Creole Ecologies, Feral Customs: A Coevolutionary History of Buccaneering in Hispaniola During the Seventeenth Century

Claudio de Majo [1]

ABSTRACT

As the European colonization of the Americas progressed through territorial occupation and economic exploitation, the motley Atlantic society that emerged from the Columbian Exchange also led to unprecedented social experiments. This article analyzes the consolidation of buccaneers' culture in the island of Hispaniola during the first half of the seventeenth century. Adopting the methodological tools of environmental history – with a particular emphasis on coevolutionary history and neo-materialism – it assesses how feral European-born animal species contributed to creating this cosmopolitan society living at the margins of western civilization. This encounter generated an ecological niche carved on the creole Caribbean environment of Hispaniola, one of the first Spanish settlements in the Americas. This article also assesses the historical causes of buccaneers' demise and the emergence of the plantation complex. The research draws from a vast array of primary sources produced by explorers from several European nations and former buccaneers and scholarly publications in environmental history, Caribbean history, and European colonial history.

Keywords: buccaneers, hispaniola, creole ecologies, feral livestock, plantation complex.

[1] PhD candidate in environmental humanities at Rachel Carson Center for Environment and Society (LMU, Munich, Germany), lecturer at Amerika-Institut (LMU, Munich). ORCID: 0000-0003-4747-9947. e-mail: claudio.demajo@rcc.lmu.de

This article provides a historical case study on the consolidation of buccaneer society on the island of Hispaniola. While the Spanish Empire occupied the eastern part of the island (today Santo Domingo) since the late fifteenth century, its western part (today Haiti) became a socio-ecological laboratory for a multinational group of European renegades known as buccaneers. While this term mainly reminds of seafaring pirates in contemporary scholarship, early buccaneers were essentially feral hunters. Buccaneers devised subsistence strategies in a creole ecosystem that emerged from the so-called "Columbian Exchange" – the unprecedented circulation of people and natural species during the European colonization of the Americas.[2] The Columbian exchange was, in large part, a non-human ecological process in which uninvited plant species, as well as unwelcome viruses and bacteria, hitched a ride across the Atlantic, significantly impacting the host environments that they colonized. Before European nations could consolidate their political and ecological grip on overseas American colonies, several Old and New World species chaotically hybridized in this forming ecosystem. Such a turbulent intermingling would produce what John R. McNeill has defined as a "creole ecology, a motley assemblage of indigenous and invading species, jostling one another in unstable ecosystems."[3]

Buccaneers constructed their customary practices around the feral mammal species that had autonomously carved their ecological niches in the island since Columbus' second voyage to the Americas in 1492. By occupying lands at the margins of western civilization, buccaneers developed a lifestyle based on the interaction with these species, protecting their ecosystem from foreign invasions. Therefore, the cultural ethos of buccaneer societies was uniquely shaped by an alien ecosystem in the making that they actively worked to defend and preserve. In reconstructing this unique experience at the margins of western civilization, this article draws from the methodological frameworks of coevolutionary history and neo-materialism.

[2] Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport: Greenwood Press, 1972).
[3] While before the European colonization Amerindians had practiced slash and burn agriculture, keeping their landscapes in check through fire, the European colonization of the Americas was pivotal to massive ecological transformations since the very beginning. For further information see John R. McNeill, *Mosquito Empires: Ecology and War in the Greater Caribbean* (New York: Cambridge University Press, 2010): 22-23 and Ian G. Simmons, *Global Environmental History 10,000 BC to AD 2000* (Edinburgh: Edinburgh University Press, 2008): 61-63.

Coevolutionary history ascribes historical transformations to the realm of ecology and vice versa, expanding the concept of evolution beyond the idea of reflection of genetic change.[4] Historical processes can act as evolutionary forces, driving ecological, technological, and socioeconomic transformations that can cause short term cultural and behavioral change in human populations and long-term genetic modifications. Equally important, human evolutionary processes can affect other historical actors inhabiting the ecosystems where evolutionary change happens, shaping significant differences in biological and cultural traits. These evolutionary processes play a central role in creating ecological niches where different actors co-construct their habitats by covering various tasks (or jobs). Similarly, neo-materialism strives to incorporate non-human perspectives into the methodology of environmental history, assessing the interrelations between humans and different species and objects.[5] Although the experience of buccaneers only lasted through the first half of the seventeenth century, it constituted a significant example of ecological niche construction in which traditional European customary norms coevolved with feral animal species in the hybrid landscape of Hispaniola. Analyzing the historical trajectory of buccaneers from the late sixteenth century to the first decades of the eighteenth century provides an example of coevolutionary niche construction in the creole ecologies of the Caribbean. This analysis draws from a vast array of accounts drafted by explorers and former buccaneers who had a chance to witness this experience firsthand.

In describing the rise of buccaneers societies, this article also aims at contributing to historical debates on the formation of a rebellious overseas community in the context of European colonialism, relating it to the privatization of the commons in Europe – the so-called *enclosures*.[6] Although the systematic privatization of common lands only began towards the sixteenth century, early enclosures processes in several medieval European nations removed lands from collective use leading to disafforestation to improve the productivity of potentially

[4] See Edmund Russell, *Greyhound Nation: A Coevolutionary History of England 1200-1900* (Cambridge: Cambridge University Press, 2018): 4-11; and Edmund Russell, "Coevolutionary History." *The American Historical Review* 119, no. 5 (2014): 1514-1528.
[5] Timothy J. LeCain, *The Matter of History: How Things Create the Past* (Cambridge: Cambridge University Press, 2017): 7.
[6] About the privatization of the commons in Europe see Karl Polanyi, *The Great Transformation: The Political and Economic Origins of our Time* (Boston: Beacon Press, 2001): 36 and John Aberth, *An Environmental History of the Middle Ages. The Crucible of Nature* (London-New York: Routledge, 2012): 138.

arable lands.[7] As the privatization of the commons spread like wildfire across Europe, the colonization of the Americas favored the emergence of an expropriated class of landless workers, an "Atlantic proletariat" revolving on the increasingly globalized system of labor centered upon the Atlantic commercial routes.[8] Both at home and in the newly established colonial territories, the primary employment possibilities for former commoners consisted of harnessing common-pool resources to build the infrastructures of the newly established European colonies. At the same time, both native indigenous practices and their ecologies were suffocated.[9] In the context of this tremendous historical transformation, buccaneers represented a unique experiment among the forming Atlantic proletariat, shaping a society that drew its main premises from the creole ecologies of Hispaniola.

THE CREOLE ECOLOGIES OF HISPANIOLA

Like other Caribbean islands, Hispaniola (in Spanish *Española*) is a mountainous volcanic island measuring 29,418 square meters, located at the northern flank of the Caribbean. It is crossed by a rugged border, separating the Republic of Haiti to the west and the Dominican Republic to the east.[10] The island sits at the core of the Caribbean oceanic plateau, a large igneous province of flood basalt jostled between the North American and South American tectonic plates, stretching 2,500 km east to west and 1,300 km north to south.[11] Despite its rugged geography, consisting of mountain ranges, valleys, and plains, the island's volcanic soils and tropical latitude determine relatively uniform climatic patterns and good farming conditions all year long. While today only a tiny part of the island presents pristine

[7] Paul Warde, *The Invention of Sustainability: Nature and Destiny c. 1500-1870* (Cambridge: Cambridge University Press, 2018): 129.
[8] See Peter Linebaugh and Marcus Rediker, *The Many-Headed Hydra: The Hidden History of the Revolutionary Atlantic* (London-New York: Verso 2007): 4-20.
[9] For further information see Warde, *The Invention of Sustainability*, 24 and Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and The Origins of Environmentalism 1600-1860* (Cambridge: Cambridge University Press, 1995): 266 Also see William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983).
[10] Encyclopedia Britannia, *Hispaniola, Island, West Indies* (https://www.britannica.com/place/Hispaniola).
[11] Vincent E. Courtillot and Paul R. Renne, "On the ages of flood basalt events". *Comptes Rendus Geoscience* 335, no. 1 (2003): 113–140; and Jörg Geldmacher, Barry Benton Hanan, Janne Blichert-Toft et al., "Hafnium isotopic variations in volcanic rocks from the Caribbean Large Igneous Province and Galápagos hot spot tracks". *Geochemistry, Geophysics, Geosystems* 4, no. 7 (2003): 1-24.

wildlife due to intensive logging, it was still largely covered by thick tropical and subtropical native coniferous forests by the late fifteenth century.[12]

Figure 1. A view of Haiti's rugged countryside between Les Cayes and Port Salut, today a largely dry and deforested tropical landscape

Source: Picture by Michelle Walz. Available at https://www.flickr.com/photos/mweriksson/135948736/in/photostream/ (Public Domain).

Christopher Columbus reached the island during his first voyage to the West Indies on December 5th, 1492, briefly navigating through the Bahamas and Cuba.[13] As the Spanish crown established its first American colony on the island, Hispaniola was densely populated by an Amerindian population known as Taínos. Under the European colonial grip, the Taínos were enrolled in divisions (*repartimientos*) and selected for mining exploitation through a jurisdiction system (*encomiendas*).[14]

[12] Most of the island's native forest areas that have survived the human action are in Santo Domingo (28 percent of its total surface), while Haiti has only kept 1 percent. For further information see WWF, *The Island of Hispaniola in the Caribbean* (https://www.worldwildlife.org/ecoregions/nt0305). For a comparison between Haiti and Santo Domingo see Jared Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Viking, 2005): 329. About conservation and charcoal extraction see respectively Blair S. Hedges, Warren B. Cohen, Joel Timyan, Zhiqiang Yang, "Haiti's Biodiversity Threatened by Nearly Complete Loss of Primary Forest." *Proceeding of the National Academy of Sciences of the United States of America* 115, no. 46 (2018): 11850-11855; and Andrew Tarter, "Charcoal in Haiti: A National Assessment of Charcoal Production and Consumption Trends." World Bank. *ProFor*, 2018.

[13] For further information see Samuel Eliot Morison, *Journals and Other Documents of the Life and Voyages of Christopher Columbus* (New York: Heritage Press, 1963).

[14] Philip D. Curtin, *The Rise and Fall of the Plantation Complex* (Cambridge: Cambridge University Press, 1990): 68.

According to the monarchy plans, Indian labor would be the primary source to transform the island as a subsidized royal factory, a springboard for the colonization of other territories of the Americas.[15] Although by the end of the 1520s, the precious metal had virtually disappeared from the island, in 1518, the number of Taínos residing on the island had decreased from an estimated number of almost two million people to just 125 individuals, decimated by illnesses and harsh working conditions.[16] By 1540, African enslaved people had already completely replaced Taínos as the primary labor force in the West Indies.[17]

As Spanish colonizers hastened to exploit the island's limited mineral resources, agricultural experiments produced more promising outcomes.[18] While crops such as wheat, barley and grapevines failed to adapt to the local climate, sugar cane plantations had successful yields on local wet soils. As a result, although the island's gold economy collapsed, sugar production started peaking as local colonizers imported specialized technicians from the Canaries and the first African slaves.[19] By the mid-1550s, the island accounted for more than thirty fully equipped sugar mills (*ingenios*) of various sizes, mainly concentrating in the southern-central part of the island.[20] Within a few decades, sugar plantation turned Spanish Hispaniola into a rich and populous colony against all the odds, with several active urban centers and large *latifundos*.[21]

However, the progressive conquest of mainland territories pushed the Spanish monarchy to loosen its grip on Hispaniola, redirecting its colonial effort towards the regions in continental America rich in valuable metals.[22] In 1606, the threat of what

[15] See Mervyn Ratekin, "The Early Sugar Industry in Española." *Hispanic American Historical Review* 34 (1954): 1-19; and Genaro Rodríguez Morel, "The Sugar Economy of Española in the Sixteenth Century," in *Tropical Babylon: Sugar and the Making of the Atlantic World, 1450-1680*, ed. Stuart B. Schwartz, 85-114 (Chapel Hill: University of North Carolina Press, 2004): 88.
[16] For an account of yellow fever in the Caribbean see McNeill, *Mosquito Empires*. About the impact of European illnesses among Caribbean indigenous people see Noble David Cook, *Born to Die: Disease and New World Conquest, 1492-1650* (New York: Cambridge University Press, 1998).
[17] Irving Rouse, *The Tainos: Rise and Decline of the People Who Greeted Columbus* (New Haven: Yale University Press, 1992): 158.
[18] According to estimates, by 1503 only three-hundred people of the original group remained (Ratekin, "The Early Sugar Industry in Española," 3).
[19] About the relationship between the rise of sugar-cane plantation in concurrence with the decline of the mining industry see Morel, "The Sugar Economy of Española." About the numbers on population decline in Hispaniola see Ratekin, "The Early Sugar Industry in Española," 5-6.
[20] Ratekin, "The Early Sugar Industry in Española," 16.
[21] Morel "The Sugar Economy of Española," 97.
[22] Jon Latimer, *Buccanners of the Caribbean: How Piracy Forged an Empire 1607-1697* (London: Weidenfeld & Nicolson, 2009): 3.

the Spanish king defined as "inveterate and pernicious traffic" led the crown to enforce a mass migratory effort to the eastern part of the island.[23] However, the island's abandoned western portion territory continued to bear the signs of the Spanish colonization: other non-human forms of life rose to prominence in the region, occupying the ecological voids left by human groups. In hastily abandoning this territory, Spanish colonizers left behind a large herd of wild cattle, pigs and dogs. According to historical data, they only carried 8,000 of the approximate 110,000 herds of livestock that lived at large in the western part island.[24] While this political choice determined a severe shortage of meat for Spanish colonizers in the following years, European species such as cattle and pigs were free to wander at large in the island's untamed ecosystem, with surprising results.

Although the European livestock essentially consisted of domesticated species that had co-existed with human beings for millennia, these showed a particular feral aptitude and could successfully return to the wild. In particular, cattle and pigs were the most ecologically impactful animals depicted by missionaries and explorers. Although contemporary industrial livestock might seem idle and utterly dependent on human actions for survival, their sixteenth-century peers were much sturdier and self-reliant than their present-time counterparts. Modern cattle and pig breeds emerged from systematic selective breeding processes initiated between the eighteenth and the nineteenth century to optimize meat production, which determined a massive reduction of genomic variety.[25] However, given the partially untamed conditions in which they were bred and raised, both early modern cattle and pig species resembled their wild counterparts initially domesticated in the earliest centuries of the Neolithic revolution (about 10,000 years ago).[26] As proven by their

[23] Erwin Walter Palm and Engel Sluiter, "Letters on the Dutch in the Caribbean." *The Hispanic American Historical Review* 28, no. 4 (1948): 626-628.
[24] Cruz Apestegui, *Pirates of the Caribbean: Buccaneers, Privateers, Freebooters and Filibusters, 1493-1720* (London: Conway Maritime Press, 2002): 112-115.
[25] For further information see Margaret Derry, *Bred for Perfection: Shorthorn Cattle, Collies, and Arabian Horses Since 1800* (Baltimore: John Hopkins University Press, 2003).
[26] For information about cattle domestication see Paolo Ajmone-Marsan, José Fernando Garcia, Johannes A. Lenstra, "On the origin of cattle: How aurochs became cattle and colonized the world." *Evolutionary Anthropology* 19 (2010): 148-157; and Maulik Upadhyay, Wei-Shan Chen, Johannes A. Lenstra et al., "Genetic origin, admixture and population history of aurochs (Bos primigenius) and primitive European cattle." *Heredity* 118 (2017): 169-176. For pigs see Clelia Lega, Pasquale Raia, Lorenzo Rook and Domenico Fulgione, "Size matters: A comparative analysis of pig domestication." *The Holocene* 26, no. 2 (2016): 327-332; and Allowen Evin, Thomas Cucchi, Andrea Cardini et al., "The long and winding road: identifying pig domestication through molar size and shape." *Journal of Archaeological Science* 40, no. 1 (2013): 735-743.

genetic inheritance, they constantly interbred with their untamed relatives, continually oscillating between a feral lifestyle and establishing alliances with the *homo sapiens* to maximize their survival chances.[27] As Spanish colonizers abandoned them in the wild, they once again expanded their ecological niche, as their most untamed genes took the lead favoring the "survival of the wilder."

Modern cattle descend from a single lineage of wild aurochs (*Bos primigenius*) domesticated in the Fertile Crescent that quickly spread all over Europe and Asia while constantly interbreeding with its wilder counterparts, generating genetic variation and geographically erratic patterns of size diversity.[28] By the time Spanish colonizers reached Hispaniola, cattle farming in the Iberian peninsula essentially consisted of transhumant practices, as animal breeds lived in semi-feral conditions, moving along networks of pathways known as *cañadas*.[29] As reminded by agronomist Gabriel Alonso de Herrera (1470-1539), cold weather was notoriously the main enemy of Spanish cattle, who could otherwise withstand "any hardship" in an environment characterized by mild weather and green pastures with abundant water.[30] Due to their suitability to Central-American weather, herds of Spanish-bred cattle swarmed on the wet tropical plains of the Caribbean. Strong, aggressive and self-reliant, they constituted the core of a flourishing cattle ranching frontier in the Caribbean that would begin expanding to the American mainland by the early 1520s, consolidating transatlantic connections between Europe and the Americas.[31] In particular, the island of Hispaniola was the incubator of a more rudimentary form of ranching culture led by a class of mounted *vaqueros* who chased the cattle in the wild and butchered them, severing some meat, hide and tallow, and leaving the remaining carcasses to the dogs.[32] Spanish missionaries and explorers of the time witnessed the expansion of European cattle in Hispaniola. For example, in his *Historia Natural y Moral de las*

[27] For further information see Alice Roberts, *Tamed: Ten Species That Changed Our World* (London: Penguin, 2017): 328-329.
[28] See Roberts, *Tamed*, 100-105.
[29] For further information about transhumance in the Iberian Peninsula see Julius Klein, *The Mesta: A Study in Spanish Economic History 1273–1836* (Cambridge MA: Harvard University Press, 1920); and Gonzalo Anes and Ángel García Sanz (ed.), *Mesta, trashumancia y vida pastoril* (Madrid: Investigación y Progreso, 1994).
[30] Gabriel Alonso de Herrera, *Agricultura general: que trata de la labranza del campo y sus particularidades, crianza de animales, propriedades de las plantas que en ella se contienen, y virtudes provechosas a la salud humana* (Madrid: don Josef de Urrutia, [1513] 1790): 296-297.
[31] For more information about the expansion of the Hispano-American ranching frontier see Andrew Sluyter, *Black Ranching Frontiers: African Cattle Herders of the Atlantic World 1500-1900* (New Haven: Yale University Press, 2012): 1-18.
[32] Sluyter, *Black Ranching Frontiers*, 12-13.

Indias (1589), Jesuit missionary José de Acosta (1540-1600) described the immense amount of cattle in the Spanish Antilles with stupor. So numerous were these European bovines that "they do not have a certain owner anymore, as they multiplied so much, they belong to the first one that can hamstring them".[33]

Just like cattle thrived on plains and open grasslands, pigs reigned in uphill forests, completing the massive mammalian ecological conquest of the island. Modern pigs descend from Eurasian wild boars (*sus scrofa*) tamed in eastern Anatolia and east-central China, respectively, about 10,000 and 9,000 years ago. However, while the domestication of *sus scrofa* in China favored the development of more tamed evolutionary traits, European pigs were herded with a technique known as pannage, which allowed them to live in a substantially feral condition. Leaner and bolder compared to their Chinese counterparts, European-bred pigs ranged in forests and reproduced independently, subsisting on roots, masts and small animals.[34] As a result, Eurasian pigs and cattle species interbred with their idler counterparts, constantly fluctuating on the thin line between tamed and wild.[35] Historical evidence of their overall aggressive and "quasi untamed" attitude emerges from the multiple cases of conviction during the Middle Ages, with numerous trials in human courts.[36] The combination of moist and variable weather on the uphill woodlands of Hispaniola and the lack of big animal predators constituted a perfect shelter for European pigs. Although they did not share the bovine predilection for sunny tropical weather, they thrived in the island's upland forests, shadowed by what Spanish historian and colonizer Gonzalo Fernández de Oviedo (1478-1557) defined as the "tall trees [...] in the bushy mountains."[37] The dense uphill forests also satisfied their omnivorous dietary preferences. They could feed off practically every source of carbohydrates and proteins available – from fruits and nuts of all kinds to roots, grasses and small

[33] José de Acosta, *Historia Natural y Moral de las Indias*, vol. I, (Madrid: Ramón Anglés, [1590] 1894): 99-100.
[34] See Sam White, "From Globalized Pig Breeds to Capitalist Pigs: A Study in Animal Cultures and Evolutionary History." *Environmental History* 16 (2011): 94–120; and Abraham H. Gibson, *Feral Animals in the American South: An Evolutionary History* (Cambridge: Cambridge University Press 2016): 24-25.
[35] See Roberts, *Tamed*.
[36] Margo DeMello, *Animals and Society: An Introduction to Human-Animal Studies* (New York: Columbia University Press, 2012): 39.
[37] Gonzalo Fernández de Oviedo, *Sumario de la natural historia de las Indias* (Pánuco ME: Fondo de Cultura Economica, [1526] 1950): 130.

animals.[38] According to Jesuit missionary Bartolomé de las Casas, the "endless" amount of pigs who swarmed on the hills of Hispaniola were all direct descendants of the eight animals that had been brought to the island by the same Columbus during his second voyage in 1493.[39]

Due to these favorable environmental circumstances, the lack of endemic predators, and their leanness and self-reliance, cattle and pigs thrived in Hispaniola between the late fifteenth and early sixteenth century.[40] In many cases, they managed themselves with relative ease on local pastures (cattle) and woodlands (pigs), parting ways with their traditional human allies and adopting a feral lifestyle.[41] As resumed by Oviedo (1478-1557), the hordes of pigs and cattle that roamed Hispaniola's creole ecosystem had broken their millennial covenant with humans and had "made themselves wild [again]."[42]

Cattle and pigs came along an inseparable ally: weeds. Historical evidence suggests that European weeds came along with the livestock brought by early Spanish *conquistadores* to their overseas colonies. At times, these reached the Americas as part of planned experiments, while in other instances, they hitched a ride in the chaotic ecological microcosms of transatlantic vessels. Broadly known as *malas hierbas*, Mediterranean weeds such as ferns, thistles, plantain, nettles, nightshade, and sedge thrived along with domesticated crops such as sugar cane, corn, maize, manioc and fruit orchards.[43] The multi-species alliance between weeds and cattle played an essential role in expanding the ecological frontier of European colonizers, outcompeting the native flora and fauna.[44]

---

[38] Alfred Crosby, *Ecological Imperialism: The Ecological Expansion of Europe, 900-1900* (Cambridge: Cambridge University Press, [1986] 1997): 174.
[39] See Bartolomé de Las Casas, *Historia de las Indias,* vol. III (Caracas: Biblioteca Ayacucho, [1561] 1986): 462; and vol. I, 366. Also see Antonio de Herrera y Tordesillas, *Historia General de las Indias Ocidentales*, vol. II (Amberes: Juan Bautista Verdussen, [1615] 1728): 79.
[40] Predators such as jaguars and saber-toothed tigers had already become extinct for more than 10,000 years, together with the rest of the local "megafauna" inhabiting the American continent (basically all animals heavier than 100 pounds). Their extinction was presumably the result of the environmental pressures posed by the combination of human hunter-gatherers and global warming. See Gibson, *Feral Animals in the American South*, 27-28.
[41] Crosby, *Ecological Imperialism*, 25.
[42] Oviedo, *Sumario de la natural historia de las Indias*, 88.
[43] This process was described by Bartolomé de Las Casas in *Apologetica Historia Sumaria*, vol. I (Madrid: Alianza Editorial, [1536] 2007). For a brief description of this process see Crosby, *Ecological Imperialism*, 151. About the other crops harvested in the island see Morel, "The Sugar Economy of Española," 86.
[44] Brett L. Walker, "Animals and the Intimacy of History," in *The Oxford Handbook of Environmental History*. ed. Andrew C. Isenberg, 52-75 (Oxford: Oxford University Press, 2014): 65.

Bartolomé de Las Casas described this process of mutual advantage and simultaneous growth. As Spanish livestock ravaged the local flora, eating native plants down their roots, typical European weeds such as ferns, thistles, plantain and sedge replaced them, completing the ecological invasion of the island.[45] Las Casas attributed Columbus's decision to plant European crops on local soils as the main reason for the disproportionate number of weeds growing on the island. According to the Jesuit friar, *el Almirante*, eager to create a prosperous colony in the New World, decided to plant as many European crops as possible to increase agricultural productivity while ignoring "divine and natural laws." However, the Spanish seeds' roots also grew what Las Casas defined as "deadly and pestilential weeds," with enough deep roots to "destroy and devastate the whole Indies."[46]

The environmental transformations brought by the inception of domesticated livestock to the island of Hispaniola was crucially complemented by these anarchic plant mobsters, creating a sodality between plants and herbivore mammals that determined radical ecological transformations in the island.[47] Allowing the proliferation of Eurasian mammals created the conditions for European colonizers to forage with ease and reach food security. Hispaniola constituted in this sense the "greenhouse" in which European-bred ecological actors and cultural practices intermingled with a changing ecosystem. Little more than a century after the foundation of the first European colony in the New World, the stage was set for the settlement of buccaneers, a creole society arising from the creole ecologies of the Columbian Exchange.

SOCIAL NORMS AND FERAL ANIMALS

The Spanish abandonment of western Hispaniola had opened an ecological niche in which European animals, plants and weeds thrived unhindered. However, with the expansion of Atlantic trade routes, this untamed ecological realm was up for grabs.[48] Although the constant Spanish threat did not make this territory ideal for

[45] For further information see *Apologetica Historia Sumaria*, vol. I, 81-82. Also see Crosby, *Ecological Imperialism*, 151.
[46] See Las Casas, *Historia de las Indias,* vol. I, 212.
[47] Crosby *The Columbian Exchange*, 73.
[48] James Burney, *History of the Buccaneers of America* (New York: Norton, 1950): 39.

antagonistic nations, groups of pirates, renegade mariners and fugitive slaves progressively coalesced on the island. Together these formed the first nucleus of buccaneers. As early buccaneers began to settle on the shores of western Hispaniola, they created a society whose cultural norms were influenced by the physiological characteristics of the animals and plants that thrived on the island. While the origin of buccaneers is uncertain, they essentially behaved as backwoods commoners willing to escape the constrictions of the hierarchical European societies choosing an extremely frugal life characterized by freedom and conviviality.[49]

The most reliable and comprehensive accounts on early buccaneers are provided by French-Dutch author and former privateer Alexandre Olivier Exquemelin, in his book *De Americanesche Zee-Rovers*, first published in Dutch (1678) and later translated in several languages, including English (*History of the Buccaneers of America*, 1684). Exquemelin described buccaneers as a nomadic group of rebellious people who "bore as fair relation to the civilization of their time as the rougher part of the community of later days to theirs."[50] They slept in shacks made of thatched palm-fronds named *ajoupas*, or *barbacoa* (both originally Taíno words) and made makeshift nets to protect themselves from tropical mosquitoes. Their appearance was rudimentary and straightforward: their standard attire consisted of rough linen clothes or rough leather jackets, in many cases permanently stained with the blood of the animals that they hunted to make a living. Their lifestyle was everything but fancy, even for their times. They used flat stones for plates and hollowed-out calabashes for glasses.[51] Beyond this eccentric appearance, the simple lifestyle of buccaneers possessed deep cultural roots. According to Exquemelin, early buccaneers were essentially hardcore commoners with a loose sense of property, constantly working

[49] According to the most common interpretation, buccaneers were probably either privateers who docked the shores of Hispaniola for supplies or groups of sailors who had reached the island after a shipwreck or after experiencing marooning (see Burney *History of the Buccaneers of America*, 41-42). While mainly composed of groups from French, British and Dutch origins, buccaneer societies were highly cosmopolitan and multiethnic; hence, Jamaican governor Sir Nicholas Lawes adopted the definitions "banditti of all nations". As an example, the crew of legendary buccaneer Henry Morgan was composed of people from Great Britain, France, the Netherlands, Italy, Denmark, Portugal, as well as blacks and mulattoes from either African or creole origins. For further information see Peter Leeson, *The Invisible Hook: The Hidden Economics of Pirates* (Princeton-Oxford: Princeton University Press, 2009): 8 and David Cordingly, *Under the Black Flag: The Romance and Reality of Life Among the Pirates* (New York: Random House, 2006): 14-15.

[50] Alexandre Exquemelin, *The History of the Buccaneers of America* (Boston-Portland: Sanbon & Carter, [1678] 1856): 6.

[51] Stephan Talty, *Empire of Blue Water: Captain's Morgan Great Pirate Army, the Epic Battle for the Americas, and the Catastrophe that Ended the Outlaws' Bloody Reign* (New York: Broadway Paperbacks, 2007): 39 and Kris Lane, *Pillaging the Empire. Piracy in the Americas 1500-1750* (Armonk-London: M. E. Sharpe, 1998): 98.

for the "common gain," thanks to a rather articulated set of social conventions.[52] One distinctive custom was known as *matelotage*, essentially a one-to-one mentoring between an elder and a younger buccaneer, who lived in complete communion of property through an agreement formally codified in a written contract.[53]

Figure 2. First edition of Exquemelin's *De Americaensche Zee-Roovers* first published in 1678 in Amsterdam

Source: https://en.wikipedia.org/wiki/Piracy#/media/File:Bok_om_sj%C3%B6r%C3%B6vare_De_Americaensche_Zee-Roovers_publicerades_f%C3%B6rsta_g%C3%A5ngen_1678_i_Amsterdam_-_Skoklosters_slott_-_102633.tif (Public domain image)

The nomadic lifestyle of buccaneers was functional to defend themselves from Spanish attacks and their seasonal hunting activities.[54] Indeed, early buccaneers had devised distinctive hunting techniques, characterized by different customs and norms according to their targets. For example, buccaneers targeting wild cattle commonly

[52] Exquemelin *The History of the Buccaneers of America*, 40.
[53] *Matelotage* was an adaptation of an ancient custom of the sea, as sailors had paired up for centuries, indeed, in French the word *matelot* means sailor. See Peter Kemp and Christopher Lloyd, *The Brethren of the Coast: The British and French Buccaneers in the South Seas* (London: Windmill Press, 1960): 3; and Benerson Little, *The Buccaneer's Realm: Pirate Life on the Spanish Main, 1674-1688* (Washington D.C.: Potomac Books, 2007): 42.
[54] A detailed account of the nomadic lifestyle of buccaneers is provided by Jean-Baptiste Du Tetre, *Histoire generale des Antilles habitées par les François*, vol. III (Paris: Chez Thomas Iolly, 1667): 140-141.

spent between twelve months to two years hunting in the most untamed territories of the island – what they defined as *Tierra Grande*. Such a prolonged effort was probably due to the significant endeavor required for tending the bulky animals' meat and arranging transportation to the island's commercial hotspots to trade salted meat and leather. Different practices regarded buccaneers engaged in hunting wild pigs, whose campaigns typically lasted between five and six months, as pork meat was easier to tend and salt. Pig hunters were undoubtedly the most advanced social segment among buccaneers in terms of customs and norms. By emulating European medieval land-sharing systems, they confined their hunting activities to specific territories – known as *Deza Boulan* – that could be occupied by groups each time composed of five or six hunters.[55]

This hunting custom was indissolubly related to the behavioral patterns of feral hogs. These are indeed highly socially intelligent animals with an enhanced sense of territorial and social belonging and self-consciousness.[56] They learn from each other and enjoy gathering in large groups, given their capacity to recognize members of their bunch. Most importantly, each group possesses defined territorial boundaries ranging between four and five square kilometers. Furthermore, they adopt different strategies to mark their territories, such as scratching against trees after covering themselves with mud to leave a specific scent. Overlapping between neighboring regions belonging to various bands are therefore minimal.[57] This is reinforced by their marked sedentary attitude, as they select their resting place with extreme care and rarely change spots voluntarily. Finally, they can regulate their physiological cycles to escape hunters by changing their eating habits and becoming nocturne.[58] Hence, the need for buccaneers to devise articulated hunting practices, marking different hunting grounds probably according to feral pigs' habits, and dividing themselves into small groups with temporary territorial jurisdictions.

[55] Exquemelin *The History of the Buccaneers of America*, 41.
[56] About feral hogs' self-consciousness see Jasmin Kirchner, G. Manteuffel, L. Schrader "Individual calling to the feeding station can reduce agonistic interactions and lesions in group housed sows." *Journal of Animal Science* 90 (2012): 5013-5020.
[57] For further information about the territorial attitude of pigs see Kirstin Lauterbach, Oliver Keuling, Norman Stier, Mechthild Roth, "Do All Male Wild Boar Yearling *Sus Scrofa L.* Leave Home?" *Sixth International Symposium on wild boar (Sus scrofa) and sub-order suiformes* (Kykkos, Cyprus, October 2006).
[58] Peter Wohlleben, *The Secret Network of Nature: The Delicate Balance of All Living Things* (London: The Bodley Head, 2018): 41-42.

As wild pigs perfected their social structures to avoid the human grip, buccaneers needed to mold their hunting practices according to the habits of this animal group that reigned in the uphill woodlands of Hispaniola. Oviedo described feral hogs in the Caribbean as fearsome animals, so skillful in acting as one body to be virtually unassailable when moving around in herds. The Spanish natural historian also pointed at some physiological changes in local breeds, demonstrating feral hogs' progressive "wildening" process. Although they certainly originated in Europe, Oviedo described them as more petite and hairier than their Spanish peers. Ovideo's observations are legitimate, considering the role of human hunting practices on the genetic composition of animals. In fact, despite modern population control techniques, feral pigs have proven extraordinarily resilient and almost impossible to eradicate.[59] Thus, the quickness and aggressive attitude of Caribbean feral pigs forced buccaneers to develop sophisticated hunting strategies. The same Oviedo described the hunting of feral pigs as a complex task essentially consisting of seeking a safe and advantageous position and attempting to draw on a couple of branch members by throwing lances or arrows.[60] Although buccaneers could rely on gunpowder during their hunting campaigns, they needed to search for trees or peaks in the middle of the forest and patiently wait to spot a herd of boars and start the hunt. Such a task required quickness, good aiming and most importantly, excellent knowledge of the wild herds' habits.

Buccaneers hunting practices also relied on the re-domestication of the feral dogs roaming the island. These were presumably breeds that emerged from the intermingling of species domesticated by European and Amerindian people. Dogs had probably reached the Caribbeans together with their human allies during the first colonization of the American continent around 16,000 BCE.[61] While in some areas of continental America, they continued to interbreed with wild wolves, in the insular microcosm of Hispaniola, local dogs had lost their primary role as hunting

[59] For further information see Edmund Russell, *Evolutionary History: Uniting History and Biology to Understand Life on Earth* (Cambridge: Cambridge University Press, 2011): 17; and Gibson, *Feral Animals in the American South*, 130.
[60] Oviedo, *Sumario de la natural historia de las Indias*, 152.
[61] See Laurent Testot, *Homo Canis: Une Historie des Chiens et de l'Humanité* (Paris: Payot & Rivages, 2018): 64-70.

counterparts in the absence of large predators, becoming meek and tamed.[62] During his first transatlantic voyage, Christopher Columbus described local canines as "dogs that never barked," attesting their domesticated condition, while he did not mention any feral species. Similarly, Oviedo described domesticated Amerindian dogs as the quintessential example of docile domestic pets, tiny, playful, and sensitive.[63]

However, the fiercer species introduced by the Spanish to "range and search the intricate thickets of woods and forests" progressively outcompeted the breeds belonging to Amerindians.[64] After a couple of generations, European dogs strayed the island as predators, running in packs and ferociously attacking humans and livestock. Both Oviedo and José de Acosta described stray dogs in Hispaniola "as wolves," a constant threat for local inhabitants.[65] Exquemelin detailed "vast numbers" of "wild mastiffs" that ran in packs and were capable of assaulting both herds of wild cattle and pigs "not ceasing to worry them till they have fetched down two or three."[66] Exquemelin's mention of "wild mastiffs" unveils the European origin of wild dog herds in Hispaniola. Dreaded canine species such as mastiffs and labradors were already popular breeds in Spain, considered the best breeds for hunting and defense.

Thus, by the time buccaneers occupied Hispaniola, Spanish-bred mastiffs had roamed local forests for at least nine to ten generations, igniting a multi-generational process of natural selection that must have favored the emergence of untamed traits. Feral dogs constituted a real threat for early buccaneers, who had to venture in domesticating the tamest species, turning them into valuable allies in their hunting expeditions and for personal protection against Spanish raids. Just like the division of tasks and the delimitation of territories destined for hunting activities, the taming of local stray dogs constituted an essential strategic asset for buccaneers' survival. In

[62] For an historical overview see Gibson, *Feral Animals in the American South*, 27-28. For a genetic perspective of American dogs interbreeding with grey wolves see Tovi M. Anderson, Bridgett M. von Holdt, Sophie I. Candille, et al., "Molecular and Evolutionary History of Melanism in North American Gray Wolves." *Science* 323, no. 5919 (2009): 1339–1343.
[63] According to Oviedo, they were even capable of demonstrating gratitude by wagging their tails and jumping up and down (see Oviedo, *Sumario de la natural historia de las Indias*, 163).
[64] Exquemelin, *The History of the Buccaneers of America*, 38. For a general overview see Crosby, *The Columbian Exchange*, 95. Herrera described Spanish mastiffs as the most popular species for protecting the field against thieves and wolves, recommending acquiring specimens with big heads (at least a third of the body), wide mouths and loud barks (Herrera, *Agricultura general*, 252-253).
[65] Citation in Acosta, *Historia Natural y Moral de las Indias*, vol. I, 100. See also Oviedo, *Sumario de la natural historia de las Indias*, 88.
[66] Exquemelin, *The History of the Buccaneers of America*, 37-38.

particular, buccaneers' hunting for cattle were usually accompanied by a pack of at least twenty or thirty dogs, with a mastiff or a hound at the lead. Dogs served the scope of finding possible preys and as a valuable ally for defense against animal retaliations, especially from the dreadful feral longhorns.[67]

MARKET STRATEGIES AND SOCIO-ECOLOGICAL PRESSURES

Although buccaneers' lifestyle opposed the forming of mercantilist European society, their feral hunting activities played a strategic role in propelling transatlantic trade routes. After being cured and dried in the scorching tropical sun of Hispaniola, buccaneers cooked the meat on dome-shaped wooden grates defined by French people *grille de bois*, or *boucan* (from the Taíno term *barbacoa*).[68] The strips of beef that they prepared – known as *viande boucanée*, or "jerked meat"– constituted a valuable source of protein intake for mariners, pirates and adventurers who sailed on the emerging Caribbean routes.[69] Beef jerky was sold in bundles of a hundred strips for six pieces of eight and traded to pirates and merchants in exchange for manufactured goods, ammunition, tobacco and spirit.[70] Thus, buccaneers' meat production was not only a strategic subsistence resource but a commercial and diplomatic tool that allowed them to maintain their independence and ensure their self-defense. Through feral hunting and creole customs, buccaneers contributed to the construction of Atlantic trade routes.

Buccaneers' activities were also essential for the small plantation owners who had begun settling on the island's abandoned portion. While Spanish Hispaniola could rely on a growing sugar plantation industry, small plantation owners from other European countries gradually occupied the island's western part. However, because buccaneers constituted their leading commercial partner, small plantation owners mainly grew crops essential to complement their diets and recreational substances

[67] Pierre-François-Xavier de Charlevoix, *Histoire de l'Isle Espagnole ou de S. Domingue écrite particulièrement sur des mémoires manuscrits du Père Jean-Baptiste Le Pers, jésuite, missionnaire à Saint-Domingue, et sur les pièces originales qui se conservent au Dépôt de la Marine*, vol. III (Amsterdam: Chez François L'Honoré, 1733): 58.
[68] Both the terms *buccaneer* and *barbecue* derive from this term. According to Burney (*History of the Buccaneers of America*, 49) since several French buccaneers came from the region of Normandy, it became normal to address a smoky house with the expression "c'est un vrai boucan". About the origin of the term buccaneers and its relation to meat production also see Lane, *Pillaging the Empire*, 97.
[69] Kemp and Lloyd, *The Brethren of the Coast*, 2.
[70] For Dutch merchants joining buccaneers see Lane, *Pillaging the Empire*, 91.

such as tobacco. Key crops included potatoes, beans, manioc roots, and bananas.[71] As reminded by the same Exquemelin, early planters in the island were mainly unskilled hunters who, "finding themselves unable to subsist by that profession, began to seek lands for culture."[72] This indissoluble partnership, combined with the island's rugged territorial conformation, allowed to confine intensive agricultural activities to a small number of confined land plots. These were divided into several quarters, known as *Great Amea*, *Niep*, *Rochelois*, *Little Grave*, *Great Grave*, and *Augane*.[73]

Figure 3. Buccaneers hunting and cooking meat. Source: Alexandre Exquemelin, *Historie des avanturiers filibustiers qui se sont signalés dans les Indes*, vol. I. (Paris: Jacques le Febvre, 1743).

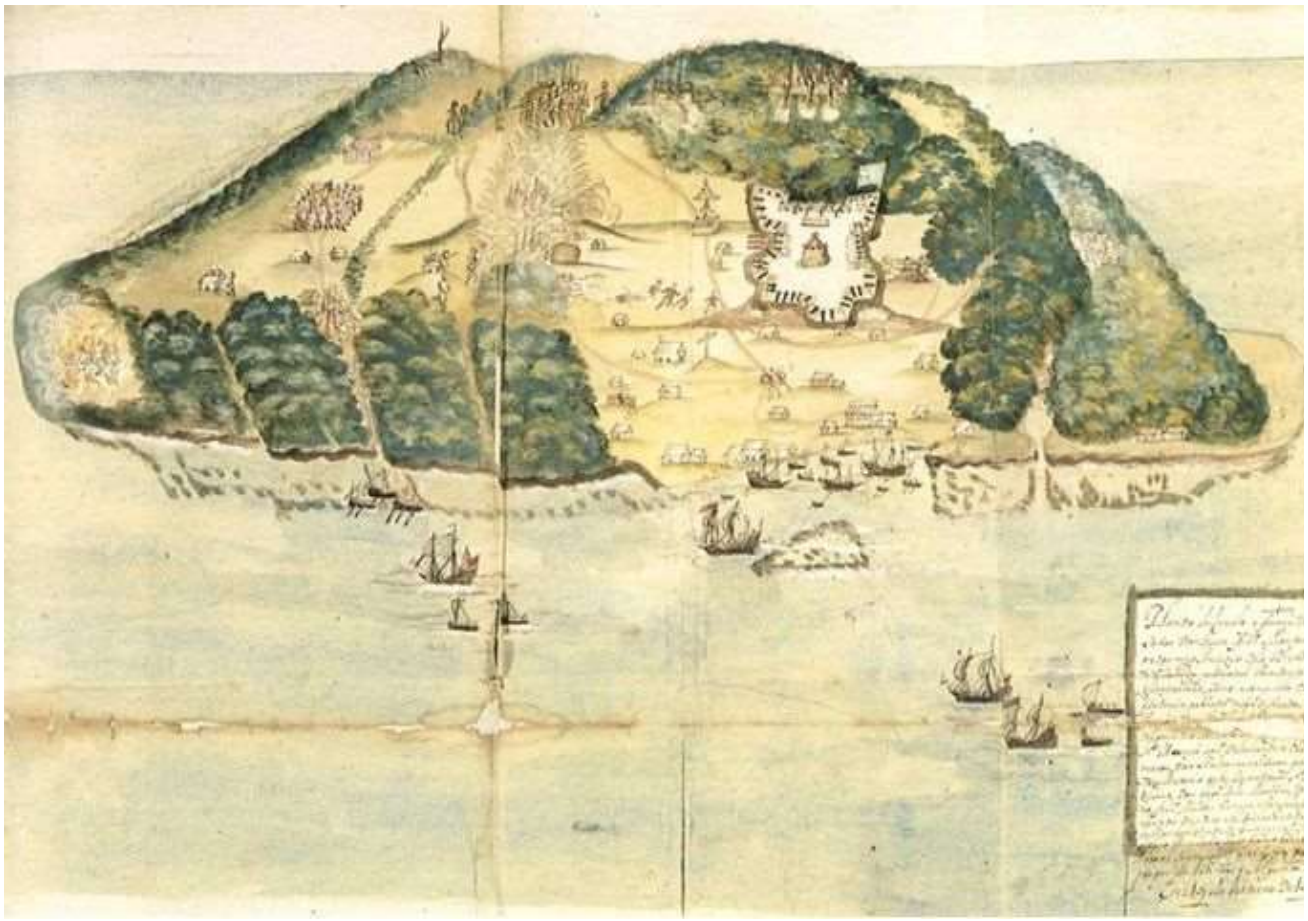
Source: Public domain image curtesy of *gallica.bnf.fr/Bibliothèque nationale de France*. Available at: https://gallica.bnf.fr/ark:/12148/bpt6k9799984k

On the other hand, because buccaneers had to face Spanish harassment constantly, they built a structured defense system on the small rocky island of

[71] Potatoes were also the basis of a sour liquor called *maiz*, which Exquemelin described as "very pleasant, substantial, and wholesome" (Exquemelin, *The History of the Buccaneers of America*, 42).
[72] Exquemelin, *The History of the Buccaneers of America*, 41-42.
[73] A detailed description of this process is provided by Exquemelin, *The History of the Buccaneers of America*, 42.

Tortuga.[74] Located few miles off the northwestern coast and measuring less than fifty miles in circumference, Tortuga constituted a strategic trading post and the official lodgment site for storing goods.[75] Most buccaneers sold their pickings in the free-trade haven of Tortuga, contributing to expanding their trading post's reputation all over the Caribbean.[76] Although the Spanish army managed to seize the island twice (1629 and 1635), its strategic role as a buccaneer headquarter increased during the 1640s when French Huguenot Levasseur, a skilled Calvinist engineer, built a fortified stronghold.[77]

Figure 4. The island of Tortuga depicted during the seventeenth century



Source http://www.thewayofthepirates.com/picture/picture-of-tortuga-17th-century/ (Public domain).

However, as Tortuga emerged as a renowned Atlantic outpost, the Spanish Empire increasingly threatened the buccaneer way of life. By the mid-1650s, the

[74] Burney, *History of the Buccaneers of America*, 57.
[75] Burney, *History of the Buccaneers of America*, 47.
[76] Kemp and Lloyd, *The Brethren of the Coast*, 1-2.
[77] Although the Spanish troops were able to seize the island for a last time in 1654, by 1655 an English-French contingent had reoccupied the island and reinforced its strategic importance for buccaneers. For further information see Philip Gosse, *The History of Piracy* (Mineola, NY: Dover, 2007): 152-153.

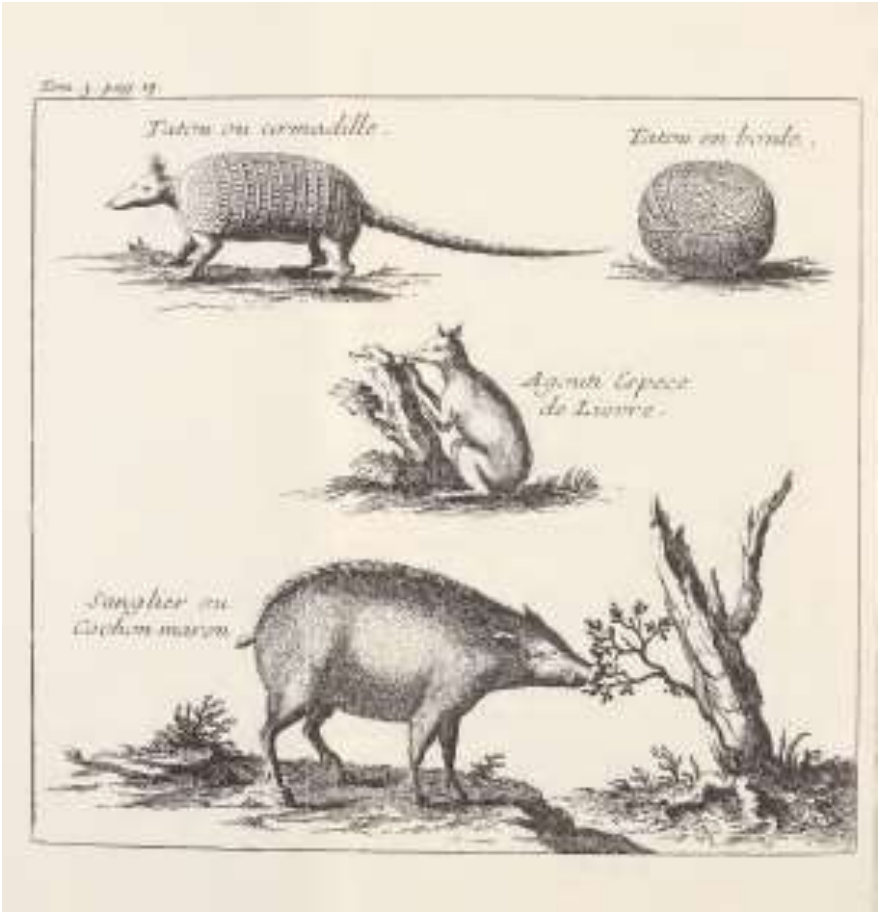
Spanish army massively butchered all the wild game on western Hispaniola, attempting to get rid of buccaneers.[78] The contingent delegated to the slaughter was presumably formed by the so-called *lanceros*, irregular troops of creole residents of Santo Domingo, armed with a long lance as their primary weapon. Although generally poorly equipped, *lanceros* were particularly effective troops and ruthless hunters who periodically persecuted buccaneers. While buccaneers usually hunted with long-barreled flintlock muskets, Spanish *lanceros* rode horses and hamstrung their wild preys while in motion, finishing them off with lances and long knives. Their inclination toward horseback fighting also gave them a significant advantage in frontal battles against buccaneers who mainly fought afoot with fire weapons.[79] These irregular troops, emerging from the creole population of Santo Domingo, were the primary source of military warfare for the Spanish Empire in the West Indies.[80] However, while the guerrilla techniques adopted by *lanceros* were a significant advantage on open plains, they were not equally effective when buccaneers could fire their muskets from covered positions or in the woods. Consequently, they resorted to the massive slaughtering of wild cattle to deprive buccaneers of one of their main subsistence activities.

This action signed a fundamental caesura in the historical trajectory of buccaneers, who lost one of the main ecological drives sustaining their survival. Although both Exquemelin and French missionary and naturalist Jean-Baptiste Labat attributed the diminishment of wild game to buccaneers, the Spanish military action crucially contributed to dismantling the feral ecologies at the core of buccaneers' lifestyle.[81] Not coincidentally, in comparison to cattle, pigs managed to better survive on the island. Because cattle mainly roamed on plains and pasturelands, it was an easier target than wild pigs that hid on uphill woodlands. As admitted by the same Labat towards the late seventeenth century, while wild cows' specimens had declined, "maroon pigs" still thrived on the island. They also continued to possess eminently

[78] Burney, *History of the Buccaneers of America*, 62.
[79] Little, *The Buccaneer's Realm*, 46-49.
[80] British sailor Herny Whistler, who took part in a failed attempt to seize the colony, described them as extremely skilled hunters, as well as the main military weapon of the Spanish Empire. See Henry Whistler, "Extracts From Henry Whistler's Journal of the West India Expedition," in *The Narrative of General Venables*, ed. C. H. Firth (New York: Longmans Green, 1990): 156.
[81] See Exquemelin, *The History of the Buccaneers of America*, 39 and Jean-Baptiste (Père) Labat, *Nouveau voyage aux isles de l'Amerique*, vol. III (Paris: Ch. J.B. Delespine, [1722] 1742): 26.

feral characteristics: long-legged, fast, hard to catch and still able to defend themselves "with vigor and furor."[82]

Figure 5. Maroon pigs (bottom) depicted by Labat in *Nouveau voyage aux isles de l'Amerique*, vol. III



Source: Public domain image curtesy of the University of Ottawa's Library. Available at: https://archive.org/details/nouveauvoyageau03laba/page/n33/mode/2up

Despite the survival of feral pigs on the island, buccaneers became increasingly detached from the forming socio-ecological fabric of the Caribbean, serving as paramilitary corps to defend the territories colonized by antagonist nations such as France and England and sustaining their efforts to establish a plantation system.

PLANTATIONS AND ECOLOGICAL DOMESTICATION

Global economic trends crucially complemented the massive slaughtering of feral cattle in Hispaniola. Since the second half of the seventeenth century, the

[82] Labat, *Nouveau voyage aux isles de l'Amerique*, vol. III, 26-27.

transatlantic balance of power became increasingly defined by the capillary development of the plantation system. This process, in turn, led to stark socio-ecological transformations in the Caribbean.[83] As a labor-intensive productive system heavily grounded in monoculture and individual land ownership, the plantation system starkly opposed buccaneers' way of life.[84] Since its inception in the New World by the early sixteenth century, it rapidly created a global economy based on sugar, rice, cacao, tobacco rubber, and cotton. Although its basic productive structure heavily relied on gang work, it was essentially grounded in self-interest, aiming at obtaining economic revenues through the accumulation of agricultural surplus. For example, in sugarcane plantations – the most successful crop in the Caribbean – every farmer required autonomous sugar mills to process the enormous weight and bulk of the harvested canes to reduce shipment costs and optimize molasses production.[85] Perhaps more importantly, given its labor-intensive nature, its economic profitability was solely sustained by the exploitation of slave labor. Traditionally, the plantation system had relied on the feudal structures of the Mediterranean world. However, it became the first mercantilist enterprise in the dynamic Caribbean context, favoring global markets, specialized production, and transatlantic exchange.[86] In ecological terms, the plantation ethos lay in constructing a socio-ecological niche, combining proto-capitalist patterns of social organization (e.g., individual profit-making, entrepreneurship, wealth accumulation) and the domestication of local environments.[87]

Thus, while the buccaneers' lifestyle mainly relied on feral pigs and cattle, plantation ecosystems were entirely sustained by the combination of slave and animal labor. For example, productive sugar plantations required the contribution of draft animals, such as horses, cows, sheep, donkeys, hogs, and camels. These were employed mainly as beasts of burden to transport mills, refined sugar, and other

[83] Latimer, *Buccanners of the Caribbean*, 5.
[84] Curtin, *The Rise and Fall*, 3-23.
[85] About the processing of sugar cane see Curtin, *The Rise and Fall*, 4. About the revolutionary impact in the Caribbean see Laura Hollsten, "Controlling Nature and Transforming Landscapes in the Early Modern Caribbean". *Global Environment* 1 (2008): 80-113.
[86] About the feudal nature of the plantation system see Curtin, *The Rise and Fall*, 22-23. On the relation between mercantilism and the plantation complex see John DeWitt, *Early Globalization and the Economic Development of the United States and Brazil* (Westport: Praeger Publishers, 2002): 11. About the relationship between the plantation complex and the development of capitalism see Daniel B. Rood, *The Reinvention of Atlantic Slavery: Technology, Labor, Race and Capitalism in the Greater Caribbean* (New York: Oxford University Press, 2017).
[87] On the historical consequence of the plantation complex in the West Indies see Grove, *Green Imperialism*, 52-69.

exchanged goods.[88] The plantation system also developed a symbiotic relationship with commercial pastoralism. As planters cleared woodland areas and demarcated estates, they requested more and more dung to fertilize their endangered soils, increasingly subject to erosion. Enhanced fertilizer demand stimulated intensive animal manuring and the domestication of feral cattle, horses, sheep, and pigs to collect their dung and mix it with green manures. The increased number of protein supplements needed to sustain plantation laborers also favored intensive farming.[89]

Although plantations were a productive enterprise, they were exposed to different environmental pressures, as intensive land use led to issues such as soil erosion, fertility decline, pollution, carbon sequestration and biodiversity loss.[90] As a result, while large portions of rainforests, seasonal forests and coastal shrubs were cleared, several terrestrial and marine wildlife species were driven to the verge of extinction by massive hunting. At the same time, enclosed grazing areas were destined for selected breeds.[91] Although these ecological consequences led to the consolidation of conservation practices, the creole Caribbean ecologies progressively gave way to more domesticated types of landscapes.[92]

As already observed, Hispaniola's fertile volcanic soils and its well-watered coastal plains provided the ideal conditions for the development of sugar plantations. As a result, tobacco and sugarcane monocultures had begun in the sixteenth century, partially involving early buccaneers. Exquemelin described small planters in western Hispaniola as unskilled feral hunters who created small agricultural enterprises complementing buccaneers' activities.[93] At least during the first half of the

[88] For further information on animal labor in Caribbean plantations see Hollsten, "Controlling Nature and Transforming Landscapes," 91-94.
[89] John F. Richards, *The Unending Frontier: An Environmental History of the Early Modern World* (Berkeley: University of California Press, 2003): 413-425.
[90] For further information see David Watts, *The West Indies: Patterns of Development, Culture and Environmental Change since 1942* (Cambridge: Cambridge University Press, 1990); Richard Grove, *Ecology, Climate and Empire: Colonialism and Global Environmental History, 1400-1940* (Cambridge: The White Horse Press, 1997): 37-85 and Diana K. Davis, "Deserts," in *The Oxford Handbook of Environmental History*, ed. Andrew C. Isenberg, 108-132 (Oxford: Oxford University Press, 2014): 114. For a general overview of the environmental issues associated to plantations see Alfred E. Hartemink, "Plantation Agriculture in the Tropics: Environmental Issues," *Outlook on Agriculture* 34, no. 1 (2005): 11-21.
[91] McNeill, *Mosquito Empires*, 26-27.
[92] About the mechanisms of environmental control devised by European colonizers on plantations see Grove, *Green Imperialism* and *Ecology, Climate and Empire*. For a synthetic overview see John. R., McNeill, "The Ecological Atlantic," in *The Oxford Handbook of the Atlantic World: 1450-1850*, ed. Nicholas Canny and Philip Morgan, 290-308 (Oxford: Oxford University Press, 2011) and Hollsten, "Controlling Nature and Transforming Landscapes."
[93] Exquemelin, *The History of the Buccaneers of America*, 41-42.

seventeenth century, the buccaneers' feral hunting niche and the plantation niche had kept each other in check for reasons of mutual survival. However, the combination of Spanish cattle slaughtering campaigns and the progressive rise of the sugar economy during the second half of the seventeenth century accelerated the capillary development of the plantation system.[94] With the first colonial settlement in 1665, the French monarchy tightened its grip on western Hispaniola, still officially a Spanish territory. Within a few decades, this former buccaneer retreat became one of the most prosperous sugar plantation areas of colonial America – the so-called "pearl of the Antilles."[95]

According to historian Pierre de Vaissière, although the former buccaneers' haven only officially became a French colony in 1697, sugarcane plantations had already progressively overpowered buccaneers at least since the early 1670s. By 1671 there were already only about 100 buccaneers against between 1,200 and 2,000 "regular" inhabitants, mainly farmers incentivized by the national government. The first official census implemented in 1697 counted 8,000 inhabitants in the island, only about 4,500 whites, witnessing the progressive increase of African and Creole peoples employed in the developing plantation system.[96] In some cases, these were even former buccaneers that had made themselves regular residents, participating in the colonizing effort.[97] A pivotal moment was establishing the so-called *Compagnie de Saint Domingue* in 1698, with the explicit aim "to found a new and strong colony [...] to be superior to the establishment of the Spaniards." As the colony was planned right in the feral territories under the influence of buccaneers, the company's main challenge lay in taming the island's ecosystem, teaching "the people of America how to clear their lands, how to plant their food, and how to raise goats and pigs."[98]

The combination of state efforts and the massive inception of enslaved Africans determined a progressive transformation of the island's social composition. While it continued to be primarily occupied by thick forests thanks to its rugged geography,

[94] McNeill, *Mosquito Empires*, 236.
[95] Steeve Coupeau, *The History of Haiti* (Westport: Greenwood Press, 2008): 1-14.
[96] Coupeau, *The History of Haiti*, 18.
[97] Pierre de Vassière, *Saint Domingue (1629-1789). La societé et la vie creoles sous l'ancien regime* (Paris: Librarie Académique Perrin & Co., 1909): 19-23.
[98] Vassière, *Saint Domingue (1629-1789)*, 40-41.

the nomadic lifestyle of buccaneers was progressively ruled out by French authorities willingly to transform the island into a thriving plantation hub. By 1700, there were already about 9,000 slaves toiling on the island's sugar and tobacco plantations. By mid-century, Hispaniola could count already over 260,000 slaves employed in about 650 sugarcane plantations with an average of 120 to 160 hectares and an annual production of over 40,000 metric tons of sugar per year.[99] The emergence of the plantation complex led to the first territorial designations of the island, broken down into divisions, quarters, parishes and cantons.[100]Aside from working on plantations, enslaved people were also allowed to small land plots where they cultivated several crops such as potatoes, yams and bananas and raised domesticated chickens, pigs, and horses.[101] Both plantation masters and slaves exercised property rights on animals, and the robbery of domestic animals (including pigs) became a crime punishable in court. French authorities also began to question the free circulation of four-legged mammals in the burgeoning urban centers of the island, such as Port-au-Prince, advancing sanitation issues regarding the impact of animals' fecal matters in the city's freshwater sources.[102] These policies responded to the need to stimulate the plantation complex and the mercantilist culture that it entailed, a process that automatically opposed the feral lifestyle of buccaneers.

Since the island's rugged geography did not allow French authorities to exercise capillary territorial control, its upland forests progressively became a retreat for enslaved Africans, who created unauthorized rural settlements which would eventually constitute the core of the Haitian revolution (1791-1804).[103] However, the emergence of the plantation complex did succeed in dismantling the buccaneers' way of life, inaugurating a different historical season for this motley group. As the plantation complex expanded its social and ecological niche and sugar economy became the gold standard of the Caribbean, most buccaneers refused to adapt to the

[99] Philippe Girard, *Haiti: The Tumultuous History – From Pearl of the Caribbean to Broken Nation* (New York: Palgrave MacMillan, 2010): 24; and Richards, *The Unending Frontier*, 438-439.
[100] Coupeau, *The History of Haiti*, 17.
[101] Vassière, *Saint Domingue (1629-1789)*, 200.
[102] Vassière, *Saint Domingue (1629-1789)*, 208 and 331.
[103] Johnhenry Gonzalez, *Maroon Nation: A History of Revolutionary Haiti* (New Haven: Yale University Press, 2019): 8-9. For an overview of agricultural practices among enslaved African communities see, for example, Sylvia Wynter, "Novel and History, Plot and Plantation." *Savacou* 5 (1971): 95-102; Judith Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge MA: Harvard University Press, 2002); Judith Carney and Richard Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Berkeley: University of California Press, 2009).

new challenges posed by a rapidly changing epoch. Moreover, the proliferation of slave labor in plantations generated many unemployed white colonizers, who would engross the ranks of buccaneers.[104] Whilst initially European nations continued to regard buccaneers as a defensive asset, by the late seventeenth century, several royal authorities began to consider trading rather than plundering as the most practical way to appropriate the wealth of Spanish colonies. In this context, buccaneers stood as an obstacle to accomplishing good commercial relations with Spanish colonies.

Moreover, the consolidation of the plantation complex was complemented by the professionalization of European military forces, as its economic revenues financed better equipment, weaponry, and oceanic navies.[105] Concurrently, the first significant urban infrastructures began to develop in European Atlantic colonies. In the context of enhanced global maritime trade, port cities hosted and supplied larger merchant ships carrying valuable cargoes to their motherlands.[106] As European nations strived to come to more peaceful terms with each other, the first anti-buccaneering laws were passed in Jamaica and French Hispaniola (respectively in 1682 and 1684).[107]

Paradoxically, the same political reality of free-market relations that buccaneers had contributed to shaping by fearlessly confronting the Spanish' authoritarian economic monopoly was now rejecting them. As the plantation system began revolutionizing Caribbean ecosystems, strategic buccaneer outposts such as French Hispaniola and British Jamaica would become the core of the transatlantic sugar economy, contributing to the consolidation of mercantilism.[108] As observed by Jon Latimer, by enabling the plantation complex to thrive, paradoxically, "the buccaneers helped reduce the desire for and reliance on plunder, thus hastening the demise of buccaneering."[109] Although no nation was willing to rely on their services by this time, groups of freebooters continued to harass merchant ships across the main maritime routes, expanding their reach from the Atlantic to the Indian ocean. By the early eighteenth century, the ships of all nations became the target of buccaneers,

[104] Latimer, *Buccanners of the Caribbean*, 95.
[105] McNeill, *Mosquito Empires*, 21.
[106] McNeill, *Mosquito Empires*, 50-51.
[107] Latimer, *Buccanners of the Caribbean*, 243-249.
[108] Stuart B. Schwartz, "Introduction," in *Tropical Babylon: Sugar and the Making of the Atlantic World, 1450-1680*, ed. Stuart B. Schwartz, 1-26 (Chapel Hill: University of North Carolina Press, 2004): 15.
[109] Latimer, *Buccanners of the Caribbean*, 241.

now acing in complete illegality and regarded as pirates.[110] Overall, buccaneers could hardly adapt to the idea of a settled way of life as either small plantation owners or as seasonal woodcutters.[111] As European nations attempted to hold a grip on the social and ecological order of the Caribbean, the vast liquid plains of the Atlantic ocean became the open-field territories in which the rebellious ethos of buccaneers could continue to express itself, at least for some more decades.[112]

THE END OF A FERAL SOCIETY

This article has attempted to provide a critical reading of buccaneers' historical trajectory in Hispaniola informed by the theoretical lenses of environmental history, with particular emphasis on their coevolutionary relation with feral European-bred livestock. While the traditional accounts left by missionaries and travelers such Jean-Baptiste du Tetre, Jean-Baptiste Labat and Charles de Rochefort left colorful yet overall negative descriptions of buccaneers, they also provided information on their lifestyle and customs.[113] Perhaps more importantly, Exquemelin's account reveals a functioning society deriving its basic norms in a region that remained notoriously "beyond the line" of western civilization.[114] Buccaneers' customary practices served the purpose of traditional commoner societies: guaranteeing basic survival by adapting to the specific characteristics of the local ecologies. As a result, they rejected any other rule but their customary norms, which they considered sovereign, above any secular or religious law. Such norms were grounded in a collective lifestyle that allowed effective governance and conflict minimization. As reminded in Pierre-François-Xavier de Charlevoix's account: "there is no such thing in this Republic as mine or yours, and as a consequence, there are few

110 Peter Earle, *The Pirate Wars* (London: Methuen, 2003): 100.
111 Earle, *The Pirate Wars*, 96.
112 Rediker, Marcus, *Villains of all Nations: Atlantic Pirates in the Golden Age* (Boston: Beacon Press, 2004): 25.
113 See for example, Du Tetre, *Histoire generale des Antilles*, vol. III, 142; Labat, *Nouveau voyage aux isles de l'Amerique*, vol. VII, 130 and 234; Charles de Rochefort, *Histoire naturelle et morale des iles Antilles de l'Amerique*, vol. I (Rotterdam: Chez Arnould Leers, 1658): 669.
114 About the idea of and Atlantic frontier territory beyond the line see Guy Chet, *The Ocean is a Wilderness: Atlantic Piracy and the Limits of State Authority, 1688-1856* (Amherst & Boston: University of Massachusetts Press, 2014): 22.

disputes; if there are any between individuals, mutual friends work in the field to mend them and peace is soon made."[115]

Early buccaneers' origin was also grounded in the creole ecologies of Hispaniola, where indigenous practices and European customary norms converged. In striving to survive in a burgeoning transatlantic world, buccaneers built a cosmopolitan society of ecological pioneers acting in a buffer zone at the crossroads between two encountering worlds. The European-bred animal species that had gone feral and become "wilder" since the Spanish colonization influenced their cultural practices. While untamed cattle and pigs became their primary source of subsistence, European weeds constituted the fertile meadows that allowed these mammal species to survive and thrive. Similarly, the wilder attitude of local dogs constituted an essential asset for buccaneers, who co-existed with their canine allies. In this sense, the customary norms devised by buccaneers constituted an example of coevolutionary interaction with feral animal species. These resulted in an ecological niche in a flocked creole environment such as seventeenth-century Hispaniola, which became one of the most strategic commercial hubs in the Atlantic. Thus, while living at the margins of Western civilization, buccaneers succeeded in creating a cosmopolitan society which, at the peak of their historical trajectory, turned them into the freest and most "untamed" commoner society in the world.

ACKNOWLEDGEMENTS

I thank Christof Mauch for commenting on an earlier draft of this manuscript. I also thank HALAC's editor-in-chief Sandro Dutra e Silva for encouraging this publication. In addition, two anonymous reviewers shared their expertise with commitment and professionalism, providing valuable insights to improve the text. During this research, I received funding from the Andrea von Braun Stiftung for interdisciplinary studies and the Amerika-Institut (LMU, Munich).

[115] Charlevoix, *Histoire de l'Isle Espagnole*, vol. III, 55-56.

REFERENCIAS

Primary Sources

Acosta, José de, *Historia Natural y Moral de las Indias*, vol. I-II. Madrid: Ramón Anglés, [1590] 1894.

Charlevoix, Pierre-François-Xavier de, *Histoire de l'Isle Espagnole ou de S. Domingue écrite particulièrement sur des mémoires manuscrits du Père Jean-Baptiste Le Pers, jésuite, missionnaire à Saint-Domingue, et sur les pièces originales qui se conservent au Dépôt de la Marine*, vol. I-IV. Amsterdam: Chez François L'Honoré, 1733.

Du Tetre, Jean-Baptiste, *Histoire generale des Antilles habitées par les François*, vol. I-IV. Paris: Chez Thomas Iolly, 1667.

Exqumelin, Alexandre Olivier, *The History of the Buccaneers of America.* Boston-Portland: Sanbon & Carter, [1678] 1856.

Exquemelin, Alexandre Olivier, *Historie des avanturiers filibustiers qui se sont signalés dans les Indes*, vol. I. Paris: Jacques le Febvre, [1678] 1743.

Herrera, Gabriel Alonso de, *Agricultura general: que trata de la labranza del campo y sus particularidades, crianza de animales, propriedades de las plantas que en ella se contienen, y virtudes provechosas a la salud humana*. Madrid: don Josef de Urrutia, [1513] 1790.

Herrera y Tordesillas, Antonio de, *Historia General de las Indias Ocidentales*, vol. I-IV. Amberes: Juan Bautista Verdussen, [1615] 1728.

Labat, Jean-Baptiste (Père), *Nouveau voyage aux isles de l'Amerique*, vol. I-VIII. Paris: Ch. J.B. Delespine, [1722] 1742.

Las Casas, Bartolomé de, *Historia de las Indias*, vol. I-IV. Caracas: Biblioteca Ayacucho, [1561] 1986.

Las Casas, Bartolomé de, *Apologetica Historia Sumaria*, vol. I-III. Madrid: Alianza Editorial, [1536] 2007.

Oviedo, Gonzalo Fernández de, *Sumario de la natural historia de las Indias*. Pánuco ME: Fondo de Cultura Economica, [1526] 1950.

Rochefort, Charles de, *Histoire naturelle et morale des iles Antilles de l'Amerique*, vol. I-II. Rotterdam: Chez Arnould Leers, 1658.

Whistler, Henry, "Extracts from Henry Whistler's Journal of the West India Expedition." In *The Narrative of General Venables*, ed. C. H. Firth. New York: Longmans Green, 1990.

Secondary Sources

Aberth, John, *An Environmental History of the Middle Ages: The Crucible of Nature*. London-New York: Routledge, 2012.

Ajmone-Marsan, Paolo, José Fernando Garcia, Johannes A. Lenstra, "On the origin of cattle: How aurochs became cattle and colonized the world." *Evolutionary Anthropology* 19 (2010): 148-157.

Anderson, Tovi M., Bridgett M. von Holdt, Sophie I. Candille, et al., "Molecular and Evolutionary History of Melanism in North American Gray Wolves." *Science* 323, no. 5919 (2009): 1339–1343.

Anes, Gonzalo and Ángel García Sanz (ed.), *Mesta, trashumancia y vida pastoril*. Madrid: Investigación y Progreso, 1994.

Apestegui, Cruz, *Pirates of the Caribbean: Buccaneers, Privateers, Freebooters and Filibusters, 1493-1720*. London: Conway Maritime Press, 2002.

Burney, James, *History of the Buccaneers of America*. New York: Norton, 1950.

Carney, Judith and Richard Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World*. Berkeley: University of California Press, 2009.

Carney, Judith, *Black Rice: The African Origins of Rice Cultivation in the Americas*. Cambridge MA: Harvard University Press, 2002.

Chet, Guy, *The Ocean is a Wilderness: Atlantic Piracy and the Limits of State Authority, 1688-1856*. Amherst & Boston: University of Massachusetts Press, 2014.

Cook, Noble David, *Born to Die: Disease and New World Conquest, 1492-1650*. New York: Cambridge University Press, 1998.

Cordingly, David, *Under the Black Flag: The Romance and Reality of Life Among the Pirates*. New York: Random House, 2006.

Coupeau, Steeve, *The History of Haiti*. Westport: Greenwood Press, 2008.

Courtillot, Vincent E. and Paul R. Renne, "On the ages of flood basalt events." *Comptes Rendus Geoscience* 335, no. 1 (2003): 113–140.

Cronon, William, *Changes in the Land: Indians, Colonists, and the Ecology of New England*. New York: Hill and Wang, 1983.

Crosby, Alfred, *The Columbian Exchange: Biological and Cultural Consequences of 1492*. Westport: Greenwood Press, 1972.

Crosby, Alfred, *Ecological Imperialism: The Ecological Expansion of Europe, 900-1900*. Cambridge: Cambridge University Press, [1986] 1997.

Curtin, Philip D., *The Rise and Fall of the Plantation Complex*. Cambridge: Cambridge University Press, 1990.

Davis, Diana K., "Deserts." In *The Oxford Handbook of Environmental History*, ed. Andrew C. Isenberg, 108-132. Oxford: Oxford University Press, 2014.

DeMello, Margo, *Animals and Society: An Introduction to Human-Animal Studies*. New York: Columbia University Press, 2012.

Derry, Margaret, *Bred for Perfection: Shorthorn Cattle, Collies, and Arabian Horses Since 1800*. Baltimore: John Hopkins University Press, 2003.

DeWitt, John, *Early Globalization and the Economic Development of the United States and Brazil*. Westport: Praeger Publishers, 2002.

Diamond, Jared, *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking, 2005.

Earle, Peter, *The Pirate Wars*. London: Methuen, 2003.

Encyclopaedia Britannica, *Hispaniola, Island, West Indies* (https://www.britannica.com/place/Hispaniola).

Evin, Allowen, Thomas Cucchi, Andrea Cardini et al., "The long and winding road: identifying pig domestication through molar size and shape." *Journal of Archaeological Science* 40, no. 1 (2013): 735-743.

Geldmacher, J.; Hanan, B. B.; Blichert-Toft, J.; Harpp, K.; Hoernle, K.; Hauff, F.; Werner, R.; Kerr, A. C., "Hafnium isotopic variations in volcanic rocks from the Caribbean Large Igneous Province and Galápagos hot spot tracks." *Geochemistry, Geophysics, Geosystems* 4, no. 7 (2003): 1-24.

Gibson, Abraham H., *Feral Animals in the American South: An Evolutionary History*. Cambridge: Cambridge University Press 2016.

Girard, Philippe, *Haiti: The Tumultuous History – From Pearl of the Caribbean to Broken Nation*. New York: Palgrave MacMillan, 2010.

Gonzalez, Johnhenry, *Maroon Nation: A History of Revolutionary Haiti*. New Haven: Yale University Press, 2019.

Gosse, Philip, *The History of Piracy*. Mineola, NY: Dover, 2007.

Grove, Richard H., *Ecology, Climate and Empire: Colonialism and Global Environmental History, 1400-1940*. Cambridge: The White Horse Press, 1997.

Grove, Richard H., *Green Imperialism: Colonial Expansion, Tropical Island Edens and The Origins of Environmentalism 1600-1860*. Cambridge: Cambridge University Press, 1995.

Hartemink, Alfred E., "Plantation Agriculture in the Tropics: Environmental Issues". *Outlook on Agriculture* 34, no. 1 (2005): 11-21.

Hedges, Blair S., Warren B. Cohen, Joel Timyan, Zhiqiang Yang, "Haiti's Biodiversity Threatened by Nearly Complete Loss of Primary Forest." *Proceeding of the National Academy of Sciences of the United States of America* 115, no. 46 (2018): 11850-11855.

Hollsten, Laura, "Controlling Nature and Transforming Landscapes in the Early Modern Caribbean." *Global Environment* 1 (2008): 80-113.

Kemp, Peter and Christopher Lloyd, *The Brethren of the Coast: The British and French Buccaneers in the South Seas*. London: Windmill Press, 1960.

Kirchner, Jasmin, G. Manteuffel, L. Schrader "Individual calling to the feeding station can reduce agonistic interactions and lesions in group housed sows." *Journal of Animal Science* 90 (2012): 5013-5020.

Klein, Julius, *The Mesta: A Study in Spanish Economic History 1273–1836*. Cambridge MA: Harvard University Press, 1920.

Lane, Kris, *Pillaging the Empire: Piracy in the Americas 1500-1750*. Armonk-London: M. E. Sharpe, 1998.

Latimer, Jon, *Buccaneers of the Caribbean: How Piracy Forged an Empire 1607-1697*. London: Weidenfeld & Nicolson, 2009.

Lauterbach, Kirstin, Oliver Keuling, Norman Stier, Mechthild Roth, "Do All Male Wild Boar Yearling *Sus Scrofa* L. Leave Home?" *Sixth International Symposium on wild boar (Sus scrofa) and sub-order suiformes*, Kykkos, Cyprus, October 2006.

LeCain, Timothy J., *The Matter of History: How Things Create the Past*. Cambridge: Cambridge University Press, 2017.

Leeson, Peter, *The Invisible Hook: The Hidden Economics of Pirates*. Princeton-Oxford: Princeton University Press, 2009.

Lega, Clelia, Pasquale Raia, Lorenzo Rook and Domenico Fulgione, "Size matters: A comparative analysis of pig domestication." *The Holocene* 26, no. 2 (2016): 327-332;

Linebaugh, Peter and Marcus Rediker, *The Many-Headed Hydra: The Hidden History of the Revolutionary Atlantic*. London-New York: Verso 2007.

Little, Benerson, *The Buccaneer's Realm: Pirate Life on the Spanish Main, 1674-1688*. Washington D.C.: Potomac Books, 2007.

McNeill, John R., *Mosquito Empires: Ecology and War in the Greater Caribbean*. New York: Cambridge University Press, 2010.

McNeill, John. R., "The Ecological Atlantic", In *The Oxford Handbook of the Atlantic World: 1450-1850*, ed. Nicholas Canny and Philip Morgan, 209-308. Oxford: Oxford University Press, 2011.

Morison, Eliot, *Journals and Other Documents of the Life and Voyages of Christopher Columbus*. New York: Heritage Press, 1963.

Palm, Erwin Walter and Engel Sluiter, "Letters on the Dutch in the Caribbean". *The Hispanic American Historical Review* 28, no. 4 (1948): 626-628.

Polanyi, Karl, *The Great Transformation: The Political and Economic Origins of our Time*. Boston: Beacon Press, 2001.

Ratekin, Mervyn, "The Early Sugar Industry in Española". *Hispanic American Historical Review* 34 (1954): 1-19.

Rediker, Marcus, *Villains of all Nations: Atlantic Pirates in the Golden Age*. Boston: Beacon Press, 2004.

Reimert, Inonge, Elizabeth J. Bolhuis, Bas Kemp, Bas T. Rodenburg, "Emotions on the loose: emotional contagion and the role of oxytocin in pigs." *Animal Cognition* 18 (2014): 517-532.

Richards, John F., *The Unending Frontier: An Environmental History of the Early Modern World*. Berkeley: University of California Press, 2003.

Roberts, Alice, *Tamed: Ten Species That Changed Our World*. London: Penguin, 2017.

Rodríguez Morel, Genaro, "The Sugar Economy of Española in the Sixteenth Century." In *Tropical Babylon: Sugar and the Making of the Atlantic World, 1450-1680*, ed. Stuart B. Schwartz, 85-114. Chapel Hill: University of North Carolina Press, 2004.

Rood, Daniel B., *The Reinvention of Atlantic Slavery: Technology, Labor, Race and Capitalism in the Greater Caribbean*. New York: Oxford University Press, 2017.

Rouse, Irving, *The Tainos: Rise and Decline of the People Who Greeted Columbus*. New Haven: Yale University Press, 1992.

Russell, Edmund, *Greyhound Nation: A Coevolutionary History of England 1200-1900*. Cambridge: Cambridge University Press, 2018.

Russell, Edmund, "Coevolutionary History." *The American Historical Review* 119, no. 5 (2014): 1514-1528.

Russell, Edmund, *Evolutionary History: Uniting History and Biology to Understand Life on Earth*. Cambridge: Cambridge University Press, 2011.

Schwartz, Stuart B., "Introduction." In *Tropical Babylon: Sugar and the Making of the Atlantic World, 1450-1680*, ed. Stuart B. Schwartz, 1-26. Chapel Hill: University of North Carolina Press, 2004.

Simmons, Ian G., *Global Environmental History 10,000 BC to AD 2000*. Edinburgh: Edinburgh University Press, 2008.

Sluyter, Andrew, *Black Ranching Frontiers: African Cattle Herders of the Atlantic World 1500-1900*. New Haven: Yale University Press, 2012.

Talty, Stephan, *Empire of Blue Water: Captain's Morgan Great Pirate Army, the Epic Battle for the Americas, and the Catastrophe that Ended the Outlaws' Bloody Reign*. New York: Broadway Paperbacks, 2007.

Tarter, Andrew, "Charcoal in Haiti: A National Assessment of Charcoal Production and Consumption Trends." World Bank. *ProFor*, 2018.

Testot, Laurent, *Homo Canis: Une Historie des Chiens et de l'Humanité*. Paris: Payot & Rivages, 2018.

Upadhyay, Maulik, Wei-Shan Chen, Johannes A. Lenstra, et al., "Genetic origin, admixture and population history of aurochs (Bos primigenius) and primitive European cattle." *Heredity* 118 (2017): 169-176.

Vassière, Pierre de, *Saint Domingue (1629-1789): La societé et la vie creoles sous l'ancien regime* Paris: Librarie Académique Perrin & Co., 1909.

Walker, Brett L., "Animals and the Intimacy of History". In *The Oxford Handbook of Environmental History*. ed. Andrew C. Isenberg 52-75. Oxford: Oxford University Press, 2014.

Warde, Paul, *The Invention of Sustainability: Nature and Destiny c. 1500-1870*. Cambridge: Cambridge University Press, 2018.

Watts, David, *The West Indies: Patterns of Development, Culture and Environmental Change since 1942*. Cambridge: Cambridge University Press, [1987] 1990.

White, Sam, "From Globalized Pig Breeds to Capitalist Pigs: A Study in Animal Cultures and Evolutionary History." *Environmental History* 16 (2011): 94–120.

Wohlleben, Peter, *The Secret Network of Nature: The Delicate Balance of All Living Things*. London: The Bodley Head, 2018.

WWF, *The Island of Hispaniola in the Caribbean* (https://www.worldwildlife.org/ecoregions/nt0305).

Wynter, Sylvia, "Novel and History, Plot and Plantation." *Savacou* 5 (1971): 95-102.

Ecologías Criollas, Costumbres Asilvestradas: Una historia Coevolutiva de la Bucanería en "La Española" Durante el siglo XVII

RESUMEN

A medida que la colonización europea de las Américas avanzaba por medio de la ocupación territorial y la explotación económica, la abigarrada sociedad atlántica surgida de intercambio colombiano también dio lugar a experimentos sociales sin precedentes. Este artículo analiza la consolidación de la cultura de los bucaneros en la isla de "La Española" durante la primera mitad del siglo XVII. Adoptando herramientas metodológicas propias de una aproximación desde la historia ambiental -con especial énfasis en los procesos fruto de la historia coevolutiva y actuales discusiones sobre neo-materialismos- el artículo evalúa cómo las especies animales asilvestradas de origen europeo contribuyeron a crear esta sociedad cosmopolita que vivía al margen de la civilización occidental. Este encuentro generó un nicho ecológico forjado en el ambiente caribeño criollo de La Española, uno de los primeros asentamientos españoles en el continente americano. Este artículo también evalúa las causas históricas de la desaparición de los bucaneros y la aparición del complejo de las plantaciones. La investigación se basa en una amplia gama de fuentes primarias producidas por exploradores de varias naciones europeas y antiguos bucaneros, así como en publicaciones académicas sobre historia ambiental, historia del Caribe e historia colonial europea.

Palabras clave: bucaneros, la española, ecologías criollas, ganado asilvestrado, complejo de plantaciones.

Recibido: 09/06/2021
Aprobado: 20/08/2021