Merian and the Pineapple: The Diminishing Role of Visual Representation in the Early Modern Americas

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Since the Industrial Revolution and the Enlightenment in the mid-eighteenth century, the West has put sight upon a pedestal. Technological advancements, including television, radio, print, and urbanization not only precipitated visual consumerism, but also equated visuality with modernity and progress. Hearing, olfaction, and gustation posed a threat to the clear-sightedness of reason, because they represented gullibility, animal tendencies, and feminine vulnerabilities. While many historians have commented on the early modern sensory hierarchy, they focused on its development in Europe, but not in farther reaches of European empires. The historiography of the senses has largely overlooked colonial sensorium as the cornerstone of European imperialism. Various travelogues since the early eighteenth century have demonstrated how European travelers, in making sense of the New World and its unfamiliar physical stimuli, created new categories out of the old framework. These travelers blended indigenous sensory experiences with their cultural perceptions in the hope of reasserting Europe's visual hegemony across spatial and cognitive boundaries. However, they often revealed their limitations in both communicating foreign knowledge and understanding their social dynamics.

This essay explores the transformation of the European sensory experience in South America through the lens of a female naturalist, Maria Sibylla Merian. Born in Germany, Merian traveled to the Dutch colony of Surinam in 1699 to study tropical insects. She later recorded their characteristics and evolutions in *Metamorphosis Insectorum Surinamensium* in 1705. I will trace how colonial encounters reinforced, transformed, and undermined visuality by analyzing her private correspondence and four plates from *Metamorphosis* depicting an unripe pineapple (Exhibit A), a ripe pineapple (Exhibit C), a cassava (Exhibit D) and a watermelon (Exhibit E). On the one hand, Merian exploited Europe's visual supremacy. Her successful career as a scholar-entrepreneur challenged the objective sight and its underlying assumption of women's natural proclivity for emotion, not intelligence. On the other hand, her writing demonstrated that accurate

"experiences" required lowly senses, thus, questioning the ocular-centric Western culture and suggesting a flat, intersectional sensory model when perceiving the world.

Merian's apparent adherence to Europe's visual hegemony subverted it. She provided partially fictitious information about Surinam in *Metamorphosis* while emphasizing its credibility and rarity. She catered to the West's appreciation for the exotic nature and its sense of cultural superiority to enhance the book's market value, recruit potential buyers, and minimize her financial losses. As visuality became unreliable in transmitting colonial knowledge across the Atlantic, Merian displayed superb intellectual and entrepreneurial skills against the contemporary assumption of women's heightened sensibilities.

In eighteenth-century Europe, an increasing association between visuality and enlightenment thinking precipitated the need to devalue other senses. While sight started to overpower hearing, olfaction, and gustation, the bourgeois class also constructed a cultural hierarchy based on European sensorium to interpret other non-western cosmologies, and in the meantime, to solidify their own sense of epistemic superiority. For example, they considered the tribal people of Africa primitive because they lived in the magical world of the ear.[1] That is to say, since most Westerners could not experience the New World in person, yet nevertheless expected its barbarity, sight enabled the maximum enjoyment of a Eurocentric transcription, thus, laying the groundwork for commercializing colonial information through the print industry.

Merian acutely understood her contemporaries' recreational interest in exoticism, so she marketed two features of its visual representation—credibility and rarity. Credibility, in this case, appearing to denote accuracy, signified a close adherence to Western culture. In other words, a close adherence to what the West believed to be a credible description of South America. In the preface of *Metamorphosis*, Merian hoped the masterly engraved plates "would please both the connoisseurs of art and the amateur naturalists."[2] The inclusion of the connoisseurs of art and the prefix

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[1.] Leigh Eric Schmidt, "Hearing Loss," in *Hearing Things: Religion, Illusion, and the American Enlightenment* (Harvard Univ. Press, 2012), 20.

[2.] Maria Sibylla Merian, "From *Metamorphosis Insectorum Surinamensium (Or, Transformations of Surinamese Insects),* Trans. Sarah O'Brien-Twohig, *Review: Literature*

"amateur" indicated that Merian did not perceive her work as a profuse scholarly treatise but intended it to serve the general reading public. To establish the trustworthiness of the information in *Metamorphosis,* she introduced her drawings as "painted on vellum directly from life," "I myself sketched and observed from life," and guaranteed her readers that the original specimens "may be seen at my house."[3]

Despite her claim of credibility, Merian modified her work to satisfy her audience's expectation of an alluring yet decadent New World. On the one hand, she openly admitted some of the artistic adjustments. For instance, she included a "naturally twisted and curiously speckled" snake to "complete the decoration of" the cassava.[4] Coiling around the stem, the snake lifted its head and protruded its forked tongue as if it was ready to attack the beetle in the lower left corner. What's more, the snake's bloated stomach suggested that it still hadn't finished digesting its last prey. Merian also added a beetle to the image of a ripe pineapple "merely to decorate the plate" even though it was "not specifically American species."[5] Lastly, she chose to show the "very beautiful" butterfly twice on the same plate, both "resting and in flight."[6] The snake, the non-native beetle and the replicated butterfly in bright colors and curious shapes affirmed the Western imagination of the Americas as full of perils and wonders. More importantly, the bold confession of these deliberate creativities illuminated Merian's business insight. She was well aware that such "extravagant" changes would not compromise the "credibility" of her work but enhance it by accurately upholding her readers' understanding of the New World.
On the other hand, Merian concealed other modifications. The first plate of *Metamophosis* displayed an unripe pineapple. The fruit only occupied the upper part of the image. In fact, viewers were immediately drawn to the sharp leaves in exuberant colors, their sinuous movements, as well as the cockroach resting on top of the leaves. However, the leaves underneath the

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and Arts of the Americas 84, vol. 45, no. 1, (2012): 22, https://www.tandfonline.com/doi/abs/10.1080/08905762.2012.670451.

[3] Merian, *Metamorphosis*, 22-23.

[4] Merian, *Metamorphosis*, 26.

[5] Merian, *Metamorphosis*, 24.

[6] Merian, *Metamorphosis*, 24.

pineapple before maturity are not bright red with yellow dots. As illustrated by Exhibit B, they are dull maroon with ashy brown tips and without any dots. Furthermore, the insects were life-size, yet the fruit was not, rendering the former disproportional to the latter. Such a misaligned scale could easily mislead readers who had never seen a pineapple into perceiving it to be much smaller than reality. In the meantime, cockroaches prefer decaying or fermenting fruits and rarely turn to fresh fruits. Hence, it is hardly convincing that they would perch on an unripe pineapple in the lush forest of Surinam where there must have been sufficient rotten fruits for consumption. That is to say, the first plate incorporated fictitious features of a pineapple, so it was not as credible as Merian advertised. Again, the pineapple was ideologically credible. Rich colors, serrated leaves and a corrupt insect stood in stark contrast with the prickly young fruit. In combination, they formed an enticing, yet unsettling invitation of entry into Surinam's natural world. The juxtaposition of blooming livelihood and its surrounding threats allowed the more vulgar public to overcome the obstacle of distance, so they may directly "interact" with America's thrilling luxuries and dangers.

Exhibit A

Figure 1: Unripe Pineapple, Megan Baumhammer et al., "Merian and the Pineapple: Visual Representation of the Senses," in *Empire of the Senses: Sensory Practices of Colonialism in Early America*, ed. Daniela Hacke et al. (Leiden, South Holland: Brill, 2018), 192.

Exhibit B

Figure 2: "Pineapple," *Wikipedia*, March 10, 2023, https://en.wikipedia.org/wiki/Pineapple#/media/File:Ananas_01.JPG.

To conclude, Merian's artistic creativity satisfied the Western fantasy about the New World as primitive, perilous, and full of readily exploitable marvels. While her contemporaries transported the indigenous to London for tours and exhibitions, she relied on visuality to construct a replicable, portable museum, so people could observe the beautiful exoticism and then condescendingly comment on its inferior barbarity. By appealing to correct cultural preconceptions, she attracted subscribers and patrons who valued the sensorial access her work gave them to the "expected" unknowns. As a result, even though Merian's drawings appeared to endorse the ocular-centric Western hegemony, that she was able to manipulate visual representations to advance her own interests cast doubt on its objective rationalism and illuminated incredible business genius "unfit" for a woman. In a word, Merian used biases to combat biases.

In addition to propagating credibility, Merian tried to acquire recognition of rarity from other authoritative figures in science to increase the value of her work and secure more readership. Among them were German physician and botanist J. G. Volkamer II and British pharmacist and naturalist James Petiver, both of whom initially approached her to purchase natural specimens. Upon receiving their requests, Merian seized the opportunity to introduce her study, insisting that it was not just rare, but would remain so. Merian asserted that *Metamorphosis* contained "many wondrous, true things, who have never come to the light."[7] She subsequently complained about the horrendous environment she had worked in, "it is also very hot…so that nothing can be done except with great difficulty…all people surprised I'm still alive from it, since most people would have died of heat."[8] Hence, besides its academic, aesthetic and homogenic contributions, Merian's heavy investment in the trip, the dangers she survived, and her identity as a female naturalist all bestowed to her research a sense of rarity. What's more, she compared *Metamorphosis* with another natural history book by Jan and Casper Commelin, "it is even larger than the Work in the *Hori Medici Amstelodamensis Rariorum.*"[9]

[7.] Maria Sibylla Merian, "Letters by Maria Sibylla Merian," trans. Google Translate, The Maria Sibylla Merian Society, (2014). https://www.themariasibyllameriansociety.humanities.uva.nl/sources/letters/.

[8] Merian, "Letters."

[9] Merian, "Letters."

Elevating her incomplete work to a higher standing than that of a renowned, male-authored publication not only bolstered its value to gain recognition but also unveiled Merian's unfeminine confidence in her intellectual and artistic skills. After establishing the worth of *Metamorphosis*, she comfortably demanded assistance from Volkamer and Petiver, "ask other sensible lovers to think about it" and "advise me What the Lovers of it share shall my friendship be."[10]

While both were impressed by her work and responded with more questions and advice, Merian did not solely count on others' kind words to promote her publication. She advertised *Metamorphosis* in *The Amsterdamse Courant* in 1703 and 1704. One of the posts read, "Maria Sibylla Merian presents to all curious enthusiasts her unusual Surinam Insect Work, …, by her self-observed in America, …, how these in night and day…change, each on its own food, such as Herbs, Flowers, Fruits."[11] Phrases like "curious enthusiasts," "unusual," "by her self-observed" "night and day" and "each on its own food," appealed to her potential readers by articulating the challenges inherent in the research process and underscoring the authenticity and rarity of her results. To sum up, Merian was a cunning culture manipulator who successfully exploited Europe's visual supremacy. Her academic and business achievements thus challenged both the notion of the objective eyes and its gendered assumption of women's ignorant sensibilities.

In the meantime, as an extremely visual book, *Metamorphosis* did not just question sight's ability to convey foreign knowledge. The complementary written descriptions of each picture prioritized lowly senses, such as taste and smell. Hence, a comprehensive communication of natural experiences across spatial and cognitive boundaries required more than the eyes, but an interplay of all senses. The following section will scrutinize three different plates in *Metamorphosis* to explicate how Europe's ocular-centric culture failed to conquer the Americas.

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[10] Merian, "Letters."

[11] Maria Sibylla Merian, "Archivalia and Advertisements," The Maria Sibylla Merian Society, (2014). https://www.themariasibyllameriansociety.humanities.uva.nl/sources/advertisements/.

The first plate was a ripe pineapple. In the painting, the pineapple exuded a golden, luxurious glory. A crown of spiky leaves added to its regal appearance. In combination with the preceding plate of an unripe pineapple, readers were able to directly visualize an exotic fruit and through visualization, imagined the riches and seductions of the New World. Yet sight alone fell short in reconstructing a pineapple. In fact, Merian's subsequent explanation started not with how the fruit looked nor with the insects on top of it, but with its gustatory characteristics. She cautioned her readers that "if [the pineapple] is not peeled, enough sharp hairs remain on the flesh which prick one's tongue while eating and cause great pain."[12] After verbally "revealing" the inner flesh, she introduced its taste as resembling "mixed grapes, apricots, red currants, apples and pears."[13]

[12] Merian, *Metamorphosis*, 23.

[13] Merian, *Metamorphosis*, 23.

Exhibit C

Figure 3: Ripe Pineapple, Merian, *Metamorphosis*, 24.

Merian then brought attention to its attractive, strong smell— "when the fruit is cut open the whole room smells of it,"— and ended the first paragraph with its culinary potentials, "[pineapples] are eaten both raw and cooked, and one can also make wine or distill brandy from them; both taste delicious and have an unsurpassable flavor."[14] Her prioritization of the pineapple's gustatory delight over its visual appeal diminished the importance of the picture. In other words, the exuberant drawing no longer served as an end, but became a means of inviting the appetite, so readers would then proceed into the imaginative process of smelling, touching, and peeling the ornamental rind. What's more, eating the pineapple came to symbolize the enjoyment of fresh delicacy after avoiding the exterior spikes and constituted a better illustration of the allures and dangers in Surinam. Megan Baumhammer and Claire Kennedy in their essay, "Merian and the Pineapple: Visual Representation of the Senses," has made a similar remark, "the taste, or the idea of the taste of a pineapple, is what is important."[15] They further argue that even the image itself transmitted smell—the twice portrayal of a beautiful butterfly in luminous green flecks suggested the pineapple's heavenly scent.[16] After all, butterflies often linger around fragrant plants.

The second plate portrayed a tropical root vegetable, the cassava. The top right section featured a large caterpillar with a blood-red head and striped body feeding on the leaves. The bottom left presented the fruit—a long, tuberous root that was brown on the outside and white on the inside. Finally, the larvae of the caterpillar were nesting in the half-eaten fruit on the bottom right corner. Without proceeding into its complementary text, the drawing itself had already transcended the visual sense, for the inside of the cassava fruit implied edibility. After identifying the plant, "this root is known as the *Cassava*," Merian immediately turned to its culinary value, "from it is baked the bread usually eaten by Indians and Europeans in America."[17] The following passage appeared more like a recipe in a

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[14] Merian, *Metamorphosis*, 23.

[15] Baumhammer et al., "Merian and the Pineapple," 199.

[16] Baumhammer et al., "Merian and the Pineapple," 200.

[17] Merian, *Metamorphosis*, 25.

cookbook than an encyclopedia entry, “the root is grated, then one presses out the juice, which is very poisonous; then the pressed-out root is laid on an iron plate… it is then baked like a rusk and has the same taste as a Dutch rusk.”[18] To introduce the cassava to her audience, Merian first established its popularity as a food among indigenous and European travelers, then detailed the process of cooking it before comparing its taste with that of a well-known dish from the Netherlands. In doing so, she chose to highlight cassava’s practical importance in human agricultural society as a food crop, rather than its scientific or artistic properties.

Likewise, Merian observed that caterpillars would cause “a great deal of damage to this plant.”[19] “Damage,” in this case, did not denote the aesthetic deformation of the leaves. Instead, it referred to the destruction of the cassava fields “planted for human consumption.”[20] Again, although Merian proclaimed to document the unembellished nature of Surinam, she illuminated the “human” side of the cassava—it was planted by human for human uses. Furthermore, while pineapples served as occasional refreshments whose consumption simply required peeling off the rind, cassava was an originally toxic staple food. That means the indigenous tribes must possess advanced agricultural skills to figure out how to process the raw root and promote its mass production, which contradicted their Western depictions as ignorant and uncivilized. Therefore, visuality alone could neither account for exotic sensorium nor substantiate Europe’s cultural superiority.

[18] Merian, *Metamorphosis*, 25.

[19] Merian, *Metamorphosis*, 25.

[20] Merian, *Metamorphosis*, 26.

Exhibit D

Figure 1: Cassava, Merian, *Metamorphosis*, 25.

The third plate showed the life cycle of a watermelon—it started as small yellow flowers in the upper right corner and then grew into a fruit in the lower middle. The melon's cross-sectional portrayal indeed provided some information about its biological features and level of maturity. To be more precise, the gradient color of the rind, from green on the exterior to softer white on the interior, suggested that the "hard skin" became "less hard towards the inside of the fruit."[21] In the meantime, the dark, scattered seeds implied its full ripeness, for "the seeds [were] red and turn[ed] black when the fruit [was] over-ripe."[22] These visual elements, however, were insufficient, as Merian once again began her written description with the watermelon's gustatory characteristics, "the flesh is shiny and melts in the mouth like sugar."[23] She not only fostered imaginations of juicy flesh bursting on the tip of one's tongue but also established the melon's high commercial value by comparing its taste with that of sugar, another precious commodity in eighteenth-century Europe. That watermelon's economic potential in transatlantic commerce was in its taste, not in its appearance further suggested the diminishing role of visuality in colonial exploitation.

[21] Merian, *Metamorphosis*, 27.

[22] Merian, *Metamorphosis*, 27.

[23] Merian, *Metamorphosis*, 27.

Exhibit E

Figure 2: Watermelon, Merian, *Metamorphosis*, 26.

Meanwhile, not only did Merian not mention the yellow blossoms until the end of the text, but she also even characterized them as "small and insignificant."[24] That is to say, even though her European audience tended to find flowers more aesthetically appealing, Merian, having personally "interacted" with the watermelon, prioritized the dull-looking fruit. This choice, like her presentation of the cassava, reflected practical considerations—while the beautiful flowers signified the melon's early growth stage, the fruit, particularly the flavor of the fruit provided greater insights into its edibility, the most important characteristic of any food. To note, I am not suggesting that taste simply superseded sight in explaining exotic articles. Despite its rising predominance in the New World, it still had to work with sight to produce a more comprehensive narrative.

Moreover, Merian did not just present watermelon as a dispensable delicacy for an occasional indulgence. Instead, she accentuated its high nutritious value against the medical theory of humourism which had long prevailed in Europe until the advent of germ theory in the 1850s. According to Merian, the watermelon with "a pleasant taste" was "healthy" and "very refreshing for the sick."[25] Humourism, on the other hand, believed that human bodies consisted of four humors—blood, phlegm, yellow bile, and black bile—whose imbalance led to sickness. Under this theory, different foods and drinks had distinctive properties that would affect the balance of humors. For instance, hot or dry foods increased the level of yellow bile, while cold or wet ones precipitated phlegm production. In this case, watermelon was regarded as a cold food capable of disrupting one's bodily equilibrium. In short, Merian asserted that a fruit thought to cause illness actually cured it. This observation, despite containing some exaggerations, more closely aligned with the present-day perception of watermelons as a summertime refreshment, revealing the limit of sight in describing natural curiosities. After all, she likely relished a juicy melon after one of the arduous excursions in the horrendous heat. In addition, Merian's rejection of a well-established medical convention demonstrated her intellectual ethics. Although she had to make some compromises to "please" her readers as illustrated in the previous section, Merian was able to preserve the essential integrity of her work— she truthfully reported the watermelon

[24] Merian, *Metamorphosis*, 27.

[25] Merian, *Metamorphosis*, 27.

even if doing so might alienate some readers. In essence, Merian was not meek nor sensitive, for she fearlessly defended her academic stance when necessary.

Metamorphosis, a highly visual work whose publicity relied on Europe's visual supremacy, unveiled visuality's inadequacy in communicating colonial knowledge across the Atlantic. Understanding the pineapple, the cassava and the watermelon demanded an intersection of all senses, especially the inferior and animalistic ones. Therefore, imperialism did not reinforce ocular dominance, but alluded to inevitable sensual interplays when exploring the world. What's more, Merian discerned visual deficiencies and incorporated other senses into her book illuminating her scholarly genius against the contemporary denial of female intellectuality because they could not "see" the truth.

Yet the non-ocular centric *Metamorphosis* still failed to overcome the constraints of visuality, because accessing it required sight. In other words, even though Merian endeavored to recreate Surinam's nature through lowly senses, reading only allowed its superficial understanding. After all, most passages employed vague analogies. Taking the pineapple as an example, European readers had to imagine its "unsurpassable flavor" by making habitual associations with that of "mixed grapes, apricots, red currants, apples and pears."[26] Even if they had tasted all these fruits, it was unlikely they did so in a mixed manner. Moreover, Merian did not mention the ways in which the indigenous people of Surinam consumed a pineapple. Instead, she detailed its culinary contribution to two traditional Western cuisines, wine and brandy. Since early modern Europeans made wine mainly from grapes, knowing pineapple could produce "delicious" wine and brandy only created misleading gustatory expectations.[27] Put simply, through reading, subscribers of *Metamorphosis* gained "knowledge of the pineapple," not "knowledge about the pineapple."[28]

To conclude, while Merian prioritized smell and taste in her writing, mere words failed to accurately communicate a completely alien land with completely alien physical stimuli to those back in Europe. However, since

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[26] Merian, *Metamorphosis*, 23.

[27] Merian, *Metamorphosis*, 23.

[28] Baumhammer et al., "Merian and the Pineapple," 199-200.

many of her readers did not have the opportunity to immerse into the natural world of Surinam at the time she published *Metamorphosis*, words illuminating an interplay of senses remained the most effective way of exploring the unknowns. As the amateur masses curiously imagined the pineapple wine, the cultural elites with a "discerning" taste condescendingly commented on the vulgar natives who made wine out of pineapples.

Maria Sibylla Merian wrote *Metamorphosis Insectorum Surinamensium* in the hope of recreating the natural history of Surinam to interested people. This was an extremely difficult task because of the gap between experiencing the overwhelmingly sensuous exoticism and describing this experience to those with an already well-developed expectation of what it should look like. Under Merian's careful visual manipulation, her readers were able to relish the rich natural depictions and through envisioning the European empire, celebrated its hegemonic expansion into the new territories. However, as an entrepreneur-naturalist whose achievement relied on the Western sensorium, Merian not only challenged sight's presumed objectivity but also undermined its underlying cultural and gender superiorities. In the meantime, by fostering imagined taste, touch, and smell of the indigenous plants, *Metamorphosis* questioned the ocular-centric hierarchy and suggested a flat, intersectional sensory model in perceiving the New World.