

*SALSA WITH COCONUT**: CHALLENGES FOR CONSERVATION BIOLOGY, FOOD EMPHASIS, AND ETHNO-ECOLOGY OF AFRO-CARIBBEAN DANCE MUSIC

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Introduction

Even before the 1980s, the efforts for the conservation of wildlife and the introduction of environmental topics started to get into the mass media (BOYKOFF and BOYKOFF, 2007), school and pre-school education (PERALES and GARCÍA GRANADA, 1999, and the political and business arenas (MEFFE and VIEDERMAN, 1995) in order to reach both the great majority of people and the decision makers. Encouraging results have been obtained, such as the addition of three million hectares of land for conserving forests in Latin America; yet high rates of deforestation remain as a challenge there (FAO, 2012). Problems of the agricultural sector interrupted the links between nature on the one hand and the millions of people previously related to it on the other hand (e.g. BANGUERO, 1985). Nowadays, even people who do not migrate to cities are also not working the land as they did earlier: they sporadically get inside-and-outside cities where they obtain their incomes (CARTON DE GRAMMONT, 2009). All of this diminished the connections of people with the naturalistic ideas of their ancestors, food independence, and the wealth gained thanks to clean air, rivers, forests, and beaches. Such people experienced a melancholy for nature, as has been shown by songs contrasting the low quality of life in the cities compared to the fields and forests (e.g. RIVERA and CORTIJO, 1958; COLÓN, 1979; QUINTANA and PALMIERI, 1971). All these came much earlier than the rise of the interest of biologists for wildlife conservation and environmentalism (MEFFE and VIEDERMAN, 1995). In spite of all these, the naturalistic ideary of people –expressed in their songs has not been integrated into environmentalism.

A salient case is the song *Lamento borincano* (*Puerto Rican wail*), by Rafael Hernandez. The song never went out of fashion but became part of the wisdom of people in the Caribbean and beyond. The song has been re-interpreted by very successful singers from Mexico, (ORTÍZ TIRADO, c.a. 1929), Puerto Rico (SANTOS, 1978; ANTHONY,

* Name of an album recorded by Cuco Valoy and his Virtuosos and launched in 1978. Discolor records LP 4399.

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2004), Brazil (VELOSO, 1994), Argentina (CABRAL and JIMÉNEZ, 1998), and many other countries. Messages by environmentalists rarely say anything about songs like the mentioned in spite of the concerns about food security and naturalism implicit in their texts (<http://www.iucn.org/es/>); <http://www.rlc.fao.org/es/conozca-fao/prioridades/seguridad-alimentaria/>). Thus, the prestigious voice of the artists remains underutilized by the efforts for adding more people to the fight against hunger and environmental degradation. Conservation biology can enhance itself if it finds ways to assimilate the collective wishes of humankind. In the Caribbean, such wills are usually expressed by means of the texts of dancing music.

Why the texts of Afro-Caribbean dancing music?

As an ideology –but not as a way of life, environmentalism is a university-generated creature, coming from ecology, built-up in temperate countries, and reaching the Caribbean “from outside”. Much earlier than the 1980s (MEFFE and VIEDERMAN, 1995) when conservation ideas started to dominate, the formidable set of songs of the Caribbean portrayed (and still portray) wild plants as good for curing people (e.g. CRUZ and MATANCERA, 1956; MIRANDA, 1973). They also portray life “in the wild” as healthy, happy, and safe for children (e.g. RAY and CRUZ, 1974), with plenty of love (LOS EXCELENTES, 1975), more fun than cities (RIVERA and CORTIJO, 1958), and even “tastier” –at least near the sea (ARGENTINO and MATANCERA, 1958). Millions of people dance such songs because they reflect very sincerely the most intimate virtues, defects, wills, dreams, and fears of the public (BARRETO, 1972; RONDÓN, 2008; GARRIDO-PÉREZ, 2014a). This invites environmentalists to take advantage of Afro-Caribbean songs in order to better understand the Afro-Caribbean cosmic vision and adjust strategies for communicating environmentalist ideas to the rhythm of the culture of the region.

This argument is consistent with the ethno-ecological approach which consists of “an interdisciplinary study of how nature is perceived by humans through a screen of beliefs and knowledge, and how humans, through their symbolic meanings and representations, use and/or manage landscapes and natural resources” (BARRERA-BASSOLS and TOLEDO, 2005).

The aim of this study is to make practitioners of all sciences (natural and social), technicians, environmentalists, and decision makers to get closer to the most powerful language used in each place of the world having an African heritage: the language of dancing songs. This quantitative research faces the following questions:

(1) What are the elements of the flora and the fauna that better reach the mentality of Caribbean people by means of the dancing music? (2) In which aspects of such a mentality do the elements of flora, fauna, landscapes, and non-biotic environments appear more often? In other words: How remarked is the presence of nature in abstract and deeply emotional themes like (the lack of) love, anger, patriotism, sexuality, as well as humour and every-day life? (3) How often do the elements of flora and fauna appear in the convictions expressed by means of religious songs? Some farm work and

land uses implicitly or explicitly related to the texts of songs are discussed too. All these is made for commercially, cross-border spread Afro-Caribbean music because such music better portrays the Caribbean region, allowing conclusions of this study to be considered for strategies of environmentalist communication for the whole region. Folklore music remains to be considered in other studies because it focuses on particular locations. By the way, I consider that the latter enables folklore music to be considered for environmental work at the spatial level of such locations.

Materials and methods

Collection of songs

The texts of 1200 songs (most of them freely available in the internet via *Youtube*) were exhaustively reviewed. The songs were made by artists representative of the urban dancing music, the majority belonging to set of rhythms known as “Salsa” as well as Merengue, Calypso, Cumbia, Kompass and Soca-Zouk. Guaracha, Son, Danzon, Mambo, Bomba and Plena are among the salsa-musical forms considered for this study. Songs by Panamanian national bands (“Combos Nacionales”) fusing Afro-Cuban rhythms to others from Panamanian folklore and to Calypso from Trinidad and other English speaking Antilles. The origins of the sample of songs was the active search of such music by the author of this article based on the influence received from the tastes of three generations of an urban-Panama family: two grandparents and their brothers (born between 1926 and 1936), parents-uncles and aunts (born between 1949-1955), and the generation of the author of this paper and his generation (born between 1966 and 1975). Exposure to the mentioned music started in late 1970 (the year of birth of the author) and occurred in the following places: (1) The Boca la Caja block (barrio), Panama City. (2) Taxis and buses in such city –which have been very famous for permanently exposing their passengers to high volume Afro-Caribbean music until 2012. (3) Intense interaction with the inhabitants of other blocks in Panama City. Finally, after the invention of the internet (4) listening the broadcast of radio stations located in countries like Puerto Rico, Colombia, and The Dominican Republic.

Active, albeit non-structured search of music for building-up a collection started about 1982; for now the collection has reached the above mentioned number of 1200 songs. Songs were heard between mid-1976 (year when the author was able to sing his first song memorized after listening it only from the radio) until April 2014 (writing this paper). Many songs were recurrently listened to during that period, keeping the family custom of hearing that music at least six days a week during at least three hours per day. Artists of the music collection are mainly from Puerto Rico, New York, Cuba, Dominican Republic, Panama, Venezuela, Colombia, Haiti, Trinidad & Tobago; yet some artists are also from Peru, Brasil and Suriname.

Analysis of lyrics and data

All sampled songs were exhaustively listened to, searching for explicit mentions of plants, animals, non-biotic components, forests, sea, coast and non-urban landscapes as well as land-uses according to at least one of the following criteria: (1) musical pieces directly saying the name of any plant or animal and their use as food, medicine, ornament and having fun. Also songs whose title or text directly talk about forests, sea, or fields. (2) Direct, non-direct, or metaphorical reference to the name of plants or animals while talking on abstract subjects like –for instance, sex fantasies, love, homesickness, happiness, or value-judgements of human attributes (Table 1), For example, the phrase “salsa with coconut” (in Spanish, *salsa con coco*) (VALOY, 1978) means “intelligent salsa”. (3) Reference to places (e.g. “the insides of the plantation” –in Spanish *plantación adentro*) and processes of land use and farm work like harvesting, fishing, planting, cutting sugar cane and “fishing what is necessary”. Also reference to landscapes and scenarios related to nature and rural contexts like “a cart on dusty road” (BLADES and RODRÍGUEZ, 1970). Finally (4), religious songs. It is important to remark that the context attributed to each word (Table 1) is related to the sentence where the word is found and not necessarily to the overall context of the song. For instance, the song *La Mora* (BLADES and COLÓN, 1977) is about a non-corresponded love while the only plant mentioned in the text (the beans) appear in the phrase “I hope the Heaven to give you many beans” (in Spanish *que el cielo te colme de habichuelas!*). Therefore, the attributed meaning for the mention of the plant was “good wishes” instead of “heartbreak”. Frequency distribution analyses were used for all data. For religious songs the ratio of naturalist mentions per song (EN/C) was calculated as an indicator of the importance of plants, animals and natural elements for each artist singing about religious subjects.

Table 1. Contexts of classification of the ideary for the use of the names of plants, animals, landscape elements or ecological processes for n=207 Afro-Caribbean dance songs out of a sample of N=1200 Afro-Caribbean songs.

Contexto/Context	Ejemplo/Example	Referencia/Reference
Aburrimiento / Boredom	<i>Quiero irme para el pueblo pues ya me tienen cansada tantas maniguas y cañas.</i> (“I want to go in town because I am tired of so many bushes and canes”).	Arsenio Rodríguez (c.a. 1948)
Felicidad / Hap- piness	<i>Vamos a seguir contentos (...) (porque) después de muerto no se puede gozar (...) y si reencarno en un cabro y me comen en fricasé (...) y luego toman mi cuero para ponérselo a un bongó (...) después de muerto no se puede gozar!</i> (“Let´s continue staying happy (...) (because) once you are dead you cannot enjoy (...) if I rein- carnate as a goat and someone eats me as fricassé (...) and then takes my skin for making a bongo- drum (...) once you are dead you cannot enjoy!”	El Gran Combo de Puerto Rico (c.a. 1964)

Amor / Love	<i>Como las rosas tiernecitas de un rosal (...) son tus ojos verdes como la naturaleza de una belleza vegetal.</i> (Just like tender roses of a rosebush (...) are your Green eyes. (They are) like the nature of the beauty of the plants.	Oswaldo Ayala (c.a. 1975)
Belleza / Beauty	<i>... y un olor a rosas llega desde el mar.</i> ("...and a smell of roses comes from the sea")	Rubén Blades and Seis del Solar (1987)
Buenos deseos / Good wishes	<i>Que el Cielo te colme de habichuelas!</i> ("I wish The Heaven to fill you with beans!").	Rubén Blades and Willie Colón (1977)
Burla / Joke	<i>Si yo llego a saber que el perico era sordo, yo paro el tren!</i> ("If I would have known that the parrot was deaf I would have stopped the train").	Ismael Rivera and Rafael Cortijo (1961a)
Cotidiano / Everyday life	<i>Lo más que me gusta es la café que ella me cuele.</i> ("The thing I like more is the coffee she prepares for me").	Compay Segundo (2000)
Denuncia / Complaint	<i>El costo de la vida sube otra vez y las habichuelas no se pueden comer!</i> ("The cost of living is rising again, and (even) the beans are not to be eaten").	Juan Luis Guerra and 4-40 (1992)
Desamor / Heart-break	<i>María, flor de mi vida (...), te quise con loco anhelo, sin embargo no eres mía.</i> (Maria, flower of my life (...), I loved you with mad craving, but you are not mine").	Oscar De León (1978)
Desarraigo / Home-sick	<i>Vino desde Nueva York un dominicano ausente (...) se creía que era igual y ya no se recordaba de su clima tropical.</i> (And absent Dominican came back from New York (...) he thought everything was the same but he had forgotten his tropical weather").	Wilfrido Vargas and his Beduinos (1976)
Desesperación / Desperation	<i>Caballo viejo no puede perder la flor que le dan, porque después de esta vida no hay otra oportunidad.</i> ("The old horse might not miss the flower gifted to him, because –after this life, there is no other chance").	Simón Díaz (1980)
Festivo / Celebration	<i>A mí me gusta el chivo con vino (...) y después que le pongan Salsa!</i> (I like to eat goat-with-wine (...) and then to add Salsa").	El Gran Combo de Puerto Rico (1981)
Indeterminado / Non-determined	<i>Cacha mulata encendida, color de tabaco y ron: tu belleza me emociona, me llena de inspiración.</i> ("Cacha, African girl on fire, with color of tobacco and rum: your beauty motivates me and fills me with inspiration").	Irakere (1985)

Invitación a la religion / Invitation to religion	<i>Vuélvete a Mí de inmediato porque la Zarza soy Yo.</i> ("Turn back to Me immediately because I am The Bramble").	Richie Ray and Bobby Cruz (1980)
Machismo (y moralismo sexista) / Machismo (and sexist moralism)	<i>Cuando una mujer te diga "papito, te quiero tanto", no te duermas camarón, porque te está vacilando.</i> ("If a woman tells you "daddy, I love you so much", Hey shrimp: don't fall asleep! because she is cheating").	Ismael Rivera and Rafael Cortijo (1961b)
Medicina / Medicine	<i>Zouk la se sel medikaman nou ni</i> (El azúcar es mi medicina). ("Sugar is my medicine").	Desvarieux et al. (1984)
Moralista / Moralism	<i>No dejes camino por vereda.</i> (Do not abandon the road for just taking the trail").	Los Guaracheros de Oriente (1960)
Nostalgia / Melancholy	<i>Por eso no he olvidado que en el campo yo he vivido: el maíz del que he comido, la malanga que he sembrado...</i> ("That's why I have not forgotten the farm where I was living, the corn I have eaten, and the cocoyam I have planted").	Benny Moré (c.a. 1956)
Patriotismo / Patriotism	<i>Yo soy el Punto cubano que en la manigua vivía cuando el mambi se batía con el machete en la mano!</i> ("I am the <i>Punto cubano</i> that was living in the bush (just) when the mambi-warrior was fighting with the machete in his hand!)	Celina and Reutilio (c.a. 1960)
Rabia / Angryness	<i>Y el queso que había en la mesa también se lo comió: ese barbarazo acabó con tó!</i> ("And he even ate the cheese that I let on the table! This barbarian just finished everything").	Wilfrido Vargas and his Beduinos (1978)
Reconstitución / Tonic	<i>Tienes que tomar sopa de pichón para sentirte mejor y bien sabrosón.</i> ("You have to drink soup of pigeon in order to feel better and very excited").	Machito and his AfroCubans (1941)
Relato ficticio / Fiction	<i>She ate four plates of rice and she called for that twice (...) roast pork(...), fried fish(...), metagee(...), hassa currie(...), coo coo(...), six bread fruit...</i> (Ella comió cuatro platos de arroz –y lo hizo dos veces (...), puerco azado, pescado frito, metagee, hassa curry, cu-cú, seis frutas de pan...).	Bill Rogers (without date)
Relato vicioso / Vice story	<i>Si el mar se volviera ron yo me metía a marínero...</i> (If the seawaters would turn into rum I would become a sailor...").	Lucho De Sedas and Ulpiano Vergara (re-masterized on 2004)
Respeto / Respect	<i>Me llaman semilla de caña brava!</i> ("They call me The Seed of the Brave Cane!").	Arsenio Rodríguez (c.a. 1947)
Sexo / Sex	<i>Un clavelito planté en la casa de Matilda...</i> ("I planted a Carnation in the house of Matilda").	Cuco Valoy (1982)

Tristeza / Sadness	<p><i>Ni el horizonte se vé, y menos la gente que se fué. A ese muchachito que esperaba un peje, Bendito! ¡Cómo se lo explicaré?</i> (Neither the horizon nor the people (sailing) are seen. My God: how will I explain it to the boy who was waiting for a fish?").</p>	Cheo Feliciano (1979)
Virilidad / Virility	<p><i>Y por segunda vez –caballero calló hasta el gallo; vibró la voz de aguardiente del bandolero: yo soy un macho, soy un varón y soy de los buenos!</i> (“And for the second time –gentlemen, even the rooster stayed silent. (Then) the voice of rum of the bandit vibrated: I am a macho, I am a man, and I am a good one!”)</p>	Ismael Miranda (1977)
Otro / Other	<p><i>Cangrejos plateados la luna han robado...</i> (Silver crabs have stolen the moon...”).</p>	Rubén Blades and Seis del Solar (1987)

Results

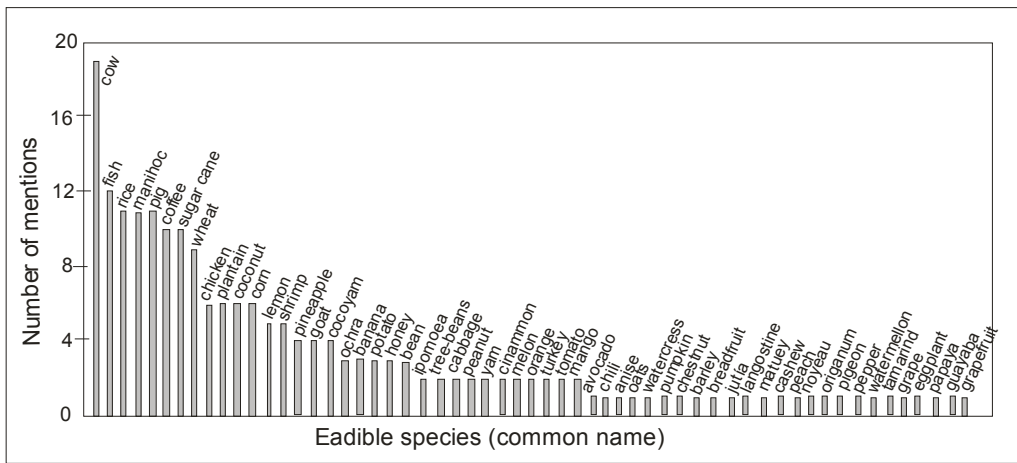
Two hundred seventy three out of the N=1200 songs fulfilled at least one of the four criteria to be considered for this study. Only 66 of those songs were religious while the rest (207 songs) evoked at least one element of the flora, fauna, landscapes, weather, or non-biotic components and phenomena in non-religious contexts. These 207 “naturalist” songs represented 17% of the N=1200 sampled songs. The majority of the mentions to flora, fauna, landscapes and farm works were related to food and alcoholic drinks. Thus, from the n=207 songs, 43% (90 songs) talked about the ingestion of plants and animals (e.g. “I like to eat goat-with-wine” (“a mí me gusta el chivo con vino”, GRAN COMBO, 1981)), or implied the possibility of ingesting the plant or the animal mentioned by the singer (e.g. “I wish The Heaven to fill you with beans! (“que el Cielo te colme de habichuelas”, BLADES and COLÓN, 1977)). The remaining 57% (117 songs) talked about Nature in 24 contexts. These contexts were unrelated to food-and-drink and independent of religion as well (e.g. “Hey shrimp: don´t fall asleep! because she is cheating” (“no te duermas camarón, porque te está vacilando”) (RIVERA and CORTIJO, 1961b); see further).

Food

The total number of species mentioned as actually or potentially ingestible was 58. Out of these 58 species, 10 were animal species and 48 were plant species. The great majority were domestic species like the cow (*Bos primigenius indicus* Linnaeus 1758, 19 mentions), rice (*Oryza sativa* L., Gramineae, 11 mentions), the pig (*Sus scrofa domestica* Linnaeus 1758, 11 mentions), coffee (*Coffea arabica* L, Rubiaceae, 10 mentions), and sugar cane (*Saccharum officinarum* L, Poaceae, 10 mentions) (fig.1)ⁱ. Only one element of the fauna namely the *jutías*, (*Capromys spp*, *Capromyidae*, 1 mention) can be considered as wild. Therefore, species composition of the songs are related to a human-ruled nature as well as to preeminently agricultural-livestock as well as fishing land-uses (mentions to fish=12) (fig. 1). Only five species are mentioned in their form

of alcoholic beverages. Sugar cane was mentioned in its forms of rum, *seco*, and *pitorro*. Grapes (*Vitis vinifera* L, Vitaceae) were mentioned in their forms of wine, brandy, sangría, champagne, and vermouth. Wheat (*Triticum aestivum* L, Gramineae) was mentioned in its forms of beer and ale. Ginger (*Zingiber officinale* Rosc., Zingiberaceae) was mentioned in its form of gin; and barley (*Hordeum vulgare* L, Gramineae) was mentioned in its form of whiskey. From the just mentioned five plant species, ginger and barley were not mentioned as edible.

Figure 1. Frequencies of the mention of eadible species (y axis) according to their common names (in Spanish, x axis) for n=207 Afro-Caribbean songsⁱⁱ.



Etno-ecology of the ideary

As a whole, the 90 songs mentioning plants and animals as actually or potentially edible made 245 mentions to such plants and animals. Such evocations were more frequent for the following contexts: every-day life (50 mentions), fiction (49 mentions), sex (32 mentions), as well as parties (28 mentions) and complaints –mainly against how expensive or difficult is to obtain food and paying a living in both cities and the country side (27 mentions) (fig. 2). This pattern is not consistent to the one resulting when singers evocated nature in a non-food context (e.g. I have a garden of roses and they are only for you” (“Tengo un jardín de rosas y son sólo para tí”; VARGAS, 1984)), joined to sentences where ingestible species are mentioned, such mention does not refer to the actual or potential action of eating the plant or animal (e.g. “Hey shrimp: don´t fall asleep! because she is cheating” (...“no te duermas camarón, porque te está vacilando”; RIVERA and CORTIJO, 1961a)). For the 117 songs analyzed according to the just indicated criterion (fig. 3), singers preferred the following contexts when mentioning plants or

animals: heartbreak (30 mentions), love (24 mentions), complaint (24 mentions), respect (22 mentions), sex (18 mentions), and jokes (15 mentions). All these result in a poor overlap of the bars shown in fig. 3 and suggest that the components of the ideas referred by the evocations to Nature in a non-food context are not the same, but complementary to the ones evocated when the singers use texts related to food.

Figure 2. Contexts of the mentions to species of plants and animals considered as ingestable goods in sentences sang in n=207 Afro-Caribbean songs.

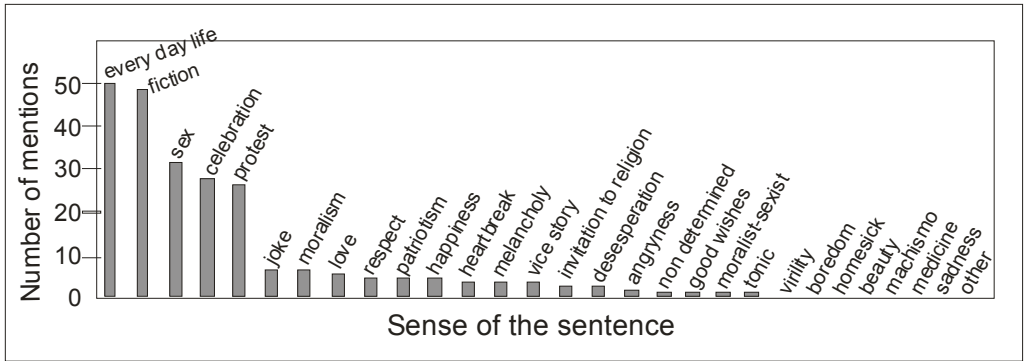
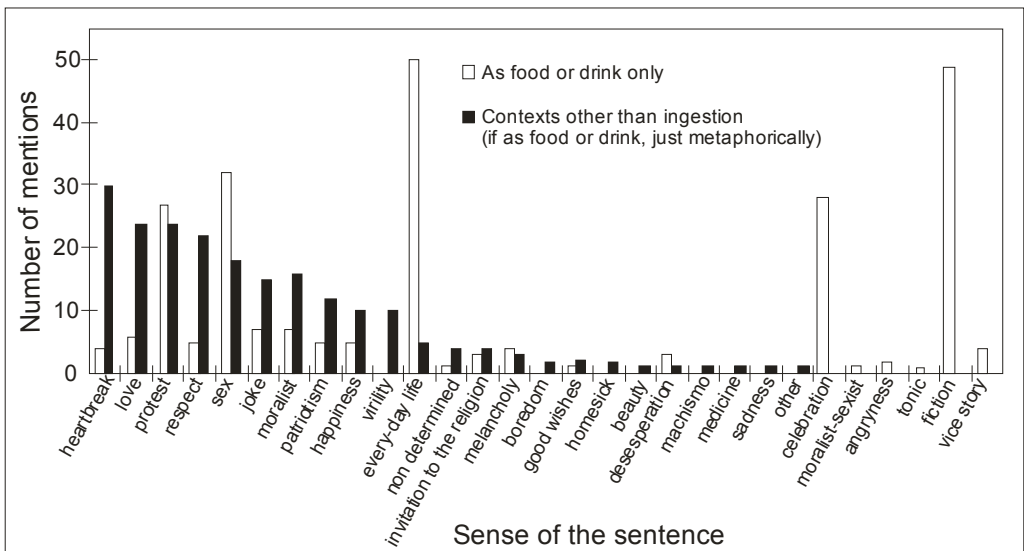


Figure 3. Contexts of the mentions of plants, animals, landscapes, and non-biotic components when sentences evocate (white) and not evocate (black) the ingest of food for n=207 Afro-Caribbean songs.



Religion

From all 1200 songs of the collection, 66 were religious songs interpreted by 20 artists (21 when splitting Richie Ray and Bobby Cruz into their two periods: Yoruba and Evangelic). Out of the 20 artists, only seven made reference to any element of the flora or the fauna. Such references occurred in 14 songs (that means, 21% of the religious songs and 1% of the 1200 studied songs). Within the 20 artists appear the following groups: (I) four bands specialized in Yoruba religious songs including: Richie Ray and Bobby Cruz –during their first, Yoruba period (0 evocations/11 religious songs so $EN/C=0$); Machito and his Afro Cubans (0 evocations/3 religious songs so $EN/C=0$); Celia Cruz and Sonora Matancera (0 evocations/17 religious songs so $EN/C=0$), as well as Celina and Reutilio (0 evocations/5 religious songs: $EN/C=0$). None of these bands mentioned any species of plant or animal in their Yoruba-religious songs despite the fact that their religion is animist. Only Richie Ray and Bobby Cruz –during their evangelic period had $EN/C=0.3$ (four evocations in 11 religious songs) indicating they started to talk about plants and animals when they abandoned animism.

The second group (II) comprises nine artists or bands who only sporadically sang about the Yoruba religion. From the analyzed collection, all such artists never mentioned plants or animals in their religious songs ($EN/C=0$). Such artists are: Ray Barreto (2 religious songs). The following artists had only one religious song in the collection studied and had $EN/C=0$ too: Louie Ramírez, The Gran Combo de Puerto Rico, Orquesta Panamericana, Joe Madrid, Reve and his Charangon, Santos Colon with Tito Puente, Adalberto Alvarez and his Son, and Chano Pozo with Arsenio Rodríguez. Besides results from group 1, the above data confirms that Yoruba-religious artists, even practicing a religion considered as animist by other people, use very abstract terms when talking about their spirituality.

(III) The third group comprises seven bands playing preeminently secular pieces; that means, bands who sang on religion only sporadically. For the few times such bands talked about religion (for the music collection studied here), the bands effectively mentioned plants or animals –for instance, as part of rituals and this resulted in high EN/C -values. The group of bands includes the following artists who made three evocations in only one song each: ($EN/C=3$): Ismael Miranda and his Orquesta Revelacion, Héctor Lavoe with Willie Colón, and Miguelito Valdés with Orquesta Casino de la playa. Also with one religious song, but with two naturalist evocations ($EN/C=2$) are: Ismael Miranda with Larry Harlow's Orchestra, and Ruben Blades with Willie Colón. On their part, Cuco Valoy (2 evocations in 2 religious songs) and Benny More (one evocation in one religious song) had $EN/C=1$ for the sample of songs studied here. All these suggest that the artists of group III, when adding plants and animals in the texts of their very few religious songs, were trying to pay tribute to the animalist component of the Yoruba religion.

Discussion

Nature appeared with low frequency in the collection of songs studied here (17% of the total number of songs). However, this does not correspond to the social impact

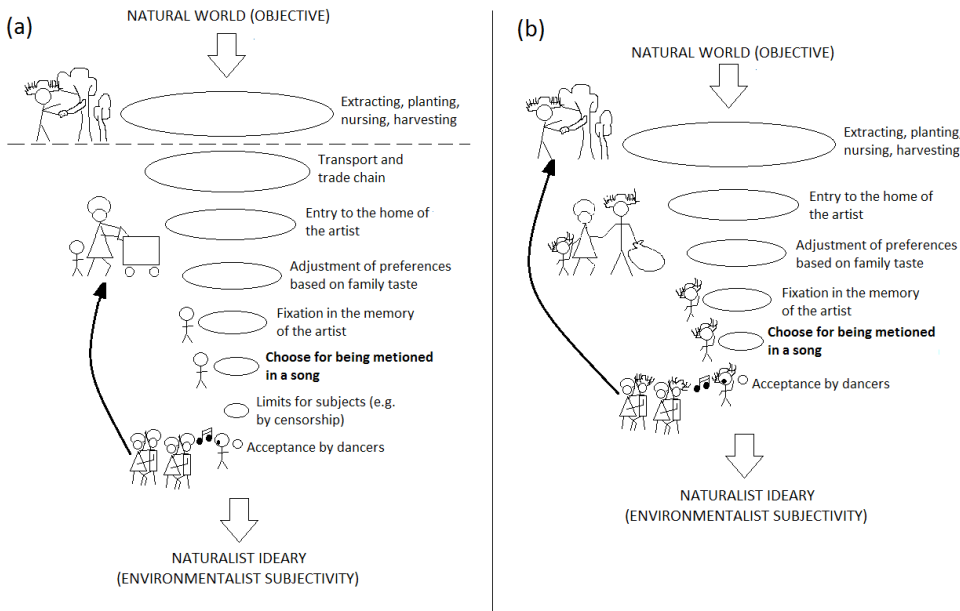
of such evocations because the “few” songs talking about Nature have remained in the memory of Afro-Caribbeans for several generations. This is the case of *Frutas del caney* (MATAMOROS, c.a. 1928), *Lamento Borincano* (ORTÍZ TIRADO, c.a. 1929), *Vamonos pa'l monte* (QUINTANA and PALMIERI, 1971), and many other songs. After a qualitative analysis of many of these pieces (GARRIDO-PÉREZ, 2014b) it has been concluded that listeners associate these songs to food besides the joy and pleasures of jokes, sex, every-day life, love, and celebrations as well as with music and dancing. All these contribute to fix the songs in both individual and collective memories (THAGARD, 2005). Moreover, the “few” songs evocating naturalist topics totalled 207. This number is high when considering that the repertoire was published by mainly urban artists like Frank Grillo (Machito), Felix Chappottin, Ruben Blades and Charlie Palmieri.

But even recognizing the praiseworthy naturalism of the songs, the elements of flora and fauna mentioned by such songs are almost always food species like cow, manihoc, the pig, and sugar cane. Thus, the interests of the songs is more oriented towards eating than towards the conservation of ecological beings and processes like biodiversity and carbon sequestration. After all, food (in)security remains one of the main challenges for humankind (FAO, 2013) as has been reflected in the studied songs. Therefore, without neglecting to mention forests as carbon sinks, biologists may talk about forests as soil fertilizers. Even better, fertilizers of the land (in Spanish *la tierra*), since the latter is the term being more familiar to both farmers and salsa-makers as has been exemplified by phrases like “I want my land to be mine “ (“mi tierra la quiero mía” (RODRÍGUEZ, 1982)). After such an approach, biologists can add that without fertile land (soil) there is no food and no health (SÁNCHEZ and SWAMINATHAN, 2005). All these may make wider ways for convincing the great majority of people to preserve forests and –by the way, capture more CO₂ while avoiding the scholar jargon that takes away the rhythm of the ideas sang and danced by people.

Biodiversity and cognitive ethnomusicology

The small number of plants and animals (58) mentioned in the collection of songs analyzed here contrasts with the wider knowledge of flora and fauna held by the inhabitants of the forest and the agrarian borders of both The Caribbean and Latin America. For instance, just only 31 persons in Cispatá, Colombian Caribbean, reported knowledge about the use of 120 plant species (JIMÉNEZ-ESCOBAR, 2012). A work in Cuba found 134 useful plant species in just 15 farms near La Habana (LORES et al., 2008). Forty one ethnic groups of the Colombian Amazon use at least 82 palm species (MESA and GALEANO, 2013) and the number is much higher if other families of plants and animals are included. Yucatecan Mayans include between 300-500 species as part of their multiple-economy strategy (TOLEDO et al. 2008). All these suggest that there is a reduction of the “memorized biodiversity” in the urban mentality compared to forests. Such a mentality is mainly composed by dancers of salsa, but also by dancers of merengue, cumbia, and probably compass and calypso (fig. 4a). This is consistent with the disconnection between people and Nature experienced by urban people –a subject mentioned in the beginning of this article.

Figure 4. Reduction of the diversity of species and non-biotic components from Nature to the general Afro-Caribbean consciousness by means of the texts of dancing music for two contexts: (a) urban, and (b) “rural” (including natives and peoples of the agricultural border). Ovals=filters reducing diversity from Nature to the memories of individuals and people. Children=artists (lyrics writers, music makers, singers). Men and children without hat=urban; with hat=rural. Arrows show reinforcements of the memorized biodiversity by means of mentioning biotic and non-biotic elements in the songs. Bold characters show the only moment where the artist is the only one explicitly deciding which natural elements will appear in any song.



Cognitive processes like fixing biodiversity in the memory are usually related to spoken language and forming images. Such images are reinforced when they appear together to sense experiences like touching and smelling (THAGARD, 2005). The more recurrently is the contact between people on the one hand and a wide variety of plants and animals, on the other, the more species will stay fixed in the memories of such persons. By mentioning such species, singers reinforce such memorization by listeners (see arrows in fig.4). When singers and dancers are rural or belong to an indigenous people (fig. 4b) and songs talk about nature, dancers and musicians continue looking at, listening to, smelling, and touching the plants and animals mentioned in the song once the party is over, thereby better fixing all that in both the individual and the social memory (THAGARD, 2005). A good example is the following Cuban proverb: *El que siembra su maíz que se coma su pinol* (“Save the polenta for the one who is planting the corn”). This phrase has been sang by many artists throughout several generations since its successful record by TRÍO MATAMOROS (1928). So, Trio Matamoros helped the proverb not to be forgotten, and keeping in the memory of people the relationship between planting

corn, on the one hand, and harvesting the corn, making the polenta and eating it, on the other hand.

For the life of many urban Afro-Caribbeans, Nature enters in the form of edible plants and animals brought from the market –usually by mothers and grandmothers (fig. 4a). That contrasts with the countryside where such animals used to be brought from the farm by fathers and from backyards by mothers (fig. 4b). But, while people in the countryside go out of home and contact non-edible elements of flora and fauna there, urban musicians and dancers grow relating nature to what they eat and drink from their childhood; they rarely see non-edible species in the wild. That explains the food emphasis made by the songs collected for this study. Moreover, urban artists are exposed to filters like censorship (VENTURA, 2003) as well as the interests of record companies (PETERSON and BERGER, 1975) able to reduce the frequency of mentions to elements of flora, fauna and landscapes in the songs. They thereby affect the presence of nature in the ideas constructed with the help of the songs (fig. 4a; see also THAGARD, 2005). All these reduce the numbers of animals and plants remaining in the collective memory (fig. 4a).

Within the just discussed framework, it is worth noting that Afro-Caribbean artists, even being born, grown, and developing in an urban context, still kept a significant naturalist idea by means of their work. They fulfilled this thanks to their relatively few, but penetrating evocations like “delicious pineapples, (sweet) like the lips of a woman” (“piñas deliciosas como labios de mujer” (MATAMOROS, c.a. 1928)), “criminal, like a fisherman: for the hook you threw you got a shark instead of a sardine” (“maleante pescador, pa’l anzuelo que tiraste, en vez de una sardina un tiburón enganchaste” (BLADES and COLÓN, 1978)), “I wish a rainfall of coffee to fall down” (“ojalá que llueva café en el campo” (GUERRA and 4-40, 1990a)), and many other phrases sung during live concerts. There, artists observe whether the dancers accept such phrases. If so, they repeat the same words in more events and even include them when recording the pieces (GARRIDO-PÉREZ, 2014-a).

Songs for dancing, conservation, and land use

The most mentioned species of plants and animals like rice and cow are produced by means of monoculture and extensive livestock. Compared to forests, such land uses reduce environmental services like carbon sequestration (e.g. IBRAHIM et al., 2006). Therefore, explaining to people the disadvantages of monoculture and livestock is to be made with maximum caution and respect: talking on such land uses means to talk on food species that people relate to their food security and to their deepest intimate feelings (fig.3).

Small scale polyculture resulting from shifting agriculture was extolled in songs, being considered a symbol of popularly considered positive values like: love (GUERRA and 4-40, 1990b), virility (BLADES and RODRÍGUEZ, 1970), independence as well as freedom-and food security (RIVERA, 1973). Such positive view complements the already demonstrated fact that polyculture helps to save biodiversity and food security (e.g. TOLEDO et al., 2008; LORES et al., 2008). Therefore, environmentalists and conservation biologists may enhance their success by talking to the people about the advantages of

polyculture: they are talking about something well accepted and familiar to people. It is worth to remember that plants like manihoc—one of the favorite plants in Afro-Caribbean songs analyzed here (fig. 1), but also avocado, cashew, mango, cocoyam and coffee are produced as part of polycultures by many families (e.g. LORES et al., 2008; TOLEDO et al., 2008). All that converges with the importance that United Nations has given to family agriculture as a way to enhance food security and as a path towards sustainable development (FAO, 2013).

Natural world vs mentality

When this study analyzed sentences evocating plants and animals as subjects to be ingested the ideas were more oriented to every-day life, fiction and celebration contexts. Interestingly, the main “negative” feeling related to food was protest (fig. 2; see white bars in fig. 3 too); such protests were almost always against the lack of or the high prices of food (e.g. QUINTANA and PALMIERI, 1970; GUERRA and 4-40, 1990a). In contrast, naturalist evocations outside ingestion implications for animals and plants (black bars on fig. 3) were mainly related to heartbreak, love, protest, sex, moralism and jokes; sadness (for reasons other than heartbreak) appeared only once (fig. 3). This sad sentence says the following: “Neither the horizon nor the people (sailing) are seen. My God: how will I explain it to the boy who was waiting for a fish?” (“Ni el horizonte se vé, y menos la gente que se fué; ese muchachito que esperaba un *peje*, Bendito! ¡cómo se lo explicaré?” (FELICIANO, 1979)). Within the context of the song, the sentence talks about the sadness of a man who must tell a boy that his father—a fisherman, has died, will never come back, and will not bring the (delicious and nutritious) fish promised to the boy. As a matter of fact, the song starts with the voice of a kid saying “Dad, I want you to bring a very big fish for me” (“¡Papi, yo quiero que tú traigas un pesca’o bien grande pa’ mí!”). Therefore, the fish is identified with something happy; the death of the fisherman and how to explain it to the kid is the effectively sad aspect of the story. Thus, mentioning the fish in this song is an exception confirming the rule that, for the studied songs, plants and animals are mentioned related to happy subjects.

Religion did almost not appear when flora, fauna, and other natural components were mentioned in the studied songs, even for artists widely recognized as followers of the Yoruba religion: Richie Ray and Bobby Cruz (during their first period), Celia Cruz, and Celina and Reutilio. Reputable practitioners of the Yoruba religion rarely mention plants, animals, or non-biotic factors too (e.g. CALVO, 2012). According to the just mentioned source, objects used by Yoruba religion are instruments of the faith. For practitioners, the faith, but not the flora, the fauna or any natural element is the real focus of interest (CALVO, 2012). That explains the why mentions to natural elements were so few for the collection of songs studied here.

Conclusion and final recommendations

The most effective vector of ideas for countries with African heritage is the song to be danced (see also GUERRA, 2003). If this were not true, so many millions of Afro-

-descendants would not be dancing, singing, and repeating the texts of their music across Latin America and The Caribbean. Results from this ethno-ecological-musicological survey suggest that the idea of “nature” dominating the Caribbean is a human-altered nature. Nature is perceived and portrayed as a source of the food and the happiness related to food security, more than as a supplier of ecosystem services or as a keeper of biodiversity. Activists and conservation biologists can enhance the resonance of their message if they convince singers to mention more species and natural processes in their work (see also MEFFE and VIEDERMAN, 1995). It is important to warn that attempts to introduce ideologies like environmentalism to artists can generate demagogic songs or music poorly accepted by the audience; this has occurred for other ideologies sang in the Caribbean (RONDÓN, 2008; see also LUCCA, 1999). Better is to let artists to stay free otherwise the quality and popularity of their work may be affected. In any case, biologists can organize workshops with artists in order to exchange ideas, then let the eventual rise of inspiration on the hands of artists. Indigenous musicians have a better knowledge of nature so such song writers and music makers can be proposed to interact with their Afro-Caribbean colleagues, write and compose songs together while respecting their copyrights and cultural properties. Spreading such songs can contribute to both reinforcing environmentalism and reducing racism.

But none of above proposed ideas will be fruitful if the public does not accept what environmentalism offers. The best way to know whether a message has penetrated the mentality of any people with African heritage is checking whether the people dance and sing the message in live concerts (VENTURA, 2003; <http://www.youtube.com/watch?v=F-Q5HZkOHio>). Environmentalists need to continue getting closer to their audience. We must intone with our audience, because the audience knows very well that having swing is needed for going to the Rhumba (POZO, c.a. 1947).

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Notes

i See supplementary material for the scientific names of all 58 species in <http://edgardoga.jimdo.com/material-suplementario-supplementary-material/?logout=1>

ii Scientific names are enlisted as supplementary material available in <http://edgardoga.jimdo.com/material-suplementario-supplementary-material/?logout=1>

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Video clip

Wilfrido Vargas y su orquesta hacen que miles de chilenos canten y bailen “Abusadora” en el Festival de Viña del Mar de 1990: <http://www.youtube.com/watch?v=F-Q5HZkOHio>.

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*SALSA WITH COCONUT**: CHALLENGES FOR CONSERVATION BIOLOGY, FOOD EMPHASIS, AND ETHNO-ECOLOGY OF AFRO-CARIBBEAN DANCE MUSIC

EDGARDO I. GARRIDO-PÉREZ

Abstract: Caribbean environmentalists rarely appreciate music for dance in spite of its high communication skills. 1200 Afro-Caribbean songs were studied while checking how many times floristic, faunal, landscape- and climate elements were mentioned. 43% of the mentions were about food items grouped into: 10 animal- and 48 plant species. More mentioned species and their numbers of mentions were: cow (*Bos primigenius*, 19), fish (12), rice (*Oryza sativa*, 11), pork (*Sus scrofa*, 11), coffee (*Coffea arabica*, 10) and sugar cane (*Saccharum officinarum*, 10). Food mentions were mainly in the following contexts: every-day life (50), fiction (49), sex (32), celebration (28), and protest (27). Non-food mentions were mainly in the following contexts: love-related pain (30), love (24), protest (24), respect (22), sex (18), and joke (15). Environmentalist jargon needs to be connected to the “nature” elements involved in what people sing and dance about because people associate it to their intimacy and food security.

Keywords: Conservation, ethno-biology, food security, frequency distributions, land-use.

Resumen: La canción bailable es poco apreciada por el conservacionismo caribeño a pesar de su eficacia comunicativa. Se estudiaron 1200 canciones afro-caribeñas anotando la frecuencia y el contexto en que mencionan elementos florísticos, faunísticos, del paisaje y climatológicos. 43% de las menciones fueron sobre alimentos pertenecientes a 10 especies animales y 48 vegetales. Las especies más mencionadas y sus números de menciones fueron: vaca (*Bos primigenius*, 19), pescados (12), arroz (*Oryza sativa*, 11), puerco (*Sus scrofa*, 11), café (*Coffea arabica*, 10) y caña de azúcar (*Saccharum officinarum*, 10). Las menciones alimentarias fueron mayormente en contextos de cotidianidad (50), ficción (49), sexo (32), fiestas (28) y denuncias (27). Las menciones no-alimentarias fueron mayormente en contextos de desamor (30), amor (24), denuncia (24), respeto (22), sexo (18) y burla (15). El discurso conservacionista necesita conciliarse con la “naturaleza” de que cantan y bailan quienes la asocian con su intimidad y su seguridad alimentaria.

Palabras clave: Conservación ambiental, distribuciones de frecuencias, etno-biología, seguridad alimentaria, uso del suelo.

Resumo: Apesar de sua eficácia comunicativa, a música caribenha é subutilizada pelo ambientalismo. 1.200 músicas afro-caribenhas foram estudadas observando a frequência e o contexto em que mencionaram elementos florísticos, faunísticos, da paisagem e do clima. 43% das menções envolvem 10 espécies vegetais e 48 espécies animais. As espécies mais evocadas e seus números de menções foram: vaca (*Bos primigenius*, 19), peixe (12), o arroz (*Oryza sativa*, 11), o porco (*Sus scrofa*, 11), o café (*Coffea arabica*, 10) e cana-de-açúcar (*Saccharum officinarum*, 10). As menções alimentícias eram em sua maioria, associadas à situações do cotidiano (50), ficção (49), sexo (32), férias (28) e denúncias (27). Endossos não alimentícios foram em grande parte em contextos “Heartbreak” (30), amor (24), denúncia (24), respeito (22), sexo (18) e escárnio (15). O discurso conservacionista precisa ser reconciliado com a “natureza” de canto e dança que a população associa com sua intimidade e segurança alimentar.

Palavras-chave: Conservação ambiental, distribuição de frequência, etno-biología, segurança alimentar, uso do solo.
