

THE COMMON BLACK-EARED OPOSSUM IN THE SYMBOLIC AND ICONOGRAPHIC UNIVERSE. FROM THE EFFIGY ORNAMENTS IN THE LESSER ANTILLES TO THE EUROPEAN GRAPHICS OF *SIMIVULPA* AND ITS VARIANTS IN THE 16TH – 17TH CENTURIES

La zarigüeya común de orejas negras en el universo simbólico e iconográfico. De los adornos efigies en las Antillas Menores a las gráficas europeas de simivulpa y sus variantes en los siglos XVI-XVII

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Abstract

This study focuses on the aesthetic analysis, iconographic variants, and symbolism of the common black-eared opossum (*Didelphis marsupialis* Linnaeus 1758) in ceramic ornaments of agro-ceramic origin of the Saladoid tradition with Barrancoid influence, located in the south of the Lesser Antilles arc and Venezuela, currently held in different collections, scientific academies, and museums around the world, particularly in the Caribbean and United States. Likewise, it will study an entire corpus of prints with descriptions and illustrations of the marsupial, the latter being elaborated by European artists through wood engravings or etchings. For this purpose, chroniclers and artists often relied on the analogical outline of Aristotle, disarticulating the *didelphidae* into anatomic parts to later compare them with those of other animals according to their degree of similarity, usually being with species of the so-called Old World, in order to create a 'new' concept, in reality, an anomalous creature,

Resumen

El estudio se enfoca en el análisis estético, variantes iconográficas y simbolismo de la zarigüeya común de orejas negras (*Didelphis marsupialis* Linnaeus 1758) en adornos cerámicos de origen agroalfarero de tradición saladoide e influencia barrancoide, localizados al sur del arco de las Antillas Menores y Venezuela, actualmente custodiados en diferentes colecciones, academias científicas y museos del mundo, en particular, del Caribe y Estados Unidos. Igualmente, se estudia todo un corpus de impresos con descripciones e ilustraciones del marsupial, elaboradas estas últimas por artistas europeos mediante el grabado en xilografía o aguafuerte. Para ello, cronistas y artistas, a menudo se apoyaron en el esquema analógico de Aristóteles, desarticulando al didélfido en partes anatómicas, para luego compararlas con las de otros animales en función de su grado de semejanza, siendo por lo general con especímenes del llamado entonces Viejo Mundo, hasta crear un concepto 'nuevo', en realidad,

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resulting from the juxtaposition of images of the ‘old’ over the ‘new’, in order to show the intelligible and unknown of the Caribbean world in a way that is comprehensible and accessible to the human mind, with the objective of providing zoological continuity and closing the gaps that once separated both ‘worlds’, in other words, the semiosis of Charles Sanders Peirce.

Keywords: common opossum, marsupial, *Didelphis marsupialis*, simivulpa, Lesser Antilles, ornament, engraving, iconography, symbolism.

Introduction

The study is based on the cultural context that the common black-eared or neotropical opossum had in agro-ceramic communities of Saladoid tradition of pre-Contact, continental Barrancoid Caribbean influence, that colonized certain southern islands of the Lesser Antilles arc between 400 a.d. and 1400 a.d., corresponding to the Ceramic Age period, late Saladoid or Suazan Troumassoid, including the perception and imaginaries that were articulated in colonial times by European chroniclers and artists of the animal in the 16th and 17th centuries. For this purpose, the study begins with an aesthetic analysis that allows us to understand the iconographic variants of the American marsupial in ceramic artifacts, specifically, in effigy ornaments of the face and head of the *didelphidae*, consisting of figurative moldings that were originally attached to the body of a ceramic vessel. Based on iconographic and historic information contained in printed documents, those being early maps, travel logs and chronicles, encyclopedias, or books of natural history, it studies an entire corpus of images that contain the representation of the American marsupial, being a product of the imaginary by transgressing its nature due to the omission, exaggeration, and distortion of its anatomical parts.

As in the case of other exotic animals, the common opossum, referred to on the island of Trinidad and

una criatura anómala, resultado de la yuxtaposición de imágenes de lo ‘viejo’ sobre lo ‘nuevo’, para así mostrar de forma comprensible y accesible a la mente humana lo inteligible y desconocido del mundo caribeño, con objeto de dar una continuidad zoológica y cerrar las brechas que separaban ambos ‘mundos’, en otras palabras, la semiosis de Charles Sanders Peirce.

Palabras clave: zarigüeya común, marsupial, *Didelphis marsupialis*, simivulpa, Antillas Menores, adorno, grabado, iconografía, simbolismo

Tobago with the name *manicou*, was regarded with a fantastical flair in the rhetorical narratives of the natural world. For example, The Decades of *De Orbe Novo* by Pietro Martire d’Anglería illustrates the first American marsupial seen by a European, specifically, a female opossum next to her offspring, which was captured by the expedition of Vicente Yáñez Pinzón on the coasts of Brazil in February of 1500. The Italian humanist refers to this animal as a monstrous creature with “the face of a fox, the tail of a monkey, the ears of a bat, the hands of a human, the feet of a monkey, that wherever she wants to go she brings her children in an external belly in the form of a large pouch” (Mártir de Anglería, 1989, déc.1, cap. 9, p. 78). More accurate was the account of Gonzalo Fernández de Oviedo in Chapter 27 of *About the Natural History of the Indies*, published in 1526, which was included in its entirety in Chapter 27 of the twelfth book of *General History of the Indies* (1535). The chronicler from Madrid calls it ‘churcha’, because ‘zarigüeya’ (opossum) is a late Castilianization of *çarigueia*, a word of Portuguese-Brazilian origin. He compares its eating habits to those of a mustelid, the ‘beech marten’ (*Martes foina*), considering that both enter chicken coups in search of poultry. With respect to its morphology, it resembles a ‘medium-sized rabbit’, what with its rat-like fur, tail, and ears (Fernández de Oviedo, 1992, 2012, cap. 27, pp. 189-190). There is no shortage of references to the marsupium, an element typical of females, which

allows us to identify them in an order, *Marsupialia*, consisting of a kind of ‘bag’ that serves as an ‘incubation chamber’, across the abdomen and formed by the duplication of the skin, inside which the mammary glands are located to which the embryonic offspring are attached until their gestational period is completed (Rueda, Ramírez & Osorio, 2013, p. 142). The projection of different faunistic and humanoid features of this animal are manifested into the fantastic iconographies of Martin Waldseemüller, Conrad Gessner, Sebastian Münster, Levinus Hulsius, and Jacob van Meurs, among other authors. It is surprising that Oviedo did not include this among the xylography that he produced, given the interest he had of the natural world and of the exotic nature of the didelphid, as it was adapted to all types of ecosystems throughout the American continent, with the exception of extremely high elevations and desert areas (Hunsaker II, 1977, p. 147). Taking into consideration the aforementioned, the most fruitful contributions come from the biogeographic and historical fields, focused on figuring out the evolutionary origins and lineage of the marsupials didelphidae (Borroto-Páez & Woods, 2012; Krause & Krause, 2006; Cerqueira, 1985). Within this line of work, studies relating to the patterns of movement and areas of distribution stand out, on the basis of capture, marking, and recapture procedures, that yield radio-telemetric data with the monitoring of specimens fitted with radio-collars (Sunquist, Steven & Sunquist, 1987; O’Connell, 1979; Telford, González & Tonn, 1979), that are meant to demonstrate the nomadic and nocturnal tendencies of the mammal, similarly to its North American counterpart (*Didelphis virginiana*), without restricting its activities to specific areas. As a result of the above, there are two unknowns. On one end, were these mammals introduced to and displaced in the Southern islets of the Eastern Caribbean by accident? Which is to say, by climbing onto a fragment of wood or floating object, they were washed

up onto the shores of an island or, on the contrary, were they translocated to several Antillean islands as the result of anthropogenic distributions? This second option is the most probable, because it is an animal that is easy to domesticate as it even dares to eat from a hand in the wild.

From biology (Rueda, Ramírez & Osorio, 2013) and ecology (Hunsaker II, 1977), an exhaustive revision of the behavior and ecological strategies of the marsupials in the New World has been presented, based on demographic data, reproductive biology (Harder, 1992), longevity, anatomy and histology (Santos Pantoja et al., 2020), morphometric differences between subspecies (Cerqueira y Lemos, 2000), including environmental relations and threats from overexploitation of wildlife and excessive hunting, not forgetting the impact of urban and rural growth (Adler, Carvajal, David-Foust & Dittel, 2012; Vaughan & Hawkins, 1999), or disturbing events such as fires and floods, which have put the endemic fauna at risk and have led to the creation of rehabilitation centers in order to protect them (Tardieu, Rollock & García, 2020). Various studies have placed an emphasis on taxonomic description, identity, and attributed scientific names (Rocha, Terra Garbino & Arajújo Perini, 2018; Cerqueira & Tribe, 2008; Gardner, 1973; Allen, 1901; Thomas, 1901). However, the study in question is focused on the aesthetic level, apperception, and symbolism of the animal through two types of materials, ceramic and graphic, those being the result of two different societies.

The Aristotelian Analogical Method and Semiosis of Charles Sanders Peirce

As stated in a recent publication on the Antillean manatee in the European imaginaries (Bueno Jiménez, 2023), it was common that both chroniclers and artists relied in their zoological descriptions on the Aristotelian analogical analysis and

that which Charles Sanders Peirce theorized centuries after, the semiosis, a common binomial in the way of representing the endemic American fauna and, in this case, *D. marsupialis*. As was usual for The Stagirite, he created a whole method that allowed for the classification of animals, proposed in the *History of Animals* (*Περὶ Τὰ Ζῷα Ἱστορίαι*) (h. 347-335 B.C.), known by the Latin title *Historia animalium*, which included some writings on zoology, anatomy, and biology that make up the Aristotelian corpus. For this purpose, it addresses certain aspects of physiology, morphology, anatomical structure, and patterns of animal conduct to then classify them and outline an entire picture of the animal world (Aristóteles, 2000, bk. 2, p. 111). Hence, the Greek philosopher is considered as the precursor of the concept of the anatomical ‘part’ (Romero Reverón, 2015, p. 335), in relation to the compartmentalization of the body (head, neck, thorax, abdomen, upper and lower extremities), which it names as the ‘homogeneous parts’ (*anamoioimerē*), morphological units observable by their content, as opposed to the homogeneous ones (*homoioimerē*) consisting of tissues, whether those be flesh, bone or blood (Aristóteles, 2000, lib. 2, pp. 79-82; Aristóteles, 2008, lib. 1, p. 39), referring to the organs that perform a function of their own.

The observation and thorough analysis of each of the non-homogeneous parts and the subsequent comparison with those of other animals, human parts or objects is the basis of the analogical method of the Philosopher of the Lyceum, which influenced epigones such as Theophrastus of Lesbos, Pliny the Elder and Claudius Aelianus, whose knowledge they expanded on with new data and passed down to medieval writers of natural history. We refer to the vast compilation *De animalibus* by Albertus Magnus (13th century), in twenty-six books, including the ‘bestiaries’ or compendiums of fantastic animals like the Greek *Physiologus*, whose zoological allegories influenced the *Etymologia*

by Isidore de Seville (12th century), through the bestiary by Aberdeen, or *De proprietatibus rerum* (1240), which was the object of many editions in Latin and French.

This form of representing and detailing the aspects of an animal formed a part of the cultural baggage of the Renaissance and modern man who came to the New World, heir to the Aristotelian tradition, who utilized an entire repertoire of signs or analogies that allowed him to identify the opossum on the basis of what Peirce deemed ‘semiosis’ (Short, 2007 & Hooper, 1991), a process of the construction of signs in order to name, identify, and differentiate any element of reality, in this case, the marsupial didelphid. Referring to this, the pragmatic American philosopher in his theory of the signs identifies three elements, firstly, the sign itself, which involves the analogy or system of equivalences that are projected onto the ‘object’, the opossum in this case, in order to name it. For this reason, chroniclers and artists involved in this creation process often resorted to the likeness of the animals of the Old World to identify the ‘new concept’, which allowed for a zoological continuity between both worlds and closed the gap that separated them, superimposing images of the ‘old’ over the ‘new’. This is followed by the ‘object’, the marsupial, onto which the meanings are placed, meaning, the system of analogies that make it possible to represent it, since it is an unknown concept in the eyes of the interpreter, the European, which is the third and final element in charge of projecting their knowledge and imaginaries by means of analogies and meanings.

In this sense, the equivalences and analogies that were articulated had the upper part of the animal’s body and extremities very much in mind, an aspect which can be observed in the early representations of the head, whose conical morphology resembles the head of a fox (*vulpes*), along with the fur that

reinforces such an appearance; the external ears (pinnae), are rounded, erect, thin, have a leathery texture (Krause & Krause, 2006, p. 13), and have little hair, much like the ears of a mouse, bat, or owl, the latter resulting from an error of appreciation, as it lacks any kind of handle, unlike a close relative, the long-eared owl, which dons two large tufts that resemble ears; the prehensile tail, long, conical, and scaly, sparsely hairy at the base and devoid of hair on two thirds of it (Rueda, Ramírez & Osorio, 2013, p. 149), with the appendix or exterior structure of a monkey, as it uses it for grasping, climbing, and hanging like a primate, to the point of it being considered a fifth appendage or hand. In addition, the hind legs are unusual as the hallux or thumb is opposable, well separated from the rest of the toes, like the hand of a human or the foot of a primate, allowing it to hold onto objects and improving its ability to climb (Rueda, Ramírez & Osorio, 2013, p. 149; Krause & Krause, 2006, p. 14). Hence the references in the sources to it having “monkey feet” or “feet like a man’s hands”, or the Latin nickname given to it by the Swiss naturalist Conrad Gessner of *simivulpa* or *vulpi-simia* (‘monkey-fox’ - ‘fox-monkey’), presenting it as an animal with an in-between nature of a monkey (*simia*) and a fox (*vulpes*).

The Common Black-Eared Opossum Through Historic and Archaeological Evidence

Compared to other Caribbean animals, there is little information available about the common black-eared opossum in the Antillean insular setting, where two translocated marsupial species of Neotropical or South American origin have been reported. On one hand, there is the ‘mouse opossum’ of Robinson (*Marmosa robinsoni*), characteristic for its cinnamon to reddish coat, pointed nose and exophthalmic eyes, wide open and bulging, surrounded by a dark spot resembling a

mask. It is located in Central America and in the tropics of northwestern South America, and the islands of Trinidad and Tobago, Grenada, and the Grenadines (Long, 2003, p. 3; O’Connell, 1979, p. 76; Varona, 1974, pp. 100-101). Differentiating from the *D. marsupialis*, the *robinsoni* females lack a true marsupium, as do other native metatherian mammals, with the offspring adhering firmly to the mammary glands without the protection of a pouch. The other is the common opossum (*Didelphis marsupialis*), widely spread throughout the south of the Eastern Caribbean, in Trinidad and Tobago, Grenada, St. Vincent, and the larger Grenadines (Carriacou), St. Lucia and perhaps Martinique and Dominique (Borrito-Páez & Woods, 2012, pp. 252-253; Giovas, LeFebvre & Fitzpatrick, 2011, p. 481; Long, 2003, p. 5; Wing, 2001, p.473; Varona, 1974; Allen, 1911, pp. 177 & 194), where it was anthropogenically introduced with other translocated species like the peccary (*Tayassu/Pecari sp*), the guinea pig (*Cavia sp*), the armadillo (*Dasybus sp*), the iguana (*Iguana delicatissima*), the agouti (*Dasyprocta sp*), and the Coues’ rice rat (Grouard, Bonnisent, Courtaud, Fouéré, Lenoble, Richard Romon, Serrand, Stouvenot, 2014, p. 265; Giovas, LeFebvre & Fitzpatrick, 2011; Bérard, 2013, p. 37). Contrarily, there is no evidence that it colonized the northernmost islands of the Lesser Antilles, while outside the Antillean subregion it spread to northern South America and part of Central America, from Panama to Costa Rica (Varona, 1974, pp. 5-6).

Historical sources and osteo-archaeological evidence corroborate its importance in agro-ceramic sites in the south of the Lesser Antilles, with the exception of Barbados (De Waal, Finneran, Reilly, Armstrong & Farmer, 2019, p. 54), more removed from the ‘commercial circuit’. In this regard, Elizabeth J. Reitz and Elizabeth S. Wing argue that South American Cedrosan Saladoid groups introduced the didelphid through the eastern Caribbean

chain (2008, p. 300). These coastal and maritime communities, from the north of the Guianas to the Margarita archipelago, left in the second half of the 1st millennium B.C. to colonize the island arc, introducing their ceramics, agricultural ways of life, as well as a number of plant and animal species originally from the continent (Bérard, 2013, p. 37). In this sense, the earliest evidence of the *D. marsupialis* in the Antillean insular environment dates back to the so-called 'Archaic' period on the island of Trinidad, the base from which it spread to the rest of the aforementioned islands (Allen, 1911, p. 193), where it is believed to have been responsible for the disappearance of the endemic ground pigeons *Geothrygon mystacea* y *Geothrygon montana* (Boroto-Páez & Woods, 2012: 253; Long, 2003, p. 5).

At the Banwari Trace and St. John Trinidadian sites, its presence was registered, as well as that of other species, which demonstrates a broad spectrum for the diet of these communities, particularly in those that lived close to the Oropouche lagoon, who had red howler monkeys, nine-banded armadillos, spiny rats, collared peccaries, red deer, anteaters, porcupines, tayras, and common black-eared opossums (Boomert, 2019; p. 126; Boomert, 2016, p. 18). According to Arie Boomert, *D. marsupialis* was one of the preferred mammals of the communities of the Early Ceramic Age in Trinidad, although overexploitation was more oriented towards the collared peccary (*Dicotyles tajacu*) (2016, pp. 33 & 56). A similar pattern was reported in sites of Troumasoid tradition in neighboring Tobago _Golden Grove (II), Lovers' Retreat and Great Courland_ (Boomert, 2016, p. 56; Allen, 1911, p. 179), which reveals practices analogous to those of their Trinitarian predecessors. In Carriacou, the biggest island of the Grenadine Islands, remains of an opossum were recovered in the site of Sabazan, in deposits thought to be from between 675 and 1150 A.D., while in Grand Bay they were thought to be from

after 1000 A.D. (Giovas, LeFebvre y Fitzpatrick, 2011, p. 481).

It is unknown what strategies the local agro-ceramic population could have used pre-Contact in order to capture the animal, Boomert pointing to the use of the domesticated canine (*Canis familiaris*) (2016, p. 33), introduced by Saladoid groups during the colonization process. Referring to this, Glover M. Allen observed how, at the beginning of the 20th century, habitants of the islands St. Vincent and Grenada used the aid of bunches or stalks of bananas that they held in the air over a man-made 4x4 hole in the ground to provoke the animal to fall in while attempting to reach the fruit (1911, p. 194). In this way, the unmeasured hunting of the marsupial and the introduction of the Asian mongoose in the second half of the 19th century resulted in the decrease of the species on these islands.

As it was a valuable source of protein for the locals, it was a highly demanded and hunted species in the colonial and contemporary period, as attested by the Trinitarian villages of Naprima -originally Anaparima-, Savaneta, Monserrate (Mayo), and Savan Grande (Princes Town), where remains have been reported that reveal its daily consumption by the native and Afro-Caribbean communities (Tardie, Rollock & García, 2020, p. 530; Boomert, 2016, pp. 67 & 141). In the case of the Crève Coeur Plantation, a French colonial plantation located in the St. Anne community in Martinique, where a community of slaves of African origin lived, they learned and adapted their daily livelihood practices. Among the rest of the fauna that were recovered in these same habitational contexts, there was the raising of poultry and the exploitation of resources close to the plantation, amongst which include the common opossum, the agouti, and the mongoose (Wallman, 2014, p. 57). At the beginning of the 20th century, Afro-Caribbean communities in the

Lesser Antilles still highly regarded the opossum's hindquarters and tail to the point of considering it the sweetest meat (Allen, 1911, p. 194).

The Effigy Ornaments of the Common Opossum and its Contextualization

In the insular area of Trinidad, Grenada, St. Vincent, and the Grenadines, an entire world of ceramic fragments of zoomorphic and anthropomorphic themes have been recovered, in some occasions covered in a red pigment, that were originally attached to the surface of vessels produced by agro-ceramic communities of Saladoid tradition and continental Barrancoid influence. The addition of this type of figurative molding with an ornamental character has been referred to in the academic world as an 'ornament', 'effigy ornament', or 'effigy head', limiting its design to the shape of the head and face of the animal. These could have served as handles, but their small size of 2 cm to 7 cm indicates it being more of an ornament. While in the Trinidadian, St. Vincent, and Grenada areas

the iconography of these ornaments is smooth, with a certain level of refinement in its shapes as we will see in the following, those of Chicoide tradition, found in the Greater Antilles, are coarse and rough in their design and modeling (figures 1a and 1b), with thick and angular incised lines that emphasize the exaggeration of the facial features.

Numerous archeological examples of these types of ornaments are currently held in universities, private collections, museums, and scientific academies in the Lesser Antilles and The United States, a result of the arrival of American and European archaeologists to the Caribbean area at the end of the 19th century and the beginning quarter of the 20th century as a part of what has been called '*imperial science*' (Curet & Galban, 2019, p. 2). With the exception of the Bureau of American Ethnology of the Smithsonian, the archaeological excavations were majorly sponsored and supported by private organizations like the Museum of the American Indian (MAI), Yale University, or Columbia University, among other scientific and academic

Figure 1

Figure 1a. Plate with a stylized figure of a bat in the form of handles, probably of Chicoide tradition. Figure 1b. Effigy ornament of a bat of the Chicoide tradition.

1a



1b



Note. Figure 1a. Courtesy of the García Arévalo Foundation, Santo Domingo; Figure 1b. National Museum of World Cultures, INAH, Mexico City, Cuba Collection. Inventory No. 10-134759.

institutions. It is in this context that the engineer and collector of native objects, George G. Heyes, who in 1903 began a program to train professional personnel for what was then informally known as the Heye Museum (Curet & Galban, 2019, p. 3), inserted himself in order to collect archaeological and ethnographic pieces from different spaces of the American continent. Thomas Huckerby, Theodor de Booy, and Jesse Walter Fewkes were its most prominent 'collectors' in the Lesser Antilles, recovering diverse zoomorphic ornaments in the Trinidadian sites of Tcip-tcip, in Erin Bay, or in the eastern landfill of Cape Mayaro, that went on to enrich the collections of the Heye Museum -currently the National Museum of the American Indian-, the Victoria Institute in the Port of Spain, the current National Museum and Art Gallery of Trinidad, and the Tobago Museum, formerly known as Fort King George, in the Tobagonian city of Scarborough.

Nevertheless, the concern of if these types of ornaments originated locally in the Lesser Antilles or if they could have been exported to the islands as a result of the network of exchange between the continent and the neighboring islets remains (Boomert, 2016, p. 29). This is revealed by some artifacts found further north of the area of study, like the Anse à La Gourde site in the eastern part of the island of Guadeloupe, where a late Saladoid component was found from around 500 A.D. Amongst the archaeological material excavated, a group of tools and ornaments of exotic animals of South American origin, such as the domesticated dog (*Canis familiaris*), the agouti (*Dasyprocta leporina*), the nine-banded armadillo (*Dasypus sp.*), the West Indian manatee (*Trichechus manatus manatus*), and the common opossum (*Didelphis marsupialis*), stood out (Hofman & Hoogland, 2011, p. 27).

Figure 2

Figure 2a. Effigy ornament of the common opossum with a bulbous nose of Saladoid tradition, excavated on the hill of Tcip-tcip, Erin Bay, Trinidad; Figure 2b. Effigy ornament of the common opossum collected in Carriacou, an island in Grenada, by Thomas Huckerby during a trip sponsored by the MAI.

2a



2b



Note. National Museum of the American Indian (NMAI), belonging to the Smithsonian Institution, Washington D.C. Catalog number: 3/2822; Figure 2b. National Museum of the American Indian (NMAI), belonging to the Smithsonian Institution, Washington D.C. Catalog number: 3/2807.

Figure 3

Effigy ornaments of the common opossum with a bulbous nose, embossed molded eyes, framed by an incised line

3a



3b



Note. Figure 3a. National Museum and Art Gallery, Trinidad. Dimensions: 7.6 cm long.; Figure 3b. National Museum and Art Gallery, Trinidad. Dimensions: 4-5 cm. Courtesy of Lawrence Waldron, City University of New York. Photographs taken by Lawrence Waldron.

Figure 4

Stylized effigy ornament of an opossum, with molded eyes and incises using the pencil stippling technique



Note. Figures Unknown site, Granada. Dimensions: 2.5 cm. Florida Museum of Natural History, Gainesville. Courtesy of Lawrence Waldron, City University of New York. Courtesy of Lawrence Waldron, City University of New York. Photographs taken by Lawrence Waldron.

Some of these effigy ornaments have been associated by Lawrence Waldron with the common black-eared opossum, based on a series of morphological features, similar to those of other animals -the nine-banded armadillo, the domestic dog and the peccary-, although the snout of the didelphid is more elongated and the tip of the nose is bulbous, in the form of a spherical protrusion (Figures 2a,

3a & 3b & 4). The eyes appear under two variants: a) oval and embossed moldings, which are framed by an incised line in the form of a groove, as shown by Figures 3a and 3b; b) through holes and orifices stippled by pencil (Figures 2b and 4). The nose and eyes are the most important facial elements of the agro-ceramic iconography of the marsupial and, at the same time, the most controversial ones, due to

the similarities of its physiognomy to other animals. From there, it can be confused with other types of fauna like the racoon (*Procyon lotor* Linnaeus, 1758), as shown in Figure 5, due to the position and shape of its eyes, framed by circular grooves, in the form of oval disks, whose spots simulate the animal's mask. Moreover, the nose is displayed as a hemispherical protrusion, with nostrils appearing as slits or holes in the front side. However, the first populations of these carnivorous mammals did not arrive in the Lesser Antilles until the 19th century (Louppe, Baron, Pons & Veron, 2020, p. 1304), for which its representation in these types of ornaments is not possible.

For this ornament, Walter Fewkes thought of the collared peccary (1914, p. 215), one of the terrestrial mammals preferred by the Trinidadian and Tobagonian agro-ceramic communities. Although the peccaries have a truncated head like the ornament, finished with a cartilaginous nose with a hemispherical shape and a flat front, these mammals do not possess the oval ring that the ornament does, starting from the nose and ending

behind the eye. The same can be said of relatives like the nine-banded armadillo, *Canis familiaris*, or echymidae that colonized the eastern Caribbean -hutias, spiny rats, porcupines, and agouti-. Therefore, what animal could these effigy heads with an oval disk around the eye represent? In accordance to its morphological features, it could be representing the aforementioned 'mouse opossum' of Robinson (*Marmosa robinsoni*) or the ring-tailed coati (*Nasua nasua*, Linnaeus, 1766), the second being an omnivorous mammal of the *procyonidae* family spread across South America, with a thin head and short ears, and a uniform, dark brown to black elongated snout, finished with flexible rhinarium (Gompper y Decker, 1998, p. 2) which stretches beyond the lower jaw, a detail perceivable in the piece. Perhaps the most recognizable feature in both mammals is the black spot around the eye that reaches the snout, resembling the mask of the *Procyon lotor*.

Conversely, the effigy ornaments of the common black-eared opossum lack the oval disk, with its eyes embossed and framed by a single incised line

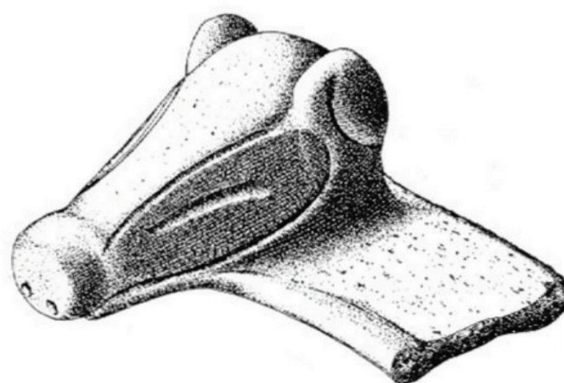
Figure 5

Figure 5a. Effigy ornament probably of Barrancoid tradition, discovered by Jesse Walter Fewkes in the shell landfill of Erin Bay, Trinidad. Figure 5b. Design that Fewkes himself made of the aforementioned ornament.

5a



5b



Note. Figure 5a. National Museum of the American Indian (NMAI), belonging to the Smithsonian Institution, Washington D.C. Catalog number: 3/2807; Figure 6b. Design by Jesse Falter Fewkes (1914, p. 211)

(Figures 2a, 3a & 3b & 6a) or by using a stippling technique with a pencil (Figures 3b-6a). Additionally, the nose is presented with a spherical shape, with a flat front like the previous one; the mouth captures the typical expression of the marsupial, extending backwards into a sort of half smile, with lips framed by a transversal groove and circular pattern (Figure 3b). In this way, a 'sphere of interaction' between the continent and its neighboring islands which influenced the local Saladoid aesthetics and iconography can be inferred, as shown in the representation of the coati, a continental animal easily confused with the opossum. From another angle, we should not discard the fact that these ornaments were introduced from a growing exchange between the Saladoid communities to the south of the Lesser Antilles and Barrancoids off the coasts of South America and Lower Orinoco.

These ornaments have been interpreted by some authors as a simple ornamental accessory, although there is no shortage of theories that attribute a symbolic, mystical, and magical value to it. Gerardo

Reichel-Dolmatoff comments on how the natives of the Amazonian community from Vaupes, Columbia, the Desana, associated the marsupial, specifically, the tail, and the penile bone of the males with erotic connotations, although its bad odor and the low amount of hair on the tail can also be associated with sexual impotence (Reichel-Dolmatoff, 1971, pp. 101 & 2013). On the other hand, in the Arawak worldview, it was common to relate its 'pouch' to maternity, due to its ability to give birth to many offspring at the same time. It is from this point that Waldron stated the interesting hypothesis that these pots ornamented with marsupials could serve as 'life-giving' vessels, storing prenatal medicines for future mothers (2016, p. 72). Similarly, various authors like Claude Lévi-Strauss (1964), Stephen Hugh-Jones (1979), Edwin C. Krupp (1983), or Lawrence Waldron (2016) himself, from the analysis of South American mythology, specifically, of the Barasana Amazonian community, demonstrate interconnections between the opossum and the Pleiades 'constellation', related in turn to the four seasons of the tropical Amazonian jungle. The curled shape of the marsupial's tail as they hang from a branch or

Figure 6

Ornament/effigy probably of Barrancoid tradition, discovered by Jesse Walter Fewkes in the shell landfill of Erin Bay, island of Trinidad



Note. Figure Originating from Lagon Doux, Mayaro, Trinidad. Dimensions: 4 cm. Tobago Museum, Fort King George, Tobago. Courtesy of Lawrence Waldron, City University of New York.

pretend to be dead has been related to said ‘constellation’, visible in the northern hemisphere during the winter months from tropical areas, which is to say, the dry season when the Pleiades rule the night sky, while the rainy seasons are nonexistent. Such a link or association can corroborate the Barasana lexical constructions around the vocabulary *oa*, used for the opossum as well as for the ‘constellation’ of the Pleiades.

In the same fashion, the effigy ornaments of the marsupial could be related to death or the end of the agricultural cycle, due to the beginning of apparent death, the most iconic behavior of the animal where they pretend to be dead when threatened by a predator, through to tonic immobility, where it lays down on its side and relaxes its muscles to slow down its breathing and heartbeats until they are rendered imperceptible. Jointly, it gives off disagreeable odors through urine or fecal secretions in order to repel predators. This behavior seems to be the theme of a kidney-shaped Trinidadian effigy vessel of a private collection, illustrated by Arie Boomert (2000, p. 215) and referred to by Lawrence Waldron (2016, p. 72), with a head modeled after the marsupial and a body curled inwards. Related to this, the pot could represent the snagging spiral of the animal’s death, be related to the rituals that transit one to the other side, or represent the beginning and end of the agricultural cycle (Waldron, 2016, p. 72).

The Early Iconography of the Opossum: The Construction of *Simivulpa* (Monkey - Fox)

In early American cartography and accounts of explorers and cabinet writers of the 16th century, picturesque descriptions and iconographies of *Didelphis marsupialis* can be noted. In this sense, the earliest registry of the animal appears in the second *Decade* of Peter Martyr d’Anghiera, which details the capture of a female opossum along with

three offspring during Vicente Yáñez Pinzón’s expedition on the aforementioned coasts of Brazil, near today to Cabo de Santo Agostinho, Pernambuco, where the offspring perished a few days later while the mother lasted a few months (Martyr d’Anghiera, 1989, dec. 1, ch. 9, p. 78). It is not clear if the female opossum that Pinzón found arrived alive to the Iberian Peninsula or, on the contrary, if it passed away during the trip and the carcass was transported or he simply brought the skin, due to the contradictions of the documentation. According to Francisco López de Gómara, the Huelvan navigator brought the ‘leather’ of that first specimen (2021, ch. 85, p. 186), to later exhibit it in the Granada court in the presence of the Catholic Monarchs, who must have been amazed by its pouch, an element which the scholars named ‘marsupium’, borrowed from the latin *marsūpium*, ‘pouch’ and, at the same time, from the greek *marsúppion* (μαρσούπιον) (Rueda, Ramírez & Osorio, 2013, p. 144; Krause & Krause, 2006, p. 5). This pouch is where the offspring complete their lactation period, locating the mammary glands on the ventral surface (underside) (Krause & Krause, 2006, p. 4), until they reach a certain level of maturity and are subsequently sheltered in fabricated nests by the mother or in subterranean cavities during humid or dry seasons (Sunkuist, Steven & Sunquist, 1987, p. 175).

Concerning the marsupium, there is the iconic figure of the xylographic map of Martin Waldseemüller, titled *Tabula Terre Nove*, made for the 1513 edition of *Geography* by Claudius Ptolemy, printed by Johan Schott in the city of Strasbourg (Sagarra Gamazo, 2007, p. 20). It is the first map to illustrate the New World inside of an atlas, adorned by the earliest European drawing of the American marsupial (Figure 7), elaborated from d’Anghiera’s information of the specimen that Pinzón found. It places the marsupial on the South American continent in a context of anthropophagy to empha-

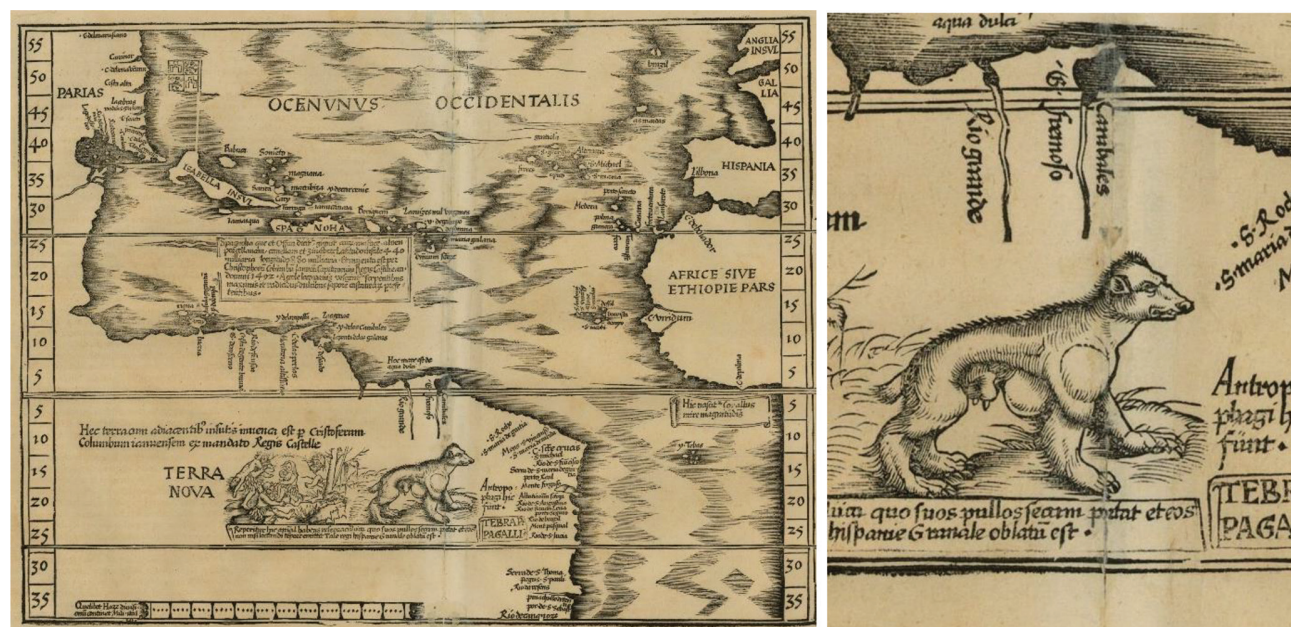
size the exotic and ‘savage’ character of the new lands and, therefore, the animal in question, whose marsupium is mistakenly placed in the pectoral region. Its limbs are oversized, likening them to *Canis lupus*, when they are actually relatively short with suctioned and opposable fingers on the hind legs. The absence of a large, prehensile tail of the mammal is surprising, a mistake which later artists made despite the numerous representations of this part of the animal. Due to the transcendence of this map, the iconography of the marsupial was favorably included in other printings such as the *Carta Marina* by the same Waldseemüller (Strasbourg (?), 1516), reprinted by the doctor and geographer Lorenz Fries (latinized *Laurentius Phrisius*) in 1522 and 1525 in the city of Strasbourg.

Conrad Gessner reused Waldseemüller’s illustration for the first book of the *Historiae animalium* (Zürich, 1551), dedicated to the viviparous quad-

rupeds (*De Quadrupedibus*). Surprisingly, the Swiss naturalist makes no mention of any species of animal of the New World except for the common opossum (Lu, 1992, p. 294), which he names under the Latin lexical contraction *simivulpa*, alluding to its features like a primate and fox, an example of the Aristotelian analogical system and of Peircean semiotics. He refers to the animal as a ‘beast with four legs’, *ex anteriore parte vulpen, ex posteriore simian, praeterquam quod humanis pedibus sit*. He adds: *monstrum illud animal vulpino rostro cercopitheci cauda, vespertilionis auribus, manibus humanis, pedibus simiam aemulans* (Gessner, 1551, bk. 1, pp. 981-982). Diversely to Waldseemüller, he includes an anecdote of two offspring feeding outside of the marsupium (Figure 8a), which reveals that he didn’t observe the marsupial, because the lactation occurs within the pouch during the first weeks of gestation. According to Margaret A. O’Connell, evidence suggests that the

Figure 7

Figure 7a. First European iconography of the marsupial by Martin Waldseemüller (1513). Figure 7b. Detail of the opossum by Waldseemüller (1513).



Note. Source: *Tabula Terre Nove* by Martin Waldseemüller, for the 1513 edition of the *Geography* by Claudius Ptolemy, printed in Strasbourg.

female black-eared opossum produces at least two litters each year, with an average of about four to nine offspring each litter (1979, pp. 80-81), thus compensating for the high infant mortality rate

and short lifespan of the animal. Consequently, the number of offspring that appear in the image is low considering the reproductive capacity of the animal.

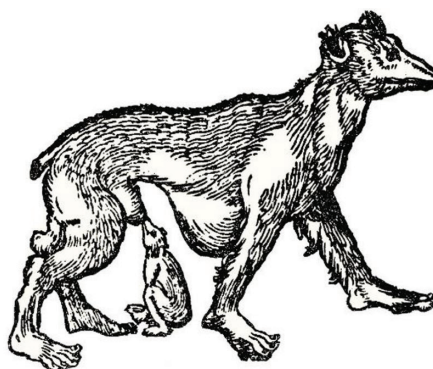
Figure 8

Figure 8a. Detail of the 'Simivulpa' by Conrad Gessner (1551). Figure 8b. Detail of the 'Simivulpa' by Sebastian Münster (1558).

8a



8b



Note. Figure 8a. Xylography by Conrad Gessner contained in the *Historiæ animalium Li.b I. de Quadrupedibus uiuiparis*. Zürich (in Romansh Turitg), ed. Froschouerum, 1551, bk. 1, fol. 981. Figure 8b. Xylography by Sebastian Münster contained in the *Cosmographia*. Basel, 1558, vol. 2, part 3, p. 1187.

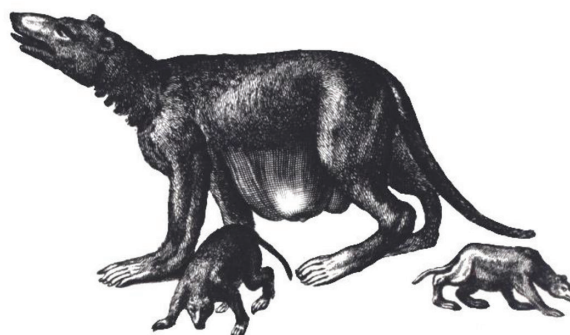
Figure 9

Figure 9a. Etching of 'Simivulpa' by Levinus Hulsius (1599). 9b. Etching of 'Simivulpa' by Jacob van Meurs (1671).

9a



9b



Note. Figure. 9a. Detail by Levinus Hulsius in *Brevis & admiranda descriptio Regni Guianae*. Nürnberg, 1599, p. 5. National Library of Spain, Madrid, R/14223. Figure 9b. Detail by Jacob van Meurs in *America: being the latest, and most accurate description of the New World* by John Ogilby. London, 1671, ch. 3, p. 59.

Due to the transcendence of this artwork in the field of modern zoology, Sebastian Münster incorporated the illustration of his predecessor in the first Italian edition of *Cosmographia* in 1558, with the addition of anthropomorphizing its extremities (Figure 8b) and adapting its ears to those of a long-eared owl (Münster, 1558, vol. 2, part 3, p. 1187). Ulisse Aldrovandi copied this illustration in Chapter 4, Book 2 of *De Quadrupedibus digitatis viviparis libri tres* (1645). Just as in the previous images, the marsupium is mistakenly placed in the pectoral zone and the mammary glands resemble the udders of a cow, hanging in the open air and of an exaggerated size. These errors in the animal's biology are perpetuated until the end of the 16th century and the middle of the 17th century. This is the case with Figure 9a, created by Levinus Hulsius for *Brevis & admiranda descriptio Regni Guianae, auri abundantissimi, in America* (Nürnberg, 1599), the fifth book or part of a collection of expeditions and voyages to different parts of the world, *Sammlung von 26 Schiffahrten in Verschieden Fremde Länder* (1598-1660). Hulsius, using the account of López de Gómara (ch. 85) and the Milanese Girolamo Benzoni, author of *Novae novi orbis historiae, libri tres* (Venezia, 1565) (bk. 2, ch. 14), incorporated Gessner's opossum, improving its appearance through an etching technique which allowed for more precise details by means of finer lines, which are far from the coarse and angular strokes of the xylography. As a unique detail, there is a pup inside the marsupium peeking its head out. Another example is Figure 9b by Jacob van Meurs for the encyclopedia *America: being the latest, and most accurate description of the New World* by the Scottish editor and cartographer John Ogilby (London, 1672), which was republished in Dutch (Amsterdam, 1671), and German (Amsterdam, 1673) by Arnoldus Montanus. Now, the figure of the marsupial presents a large tail, similar to that of a dog, and the pups are not feeding inside of the

pouch but are meandering and searching for their own food outside.

Iconographic Variants to *Simivulpa*: Serwoy (1557), Su (1558), Tlaquatzin (1635), and Taibi (1648)

Foxes and primates, *vulpes* and *simiae*, were not the only references used to trace the analogy of the opossum. There were also other animals, like the cat, that served as a reference for Hans Staden in *Warhaftige Historia und Beschreibung* (Marburg, 1557), where he recounts his adventures and misadventures in the lands of Brazil. In Chapters 30, 31, and 32 of the second part of the work, where he describes some of the most representative endemic animals, evidently, the opossum is not forgotten, which he names 'Servoy' or 'Serwoy', adding a xylograph of his figure (Figure 10a). Staden refers to the animal using the following terms: "There is another beast called *serwoy*, as big as a cat. Its hair is a whitish gray or dark gray color and it has a cat's tail" (Staden, 2004, ch. 30, p. 154). More disconcerting is the graphic of 'Su' (Figure 10b), a legendary creature with a grotesque, monstrous appearance, interleaved in Chapter 56 of *Singularitez de la France Antarctique* (Paris, 1558) by André Thevet, which decades later was copied by the English naturalist clergyman Edward Topsell in his *The History of Four-footed Beast and Serpents* (London, 1607). The Franciscan refers to it as a Patagonian creature that resides most of the time on the banks of rivers *_c'est animal la plus part du temps, reside aux rivages des fleuves_* (ch. 56, p. 108), an improper behavior of *D. marsupialis*. Charles R. Eastman posited a hypothesis of one type of opossum as it carries its offspring on its back (1915, pp. 590-591), although it could be a sloth or an anteater, in agreement with Urs B. Leu (1992, p. 296), because *Vermilingua* can also carry their offspring on their back, on top of possessing a large tail.

Figure 10

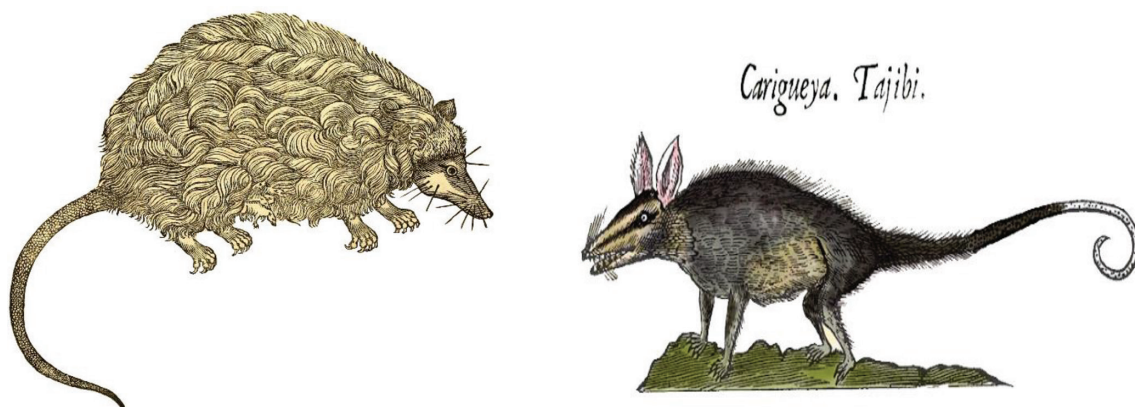
Figure 10a. Catlike version of the opossum by Hans Staden (1557). Figure 10b. Grotesque version of ‘Su’ by André Thevet (1558).



Note. Source: Figure 10a. Graphic contained in the *Warhaftige Historia und Beschreibung* by Hans Staden (Marburg, 1557), ch. 30. Figure 10b. Graphic contained in the *Singularitez de la France Antarctique* of the Fransiscan André Thevet (París, 1558), ch. 56, p. 109r.

Figure 11

Figure 11a. Woolly opossum by Johannes Eusebius Nieremberg (1635). Figure 11b. ‘Taibi’ or ‘Carigueya’ by Georg Marcgraf (1648).



Note. Source: Figure 11a. Graphic contained in *Historia Nature* by Johannes Eusebius Nieremberg (Antwerp, 1635), bk. 9, ch. 4, p. 156; Figure 11b. Graphic contained in *Historia naturalis Brasiliae* by Willem Piso and Georg Marcgraf (Antwerp, 1648), bk. 9, ch. 4, p. 156.

Another variant was the ‘wooly opossum’ from the artist Antwerp Christoffel Jegher, created in xylography for *Historia Nature* of the Jesuit Johannes Eusebius Nieremberg (Antwerp, 1635), an encyclopedic work dedicated to the Count Duke of Olivares, a valid predilect of Philip II, which describes in a methodical manner the knowledge

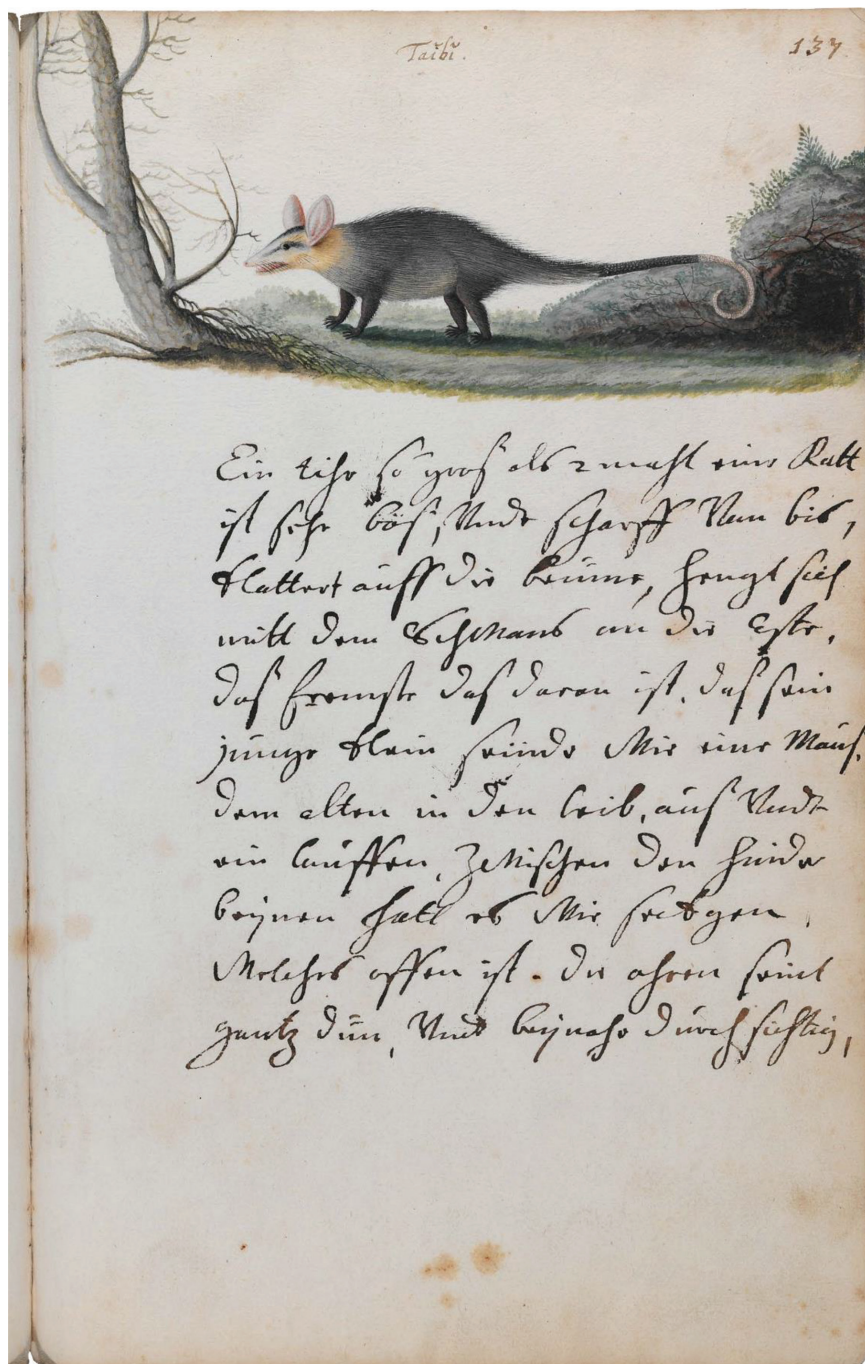
left by Francisco Hernández de Toledo. In the fourth chapter of the ninth book, the opossum appears alongside its newborns outside of the pouch (Figure 11a), whose epidermis is characterized by large, dense hair and wool in the form of tufts which differs from the short and, occasionally, spiky coat of the marsupial. Taking away this

last invention, the illustration incorporates considerable improvements in regard to the aforementioned figures, like the long, thin, scaly tail, or the elongated face and snout of *didelphid*, adorned by

large whiskers, resulting from the detailed observations of Nieremberg, which compiles different accounts of the animal while also integrating commentaries.

Figure 12

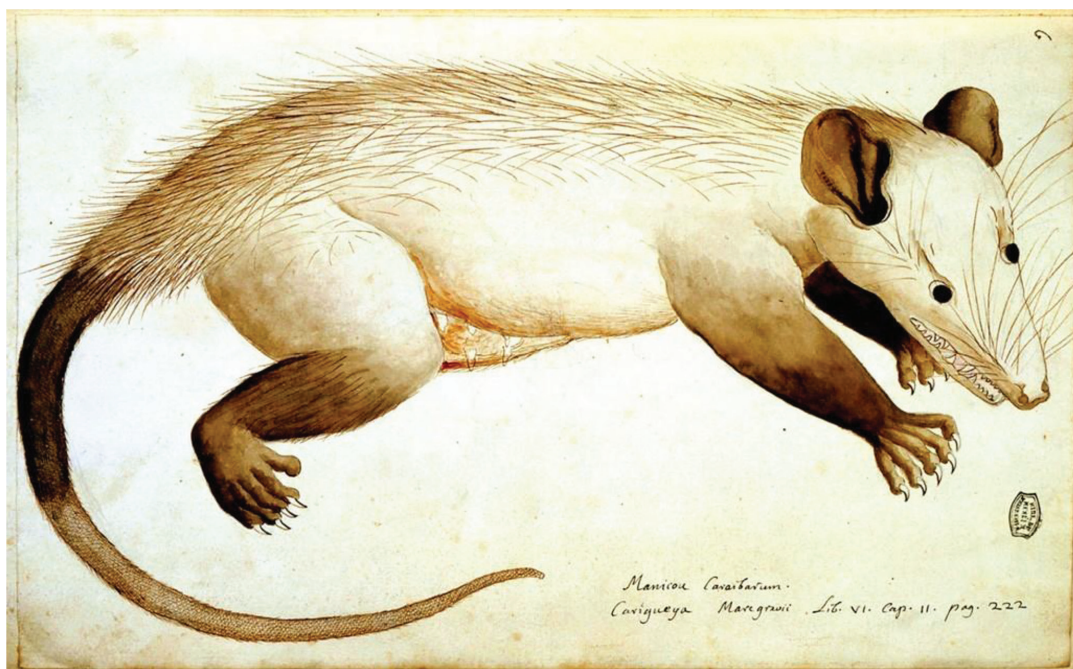
Hand-drawn picture of Count Johann Moritz Nassau-Siegen (made in 1640)



Note. Jagiellonian Library, Kraków, Libri Picturari A 36, p. 137.

Figure 13

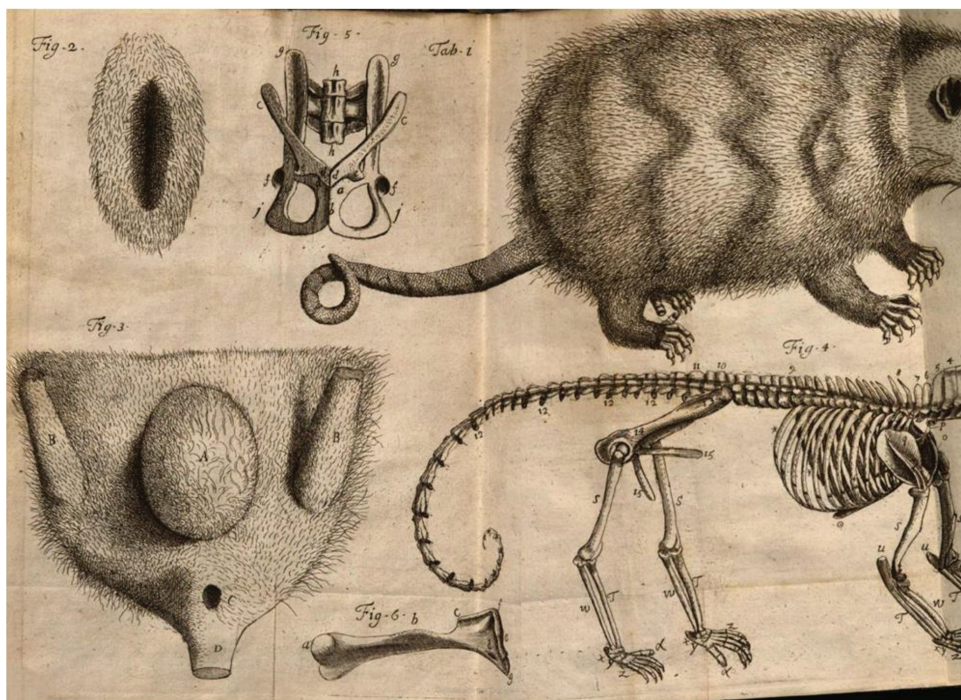
Hand-drawn picture by Charles Plumier of a common opossum (1689)



Note. Centrale du Muséum National d'Histoire Naturelle, Paris, Plumier MS 27.

Figure 14

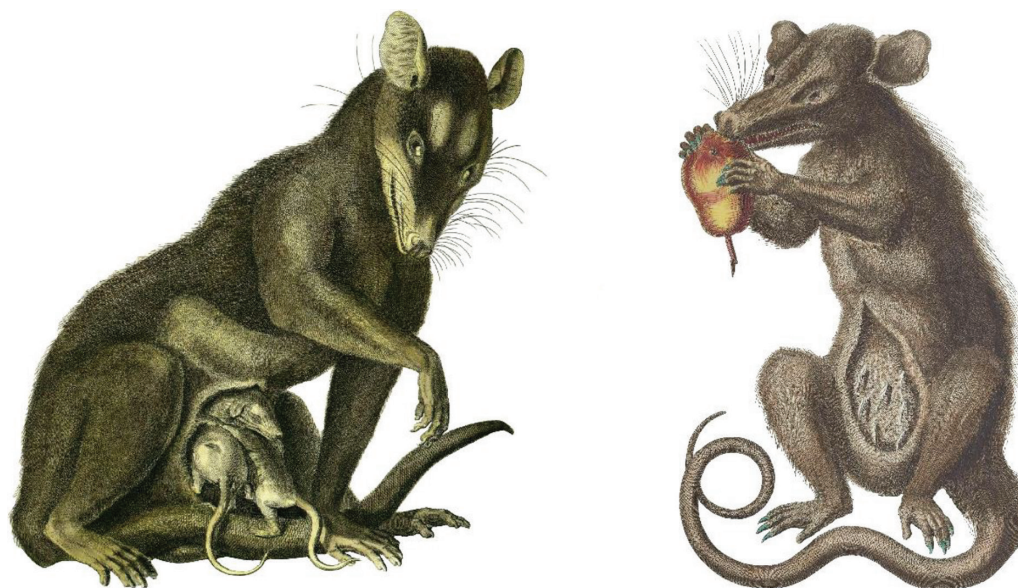
Drawn by Edward Tyson resulting from a dissection of an opossum originating from Virginia (1698)



Note. Source. Etching by Edward Tyson in *Caribueya, ser Marsupiale Americanum: or, the Anatomy of an Opossum, Dissected at Gresham College*. London, 1698.

Figure 15

Engravings in color by Albertus Seba (1734)



Note. Source: Table 38 and 39 of Albertus Seba, contained in the first volume of *Locupletissimi rerum naturalium thesauri accurata descriptio*. Amsterdam, 1734.

In summary, the iconography of *simivulpa* and the iconographic variants mentioned lack a scientific comprehension that faithfully captures the true essence of the neotropical opossum, comparable to the one proposed by the German naturalist Georg Marcgraf of the 'Taibi' or 'Cargueya' in the sixth book of the *Historia naturalis Brasiliae* by Willem Piso (Leiden, 1648), who was sent to Brazil by the Dutch East India Company (*Geotroyeerde West-Indische Compagnie, WIC*) to collaborate with Piso, doctor of Count Johann Maurits de Nassau-Siegen, the governor of Brazil between 1637 and 1644. Precisely, we believe that the drawing in Figure 12, contained in the manual *Libri Picturari A 36* (made in 1640), currently in custody of the Jagiellonian Library, Kraków, and attributed to Johann Maurits, served as a basis for the xylography of the neotropical opossum of Marcgraf (Figure 11b). The iconography moves away from the early imaginative construction of *simivulpa*, a product of the direct observation and detailed study of the animal.

Marcgraf provides in-depth details of the number and morphology of its teeth, including the differences among them, and observations such as the texture of the ears, membranous and translucent *_se constant tenui membrana globa, translucente, albitudine translucente_* (Piso, 1648, bk. 6, ch. 2, p. 222), although he was mistaken when equating the marsupium to a uterus (Pietsch, 2011, p. 83).

This naturalist tendency was accentuated in the 17th century, as shown by the hand-drawn picture of a common opossum by the French friar Charles Plumier (Figure 13), which he most likely observed on the island of Martinique in 1689 and named in his vernacular 'Manicou Caraibarum' (Pietsch, 2011, p. 79). According to Theodor W. Pietsch, who studied in detail this drawing (2011), it is the most precise representation of the marsupial figure to date as it incorporates details like the hallux of the hind legs without claws, although it made the same error as Marcgraf with the confusion

of the marsupium as the uterus (Pietsch, 2011, p. 79). A few years later, Edward Tyson, a member of the Royal Society and one of the founders of comparative anatomy, carried out a dissection of a female specimen originating from Virginia in order to understand its physiology, publishing and illustrating the results (Figure 14) in *Cargueya, ser Marsupiale Americanum: or, the Anatomy of an Opossum, Dissected at Gresham College* (London, 1698), which became an authorized source of the animal's anatomy until the 19th century (Parrish, 1997, pp. 489-490). The same can be said of the extraordinary study by Albertus Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio*, divided into four volumes (1734, 1735, 1758 y 1765), of specimens that made up his cabinet of curiosities, acquired during his stay in Amsterdam. The faithfulness in the manner of representing the opossums by the Dutch zoologist (Figure 15), with details like the opposable thumb, reveals a scientific and academic observation of the animal, typical of the 18th century. It is no coincidence that the year after Seba's publication, the famous *Systema naturæ* (1735) appeared, where the Swede Carl Nilsson Linnæus proposed binomial nomenclature, classifying the common opossum as *Didelphis marsupialis*, within the order of the insectivores.

Final Results

Compiling the previously mentioned information, what can we learn about the common opossum through its representations by pre-Contact agro-ceramic communities and Europeans of the 16th and 17th centuries? If we first consider the ceramic ornaments of Saladoid and Barrancoid tradition, we can observe the naturalist representation of the animal that the indigenous villages were familiar with. Unfortunately, these artifacts are limited to the head of the mammal, not forgetting that the base support that its attached to, the vessel itself,

has not been recovered in the majority of the cases, or worse, has been brought into collections without contextualization which has resulted in the loss of the majority of its information. From there, there are infinite interpretations in terms of its significance based on ethnographic studies of the societies around the region of the Amazon peoples. Due to this, these artifacts allow for the evaluation of their stylistic and differential value with respect to other animals, containing a series of its own features, that identify the marsupial species through means of the truncated morphology of its heads, the molded and incised form of the eyes, and the bulbous or rounded nose, among other facial details.

Regarding the European graphics of *didelphid*, during a century and a half, they sustained themselves off of d'Anghiera's description of the female opossum that Vicente Yáñez Pinzón and his men found on the coasts of Brazil in February of 1500, that he later exhibited in the Court of Granada. The fascination that this animal and, in particular, its marsupium awakened can be derived from the complete and fantastic iconographic program that Waldseemüller (1513), Gessner (1551) and Münster (1558) started, whose iconography was characterized by the application of the Aristotelian analogical method and Peircean semiotics, dismembering its anatomical parts and comparing them with those of other animals, with human parts, or with objects. This early iconography differs substantially from the naturalist and academic representations of the second half of the 17th and 18th centuries, a product of the direct observation of the marsupial. From this point, there appear certain details like the opposable toe on the hind legs; the whiskers on the snout and face; the prehensile tail, with a scaly and hairless appearance; the membranous and translucent texture of the ears, among other biological aspects never before seen from a scientific perspective.

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