great oversight, as the Haitian flag was always meant to be oriented toward a political model, with highly specific and resonant images clustered at the flag's center. The problem statement involves a novel attempt to explore an overlooked issue, namely, the meanings of the themes portrayed at the center of the flag. Even native Haitians who celebrate their flag with passion and

value it as a symbol of patriotism are satisfied with the external presentation and ignore the elements that are potentially substantive. This paper attempts to address the existing lack of an exploratory model.

Purpose of the study

The purpose of this qualitative study is to discover meanings pertaining to the themes portrayed in the Haitian flag. The symbolic representation of the artifact will be explored to find relevance and to divulge knowledge on the topic. The ensign took shape over two centuries ago making the recount from witnesses impossible in addition to the overwhelming difficulties nowadays to secure the booking of subjects for interview. Therefore, this inquiry will be conducted via means of a detailed investigation that includes an in-depth observation of the Haitian flag as represented in various formats and a rigorous literature review that focuses on all the themes displayed in the Haitian flag.

Nature of the study

The study takes a qualitative historical approach to analyze the essential descriptive objects portrayed in the themes embedded in the Haitian flag. The research model affords the flexibility to link past to present literature, offering a broader perspective and promoting thorough awareness on the topic. The model of the Haitian flag used for this study was purchased from vendors during a festivity commemorating Haitian Flag Day. The acquisition was made in support of the occasion. Online access to many pictures of the Haitian flag facilitates the recurrence of the observation series. Google Scholar, Google, Jstor, official reports, manuscripts, and historical texts were the main sources of the literature review. The assembling of data obtained from those sources will answer the following questions, which aim to provide substantial information as to the themes represented in the Haitian flag (Figure 1).

- 1) What is known about the themes displayed in the Haitian flag?
- 2) What are the symbolic representations of the themes present in the Haitian flag?
- 3) Are there lessons to be learned from those themes?

METHODOLOGY

This study departs from an inquiry into the meanings of the themes shown in the Haitian flag. The answers can be obtained within the parameters of a qualitative historical study. Historical method among all purposes is used to answer obscured questions about a topic, to link



Figure 1. Haitian flag.
Source: <https://www.worldstatesmen.org/Haiti>.

past and present experiences, and to unveil a mystery (Tan, 2015). Scanning the various qualifiers of this method, a typical technique employed in this study allows the collection of data from primary and secondary sources (Simonton, 2003). The flag is a primary source of data being that it is an artifact. Books and manuscripts meet this criterion as well. Scholarly articles that inform the literature review are cited as secondary sources. The approach of analyzing qualitative historical data can be disadvantageous because it may not lead to any scientific findings; however, Simonton adds that its main advantage is that it is the only method for analyzing certain subject matter, which is the case in this investigation. The lack of scientific validity as a disadvantage in the application of this approach is a moderate concern. This is because the themes examined in this study are real objects that are found throughout the world. They have been in existence for many years and they have already been scientifically proven to be valid unlike the meanings given to their representations in the artifact, which will be the focus of this study.

THEORETICAL FRAMEWORK

Symbols may be categorized in five different types respectively matching five phases. Frye (1957), who hypothesized the theory of symbols, believed that symbols are the means of communication between societies and set forth a way of assigning them to various stages. Among the symbols, motif has contextual meanings and corresponds to the literal phase. Sign as a

symbol is used out of context, so it belongs to the descriptive phase. Image is said to have several meanings and corresponds to the formal phase. Archetype is the fourth type of symbol and is represented differently in literature in various texts and relates to the mythical phase. The last type of symbol is monad, which has spiritual and religious explanations and belongs to the anagogic level. Further related are five types of literary criticism: textual, historical, interpretive, conventional (also called generic) and spiritual or religious. Before outlining how to analyze the data, it helped to distinguish which symbols represented in the Haitian flag match Frye's framework. A complicated process was to frame the themes in the flag according to a specific symbolic model because they vary in genre and types in addition to being in different category. For example, there is a tree on the flag and there are musical instruments. Clearly, those two items are not in the same class. Therefore, one object might represent a sign symbol while another one characterizes an image symbol within the same platform.

Nevertheless, this study is on firm ground in interpreting the display as a sign symbol to match a descriptive phase as well as a descriptive model of criticism. Additional approaches selected to analyze the data rely upon reasoning, interpretation, and comparison. Those principles are found in a symbolic interaction framework revealing that symbol is the origin of continuous expressions and significances (Durand, 1963) eliciting an organized dynamism in agreement with the uniformity of the themes as presented to authors and viewers alike. However, this framework comes with

warnings for the risks of anticipating conflicting viewpoints because symbols exist in the mind of the individual and can be variously interpreted depending on one's perception (Aksan et al., 2009). This factor is benign to the research, for the occurrence of opposite views is expected because the artifact has been in existence for over two centuries and the accumulation of interpretations is endless. It was Herbert Blumer, a pioneer in symbolic interaction perspective, who speculated that symbols stimulate thinking, encourage communication, and develop the mind (Lal, 1995).

Therefore, the diversity of opinions can only be a benefit to this research and a driving force towards a common ground for unity among members of the Haitian community. Blending the two frameworks to analyze the data can only be a benefit to this study, which entails presenting a narrative description of the themes present in the Haitian flag by means of conducting an in-depth observation of the artifact and an extended literature review of the various themes presented within.

Observation

The Haitian flag in this study measures about 12 by 18 inches. The stick attached to the cloth was removed to facilitate its storage. This manageable size was purchased for \$1.00 two years ago at a flag event. The item kept its bright colors and none of the pictures faded away. Additionally, many versions of the flag were obtained online in various websites at no cost and were printed to conduct an in-depth observation. There is no specific directive to enumerate the items present in the flag for their descriptive aspects, origin, values, and usages.

The design of flags in general has been a subject of intense dialogue, suggesting improvements in their appearance and practicality (Dane, 2008). The Haitian flag is not new to alteration, having undergone several make-over throughout the years. It has been bicolor since the country became independent and this has not changed. It is primarily composed of the nation's birth colors, blue and red. The latter shade has never changed, unlike the former, which was deepened to black more than once, but has since returned to the original blue shade and has remained so from the mid-1980s to the present. Historical data reported that the red and blue palette was modeled on the French flag without the white band. The snowy part that occupies the center of the flag is where all the pictures clump. The emblem in the middle is suggestive of several themes, which are open to interpretation. A blue and red kepi rests on top of a palm tree that has roots hidden behind a drum, and together, these equally divide the scene. On each side, one can see a bugle, a cannon, an anchor, some flags, and various ornaments that stand on a tilted green to form the ensemble of the coat of arms. These design elements

have varied, depending on the leader in power at a given time. For example, the bands of colors are placed either horizontally or vertically by official decree. The design, then, is not "fixed." The current flag of Haiti is represented by two horizontal bands, blue over red. At the center lies a white sheet displaying the coat of arms and a ribbon at the bottom with the inscription "L' Union Fait la Force" ("United We Are Strong"). For some admirers, this flag is a chic chef-d'oeuvre that requires no further makeover but which, nevertheless, warrants further discussion.

Background

Data obtained to present the literature review were retrieved from scholarly articles, books, government reports, manuscripts, and historical texts published in various websites, some of which were Google Scholar, Google, Jstor, and scholarly journals. The presentation is confirmed to have no specific order, one exception being the description of the colors which is given seniority in the introduction of the review. The objects displayed in the centerpieces give rise to a narrative documentary of the palm tree and its immediate belongings namely the kepi, spear, palm leaves, palm stem, and roots. The drum, cannons, bugles, and anchors are items that extend the examination, which ends with an assessment of the grass and ornaments.

Colors

Two primary colors, blue and red, draw our attention, whether the flag is obscured or elevated in a display, whether it is floating or stationary, and work together to please the eye. The white background behind the emblem sets these colors off, making them brighter and more vivid. Indigo, a local crop that has been used for many years as a dye, may be the reason for these vibrant pigments. Indigo production in Haiti contributed to 40% of France's wealth during the colonial era (Knight, 2000). The plant earned a reputation for being a major financial asset in trade and commerce in prehistoric times. There are several species of the indigo family, varying in location, height, color, and other characteristics (Stasiak et al., 2014). However, the main genus of indigo responsible for the dye comes from the leguminous *Indigofera* plant, comprising *Indigofera tinctorial* cultivated in India and tropical Asia, and *Indigofera suffruticosa* that grows mainly in tropical America (Myers, 2007).

Blackburn et al. (2009) recount that indigo was used in prehistoric times as a dye to color textiles. It is also known in India as a hair dye (Bremness, 2002). During the 17th century, indigo replaced woad plants in the production of blue dye. At that time, plantations of indigo were prolific in the West Indies and the Americas. The crop could also be found in Europe: owing to high

demand, tropical indigo was used to supplement the available supplies. The traditional method of obtaining blue dye from the plant varied by region. Myers (2007) reveals that the process consisted of cutting the leaves of *indigofera* and soaking them in clear water for one day, during which time the indican extracted via the mixing process goes through a fermentation procedure to produce indoxyl. The colorless liquid is then separated into a different vat, mixed with other substances, and agitated until indigotin, also referred to as indigo, is produced. The final product is then filtered and left to dry until it becomes solid. Nonetheless, to use indigo as a dye, a reducing agent such as an alkali solution is needed to convert it into a clear light-yellow color solution known as leucoindigo, which is found in three forms: “acid leucoindigo, the monophenolate ionic form of alkaline leucoindigo, and the biphenolate ionic form of alkaline leucoindigo (Blackburn et al., p.194)”. Each form derives from the previous one with an increase of pH after alkali is added. When observing sensor layers, this light-yellow color can become a solid yellow one following a redox reaction process after being left overnight. However, when leucoindigo is exposed to air, it goes back to the blue color known as indigo (Wilhelm and Wolffbeis, 2011).

Leucoindigo enables the production of various shades with the application of chemical processes along with the presence of oxygen and hydrogen throughout the reaction. Stasiak et al. (2014) also highlight an invaluable isomer present in indigo plants known as indirubin. In the year 1881, the ruddy color has made indirubin a precious red dye. Since the synthesis of indigo came into practice in the late nineteenth century (Blackburn et al., 2009), several other tints have been obtained by mixing it with various substances. During the second half of the twentieth century, “denim,” a byproduct of indigo was introduced, after which clothing in that shade has long since been in high demand. The equivalent to denim is “karabela” or “chambray,” the traditional textiles in Haiti. “Gros bleu” also makes the list. This material has a heavy texture, so it is mostly used in the fabric of pants and skirts; it resembles the material used in making blue jeans.

Since medieval times, the roots of madder were used as a red dye and it was also applied in the fermentation of indigo (Stasiak et al., 2014). It is believed that the French used the dye from madder to color the pants and the kepi of its army uniform. The roots of madder are also utilized for treating jaundice, sciatica, bruises, and skin discoloration. Madder was synthesized during the twentieth century and has since been industrialized in the market. The yield was not popular in the island and unlikely to be used in that region. Therefore, the Haitian flag can proudly claim its colors to be a direct product of indigo plants and indigo synthesis. Other than its medicinal benefits in the treatment of cancer, indigo can be used in combination with various herbs to treat coughs,

chest pain, sunstroke, and other ailments. Stasiak et al. observe that indirubin prevents the growth of cancer cells, supports the immune system, and is used to treat leukemia when mixed with other remedies. Indirubin, found in some plant species, is a good remedy for convulsions, inflammation, and bacterial infections. In China, indigo leaves are known to prevent cancer proliferation, and the roots of this shrub are used as a cure for depression, swollen glands, and heat rashes (Bremness, 2002).

A dye source of high quality, the indigo plant has made a mark on trade and commerce throughout the world for centuries. The revolutionized synthesis of indigo only enlarged the endless possibilities the substance posed for obtaining a variety of pigments. Myers (2007) grades indigo as one of the 100 most important chemical compounds on earth. Both organic and synthetic indigo have the same molecular formula— $C_{16}H_{10}N_2O_2$. Accordingly, the colors displayed in the Haitian flag represent the value and history of this historic plant and, like it, will not fade away.

The white section

Indigo has many byproducts, which are produced in various colors. Putting the plant through a reduction reaction process produces white indigo. White indigo makes it easier to dye textiles other colors. Stasiak et al. (2014) discuss the variety of colors obtained by mixing indigo with other substances. These chemical reactions produce pigments of green, blue, and violet. Regardless of one’s proximity to the Haitian flag, it is impossible to miss the white section, which frames the many thematic symbols arranged at the center. While this white section may appear to the viewer to be square, the horizontal side is, in fact, slightly longer than the vertical one. It represents a picturesque scene wherein figures arise from an inclined verdure platform with a white thread of a ribbon at the bottom displaying that compelling inscription “L’ Union Fait La force.”

The palm tree

Greenery seems to be the first thing that catches the viewer’s eye as it protrudes from the middle of the flag, dividing it equally into two parts. A palm tree dominates the scene. Its elegance, beauty, and strength symbolize the pride of the nation. Although found in various geographical regions, the palm tree is native to the tropics and may exist in five different habitats. The palm tree is a large genus comprising about 2,500 different species (Johnson, 1998). Just as there are many types of palm trees, the products obtained from the palm’s abundance have diverse usages including cosmetics, hygiene products, food, beverages, fertilizers, handicrafts,

rituals, medicines, chemicals, industrial products, building materials, clothing, pulp, paper, and more. Johnson revealed that since ancient times, indigenous people have used the red resin of an Asian rattan of *Draconis Palm* as a fabric dye, which could also be the reason for the red pigment in the Haitian flag. This red resin can be obtained from four different plant species (Gupta et al., 2008). One type of this resin is known under the molecular formula $C_{32}H_{24}O_5$. Sometimes called dragon's blood, it is used in some cultures in the treatment of respiratory, gastrointestinal, and stomach illnesses, to mention only a few possible applications (Gupta et al., 2008). To this day it is used in European medicine. The sap of sugar palm serves many purposes. When heated and evaporated, it produces a thick syrup that turns to sugar when it cools off. Starch is obtained from the stem and the juice from the flower is reduced to wine or distilled liquor. Bremness (2002) further reports that this substance can be used to treat menstrual complications and vertigo. Additionally, it is possible to make water pipes from the trunk of the sugar palm. Meanwhile its roots have significant medicinal efficacy in the treatment of kidney stones, and the leaves are a viable source of fiber. Sugar palm produces abundant yields (Mogea et al., 1991). Apart from its wine, sugar, and flour, its fibers are in great demand in the making of rope, among other things. Sugar palm can grow in any type of soil either naturally or when seeded. It does not require maintenance and is for most part immune from diseases caused by infestation. This species, according to Mogea et al. (1991) is potentially a great source of financial revenue for regional farmers.

The leaf fibers of the palm tree are woven into a fabric suitable for making clothing as well as strings for musical instruments. In some countries, the hollow stem is used to make drums. Regarding nutrition, the coconut fruit that comes from the palm tree is processed and transformed to virgin coconut oil (Bawalan and Chapman, 2006); the fatty coconut oil has similar characteristics to the fats produced in a mother's milk. The virgin coconut oil is loaded with anti-inflammatory antioxidants that help prevent the blockage of arteries in addition to increasing energy, boosting the metabolism and immune system, and inhibiting the progression of cancer cells. The palm species is universally recognized for its versatility, for it can be classified as a herb, plant, tree, or shrub (FAO, 1985). It is no small wonder this plant is reputed for being the tree of life (Johnson, 1998). Bawalan and Chapman (2006) add that the palm is also known as "Man's Most Useful Tree, King of the Tropical Flora, Tree of Abundance, Tree of Life."

In addition to exploring the inherent properties of the palm tree, we can delve into further research to analyze the themes present in the depiction of the Haitian flag. We have long known that the main structure of all trees comprises roots, stems, and leaves. Still, because the palm is such a widespread species, it is difficult to identify

which type of tree is depicted in the Haitian flag. However, as seen in the picture with the expanded leaves lying on each side of the stem, it most closely resembles the "*Pseudophoenix Lediniana*," a rare flora found in the south of Haiti (Timyan and Cinea, 2018) at risk of extinction. Other aspects of the portrayed palm tree, such as its age and its size, are discussed in a different section of this paper.

Kept

At the top of the palm rests a blue and red beret, aligning with the main colors of the flag. Local storytellers identify this item as a kept and a symbol justifying the independence of the young nation. A kept has a flat top and among all purposes, it is known to be the ensemble of infantry uniform. Unlike a beret, the fashionable style of the kept makes it easy for military personnel to remove it when saluting people in power, when attending an official event, and during flag raising ceremony. No wonder the item is rather called a kept and placed on top of the scene to make a statement. Its official representation can only vindicate the independence of the nation. The Kept could be made from the fibers of the palm tree, steeped in red dye from the Dragon's blood extracted from the same species. In any case, those two shades could have been the product obtained from the blue dye of indigo and its derivative indirubin, which is red. The kept dominates at first sight and stands at the central spear of the tree, a location indicating growth. Its presence in a hierarchical position in the Haitian flag seems to symbolize a progressive statement of honor and recognition.

Spear

The spear is also called the heart or bud of the palm (Tekula, 2015). The spear is only present in palms that are in a productive stage of development and are likely to generate new and young fronds. The spear is the main indices signaling the condition of the tree. A palm with a rotted spear is an indication that the tree is gradually dying (DeLande, 1999). If a healthy one gets damaged, another one will not grow to replace it. Unlike other trees, the roots of the palm grow laterally, carrying nutrients such as nitrogen (N), potassium (K), magnesium (Mg), iron (Fe), boron (B) and manganese (Mn) that are found on the soil (Broschat, 2009). Nonetheless, the roots are not the markers that predict the palm's wellbeing. The health and growth of these species depend on the condition of their spear leaf. In Haitian culture, the belief is that the bud of the palm attracts lightning, and at the risk of getting burned, it is dangerous to stand nearby it during a storm. The reason, according to native storytellers, is that the spear, like the tree, is erected

upward and prone to attracting electrical charges from the atmosphere.

Palm leaves

Just below the kepi, the leaves of the palm tree spread symmetrically with six on each side. Their green shade creates the impression of a young and healthy flora. Olivares and Galeno (2013) pointed out that the production of the palm leaves is relative to the age of the tree. Depending on the artist creating the design, the number of leaves tends to vary. One can see between 10 and 12 expanded leaves on the Haitian flag. A one-year-old tree will often have up to nine leaves, and this number gradually increases as the shrub ages. Originally, the number of fronds displayed in the flag must have specified the existence of a young nation. Nampoothiri et al. (2019) add that the leaves in a mature palm tree can grow up to 35. The palm tree is resistant to the environmental adversities it encounters throughout its development (Haskell, 2017); exposure to fire, lightning, storms, salty water residues, human afflictions (p.14), and all else that might cause its destruction only tests its endurance. However, what contributes to the tree's strength is its leaves, which Haskell compares to stone in a bid to indicate how strong they are.

The leaves, of course, play an important function in photosynthesis and are also a great source of chlorophyll (Kaplan, 1983) for the facilitation of gas exchange because they are in the perfect position to catch the sunlight. Myers (2007) cites chlorophyll as the leading green pigment present in plants. It absorbs light molecules and accounts for photosynthesis, which in turn proliferates carbon dioxide (CO₂) in the atmosphere. The palm leaves absorb the carbon (Lamade and Bouillet, 2005), and this, in turn, provokes and maintains respiration. This transaction occurs when there is ample radiation and water supply. Chlorophyll restocks oxygen with the aid of light while the plants release carbon dioxide. Myers points out that all plants have chlorophyll *a* represented by a blue and green compound and chlorophyll *b* characterized by yellow. In addition, many floras have chlorophylls *c*, *d*, and *e*. Chlorophylls *a* and *b* are the most common but the first type governs. Not just one, but all chlorophylls stocked in the thylakoid membranes of chloroplasts create a site for several biochemical reactions to occur, which eventually transforms radiant energy into chemical energy involving carbon dioxide, hydrogen, and oxygen to react. Nitrogen is also present in the leaves and the amount varies depending on the age of the fronds (Jayasekara et al., 1996).

Palm stem

The stem of the palm varies in height depending on the

age of the tree; it is difficult to pinpoint the exact age of the palm portrayed in the flag as it has been represented differently throughout the years. The rings of the palm are visible in the picture. According to Arancon (1997), they are its scars. The age of the species can be calculated by counting the scars on its stem. In the case of sabal palms, their age cannot be determined using this method because they have no rings on their stem (Haskell, 2017). Olivares and Galeano (2013) note that a palm tree that reaches 5 meters in height has an estimated age ranging from 35 to 39 years. By the same token, a trunk over 3 meters tall can produce between 5 and 12 leaves in one year. The scars on the stem replace the fallen leaves. These are placed at equal distances at the dermal section, which is on the top, at the bottom, which is the sub-dermal section, and throughout the middle area or the cortex of the stem. This part of the tree is usually voluminous, and Haskell refers to it as a cistern for its role in storing rainwater with the help of the living cells wrapped around the trunk. The amount of water retained varies according to the height of the tree. It is estimated that a trunk can hold 25 liters of water in every meter of height. High palm trunks do not necessarily store more water than do the lower ones. Universally, the diameter of the trunk of all trees is handy in the storage of water. However, the properties of stem tissues, in the case of palms, are most significant throughout the storage process (Renninger et al., 2009). In addition to storing water, the trunk has a limitless potential to generate adventitious roots at its base (Tomlinson, 2006).

Roots

The base of the trunk is the area where all adventitious roots originate (Broschat, 1998). One can imagine the roots of the palm as tiny thin fibers interlacing beneath the trunk. Despite their fragile look, the roots are extremely strong (Haskell, 2017). These ground fibers develop to form starch and along with the cell tissues transform the trunk to a cavernous tank. This air space enlarges as the cells and the storage of starch expand. Most of the roots grow laterally as far as 50 feet in diameter and downward as much as 32 inches. They are used in the treatment of gall bladder, kidney problems, urinary tract infections, fibrosis, heartburn, and blood clots. The roots store various nutrients such as nitrogen, magnesium, manganese, boron, potassium, and iron (Broschat, 2009). They are structured to support the stem, which can be as tall as 60 meters, depending on the palm genus. The roots can be transported from one tree for regrowth at a different location, which is a delicate operation. Hodel et al. (2005) suggest that for transplanting to be successful, the root balls of an average palm must be pulled from a lateral radius of 30 cm from the trunk and as deep as 30 cm. In this way, more than half of the roots will be taken, which is sufficient for reproduction.

Drum

Sitting at the front base of the palm is a drum. As previously stated, drums can be made from the hollow part of the palm trunk. The drum is a universal musical instrument and one of the oldest throughout the world. In some African countries, drums were used to communicate with people miles apart from one another. The drums are played in military events, religious proceedings, and community parades. Drums are used by various musical groups in combination with other instruments. Tomlinson and Huggett (2012) noted the oldest part of the palm is the base where the roots grow. It is also where the drum stands in the Haitian flag, seemingly hiding the roots.

Drums can be made from hollow trunk of many tree stems. The head of the drum is made from the skin of animals, plastic, and fabrics. Normally, the size of drums varies, but obviously, in the flag scene, its diameter is larger than the stem of the palm. Sound fluctuates depending on the wood used in making the drums, for each type produces specific vibrations. Sound also differs depending on where the beat is applied on the head of the drum. A strike at the edge produces a high overtone while one at the center makes a deep tone (Wade-Matthews and Thompson, 2005). The decoration on the drums is no different from what is seen throughout the evolution of the instrument. Usually, a rope goes in a zigzag pattern all around the drum to obtain the desired tension. Apart from synthetic fabrications, ropes are made of fibers from date palm trees or sisal, a plant that grew popular on the island during colonization.

Sisal has been used for its medicinal values in the treatment of skin diseases, pulmonary tuberculosis, syphilis, jaundice, indigestion, constipation, and dysentery. The ropes obtained from its fibers are used in maritime, agriculture, and various industries. In addition to making ropes, the fibers of sisal are employed in the making of rugs, mats, and brushes. Fibers used to fabricate ropes were also exploited from the jute plant, a crop likewise famous for its succulent legume pot commonly known as *lalo*, which is a popular dish in the sectors of the department of *l'Artibonite*. The drum is ordinarily struck with a pair of sticks made of wood, plastic, or hard rubber. These sticks also influence the sounds depending on which type a player uses to strike the drumhead as well as the tone that is desired.

Cannons

Further, in the artifact, there are two cannons stationed on wheels and facing one another in an inward direction. To make the décor bright, the cannons are colored in yellow, and the wheels are too, though, depending on the version of the flag, a bronze rustic pigment sometimes colors the wheels, matching the trunk of the palm. The stands could have been made from wood or metal. The

carriage deck, which was used to stage cannons, was fabricated with a bulwark and gunport (Keith et al., 1997). From the information gleaned on cannons, we know that a variety of metals were used to cast these large weapons. As early as the 14th century, they were made of tubular wood with metal striping. Keith et al. add that on September 15, 1682, a historical archeological inventory recorded 42 cannons made from iron and bronze that were found in a warship. Supposedly, clay or clay-on-wood was used to provide details and decorations on the surface of the cannon. It was also reported that the British made cannons from cast iron between 1731 and 1772 (Croome, 2004). The making of those weapons varies from that which uses cast steel, a metal offering more strength than cast iron and has superior elasticity. In India during the 16th and 17th centuries, several metals were utilized in making cannons. Researchers conducting studies in metallurgic archaeology reported that cannons in that locality were made of copper, tin, lead, and sulfur in combination with iron for inner parts containing fayalite (FeSiO₄) as well as adding silicon and phosphorous (Singh, 2018). Those metals went through a forge welding process during manufacturing; the most adapted metals lately used are bronze and an alloy of bell metal such as copper and tin.

Bugles

A pair of bugles is placed in the flag, one instrument stands on either side of the drum. The bugle is a valveless instrument that is commonly used in bands and military squadrons; it is also believed that the bugle has been utilized during hunting activities. The apparatus is made from brass, copper, or silver (Wade-Matthews and Thompson, 2005). The shape of the instrument derives from a short cattle horn, which explains why it was called the *bugle horn*. This instrument underwent numerous evolutions throughout the years. As per these authors, early in the 19th century, a headmaster of the Irish militia converted the instrument by adding five keys to the bugle. Lasocki (2009) notes that the five-keyed bugle is also called the *Royal Kent bugle*. Lasocki explains that in May 1810, Joseph Haliday (1774-1857), a Yorkshire native, was the one to obtain a patent to transform the bugle horn to a five-keyed instrument. Since then, the instrument has gone through additional changes and has now got 12 keys presented in three different models: clavi-tube, quinti-tube, and ophicleide. Despite the numerous restorations and claims, Lasocki asserts that the dress code of the bugle remained the same in terms of the metals used in its fabrication.

Anchors

A couple of anchors entered in the grassy areas of the

flag's display represent an oceanic theme. Neither a maritime environment, nor a vessel was present in the Haitian emblem in the past, but because the flag belongs to an island nation, all maritime themes are likely acceptable. There are a variety of different anchors that make an appearance on the flag. Depending on the version, a full- or half-anchor is visible in the coat of arms. These tend to best resemble either the *union* anchor or the *klip* anchor model. There is similarity among some of the parts, namely the shank, the fluke, and the crown with the one displayed on the flag; however, it is unclear from which type of metals the anchors are made. In modern times, steel of various qualities was universally used in the making of anchors. There is a *mild* type, which is plain-carbon steel and a *high-tensile* one, which is high-carbon steel. Both types of steel can be exposed to corrosion unless a coating of zinc is used to galvanize the metals. Lebrini et al. (2008) call the methods of protecting steel metals *electroplating* and *galvanization*. Interestingly, it is reported that in the past, not all anchors were made of steel. Explorers found anchors made of stone during maritime archeological explorations that were conducted on the east and west coasts of India. Those stones are classified into four types: composite, Indio-Arabian, ring stone, and single hole (Tripathi, 2014). Indio-Arabian anchors were found in a larger quantity than the other types, and Tripathi suggests they were used by the Arabs in the horse trade. Additionally, the last-named author reports that iron anchors were discovered during oceanic research, but it is believed that Europeans introduced them during ancient times.

Grass

Grass is one of the most abundant plants found on all continents and in every type of landscape. Grass in its many species is a source of food of primary significance for humans and animals to consume. Its varieties include oat, barley, rye, sorghum, sugar cane, corn, wheat, and rice. There might be around 10,000 types of grass (Kellogg, 2001). Some grasses grow short, while the taller species can reach over 300 feet as in the case of bamboo. The bamboo reed is used to make thatch to cover roofs. In addition, the fiber of many kinds of grass is employed in the making of paper. It is well-known that sugar cane as a grass is the world's largest crop and is processed into white and brown sugar. Some grass species, however, are not as productive, which is due to their vulnerability to pests and weeds. Grass contains two major components: water and lignin. Its basic elements are carbon, oxygen, nitrogen, and phosphorus. Cellulose and chlorophyll are found in water, the latter being the one that catches the energy from the sunlight and facilitates gas exchange (Kaplan, 1983) until the process of photosynthesis occurs as it happens in all plants, shrubs, and trees of various species.

Other trinkets

Various trinkets displayed on the emblem give the flag its unique and characteristic flair. Among the trinkets, one can see three pairs of blue and red flags that sit on the rear foot of the palm tree, framing its roots halfway through. Another pair of small red flags is raised on rods on either side of the palm tree as if to point to the right and left. Some decorations that seem to mimic atoms are equally distributed on each side of the grass. A white ribbon at the bottom of the green area contains the inscription mentioned earlier. The overall effect of the trinkets is that of a bouquet placed on the well-tended field, a marvelous design.

The objects could have another impact if they were arranged differently. However, this design seems to be favorable as it went through many changes and returned to the original version. The order in which the pieces are organized, the number of items placed in the display, the type of images that create the artifact, the category of the items, the fashion in which the objects are presented, and the meaning of the themes make the case a reasonable argument. The choice of Frye's framework on the theory of symbols and Blume's concept of symbolic interactionism is appropriate to analyze the data and shape the discussion on the subject matter in the next section.

DISCUSSION

It is quite common to use a symbolic approach to satisfy one's curiosity, gain clarity, or acquire further knowledge of a content area. Some scholars argue that when images are unexplainable to viewers, the reflex response is that there must be a message cache. This approach implies a hidden message behind the images. From ancient times, certain visible images have presented a sort of unbreakable code, yet the themes portrayed in the Haitian flag have no apparent ritualistic expressions. Considering the history of the nation at the time the flag was created, however, it is probable that each element of its design correlated with some aspect of the newly emergent sovereign government and the abundance of natural resources that supported economic independence. Nonetheless, the design is by no means exhaustive in this regard. Historically, during the colonization period, Haiti had some of the largest coffee plantations. Sugar cane, cotton, indigo, cacao, and other crops grew in abundance on this island (Knight, 2000), but none of those had a place on the flag platform. Indeed, indigo was among the crops likely to be represented, but even this regional staple manifests only in the abstract; there is nothing in the scene representing the actual crop. One could say the same about sugar cane being one type of grass. On the other hand, the presumed red resin obtained from Dragon's blood has its derivation from the palm species. There, the correlation is obvious.

The bugle instrument, on either side of the palm, also yields multiple interpretations. Its shape is prevalent in native plants as well as a variety of fish. The bugle herb has medicinal uses, such as lowering high blood pressure, treating jaundice, controlling diabetes, and curing fungal infections and so is invaluable in treating common ailments of the native population. One type of bugle herb habitually consumed is the squash used to make a soup traditionally prepared for Independence Day. The jute plant commonly called “lalo” in Haiti may belong to the category of bugle herb and is valuable for its richness in palmitic acid nutrients as bugle herbs do.

Interestingly, Haitians are not necessarily attached to the bugle as an instrument or to the infantry that would normally play it. Perhaps the bugle appears on the platform to alert the natives of its pluralistic applications, not solely to be representative of a musical instrument. A fair reasoning is that there is no question that the bugle plant deserves to be recognized as a national resource, and for its various medicinal properties, the bugle's presence is justified.

The drum stands solo on the platform in front of the palm and seems to merge with it, hiding the root balls of the flora, which are absent in the display. The palm and the drum are the only two images that are not presented in a pair. The instrument appears to be a snare drum, yet conventionally, more than one drum is present in a musical group, and its position at the center is ideal. Music experts note that placing the drummers at the center of the marching band is necessary, so everyone can hear their beats. The drum and the bugles could be intended to refer to a military marching band, perhaps a marine corps, considering the inclusion of two anchors in the flag. In addition, the snare drum and the bugle are important musical instruments in all bands.

Marine or military corps prepare drummers to adhere to ongoing practices and drills not only to learn the rudiments that taught them how to play the instrument but also to conform to the rules of alignment and space during the performance. Maintaining a standard position in the marching band is fundamental (Wheeler, 1971) as a counterpart to discipline with the drum representing order. It is also important to highlight the dress code of the drum. The sisal fibers wrapped around its frame not only illuminate its figure but surely denote significant values that deserve attention.

Bugle herbs are loaded with fatty acid compositions including 21.18% palmitic acid substance known under the chemical formula $C_{16}H_{32}O_2$ (Andrienko et al., 2019). Palmitic acid is also found in the fruit of oil palm trees. There is a category of fish called bugle fish, which includes numerous aquatic fish species usually consumed on the island. Presumably, the name ‘bugle fish’ is because the fish's mouth shape resembles the end part of the instrument.

Sisal crops were used to make fibers to fabricate ropes and were a great source for commercial exchange during

colonization. The medicinal attributes of the plants are stellar, and the fibers could also be used as food or fertilizer. The sisal may well suggest the economic development and strength that are so needed after colonization while the single drum represents a venue for business opportunities; fibers obtained from the sisal plant were in great demand in various countries.

The cannons that face each other and toward the center seem to be placed that way for a reason, signifying a battle or battles highly significant in the nation's history. These cannons form a centerpiece that draws the eye to the palm tree with the drum resting on its foot. Anchors perhaps represent the stability and rest the country so desperately needed after many years of a war to obtain its independence. The anchors of course also allude to a maritime scene, and therefore, might symbolize an industry to be developed in the future.

It is necessary to look at the common denominator of all the images to find the inherent cultural bonds. A sound analysis of this potpourri of themes displayed on the Haitian flag must seek cohesion. What seems to join all these subjects is a strong communication between the elements of the design. The evidence relies on the presence of various items namely the cannons, the anchors, and the bugles made from diverse metals, cited in respective sections that stand on the podium. Indigo although being synthesized could have remained a productive crop in the island considering its values for medicinal purposes. The pillar palm supported by the drum command one's sight to the center. Those two objects were potentially the route to development and economic opportunities. The dominant palm with its maturity continues to be a great source of financial resource for developed and emerging nations. Informally known as the *tree of life*, and in fact, the palm has long been associated with peace, prosperity, and eternal life. The blue and red kepi hanging on the spear of the palm is a further indication of the palm's vitality, for only a live tree can bear buds. The representation of the palm tree, then, seems to signify the ongoing life of Haiti.

In interpreting the symbolism of the flag, time is of the essence, for there are many relics dated from ancient civilizations that convey a message signaling some type of maturity, endurance, or strength but none can be definitely understood after the passage of centuries. For example, the palm tree may reveal certain clues that could assist in determining the age of the flora. There is a dissenting opinion among scholars that the number of scars seen on the stem of the palm indicates the tree's age. However, some palms like the sabal have no scars (Haskell, 2017). Others believe that the number of leaves can give proof of the flora's age. Finally, knowing when the tree was planted would provide us with the most accurate information. It appears that the presence of the palm as the centerpiece alludes to a hidden agenda, which only historical research can help bring to light. The inclusion of the drum and the bugles, if we view them

literally as objects associated with a marching band, represents a lesson in order, discipline, unity, respect, and self-control. The inscription defines a civics lesson and is a guide for Haitians to follow. These are the values that forever will be the seal to a livelihood of progress and success.

The emblem in a flag is normally classified as an artifact rather than a work of art. When describing symbols, Frye (1957) elaborated more on poetic and art symbols known for their literary meanings. The cited author fell short in the case of symbols found in flags and for that, he referred to Carlyle's literature on symbols. The latter, who labeled symbols to have both extrinsic and intrinsic values, found that in the two scenarios a mystery exists. The extrinsic values of symbols relate to the unknown whereas in the case of intrinsic values, the unknown is known but remains a mystery. Adding to those attributes, Carlyle (1831) found that in symbols, messages are concealed and at the same time revealed. Somehow, those characteristics apply to the Haitian flag. When a ribbon inscribed those words "United we are strong" is placed directly in front of a scene that is equally divided in two parts, it signals a message. Historical data revealed the division of the country after its independence. There were two governments: the north and the south, each lead by a president. Picture this small country with two presidents and how much discourse this can cause between the two leaders. The inscription could have exemplified a concealment and at the same time revealing a message. This episode of Haiti's history could explain the divided order in which the objects were displayed; nonetheless it remains a mystery why those specific items were placed on the platform. The Haitian flag has been through many changes that explain its spatial temporal attributes, which to Frye is the skill of communicating messages throughout generation. Carlyle agreed that like cross, national flags are "signs or indicators of something existential" (Frye, p.88). The themes in the Haitian flag are real objects found in the world. The unknown lies in the order they are displayed, the number of items presented, the type and category of those objects, the imagery the themes represent, and their meanings. The descriptive phase used to present those items helped in categorizing those symbols for having extrinsic values considering the many variables that remain unknown.

Validation to use a descriptive phase matching sign symbol according to Frye's perspective was established and complimented that of the principles of symbolism interactionism postulated by Blumer in support of the interpretation, the reasoning, and the comparison of facts. The blending of those theories drove the analysis and discussion of this qualitative historical study.

CONCLUSION

Historically, the Haitian flag was born following the

nation's independence in 1804. Various items crowd the centerpiece of the artifact and seem to carry different types of messages and symbolisms so purposely situated against the white background as a display of a hierarchical past. The visuals convey unique, dual, and multiple meanings. Owing to the many usages of the palm tree, its longevity and endurance are mightily symbolic. Coupled with the drum at its feet, their seniority most likely denotes a reciprocal alliance to the country. The palm maintains the ecological structure of the region and foremost is a rich and endless resource with a stellar reputation in various industries. Thus, its value in economic development is one of a kind. The musical instrument reinforces lessons of order, discipline, and unity just as the fibers wrapped around it represent a commercial asset posing a great financial future. The bugle that goes along with the drum in any type of band also has various representations, for its name has multiple associations.

The awareness of agricultural and business opportunities cannot be missed, hence the reason for the grass in its various iterations. An obvious grass derivative is the sugar cane that is a major crop on the island and was an economic pillar during colonization. Another type of grass is bamboo that grows in abundance in the region and continues to be used for various purposes. The appearance of the grass on the platform alludes to its importance in the portrayal of Haiti's enduring life. The indigo plant, suggested by the rich blue color on the flag, is a valuable source of dye and could be explored for its holistic use. The display of a blue and red beret hanging on the spear of the palm tree, which has been referred to as the "liberty cap" is a strong political symbol. Additionally, the presence of the cannons alludes to the fact that the country has survived a time of battles and they stand each at an entry as a protective shield.. The ensemble highlights a beauty of the finest caliber and immeasurable content and grandiosity. Each subject contributes to a precious national lesson that should be forever embraced, cherished, and valued.

The plethora of information furnished in this study might seem to be a complete profile of the Haitian flag. However, that is far from being the case. Preliminary data regarding the artifact, if any exist, are not retrievable. There is no referenced name in connection to the design applied at the center of the flag nor is an inspirational source revealed. Despite the well-calculated effort put into the centerpiece display, no one has claimed credit to this day. The availability of patent is not promised. Additionally, the items placed in the fine manicured lawn, although universally recognized and valued in various studies, are not contextually framed to purposely convey meanings pertaining to the design of the Haitian flag, thus recognizing the symbols to be of extrinsic values considering the extent of unknown information. The opportunity to raise social awareness, a sense of civic responsibility, and economic development might be obstructed as a result, but it does not disqualify the

priceless lessons of self-fulfillment, progress, order, economic development, and discipline that form the intrinsic values of the symbols displayed in the Haitian flag.

This scholarly inquiry is an inoffensive approach intended to make inroads into increased national awareness. The importance of collective and comprehensive research is of equal worth in ascertaining the significance of the revered inherited artifact.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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