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Seba's Snakes: Exploring the Shifting Relationship between Art, Economy, and Science in 18th-century Europe

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Seba's Snakes: Exploring the Shifting Relationship between Art, Economy, and Science in 18th-century Europe

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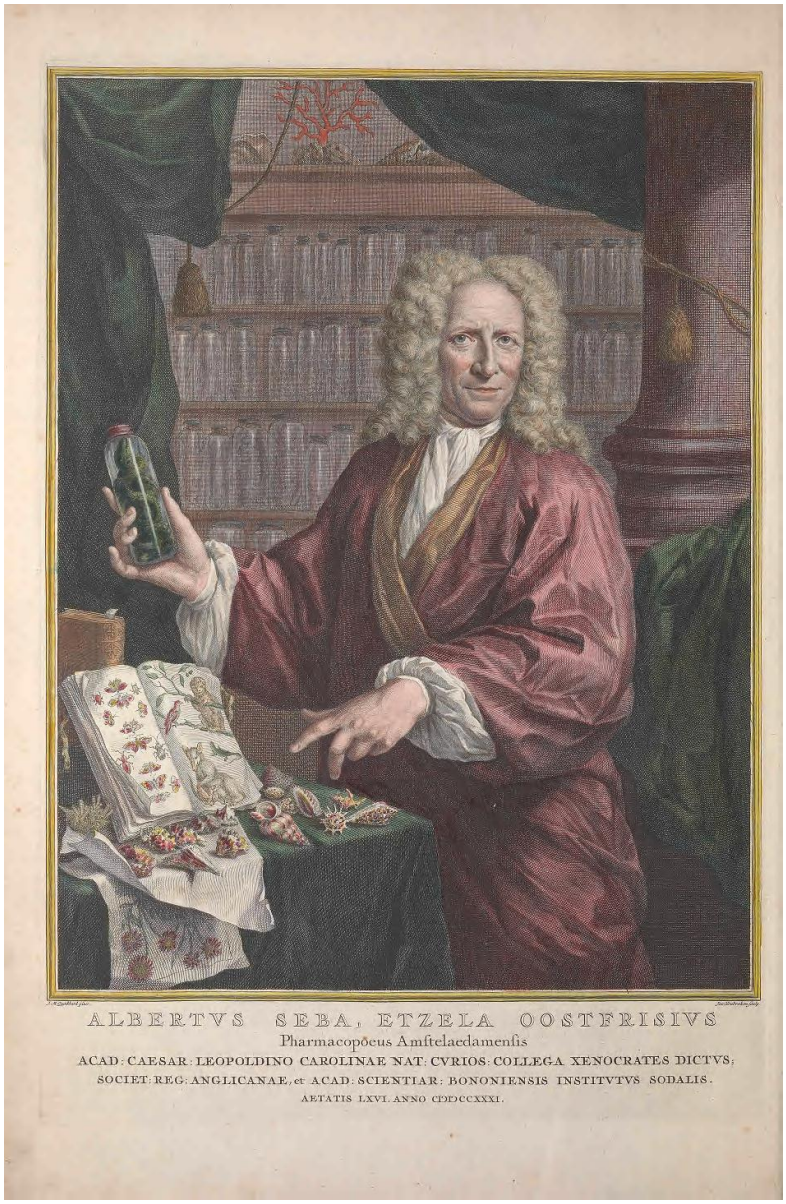

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"Snakes are abhorrent because of their cold body, pale color, cartilaginous skeleton, filthy skin, fierce aspect, calculating eye, offensive smell, harsh voice, squalid habitation, and terrible venom."

– Carolus Linnaeus

"Those who cannot look at [snakes] without realizing some horror will perhaps find this volume less pleasant… But these same people will also be surprised with admiration, seeing the great variety of figures and colors, and many other beauties of this nature that we notice here; and they cannot therefore dispense with receiving with humility and respect the Wisdom and infinite power of the Creator."

– Albertus Seba

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Abstract

Before photographs, the most reliable method for communicating new scientific discoveries was through art. Natural history illustration became particularly commercialized during the eighteenth century, as global exploration opened European eyes to the natural wonders of the world. One of the most prolific names in eighteenth-century natural science was Albertus Seba (1665-1736), a wealthy Dutch apothecary whose impressive collection of exotic specimens made him an international celebrity. My thesis analyzes his seminal publication, *Locupletissimi Rerum Naturalium Thesauri Accurata Descriptio et Iconibus Artificiosissimus Expressio per Universam Physices Historiam [A Careful Description and Exceedingly Artistic Expression in Pictures of the Exceedingly Rich Treasury of Nature Throughout the Entire History of Natural Science]*, published initially in two volumes in 1734 and 1735 and supplemented with two additional posthumous volumes in 1759 and 1765 respectively. Commonly referred to as Seba's *Thesaurus* (or *Treasury*), this magnum opus features descriptions of each specimen in the author's collection accompanied by elaborate illustrations which are world-renowned for their beauty and intricacy. I focus on the *Thesaurus*'s second volume featuring snakes, a class of species which Seba particularly admired for their diversity and widespread range. Seba rejected the popular opinion that snakes were ugly and sinful creatures and instead argued that they exemplified God's creativity. Seba's *Thesaurus* provides a unique lens to understand the commodification of scientific knowledge and the interplay of scientific accuracy, aesthetics, and cultural appeal in early natural history illustration.

Introduction

The path that led me to this topic was, fittingly, winding. As I sat in the American Museum of Natural History's research library flipping through books spanning tens of artists and hundreds of years, I worried that I would never be able to decide on a single thesis topic. The final book I planned to read before leaving was Albertus Seba's *Thesaurus*. When I opened the massive book, I was immediately greeted by a snarling Hydra, a mythical multiheaded beast, surrounded by brightly colored birds and a flying lizard (Figure 1). I was dumbfounded—what was this illustration doing in a scientific publication? Who was responsible for this beautiful artwork? And, most importantly, what did the rest of the book look like? The more I flipped through the *Thesaurus*, the more certain I became that I had found my thesis topic: a critical examination of early scientific illustration in Europe, focusing on the extraordinary work of Seba.

Despite Seba's clear appreciation for and reliance on illustrations, art historians have largely overlooked him. Historical economists and theologians instead are responsible for most of the current scholarship on Seba. Harold J. Cook's article "The moral economy of natural history in the Dutch Golden Age" and Daniel Margócsy's book *Commercial Visions* are the most prominent publications to discuss Seba, but both focus on his economic strategies and how his collection became commodified.[1] Similarly, Eric Jorink's book *Reading the Book of Nature in the Dutch Golden Age, 1575-1715* examines Seba as a modern theologian rather than an artist or curator.[2] I feel that investigating Seba's agency and motivations in choosing artworks will

[1] Harold J. Cook, "The moral economy of natural history and medicine in the Dutch Golden Age," *Publications of the American Association of Netherlandic Studies* 9, no. 9 (1996): 39-47; Dániel Margócsy, *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age*, (Chicago: University of Chicago Press, 2014).
[2] Eric Jorink, *Reading the Book of Nature in the Dutch Golden Age, 1575–1715*, trans. Peter Mason, (Leiden-Boston: Brill, 2010).

provide a key link across these interdisciplinary fields while also uncovering entirely new information through an art historical lens.

Before I delve into the body of my thesis, I wish to make a note about its formatting and arrangement. Although my analysis is divided into three main chapters, they overlap somewhat in content, and I do not intend them to be exclusive of each other. Their organizing themes of economics, science, and culture provide a useful structure for key information and ideas, but my overarching analysis demonstrates that those themes are deeply intertwined throughout the *Thesaurus*. In a similar vein, although the primary focus of this thesis is the *Thesaurus*' second volume, I will occasionally pull examples from other volumes to support my broad analysis of the publication as a whole.

Natural Science in the Dutch Golden Age

Dutch global exploration—and the resultant economic boom it supported—peaked between the late sixteenth and late seventeenth centuries, prompting many historians to describe this period as the Dutch Golden Age. It is important here to note that scholars today increasingly reconsider the term "Dutch Golden Age" because it downplays the violence and exploitation associated with Dutch colonialism and the slave trade. During this era, which I will refer to hereafter as the early modern period, an emphasis on trans-Atlantic shipping required the construction of massive docks along the Dutch coast. These docks were frequently flanked with warehouses which merchants could fill with international products and curiosities, and interested buyers flocked to the docks in swathes. Stockpiling goods was therefore encouraged, which ushered in a new market economy. Cook astutely notes that the exchange of goods was paralleled

by the rising exchange of scientific information.[3] As my thesis shows, Seba's work as a scientist, collector, and publisher benefited directly from Dutch commerce.

In early modern European natural science, standards of reliability and accuracy were largely determined by social class. Aristocrats typically patronized new research, and only members of the gentry could afford to support or engage in scientific inquiry due to the high cost of accumulating specimens, supplying a laboratory, and so on. This meant that, in countries such as England, France, and Italy, the moral and ideological inclinations of the upper classes primarily determined what counted as scientific fact.[4] Research conducted at institutions such as the Royal Society of London and the French Academy of Sciences ultimately served the interests of a monarch vested by the religious principle of divine right, creating an epistemological handicap that significantly slowed the development of new ideas in natural science.

The Netherlands, however, were somewhat less constrained by class politics than other European countries with feudal social hierarchies. Having won their independence from Spain in 1579, the Dutch instead governed themselves with a confederacy of locally elected officials called *burgomasters*, and what little nobility existed were generally less prominent than other elites (De Jong 46).[5] This relative lack of exclusionary, aristocratic authority made research far more accessible to the average citizen, allowing merchants and academics to patronize new scientists with relative ease. Research was still limited to those who could afford it, but the high standard of living during the early modern period supported collectors and historians to thoroughly pursue their research. As Cook notes, just as Aristotle insisted that leisure was a

[3] Cook, "Moral economy," 39.
[4] Ibid, 42.
[5] Joop de Jong, "The Dutch golden age and globalization: History and heritage, legacies and contestations," *Macalester International* 27, no. 1 (2011): 46.

prerequisite for learning in antiquity, a similar privilege was afforded to prosperous Dutch citizens in the seventeenth and eighteenth centuries.[6] Seba enjoyed such leisure and used it to produce his *Thesaurus*.

Early modern Dutch commerce coincided with a particularly interesting period in the evolution of natural science. The new empiricism of the Enlightenment was brewing across Europe, and new ideas in science and religion produced shifting dynamics in the pursuit of knowledge about the world. Scientific exploration of the globe facilitated by European colonialism provided an innovative lens for appreciating Creation, and new discoveries were commonly explained by God's infinite creativity. Building on such discoveries, Linnaeus published *Systema Naturae*—establishing the standard "Genus, species" method for naming new organisms—in 1735. Until then (and even for some time after), the naming and description of newly discovered species relied heavily on cultural perceptions and aesthetic judgments, evidence of which we will see throughout Seba's *Thesaurus*. And yet, as I will argue, the presence of such perceptions and judgments by Seba only make his work more interesting.

At first glance, I was tempted to criticize the illustrations in the *Thesaurus* as unscientific due to these myriad subjective choices. However, it is important to understand that the modern ideal of scientific objectivity is largely facilitated by modern tools, such as photography and the Internet, and therefore cannot be applied to premodern natural historians. Mechanical objectivity in the eighteenth century was frequently trumped by truth-to-nature, a scientific skill which historians Lorraine Daston and Peter Galison characterize as, "a capacious memory, the ability to analyze and synthesize impressions, as well as the patience and talent to extract the typical from

[6] Cook, "Moral economy," 42.

the storehouse of natural particulars."[7] Eliminating so-called "natural particulars" to "extract the typical" led natural history illustrators to represent new discoveries as idealized forms, rather than depicting the specific likeness of any specimen. Because the idealized illustration represented an average across all the observed specimens, it was considered "truer" to nature. Objectivity and truth were resultantly and paradoxically opposed in the realm of early natural science.

Natural historians were therefore tasked with determining the merit of a specimen or collection as an appropriate standard for idealized illustration. Writes Daston, "The choice of images that best represented 'what truly is' engaged scientific atlas makers in ontological and aesthetic judgments that mechanical objectivity later forbade."[8] Seba and his artists avoided this hefty task when creating the *Thesaurus* because it was advertised more as a catalog of Seba's collection, and less as an idealized atlas. Seba prided himself on his impressive cabinet, and therefore prioritized art that represented his specific collection. Because they were less concerned with creating a scientific ideal, Seba's artists could embellish their illustrations to suit a more aesthetic ideal. I will investigate the methods and effect of these aesthetic touches in Chapter 3.

New developments in philosophy were also rampant across Europe during the eighteenth century. One prominent example was the concept of the *sublime*, a term developed most influentially by the British philosopher Edmund Burke to describe phenomena beyond human understanding that inspire both awe and terror. Because the world was rapidly expanding, Europeans employed the sublime to comprehend overwhelming experiences in nature and the

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[7] Lorraine Daston and Peter Galison, *Objectivity*, (New York: Zone Books, 2010), 85.
[8] Ibid., 89.

vastness of a planet whose farthest reaches they increasingly encountered through colonial exploration, often interpreted through art. Unsurprisingly, the sublime also entered the scientific sphere for similar reasons. For example, in the author's preface to volume two of the *Thesaurus*, Seba wrote "Snakes are found all over the Earth, and this very general distribution certainly deserves that we pay special attention… There is no country where snakes are not found. There are an innumerable number of Genera & Species, among which we notice an admirable diversity."[9] I will discuss the profound influence of religion, philosophy, and popular culture on Seba and natural science as a whole in Chapter 3, but here it is worth noting briefly his positive perspective on the "admirable diversity" of nature as signaling a departure from medieval Christian ideas about snakes and sin.

Seba: Apothecary, Collector, and Author

Albertus Seba was born in a small village in northern Germany in 1665, and quickly moved to Amsterdam as a young man. While there, he worked as a pharmaceutical apprentice. Amsterdam proved an auspicious home for him, as the bustling port city experienced a boom in international commerce that created high demand for his apothecary goods. Seba's financial success, coupled with his easy access to the ports, allowed him to make a new name for himself as a collector.

Increased global interconnectivity within the Dutch sphere during Seba's time gave rise to the *Kunstkammer*, or cabinet of curiosities. These so-called cabinets (many were entire rooms) were collections of specimens, artworks, and other visually engaging souvenirs that served as

[9] Albertus Seba, *Locupletissimi Rerum Naturalium Thesauri Accurata Descriptio et Iconibus Artificiosissimus Expressio per Universam Physices Historiam,* (Amsterdam: J. Wetstenium, Gul. Smith, & Janssonio-Waesbergios, 1735), 2: xv.

personal exhibit spaces for wealthy connoisseurs in an age before the advent of public museums. Just as merchants demonstrated their prowess by filling warehouses with foreign goods, well-to-do collectors and academics displayed their wide-ranging knowledge and curiosity by gathering specimens from around the world. As Cook notes, "the accumulation and warehousing of material objects was part of the creation of value for both naturalists and merchants."[10]

In addition to his successful career as an apothecary, Seba was also renowned for his impressive cabinet of curiosities. He frequented the docks around Amsterdam, where he traded medicinal goods for interesting exotic specimens brought in by merchants. This method proved extremely fruitful, and Seba quickly amassed a collection of mollusks, corals, insects, and snakes. This first collection was so impressive that it caught the eye of Peter the Great, who purchased the collection in its entirety in 1717. Seba quickly accumulated a second, even more extensive collection, on the basis of which his seminal text is written.

Seba's *Thesaurus*

Undeniably, Seba's magnum opus is the *Thesaurus*. The title page contains a subtitle that is just as verbose as the main title: "The work to which, in this genre, no match exists. Collected, sorted, described, and painted from all over the world by Albertus Seba, member of the Leopoldino-Caroline Academy of Natural Curiosity, the college named for Xenocrates, the English Royal Society, and the Institution of Bologna."[11]

The *Thesaurus* consists of four volumes, grouped by specimen type and published in this order: plants (1734), snakes (1735), marine life (1758), and insects (1764). The first two volumes appeared in print during Seba's lifetime and under his strict guidance, while the subsequent

[10] Cook, "Moral economy," 44.
[11] Seba, *Thesaurus*, 1: iii.

volumes were published posthumously and partially ghostwritten.[12] The *Thesaurus* includes a general introduction featuring a foreword by renowned Dutch botanist Hermann Boerhaave, an author's preface, and a poem by J. A. Orsoy which sings the praises of Seba and his work. Each volume has an additional introduction by Seba that is specific to its subject matter.

Each volume is printed in both Latin and French and is filled with full-page copperplate illustrations depicting species described in the text. While a few illustrations at the beginning of the *Thesaurus* feature signatures from artists, the vast majority are anonymous. Artists who did sign plates throughout the four volumes include Pieter Tanje (1706-1761), Jacobus Houbraken (1698-1790), Adolf van der Laan (1684-1755), F. de Bakker (exact dates unknown, worked between 1730-1770), François Morellon la Cave (1696-1768), Jacob Folkema (1692-1767), Jan Punt (1711-1799), W. Jongman (dates unknown), Andries van Buysen (1698-1747), Pierre Frédéric de la Croix (1709-1782), and C. de Putter (dates unknown). Aside from Tanje and Houbraken, both quite successful artists who provided decorative elements rather than the scientific illustrations, none of these visual contributors were particularly prolific. It is unclear why Seba chose such minor artists—perhaps their time was less expensive, or they had a more convenient proximity to Seba's collection (many were native to The Hague). Further discussion surrounding Seba's reluctance to credit his artists will come later, in the chapter regarding economic influences on the *Thesaurus*.

Seba published each volume of the *Thesaurus* in black-and-white, although his patrons frequently hired artists to add color to the illustrations. This allowed each patron to enhance both the economic and aesthetic value of his copy, and artists even began to specialize in coloring

[12] Margócsy, *Commercial Visions*, 96.

Seba's illustrations.[13] I will discuss the aesthetic and scientific implications of this practice in later chapters.

Snakes

My decision to focus on Seba's snakes was due, in part, to my own biases. As a double-major in Art History and Biology, I have long witnessed a cultural aversion to reptiles, whether they be in scientific research or art. I felt that snakes in particular needed an advocate in the art world due to their long-lasting association with danger and sin. Because the Western attitude towards snakes was largely influenced by the spread of Christianity, I wondered how attitudes towards snakes changed as science began to overtake religion in the years following the Enlightenment.

At first glance, snakes may not appear aesthetically pleasing. Even renowned biologist Carl Linnaeus openly despised snakes, writing that "[Snakes] are abhorrent because of their cold body, pale color, cartilaginous skeleton, filthy skin, fierce aspect, calculating eye, offensive smell, harsh voice, squalid habitation, and terrible venom."[14] Despite the popular sentiment against them during his time, Seba found a unique beauty in snakes.

Biologist Gordon Burghardt remarks in his article "Combating Ophiophobia" that, "Seba apparently found more beauty in snakes than in almost any other group of animals, as shown by the quantity and esthetics of the illustrations devoted to them."[15] It is therefore fitting that a

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[13] John E. Simmons and Julianne Snider, "Image and Reality: Perception, Depiction, and Preservation of Nature," *Juniata Voices* 13 (2013): 139.
[14] Carl Linnaeus, Carolus Linnaeus, *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*, (Stockholm: Laurentii Salvii), quoted in Gordon Burghardt, "Combating Ophiophobia," in *Snakes: Ecology and Conservation*, eds. Stephen J. Mullin and Richard A. Seigel (Ithaca: Comstock Publishing Associates, 2009): 265.
[15] Ibid.

snake should appear in the first illustration in the *Thesaurus* alongside the author himself (Figure 2). This portrait was engraved by Dutch engraver Jacobus Houbraken (1698-1780) and colored by prolific Dutch painter Jan Maurits Quinkhard (1688-1772). The piece depicts Seba seated in his impressive library. Behind him are rows upon rows of jarred specimens on a wooden bookshelf, with a vivid red coral fragment positioned atop the shelf. Seba sits in the foreground in lavish dress and a powdered wig, illustrating his wealth and erudition. In his right hand, elevated above a splay of other specimens, Seba holds a jarred snake.

While the choice to portray Seba holding a snake over other animals paints a fairly obvious picture, there may be more subtle symbolism at play. Seba frequently emphasizes the role of Christian theology in inspiring his work, and he certainly would have known the Christian significance of the right hand. According to the Bible, being at the "right hand of God" is a symbol of status and honor. Therefore, by holding the snake in his right hand, Seba is elevating snakes to a position of superiority and even holiness.

The position of Seba's left hand is also clearly intentional. While locking eyes with the audience, Seba points to his *Thesaurus* and an assortment of specimens, as if to demonstrate his role in bringing the specimens into the global sphere. Art historian Daniela Bleichmar describes this scene: "…with one hand he can reach forth to gather natural objects, with the other, he can reach back to place them within the ordered shelves of European science."[16]

The second illustration in the *Thesaurus,* a version of which is found at the beginning of each volume, features snakes in a similar way (Figure 3). This engraving by Louis Fabricius Dubourg and Pieter Tanje portrays the goddess Athena centrally seated on a throne, with

[16]Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*, (Chicago: University of Chicago Press, 2012): 66.

Asclepius reclining at her feet. Behind this pair appears an open sky with trees and architecture in the background and shelves of jarred specimens in the foreground that echo those in Seba's portrait. Meanwhile, a group of winged cherubs display an illustration of snakes that appears to be taken from the *Thesaurus* as Athena, goddess of wisdom, teaches Asclepius about their power and beauty. Asclepius demonstrates his own regard for snakes by displaying his characteristic caduceus, or snake-wrapped rod, a classical symbol of medicinal arts (relevant to Seba's own interests in pharmacology, as noted in the caption to his portrait in Figure 2). Scrolls of ornamental foliage echo the swirling, twisting shapes of the illustrated snakes. Moreover, flanking the work on either side are panels of scales, further enhancing the impression of a rather serpentine scene surrounded and saturated by the slithering forms of snakes.

As is already evident, the artwork which interweaves the *Thesaurus* is deeply nuanced. By closely reading a selection of illustrations from the second volume, I will demonstrate the interplay of economics, science, culture, and aesthetics in motivating Seba's work.

Economic Contexts and Engagements

While the first full-page illustration in the *Thesaurus* is understandably dedicated to the praise of Seba, the second illustration is dedicated to the praise of Industry (Figure 4). This explosively vibrant print by Dubourg and Tanje, entitled *Industria*, is accompanied by a detailed description of its iconography:

> Industria, with wings on her head, is assisted by Knowledge, with a book under her arm, Truth, with the sun on her head, and Father Time. In the background Cybele sits with her horn of plenty and there is a beehive, a symbol of industry. The ships on the water indicate trade and seafaring, which promote Industria. In the foreground are putti among animals, coral and fossils. Putti on the clouds bring a laurel wreath and an eternity symbol for Industria.[17]

Industry is followed by indigenous individuals from Africa and the Americas who appear to be carrying items from their homelands. In the foreground, exotic animals have also arrived with the advent of Industry—namely, a so-called Capello's cobra from Ceylon, which is illustrated and described in the second volume. Although the scene is bursting with figures and life, the most significant element of this work is, to me, the presence of ships on the water. Positioned near the center of the composition, the ships float in the space between Industry, the putti, and the other allegorical figures, as if to indicate that transoceanic trade is the key link between these abstract concepts. Altogether, *Industria* paints a clear picture: natural science—and by extension the *Thesaurus*—cannot exist without economic ambition.

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[17] Seba, *Thesaurus*, 1: v.

This chapter builds upon historian Margócsy's book *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age*. Margócsy examines the impact of emerging global trade on the monetization and spread of scientific information in seventeenth- and eighteenth-century Europe. The author's chapter on Seba details his rise to international fame through primarily economic and historical lenses. My analysis expands on Margócsy's work by exploring how these factors influenced the authorship and style of illustrations in the *Thesaurus*. As I argue in this chapter, Seba harnessed his economic affluence to curate illustrations and artists that would ensure further commercial growth.

The seventeenth century ushered in a boom in international publishing, and the Dutch Republic was well positioned as a center for authors and academics. The Netherlands had an exceptionally high literacy rate, and the establishment of universities in major Dutch cities supported an influx of new readers and publishers. According to records from the Frankfurt International Fair, one-third of all books published in Europe between 1650 and 1675 were published in Holland. Furthermore, the international reach afforded by Dutch trade routes allowed authors to expand both their resources and their audiences to a global scale. In the world of natural history, specimens could be acquired from South Africa, illustrated in Amsterdam, and admired by consumers in Russia.[18]

As previously noted, very few of the artists responsible for the *Thesaurus*' illustrations are credited, and none are formally thanked or even mentioned by name outside of their own signatures. It is, however, abundantly clear that the illustrations that populate the *Thesaurus* were created by a wide variety of artists who exhibited diverse styles. The wide range of styles and the

[18] Margócsy, *Commercial Visions,* 76-80.

numerous artists which they imply indicate a high demand for skilled scientific artists during the early modern period. An excellent case study in this stylistic variety is Tabula 30 of Volume II, which depicts a so-called Bitin snake pursuing a lizard (Figure 5). While most other illustrations are entirely two-dimensional, this piece features a masterful handling of three-dimensional space which sees the Bitin snake appearing to slither out of the page towards the fleeing lizard. Far from diagrammatic, this illustration tells a dynamic story that highlights the predatory prowess of its subject. Seba's accompanying description further emphasizes this ferocity: "This furious serpent…pursues food with a frightful appearance, finding it easily in the Lizard depicted."[19] Use of a three-dimensional perspective in such a central manner is unique to this illustration, although other artists employ myriad aesthetic tools as discussed in Chapter 3.

Artistic anonymity in the *Thesaurus* is likely due to a major shift in the publication process during the seventeenth century; previously, publishers financed each book and therefore maintained intellectual ownership of all publications, which often led them to take extensive liberties when making edits and compiling illustrations. As public literacy and average income increased during the early modern period, authors became motivated to finance their own publications, allowing them to monitor any and all edits and ensure an ideal final product. This facilitated a "cult of the author" in which consumers valued the name on the cover over everything, even the content within. So, while Seba would have handpicked his artists, he did not prioritize crediting them, as his name was the most important credit. In fact, many current databases list Seba himself as the artist, evidencing that the cult persists.

[19] Seba, *Thesaurus*, 2: 33.

Another landmark of early modern publishing was the subscription system. If a text was planned to be released in volumes, patrons were encouraged to purchase a subscription when buying the first volume that promised delivery of future volumes upon their publication. This system of pre-purchasing volumes sight-unseen required significant trust from readers. So, authors frequently endeavored to hook audiences within the first few pages of their publications. In the world of natural science, this meant leading with shocking new discoveries and eye-catching art.

Seba demonstrates this strategy with the first image in his second volume, which purposefully explodes with life and color (Figure 6). This illustration features no fewer than ten snakes which display a range of patterns and poses, introducing readers to the remarkable variety contained within the rest of the volume. Seba writes that he "believed that it was appropriate to open [the second volume] with this first Board, to show those who want to pay their attention to it, the artifice with which this type of Animal has been formed, and the variety with which an infinite number of different colors, spots, & bands [is] produced in their figures & in their ornaments."[20] His deliberate choice of the phrase "those who want to pay their attention to it" likely refers to his loyal subscribers, who are promised even more variety and beauty throughout the *Thesaurus*.

By the time that the first volume of the *Thesaurus* was published, Seba was already internationally famous. His impressive collection had earned him a place among the top names in European natural science—namely, the British Royal Society, which consisted of Nicholas Witsen, Levinus Vincent, and Seba. Together, the three men amassed a large following for their

[20] Seba, *Thesaurus*, 2: 1.

respective collections. Seba had also formed strong relationships with naturalist Frederich Ruysch and renowned collector Hans Sloane, both of whom were correspondents during the production of the *Thesaurus.*[21] Seba's celebrity meant that his primary audience consisted of wealthy international collectors and academics—or, as Seba referred to them, *curiosi*:

> Since the majority of *curiosi* and the erudites live abroad, and do not have the possibility to travel, we nonetheless wanted to arrange a meeting with them and, so to speak, bring our cabinet, engraved from the life in printed images, to their lands and houses.[22]

While the *Thesaurus* consisted of both text and illustrations, the undeniable pull for Seba's patrons was the artwork. During this era of printing, producing illustrations was far more expensive than pages of text.[23] So, Seba's inclusion of hundreds of artworks acted both to flaunt his own wealth and dedication to natural science and to attract buyers who could appreciate the gravity of this expense. I feel it is important to note reiterate that Seba's ability to acquire new specimens was premised on his access to international shipping companies. While Seba therefore was undoubtedly a beneficiary of Dutch colonialism, he was not directly tied to the slave trade. I will explore Seba's unique connections to colonialism compared to those of his contemporaries in the third chapter.

Without the strategic inclusion of illustrations, Seba could not have established the international audience which solidified his legacy as a natural historian. Margócsy concludes his chapter on Seba with a clever remark that I feel belongs at the end of my chapter, as well: "Financially speaking, an image really was worth a thousand words."[24]

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[21] Jorink, *Reading the Book,* 333.
[22] Seba, *Thesaurus*, 1. Quoted in Margócsy, *Commercial Visions*, 90.
[23] Margócsy, *Commercial Visions*, 107.
[24] Ibid, 108.

The Limits of Scientific Illustration

In full, the title of the *Thesaurus* translates to: *A Careful Description and Exceedingly Artistic Expression in Pictures of the Exceedingly Rich Treasury of Nature Throughout the Entire History of Natural Science*. Rich with superlatives, this title promises to deliver a thesaurus which is beautiful, all-encompassing, and—notably—highly accurate. As previously noted, the standard for scientific accuracy was far less strict than it is today, meaning that many of the illustrations in the *Thesaurus* stray from the modern concept of objectivity. In the second volume, Seba poignantly wonders, "who is he who can boast of knowing with exactitude all the Genera and Species of Snakes?"[25] This tongue-in-cheek comment simultaneously addresses the sublime infinitude of Creation while suggesting that no man can fully comprehend the diversity of all snakes—except perhaps Seba himself. Indeed, Seba promises that his second volume will do everything in his power to excel in this regard by attempting to "give the Natural History of the most beautiful, rarest, and finest Snakes that it was possible for [Seba] to bring together from the four Parts of the World…engraved as artfully as art has allowed, in figure and in natural size."[26]

Apart from prevailing standards of objectivity in representation, additional obstacles to the exactitude of Seba's *Thesaurus* had to do with logistical challenges relating to the transportation and storage of scientific specimens. To ensure maximum preservation during their journey to Europe, specimens were typically stored in jars of alcohol. While this method greatly slowed the rate of soft part decomposition, it did little to preserve the colors and posture of the specimens—a persistent problem even today in understanding how specimens looked in life. Additionally,

[25] Seba, *Thesaurus*, 2: 29.
[26] Ibid, 1: xv.

evaporation and light exposure made fluid-preserved specimens vulnerable to destruction and required meticulous upkeep.

To counter such vulnerability, the *Thesaurus* therefore aimed to immortalize these specimens in art. In his introduction, Seba directly addresses the value of thesauri as mediums for communicating and preserving specimens in exquisite detail, saying that, "Our century outstrips all the preceding ones in that people see with their own eyes… the things that people describe with their own hands."[27] Similarly, Margócsy writes, "Seba's animals kept in bottles of alcohol might have been able to stop the biological decay of curious specimens, but only paper could forestall the deleterious results of human negligence."[28] Since Seba chose to emphasize the careful detail of his *Thesaurus* in the title, he undoubtedly hired artists with expert ability to capture the exact details of his specimens. Many of the artists named in the *Thesaurus* were portraitists, a specialty which may have appealed to Seba due to its emphasis on realism.

Nevertheless, only around half of the reptiles illustrated in the *Thesaurus* are identifiable at the species level to modern herpetologists. This high rate of inaccuracy can be ascribed, in part, to logistical constrictions. In addition to the issue of pigment loss, fluid preservation often forced specimens into unrealistic contortions and removed them entirely from their environmental context. This issue is most obviously manifest in the frequent depiction of snakes in impossible upright postures, balancing on only a few inches of their bellies while the rest of their bodies defy gravity in elaborate coils. This pervasive visual motif, evident throughout the second volume (for example, in Figures 7, 8, and even 9), seems calculated to display both biological information and artistic skill at the expense of representational plausibility or thematic

[27] Seba, *Thesaurus*, 1. Quoted in Jorink, *Reading the Book*, 335.
[28] Margócsy, *Commercial Visions*, NEED PAGE

coherence, for it confusingly features improbable poses in some specimens while other snakes behave normally. Margócsy provides an excellent side-by-side figure which highlights similarities in position between a gravity-defying illustrated snake and the preserved specimen on which it is based (Figure 10). In this instance, the artist has even included the incision from a dissection, revealing a semi-digested bird inside the snake's stomach.

Occasionally, Seba's illustrations include glimpses inside a snake's stomach to contextualize species. Because the artists he hired in Amsterdam could not view any specimen in its original environment, they had to rely on information from dissections or secondhand reports to understand how their subjects behaved in life. So, artists often depicted snakes interacting with prey. For example, in Figure 7, the artist shows a so-called "Rat Eater" snake demonstrating the proof for its name, with a brown rat's head poking out from its belly.

Other predator-prey depictions include a Bitin snake hissing at a lizard (Figure 5) and two Saxatile snakes descending on frogs (Figure 11). Snakes could also be contextualized by interacting with conspecifics, or other snakes of the same species. In Figure 12, a male and female of the same (unidentified) species perform a mating ritual. The image's accompanying description notes that this particular species mates more frequently and with more vigor than others, so depicting the pair in this way highlights a unique trait of the species.

Logistical issues were not the only constraint on accuracy in the *Thesaurus*. Recall the full title of the work—after accuracy, the most important quality of the text is its "exceedingly artistic expression." After all, as previously mentioned, eye-catching illustrations attracted buyers most effectively. Clearly, in many instances, artists valued aesthetic value over strict accuracy when illustrating snakes. Figure 1 provides the most extreme instance of this by depicting an entirely fictional species to capture the viewer's attention at the front of the volume. This

sprawling two-page illustration features a vicious creature with the body and forelimbs of a reptile, the tail of a massive snake, and seven serpentine heads. Each mouth is open in a silent roar, revealing intimidatingly sharp teeth. Three other organisms—a frilled lizard and two birds—flank the creature, but the artist used no consistent scale in depicting them, making it difficult to determine the monster's size. Despite this ambiguity, the placement of the creature amongst more familiar animals makes it all the more terrifying, as it implies that one is just as likely to encounter a seven-headed abomination as he is a bird or lizard.

The creature depicted is a hydra, a mythical monster made famous by the Greco-Roman Heracles epic and occasionally used as a Christian symbol of the apocalypse. The hydra was a persistent figure in European art, often found writhing on Medieval manuscripts or battling heroes in Renaissance illustrations (Figures 13 and 14). Apparently, Seba was unconcerned with the mythical heritage or moral implications of the creature because these did not inform his scientific description of the specimen. To the contrary, he dismissed such traditional meanings by saying, "If I wanted to discuss here what the Ancients wrote about Hydras and Dragons, most of which pass for large Serpents, I would fear to bore the Reader, because what they do report is nothing but a tangle of fables & fictions."[29]

Seba's description suggests an early modern concern with his (and his artists') sense of aesthetic delight and imaginative wonder, not only about Creation but about audience cultivation in an age of expanding geographic horizons. He describes his first encounter with the myth in a 1720 description from a strange unidentified foreigner, whose comparison of the specimen to a

[29] Seba, *Thesaurus*, 1: 159.

dragon "seemed to [Seba] to be a paradox, and more of a fable than of truth."[30] Seba was nevertheless intrigued by the hydra, especially after a visiting minister informed him that likenesses of the specimen were selling for exorbitant sums. Finally, Seba received an illustration from his friend Jean Frederick Natorp, a Dutch natural historian who claimed to have seen the hydra with his own eyes and insisted that it was real. This was enough to convince Seba, and the image in the *Thesaurus* is based on this illustration.

Carl Linnaeus, on the other hand, was less easily convinced. In the year after the first volume of the *Thesaurus* was published, Seba invited Linnaeus, who was preparing to publish his own *Systema Naturae*, to visit his collection.[31] The breadth of organisms represented by Seba's cabinet provided Linnaeus with numerous type specimens for his newly established species. Accordingly, the Swedish scientist cited Seba frequently in the *Systema Naturae*.[32] One object in Seba's collection, however, failed to impress Linnaeus: the illustration of Natorp's hydra. Serendipitously, the original specimen on which the illustration was based ostensibly went up for sale in Hamburg during one of Linnaeus' visits to Seba.[33] Intrigued by the illustration, Linnaeus went to examine the specimen for himself and quickly recognized it as a farce crafted from weasel bones and snakeskin. Apparently scandalized at this scientific falsification, Linnaeus publicly denounced the specimen's authenticity in a local political newspaper.[34]

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[30] Ibid; Seba's decision to call the hydra a "paradox" coincidentally echoes Linnaeus' "paradoxa," a category of mythical or otherwise unbelievable animals listed in his *Systema Naturae*. The hydra is the first of Linnaeus' "paradoxa," although there is no evidence that he adopted this term from Seba, or vice-versa.
[31] Judith Masters, "Sluggards and drunkards," in *Evolution, Ecology and Conservation of Lorises and Pottos*, eds. K. A. I. Nekaris and A. M. Burrows (Cambridge University Press, 2020): 20.
[32] John L. Heller, "Linnaeus on sumptuous books," *Taxon* 25, no. 1 (1976): 48.
[33] Estaban O. Lavilla, "Skepticism and Gullibility in Linnaeus' Herpetological Contributions," *Herpetologia Brasileira* 1, no. 2 (2012): 69.
[34] Ibid.

When presenting my thesis research at a school-sponsored symposium, I, like Seba, strategically chose the image of the Hydra as a poster child for my project. Almost immediately, a student approached my table to inspect the startling image. To my surprise, he informed me that he had a print of that exact illustration on his bedroom wall. He had never known who the artist was or where it came from—he just thought that it was a cool piece. Without knowing it, he had perfectly demonstrated my assertion that visual appeal was the most important aspect of natural history illustrations. Although centuries have passed since Seba published *Thesaurus* (during which time technological advancements have vastly increased accessibility to scientific knowledge), even college-educated consumers are drawn to aesthetics over accuracy.

Aesthetics: "A Kind of Creative Alchemy"

As discussed in the introduction, a standard procedure for naming new species was not formally established until Linnaeus' *Systema Naturae*. In the Dutch zeitgeist, names were chosen based on an organism's aesthetic qualities, resulting in such names as the Coralline Snake (named for its coralline-colored stripes, seen in Figure 8) and the Crowned Snake (named for its yellow head marking, seen in Figure 9). This meant that visual judgements played a major role both in the scientific nomenclature and the cultural appeal of exotic species. Just as a curator may organize or position artifacts in particular ways to highlight formal qualities, the artists for the *Thesaurus* seemingly chose to portray snakes in ways that maximized their aesthetic appeal.

To understand the essential role of aesthetics in enhancing Seba's snakes, I invite the reader to consider an illustration from the *Thesaurus*, seen in Figure 15, in comparison to a similar illustration from a natural history book published almost exactly one century later: John Edward Gray's *Illustrations of Indian Zoology,* seen in Figure 16.[35] Both images feature two snakes posed in a similar fashion to highlight their anatomical similarities and differences. However, the illustration from Seba's text is definitively more visually engaging than that of Gray's. As previously examined, perceived artistic value was a key motivator for consumers of natural history books—so, what makes Seba's illustration more aesthetically pleasing and, therefore, more economically promising? I argue that motifs of symmetry, enhanced colors, and the philosophically-inspired concept of serpentine beauty combine to make Seba's snakes into aesthetic powerhouses.

[35] John Edward Gray, *Illustrations of Indian Zoology*, (London: Truettel, Wurtz, 1830-34).

By dividing their illustrations into two symmetrical (or near-symmetrical) halves, the artists established a visual program which helped guide viewers' eyes around the image. For example, in Figure 11, two near-identical snakes are illustrated on either side of the composition, creating a swirling frame around the center of the piece. The curving form of one snake invites viewers to trace its body as it spirals down the page towards its prey. Upon reaching the snake's head, the viewer's eye can either retrace the loops in the first snake's body or jump across the page to its near-symmetrical counterpart. Notably, these snakes are not exactly identical in their poses. While they both contain four distinct loops, the location and direction of each loop is unique in each snake. This creates an additional layer of visual interest that further enraptures the viewer.

In Figure 17, the author employs symmetry to form a chiasmus, to similar effects. Two identical snakes glide across each other symmetrically, forming an "X" at the center of the two-page composition. They are each flanked by identically symmetrical foliage, enhancing the visual draw towards the center of the chiasmus. Interestingly, just below said center is the only asymmetrical element of this illustration: a single patterned snake which forms a large loop across the bottom of the two pages. This is the most vibrantly patterned of the three snakes, and its solitary and central position aptly highlights its unique body.

Symmetry also provided an opportunity for increased scientific detail. To satisfy the aesthetic demands of symmetry, artists needed to include at least two snakes per composition. Cleverly, many chose to abandon exact symmetry in favor of two similar, but not identical, snakes, commonly to demonstrate sexual dimorphism. In fact, in both aforementioned examples (Figures 11 and 17), the paired snakes are described as a male and female of the same species. Thus, these artists harnessed symmetry to maximize both visual appeal and scientific

consciousness. Although fulfilling aesthetic concerns occasionally came at the expense of scientific accuracy (as discussed in a previous chapter), some artists clearly demonstrated that science and art were not necessarily mutually exclusive.

Another prominent method which artists employed was artificially enhancing the colors displayed by snakes. Due to the aforementioned issue of tissue deterioration in alcohol-preserved specimens, the artists responsible for coloring illustrations frequently had to guess at the specimen's true colors. As naturalcultural art historian Andrew Yang remarks, "Certainly, artistic interpretation is essential in transforming what was a crumpled, discolored, unfamiliar reptile specimen awkwardly stuffed into a jar into a vibrant and vital creature on a blank page — illustration is a kind of creative alchemy."[36] This technique could very easily have facilitated the drastic exaggeration of colors; for example, an artist may interpret faded patches of color as vibrant spots that had simply deteriorated, when they were, in actuality, simply muted in life.

Because Seba's published illustrations were black-and-white and purchasers therefore had to hire artists to supplement colors, artistic liberty was particularly pervasive in informing color choice. Seba's patrons so increased the market for colorists that an Amsterdam-based artist named J. Fortuÿn (dates unknown) began specializing in coloring Seba's plates.[37] Fortuÿn apparently had some access to Seba's collection, as the colors in many of the illustrations which he signed match the colors of preserved specimens. We see an excellent example of this in a colored illustration of a Green tree boa signed by Fortuÿn (Figure 18a). The illustrated boa, which is green in life, features the distinctive blueish tint which green skin pigments frequently obtain after fluid preservation. Figure 18b shows the actual specimen from Seba's cabinet on

[36] Andrew S. Yang, "Snake Eyes. A Natural History of Picturing, Perception, and the Serpents that Lurk Within," *Captures* 7, no 2. (2022).
[37] Simmons and Snider, "Image and Reality," 139.

which the illustration is based; because this snake is even bluer than the illustration, we can assume that Fortuÿn viewed his subject soon after it was placed in fluid.[38]

The final visual tool which Seba's artists masterfully implemented is slightly more abstract than symmetry and color. By posing the snakes in swirling loops and S-curves, the artists took advantage of an innate human appreciation for the path of serpentine movement: what English social critic and occasional art historian William Hogarth referred to as "the line of beauty" (Figure 19).

Hogarth's line is largely based on the *figura serpentinata* from theorist Gian Paolo Lomazzo's 1584 publication, *Trattato dell'arte della pittura, scoltura et architettura* (trans: *Treatise on the art of painting, sculpture and architecture*). Lomazzo posits that the fluid vertical movement of a flame creates a serpentine beauty, and this representation of organic movement as a static image brings the metaphysical into the physical realm. Hogarth builds on this idea, demonstrating that the implied movement in a serpentine curve makes art feel alive, and thus more aesthetically satisfying. The line of beauty pervades millennia and is manifest across all facets of art history. The Italian concept of *contrapposto* prefers an s-curved posture in sculptures, French Rococo artists employ curving foliage in their paintings and furniture, and, most recently, a MET exhibition on Karl Lagerfeld used the line of beauty as its organizing theme.

Although Seba does not mention Hogarth's theory, I believe that his aesthetic admiration for snakes was motivated in part by the same visual impulse that motivated widespread fascination with the line of beauty in art. Moreover, both Seba and Hogarth lived in Protestant nations,

[38] Ibid.

which may have allowed the men to explore and express their approbation for snakes without regard for the Catholic Church's moral condemnation of this class of creatures. Indeed, Hogarth's embrace of the term *serpentine* as a qualifier for graceful beauty demonstrates an aesthetic decoupling of serpents from a prominent negative element of biblical tradition—a decoupling that Seba seems to have accepted as well.

More than a natural historian and a collector, Seba was a curator who clearly placed substantial value on the aesthetic quality of his *Thesaurus*. Nowhere is this more evident than in his depictions of snakes, which exemplify artistic and philosophical beauty that reflect Seba's own admiration for the creatures. Through masterful use of symmetry, color, and design, Seba's artists fulfilled the promise made in his preface that his snakes would be "engraved as artistically as art would allow."[39]

[39] Seba, *Thesaurus*, 1: xxi.

The Secular and the Serpentine: Seba's Early Modern Vision of Snakes

In her introduction to *Albertus Seba's Cabinet of Natural Curiosities*, art historian Irmgard Musch poignantly remarks that, "During the turbulent first half of the seventeenth century, bloody wars raged between Catholics and Protestants, yet the sciences offered a generally neutral sphere in which a new, more or less objective understanding of the world could be developed beyond theological controversy."[40] This distinctive historical relationship between science and religion inspired my cultural analysis of *Thesaurus*. Throughout his text, Seba frequently praises God for creating the animals which populate his pages and humbly confesses his desire to use natural science as a form of worship. In a letter to Hans Sloane regarding the imminent publication of the *Thesaurus*, Seba remarked that "my view in this Undertaking has been to render my best homage to the Great Author of Nature, by displaying his curious and wonderful Works, in the best manner I could, to my Fellow Creatures."[41]

He uses a similar tone in many of his specimen descriptions, sometimes explicitly citing God as the creator and sometimes referring to Nature as a broader force of creation. One such case is his description of Tabula 27 in Volume II, which portrays five extravagantly colored snakes from Africa and America (Figure 8). When discussing the vibrant patterns on a so-called viper from Cairo, Seba remarks that "Nature seems to have taken pleasure in displaying all kinds of ornaments for this Viper."[42] Seba apparently shared this pleasure, as his commissioned illustration is done in exquisite detail; the viper stretches dramatically across the center of the

[40] Irmgard Musch, *Albertus Seba's Cabinet of Natural Curiosities*, (Taschen, 2003): 13.
[41] Jorink, *Reading the Book*, 336.
[42] Seba, *Thesaurus*, 2: 28.

composition, its body twisting so that the viewer can admire its variegated back with the same awe.

In the early Enlightenment society in which Seba wrote the *Thesaurus*, snakes still carried strongly negative connotations in Europe from centuries of Christian theology. According to the Bible, Satan assumed the form of a snake to tempt Eve in the Garden of Eden, prompting condemnation of the entire class of species as a symbol of the original sin, as explained in *Genesis* 3: 14-15:

> And the Lord said unto the serpent, Because thou hast done this; thou art cursed above all cattle, and above every beast of the field; upon thy belly shalt thou go, and dust shalt thou eat all the days of thy life: And I will put enmity between thee and the woman, and between thy seed and her seed; it shall bruise thy head, and thou shalt bruise his heel.

Seba was keenly aware of the prevailing public attitude towards snakes as vicious and ugly creatures, and the religious context which inspired this attitude. Rather than criticizing snakes because of their relationship with Christianity, however, Seba employed Christian theology in their favor. He argued that snakes were a beautiful element of Creation, like the other animals and plants in his *Thesaurus*. In his introduction to the second volume, Seba remarks that snakes provide valuable links between the natural world and the divine due to both their sublime beauty and their mystique. He even suggests that their myriad patterns may represent a "hieroglyphic" language written by God himself:

> Their nature, and the speed of their tortuous movements… deserve no less attention than the other physical aspects that God has placed in this type of Animal, not only for various

> uses in Medicine, but above all to draw from it hieroglyphic ways of speaking, which he wanted to use in the Holy Scriptures, where he found it good to reveal to Men his Oracles & his hitherto secret designs.[43]

Only twenty pages later, Seba again praises the godlike beauty of snakes. He writes of an Indonesian snake which displays an elaborate black-and-white pattern (Figure 20): "This Serpent is a fine example of the artifice with which the Author of Nature has arranged the colors with which he has adorned the vilest and most horrible of beasts, in order to excite in men (who, alas! ordinarily give them little attention), a religious admiration, which leads them to celebrate his greatness."[44] While some may consider Seba's referral to snakes as "the vilest and most horrible of beasts" as a concession to prevailing Christian moral beliefs, I argue that he purposefully acknowledges this attitude in order to more efficiently refute it with his beautiful illustrations.

Seba's advocacy for snakes was particularly important as Christian prejudices permeated the ever-expanding scientific world, a hallmark of the brewing Enlightenment. An apt example of this muddying of fact and scripture is found in Linnaeus's herpetological publications between 1735-1767. As seen in the epigraph at the beginning of this thesis, Linnaeus staunchly opposed Seba's belief that snakes were beautiful and worthy of study. In fact, immediately following the epigraph quotation, Linnaeus remarked that The Creator purposefully made few snakes due to their abhorrent qualities, and that Amphibians were therefore the smallest animal group despite Seba's attempt to increase them.[45] Historian of science Esteban Lavilla argues that Linnaeus's

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[43] Seba, *Thesaurus*, 2: 1.
[44] Ibid, 8.
[45] Carolus Linnaeus, *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*, (Stockholm: Laurentii Salvii), quoted in Lavilla, "Skepticism and Gullibility," 66.

distaste for snakes is based in his own religious beliefs, evidencing his antiquated lack of scientific objectivity. Thus, Seba's positive attitude towards snakes elevates his scientific modernity above the renowned Linnaeus, whom Lavilla fittingly calls "an academic in a century of changes who never lost his peasant roots."[46]

Seba's attitude towards snakes was not the only unpopular opinion which he voiced through his *Thesaurus*. Through his frequent inclusion of indigenous perspectives throughout the second volume, Seba exemplified a remarkably modern attitude towards outsider customs. I argue that Seba's advocacy for snakes parallels his uncondemning outlook on indigenous cultures.[47]

Just as we can understand Seba's unique perspective on snakes by comparing him to contemporary scientist Carolus Linnaeus, we can explore his attitude towards indigenous cultures by comparing him to contemporary apothecary, entrepreneur, and collector Sir Hans Sloane. Sloane, like Seba, was a member of the Royal Society and an avid connoisseur of natural specimens. Also like Seba, Sloane published a book of natural history discoveries in two volumes in 1707 and 1725, which he based largely on specimens he gathered both first- and second-hand from Jamaica.[48] He also accumulated an extensive personal library which featured natural history books by his contemporaries, including the *Metamorphosis insectorum Surinamensium* by Maria Sibylla Merian and Seba's *Thesaurus*.[49] Sloane's impressive collection

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[46] Ibid., 1.
[47] I am not arguing that Seba was a progressive proponent of equality or abolition. Although he did take a relatively positive stance in his discussion of indigenous perspectives, he still benefitted indirectly from the slave trade. Seba also famously owned a human specimen: the miscarried fetus of a so-called "Negress" from Curacao (Figure 21).
[48] Hans Sloane, *A Voyage to the Islands Madera, Barbadoes, Nieves, St. Christophers, and Jamaica; with the Natural History of the Herbs and Trees, Four-footed Beasts, Fishes, Birds, Insects, Reptiles, &c. of the last of those Islands,* 2 vols., (London, 1707-25).
[49] Maria Sibylla Merian, *Metamorphosis insectorum Surinamensium,* (Amsterdam: 1705); Eric Jorink, *From Books to Bezoars: Sir Hans Sloane and his Collections*, eds. Alison Walker, Arther Macgregor, and Michael Hunter (London: The British Library, 2012): 58.

of books, manuscripts, and specimens eventually formed the basis for the British Museum in London.[50]

Sloane built his collection much less holistically—and ethically—than Seba. Rather than bartering and bargaining for specimens at the shipyard, Sloane purchased most of his specimens from other collectors. He afforded these big-ticket purchases primarily due to his success as a physician, but he also through less savory investments. In 1695, Sloane married an heiress who owned substantial land and enslaved individuals in Jamaica.[51] He also collaborated with the slave-owning governor of Jamaica, Christopher Monck, Duke of Albemarle, and corresponded with other wealthy plantation owners.[52]

Contradictory to his expansive support of and profiting from the slave trade, Sloane apparently held some reverence and respect for the cultural practices of the enslaved peoples which he encountered. While he rejected their medical techniques, Sloane endeavored to glean information about new specimens from enslaved Africans in Jamaica whom he saw as repositories of intimate knowledge about local flora and fauna.[53] He included African ethnographic references in his *Natural History of Jamaica*, although he recorded their musical traditions as little more than lustful and primitive.[54] While his discussion of Jamaican rituals was overtly condescending, Sloane's inclusion of indigenous and enslaved perspectives was a vital first step in providing scientific merit to non-European cultures.

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[50] G. R. de Beer, "Sir Hans Sloane and the British Museum," *The British Museum Quarterly* 18, no. 1 (1953): 2.
[51] Kay Dian Kriz, "Curiosities, Commodities, and Transplanted Bodies in Hans Sloane's 'Natural History of Jamaica,'" *The William and Mary Quarterly* 57, no. 1 (2000): 39.
[52] James Delbourgo, "'Exceeding the Age in Every Thing:' Placing Sloane's Objects," *Spontaneous Generations: A Journal for the History and Philosophy of Science* 3, no. 1 (2009): 50.
[53] Ibid.
[54] Ibid.

I argue that Seba took the next step through his ethnographic descriptions in the *Thesaurus*. Rather than condemning or ridiculing indigenous cultures, Seba simply recorded them as he did any other scientific fact. In his preface to the second volume, Seba meticulously recounts ancient customs surrounding snakes, including references to classical mythology and the Arabic and Egyptian tradition of sprinkling dried snakeskin onto food.[55] Then, he considers contemporary cultures, writing that "the Negroes and other inhabitants of the West Indies consider the Serpents as something delicious, which they boil or roast, or prepare some other way, according to their own tastes."[56] He even uses this example as proof that snake venom is only dangerous when transmitted through a bite.[57]

Furthermore, Seba frequently includes indigenous names for snakes. For example, he writes that the Crowned Serpent in Figure 9 is called the "Bojobi" by indigenous Brazilians and the "Cobra Verde" by the Portuguese, recording all three names as equally valid.[58] He similarly refers to a black-and-white snake from Indonesia as an "Apachykoatl," a name which he cites as coined by indigenous locals.[59] In a few instances, Seba even mentions local attitudes towards specific snakes. In his description of the locally named Brazilian Ibiboboca snake, Seba writes that, "The Brazilians call it that, and esteem it greatly, not only for its marvelous beauty, but also because it does no harm to anyone, and it eats the ants that torment them."[60] Here, he uses ethnography to support both the scientific and aesthetic merit of his description. By applying

[55] Seba, *Thesaurus*, 2: xx
[56] Ibid., xxi.
[57] Ibid.
[58] Ibid., 41.
[59] Ibid., 21.
[60] Ibid., 7.

indigenous customs in this regard, Seba suggests a remarkably pre-modern neutrality towards non-European cultures.

Concluding Remarks

Like the snakes it so prominently features, Seba's *Thesaurus* has been repeatedly overlooked by the world of natural science. While the first two volumes were popular when they were first released, the *Thesaurus* was not widely republished.[61] It is difficult to pinpoint why such an impressive catalog was so quickly removed from the scientific zeitgeist. One potential obstacle was likely that Seba published the first two volumes of the *Thesaurus* right as scientific culture began to rapidly shift in Europe. Once Linnaeus's *Systema Naturae* appeared in 1735, Seba's hypotheses regarding new species and their relationships were relatively rudimentary.

Another challenge was the large delay in publishing the third and fourth volumes of the *Thesaurus.* Because the final two editions were published posthumously, they were each steeped in publication politics including ghostwriting and satisfying various stakeholders in Seba's legacy. Subscribers were hardly enthused by the time the final volume appeared in 1765.[62] The combined effect of the rapidly evolving scientific world and Seba's untimely passing kept the *Thesaurus* from achieving lasting fame.

Although it has been largely absent from the realm of art historical research, Albertus Seba's *Thesaurus* is a monumental masterpiece that provides a unique and vital link between science and art. Through my research, I have uncovered the influence of economics, colonialism, scientific discovery, aesthetics, and philosophy on Seba's exquisite snakes. I hope to inspire further research into the symbiosis between early natural science and art, and to encourage modern artists, historians, and scientists alike to reconsider the modern rift between their fields.

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[61] A search for the *Thesaurus* across multiple world-catalog library databases yielded no republished editions aside from Taschen's 2003 publication.
[62] Margócsy, *Commercial Visions*, 96.

Bibliography

Bleichmar, Daniela. *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*. Chicago: University of Chicago Press, 2012.

Burghardt, Gordon. "Combating Ophiophobia." in *Snakes: Ecology and Conservation*, 262-280. Edited by Stephen J. Mullin and Richard A. Seigel. Ithaca: Comstock Publishing Associates, 2009.

Cook, Harold. "The moral economy of natural history and medicine in the Dutch Golden Age." *Publications of the American Association of Netherlandic Studies* 9, no. 9 (1996): 39-47.

Daston, Lorraine and Galison, Peter. *Objectivity*. New York: Zone Books, 2010.

de Beer, G. R. "Sir Hans Sloane and the British Museum." *The British Museum Quarterly* 18, no. 1 (1953): 2-4.

de Jong, Joop. "The Dutch golden age and globalization: History and heritage, legacies and contestations." *Macalester International* 27, no. 1 (2011): 46-67.

Delbourgo, James. "'Exceeding the Age in Every Thing:' Placing Sloane's Objects." *Spontaneous Generations: A Journal for the History and Philosophy of Science* 3, no. 1 (2009): 41-54.

Gray, John Edward. *Illustrations of Indian Zoology*. London: Truettel, Wurtz, 1830-34.

Heller, John L. "Linnaeus on sumptuous books." *Taxon* 25, no. 1 (1976): 33-52.

Jorink. Eric. *From Books to Bezoars: Sir Hans Sloane and his Collections*. Edited by Alison Walker, Arther Macgregor, and Michael Hunter. London: The British Library, 2012.

Jorink, Eric. *Reading the Book of Nature in the Dutch Golden Age, 1575-1715*. Translated by Peter Mason. Leiden-Boston: Brill, 2010.

Kriz, Kay Dian. "Curiosities, Commodities, and Transplanted Bodies in Hans Sloane's 'Natural History of Jamaica.'" *The William and Mary Quarterly* 57, no. 1 (2000): 35-78.

Lavilla, Esteban O. "Skepticism and Gullibility in Linnaeus' Herpetological Contributions." *Herpetologia Brasileira* 1, no. 2 (2012): 65-81.

Linnaeus, Carl. *Systema naturae per regna tria naturae, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. Stockholm: Laurentii Salvii, 1735.

Margócsy, Daniel. *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age*. Chicago: University of Chicago Press, 2014.

Masters, Judith. "Sluggards and drunkards." In *Evolution and Conservation of Lorises and Pottos,* 19-32. Edited by K. A. I. Nekaris and A. M. Burrows. Cambridge University Press, 2020.

Merian, Maria Sibylla. *Metamorphosis insectorum Surinamensium.* Amsterdam: 1705.

Musch, Irmgard. *Albertus Seba's Cabinet of Natural Curiosities*. Taschen, 2003.

Seba, Albertus. *Locupletissimi Rerum Naturalium Thesauri Accurata Descriptio et Iconibus Artificiosissimus Expressio per Universam Physices Historiam.* 4 vols. Amsterdam: J. Wetstenium, Gul. Smith, & Janssonio-Waesbergios, 1735.

Simmons, John E. and Snider, Julianne. "Image and Reality: Perception, Depiction, and Preservation of Nature." *Juniata Voices* 13 (2013): 127-144.

Sloane, Hans. *A Voyage to the Islands Madera, Barbadoes, Nieves, St. Christophers, and Jamaica; with the Natural History of the Herbs and Trees, Four-footed Beasts, Fishes, Birds, Insects, Reptiles, &c. of the last of those Islands.* 2 vols. London, 1707-25.

Yang, Andrew S. "Snake Eyes. A Natural History of Picturing, Perception, and the Serpents that Lurk Within." *Captures* 7, no 2. (2022): 1-18.

Figure 1. Artist unknown. *Tomus 102.* 1734, illuminated copperplate print. Biblioteca Digital del Real Jardín Botánico de Madrid. From: Seba, Albertus. *Locupletissimi Rerum Naturalium Thesauri Accurata Descriptio et Iconibus Artificiosissimus Expressio per Universam Physices Historiam*, vol. 1.

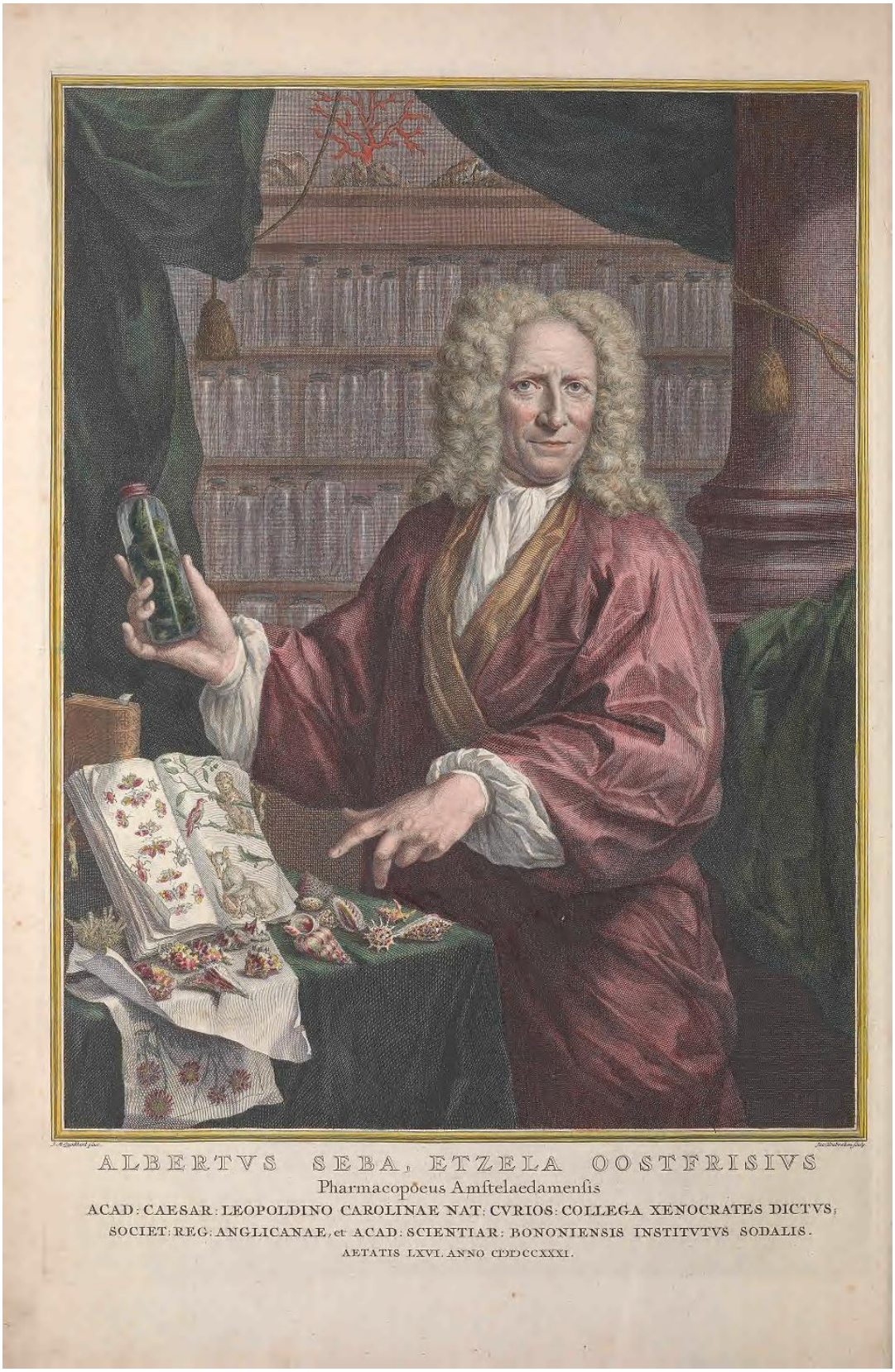


Figure 2. Jacobus Houbraken and J. M. Quinkhard. *Albertus Seba, Etzela Oostfrisius.* Illuminated copperplate print, 1734. From: Seba, *Thesaurus*, vol. 1.

Figure 3. Louis Fabricius DuBourg and Pieter Tanje. *Untitled.* Illuminated copperplate print, 1734. From: Seba, *Thesaurus*, vol. 1.

Figure 4. Louis Fabricius DuBourg and Pieter Tanje. *Industria*. Illuminated copperplate print, 1734. From: Seba, *Thesaurus*, vol. 1.

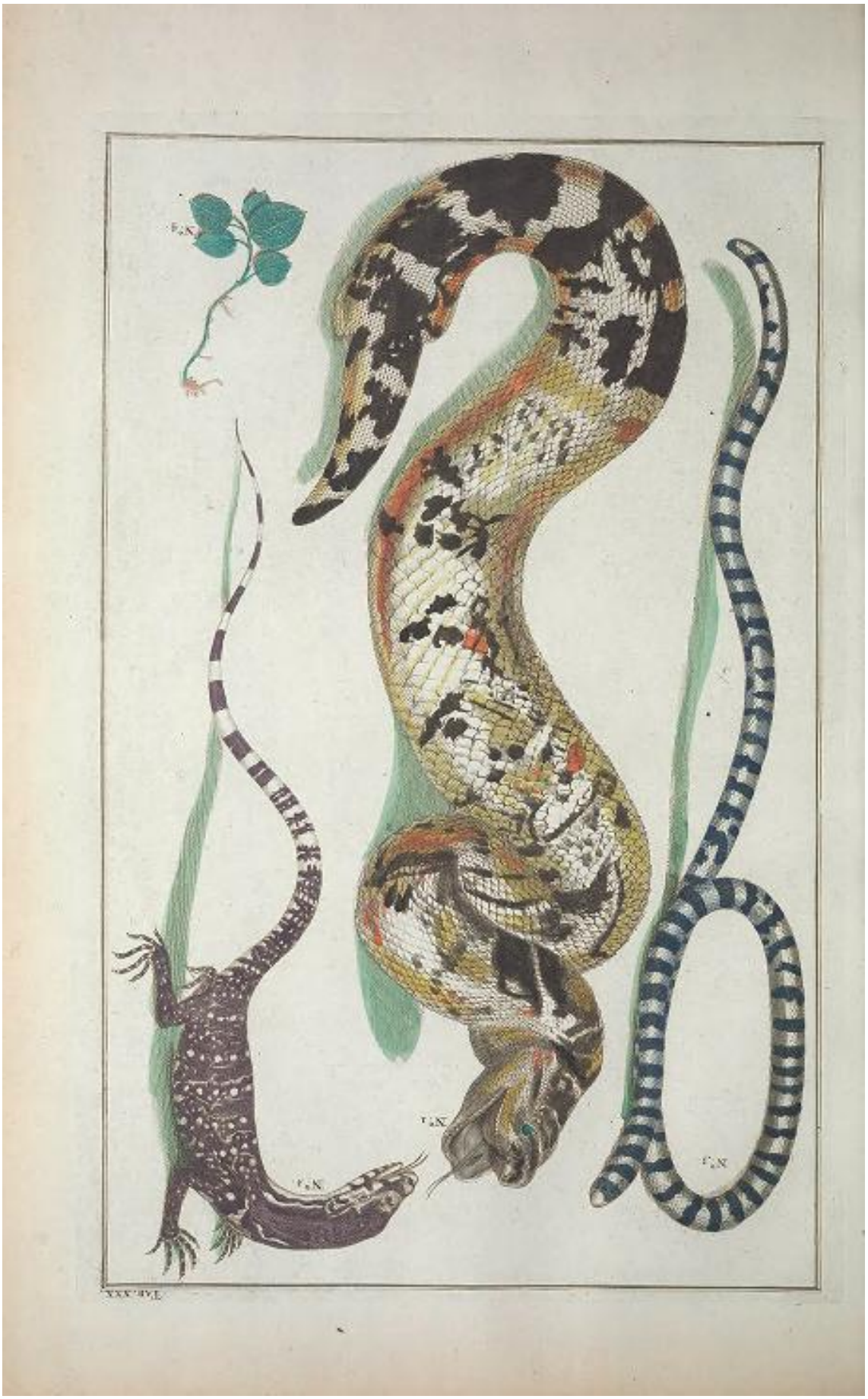


Figure 5. Artist unknown. *Tabula 30.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus*, vol. 2.

Figure 6. Artist unknown. *Tabula 1*. Illuminated copperplate print, 1735. From: Seba, *Thesaurus*, vol. 2.

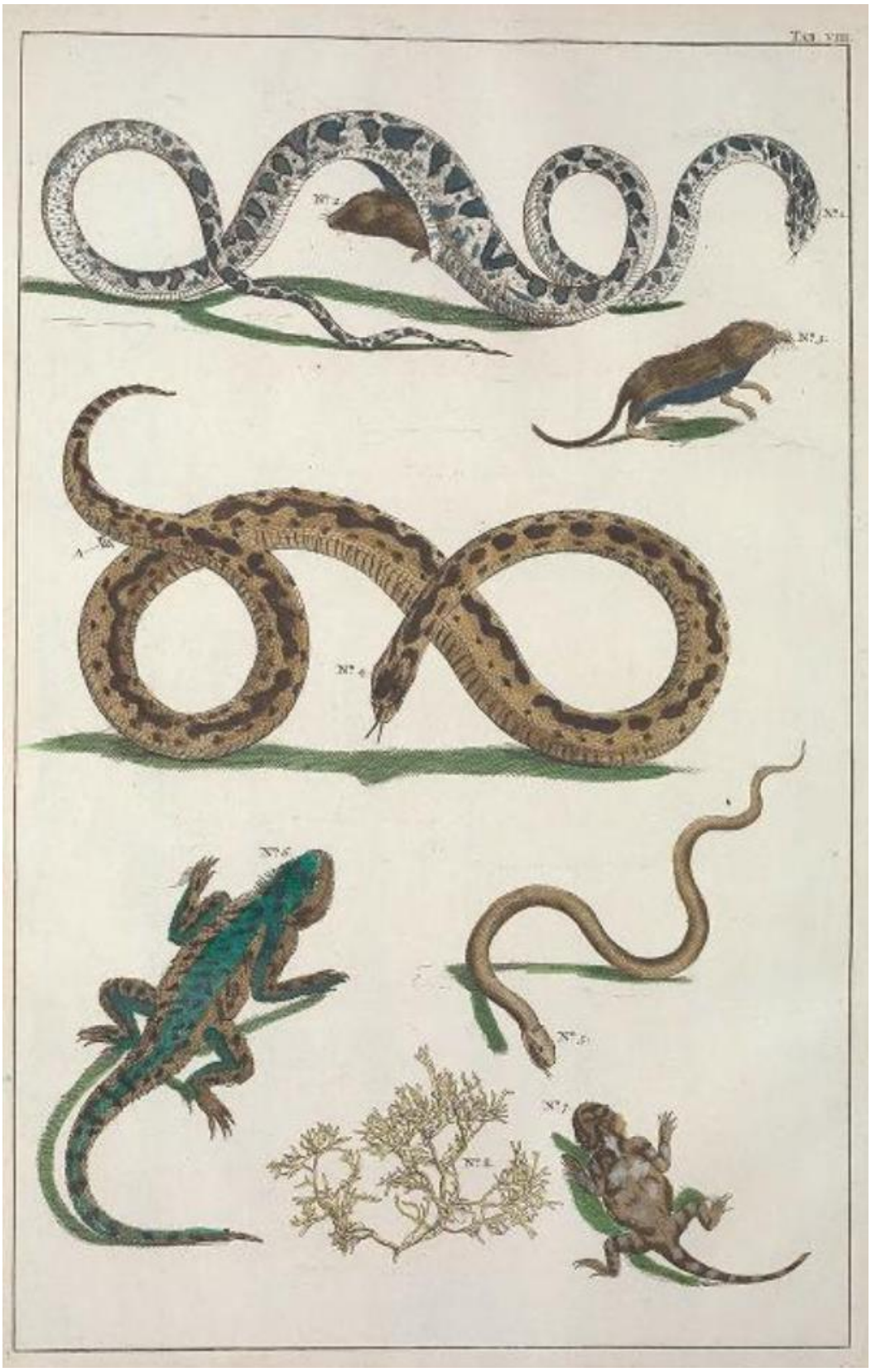


Figure 7. Artist unknown. *Tabula 8.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

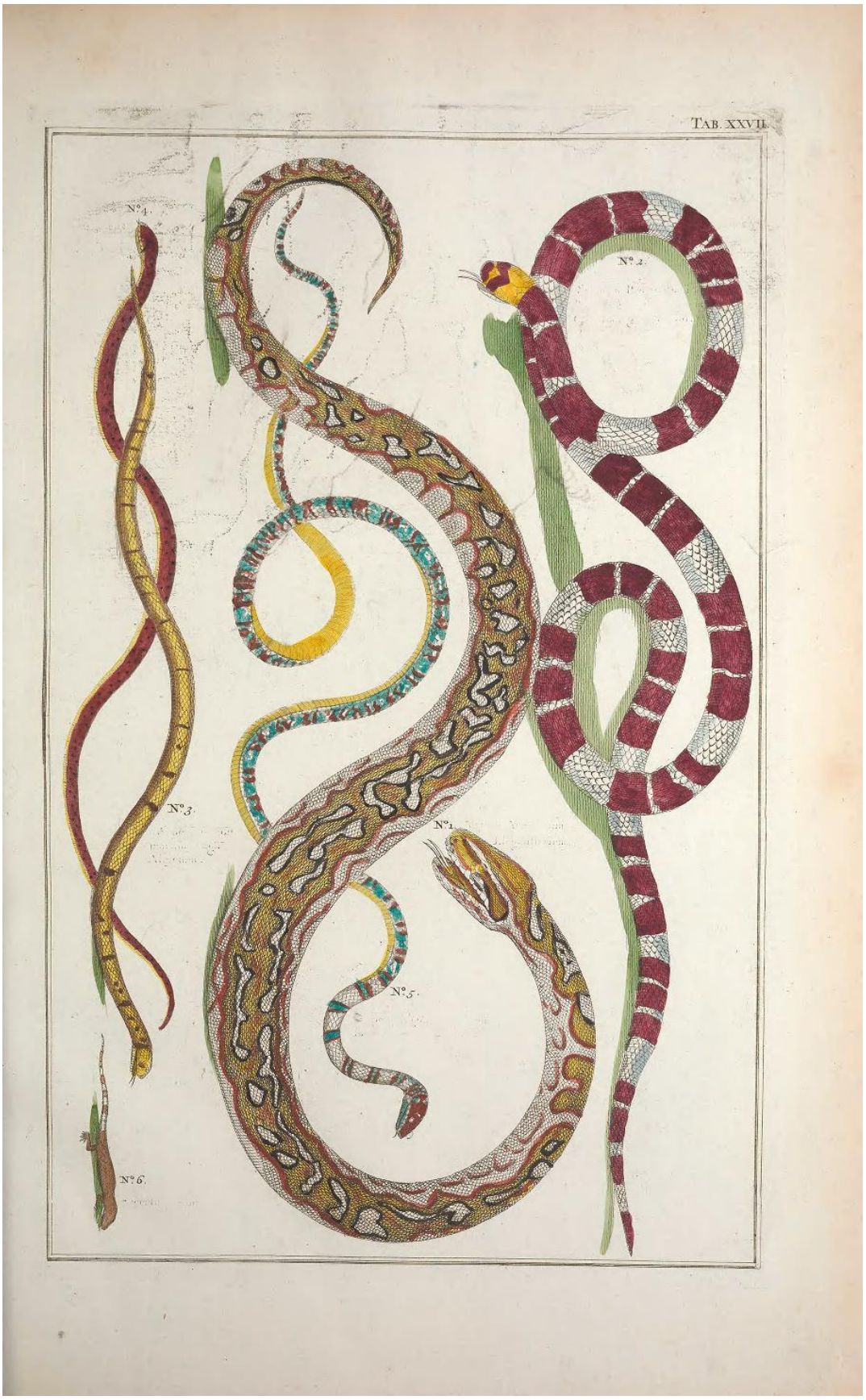


Figure 8. Figure 8. Artist unknown. *Tabula 27*. Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

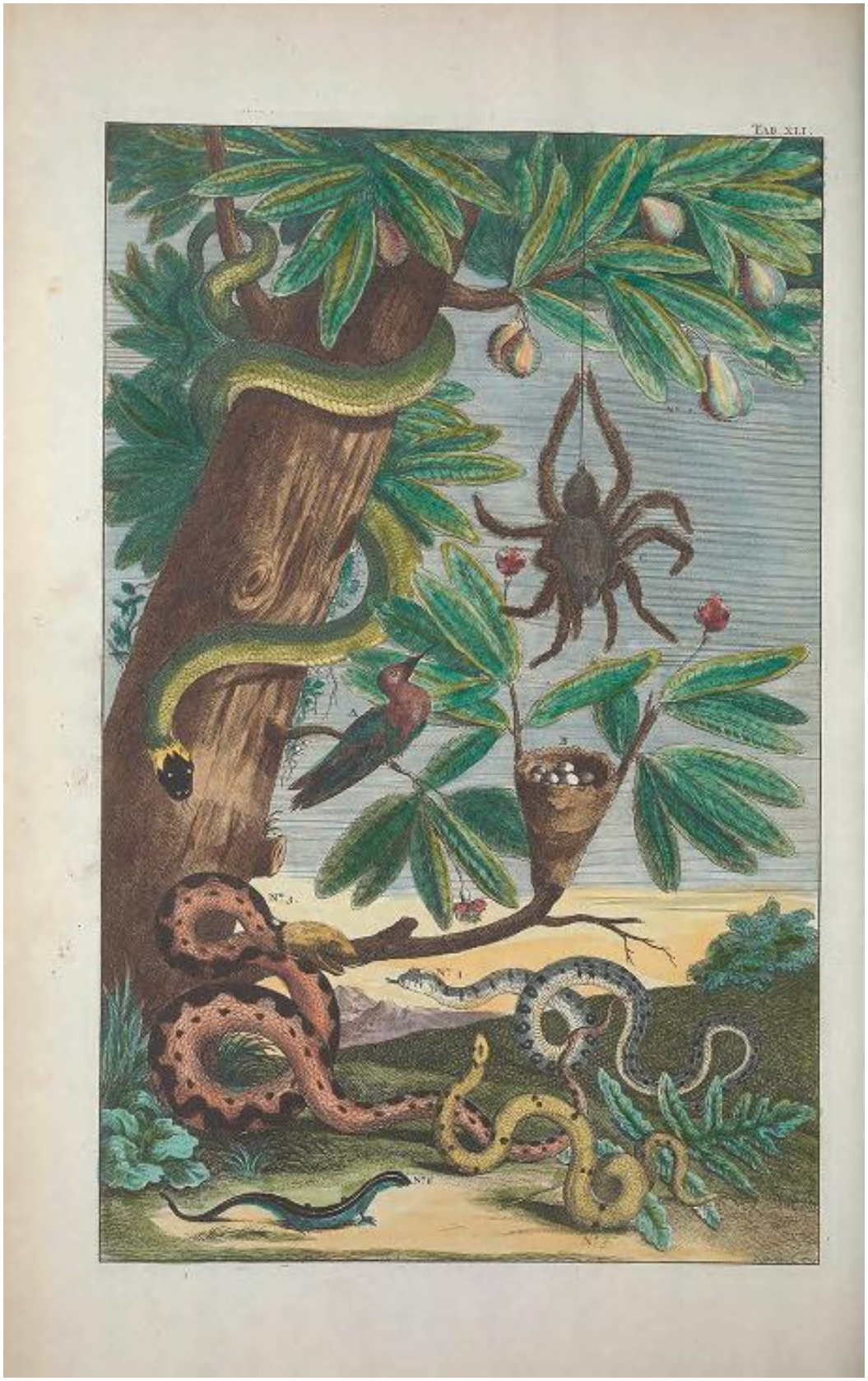
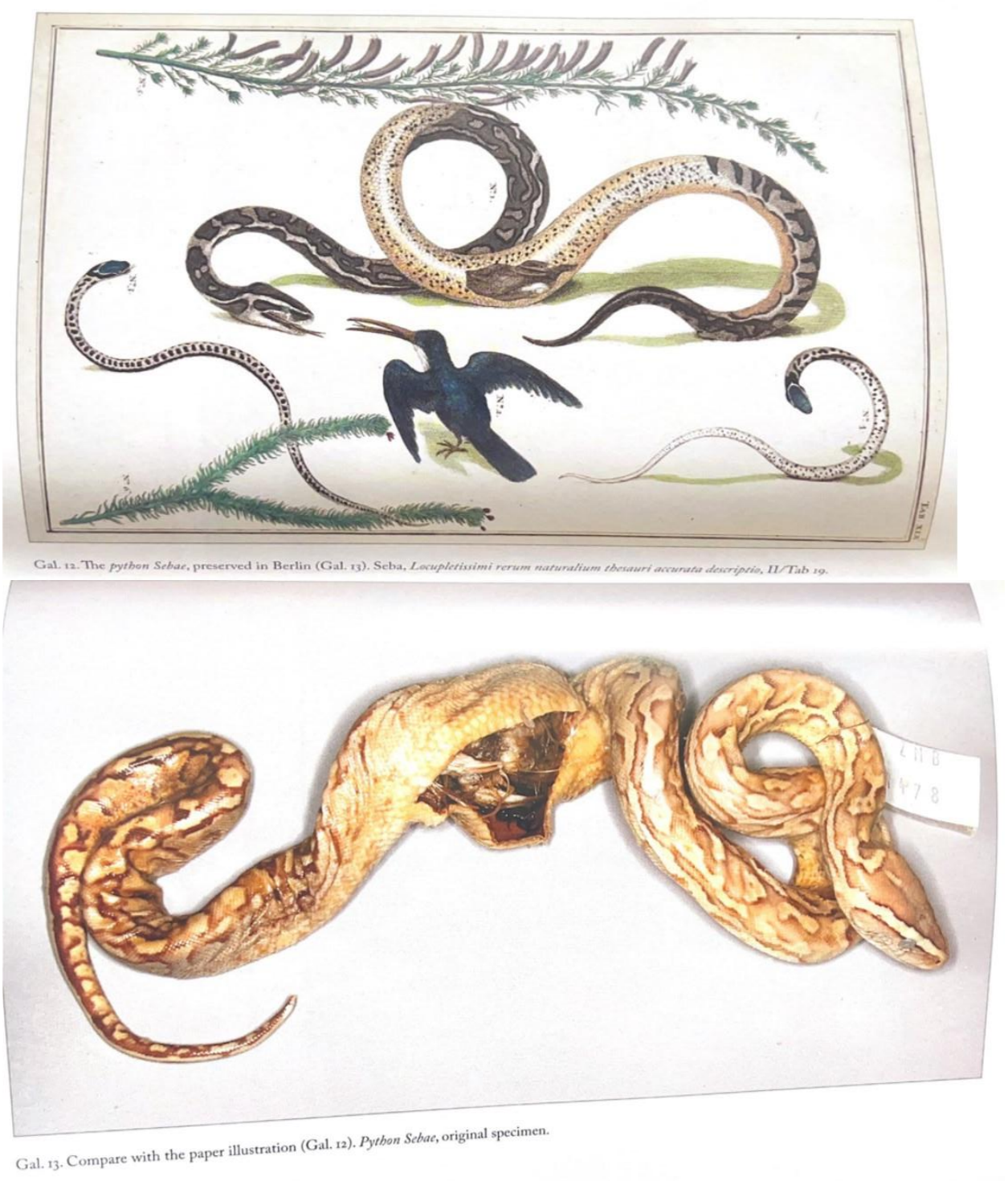


Figure 9. Artist unknown. *Tabula 41.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.



Gal. 12. The *python Sebae*, preserved in Berlin (Gal. 13). Seba, *Locupletissimi rerum naturalium thesauri accurata descriptio*, II/Tab 19.

Gal. 13. Compare with the paper illustration (Gal. 12). *Python Sebae*, original specimen.

Figure 10. Adapted from: Daniel Margócsy. *Commercial Visions: Science, Trade, and Visual Culture in the Dutch Golden Age*. 2014.

Figure 11. Artist unknown. *Tabula 37.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

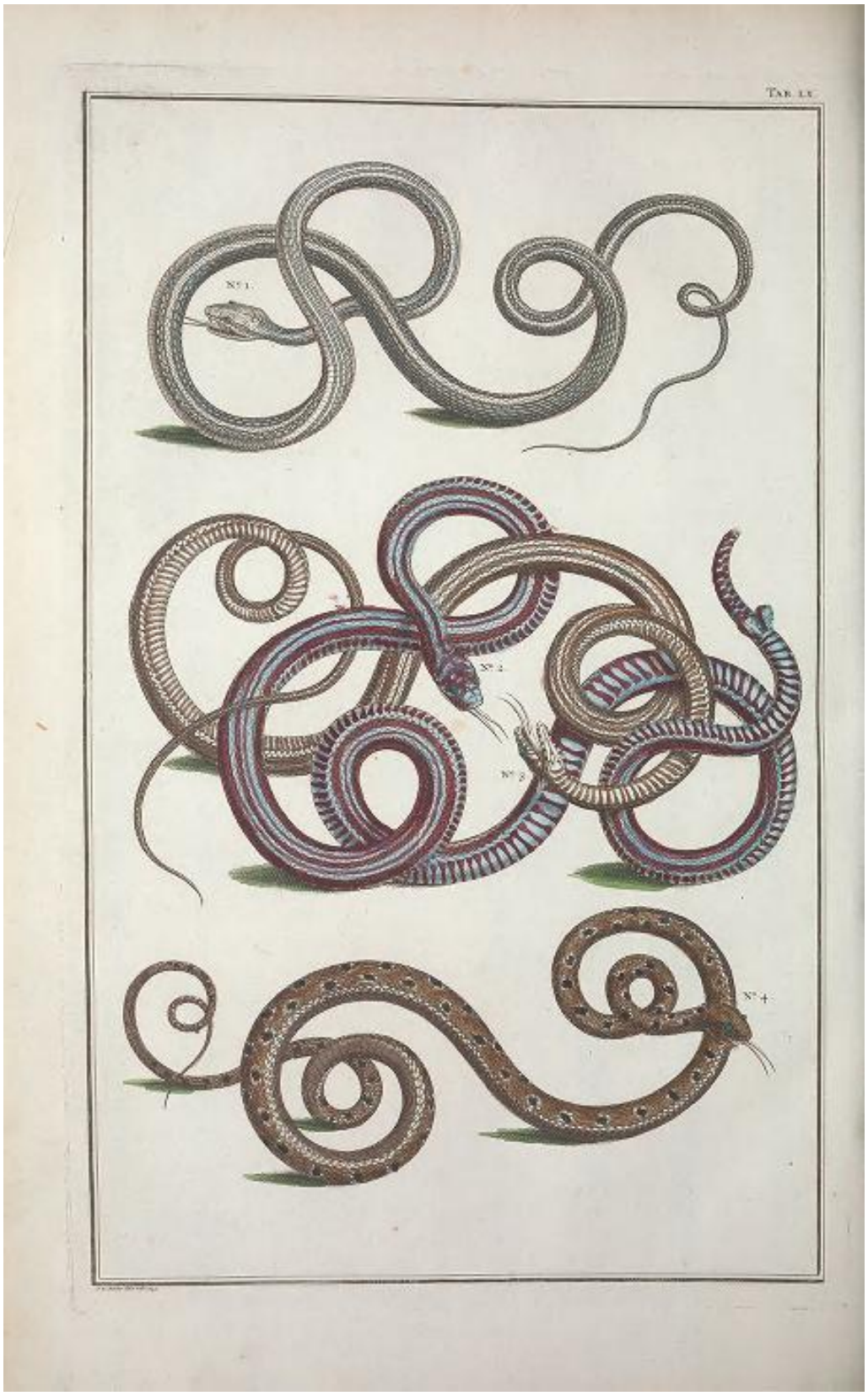


Figure 12. Artist unknown. *Tabula 60.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

Figure 13. Artist unknown. Manuscript illumination, c. 1200-1210. From: Folio 13 of British Library, Royal MS 12 C XIX.

Figure 14. Hans Sebald Behan. *The Labors of Hercules: Hercules Killing the Lernean Hydra*. Engraving, 1545. Cleveland Museum of Art.

Figure 15. Artist unknown. *Tabula 99.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

Figure 16. John Edward Gray. *1-3. Bengal Snake (Coluber Bengalensis); 4-7. Lozenge Snake (Coluber rectangulus).* Illuminated lithograph, c. 1830-1834. From: Gray, John Edward. *Illustrations of Indian zoology*.

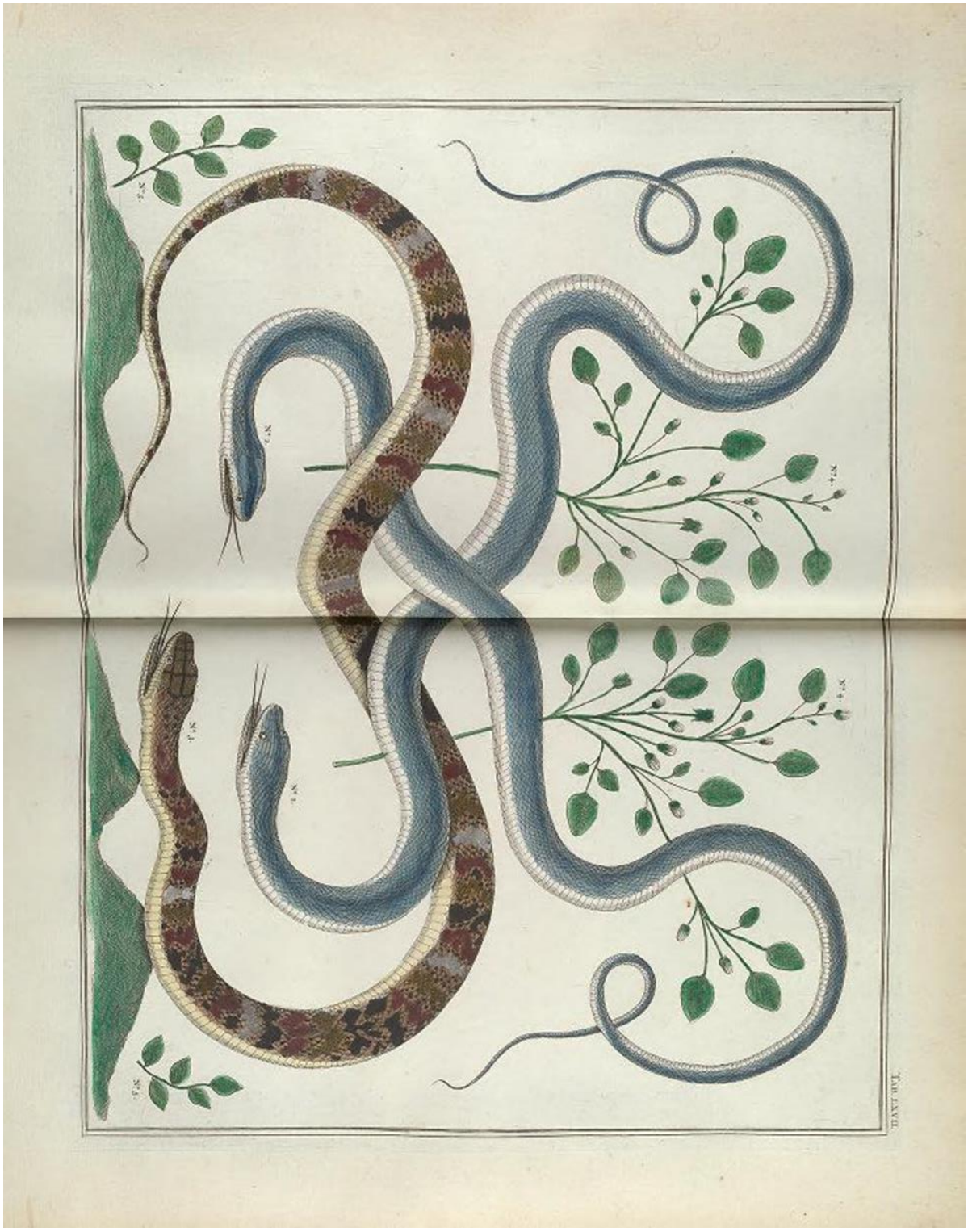


Figure 17. Artist unknown. *Tabula 67*. Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

Figure 18. Adapted from: Simmons, John E. and Snider, Julianne. "Image and Reality: Perception, Depiction, and Preservation of Nature." 2013.

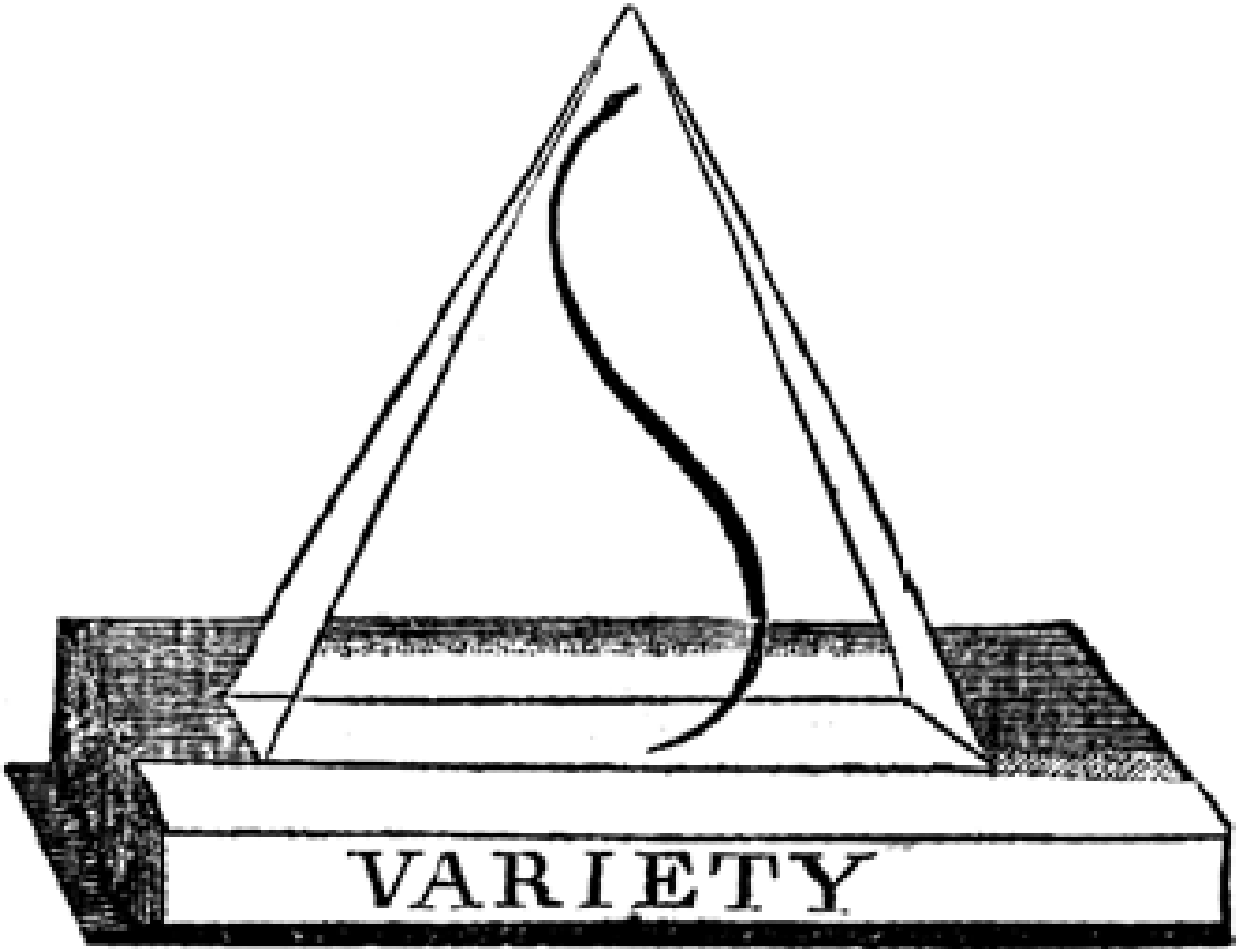


Figure 19. William Hogarth. *Variety*. Printed illustration, 1753. From: Hogarth, William. *The Analysis of Beauty*.

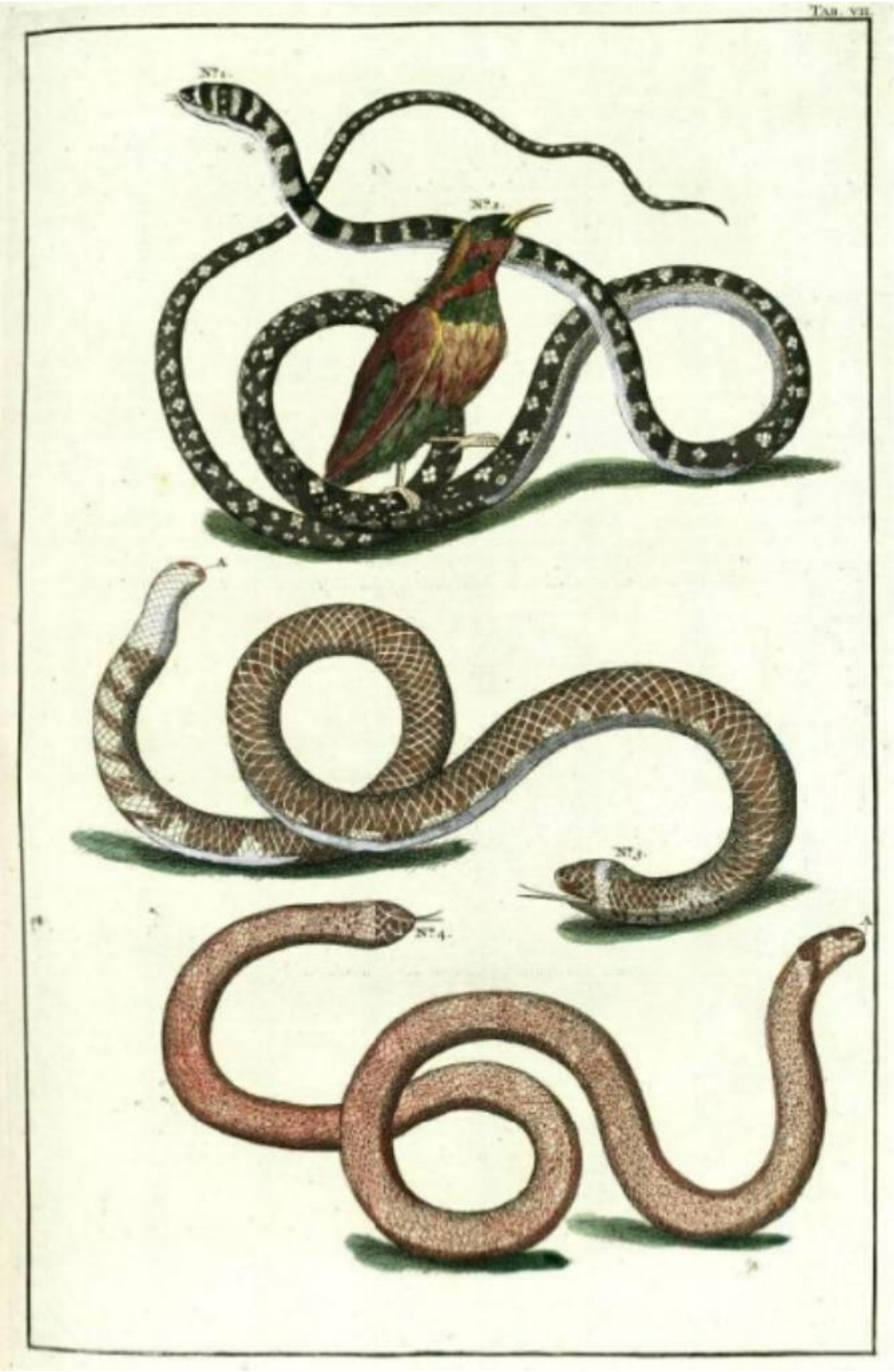


Figure 20. Artist unknown. *Tabula 7.* Illuminated copperplate print, 1735. From: Seba, *Thesaurus,* vol. 2.

Figure 21. Artist unknown. *Tabula 109*. Illuminated copperplate print, 1734. From: Seba, *Thesaurus,* vol. 1.