

COCHINEAL, BLOOD OF THE PRICKLY PEAR

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Figure 1. Harvesting cochineal. [José Antonio Alzate y Ramírez](#), 'Memoria sobre la naturaleza, cultivo y beneficio de la grana,' 1777 [facsimilar edition, Mexico City, Archivo General de la Nación, 1991], plate 7.

Over the course of three centuries, the cochineal dye, originally from the valleys of Oaxaca in central Mexico, was one of the most expensive and coveted sources of red in the Atlantic and the Mediterranean worlds. A deep, intense carmine, of great durability, cochineal worked its alchemy to color the modern world. The choice of red for all luxury textiles, it suffused the state robes of royalty and nobility, military uniforms, and folk costumes. The clothes of the Ottoman sultan were steeped in cochineal red, as were the togas of cardinals in Rome. And some of Europe's most famous painters, from Tintoretto to Titian, from Rembrandt to Van Gogh, used cochineal to signal the dignity and opulence of their sitters and make their canvases flicker with life and fire.

Properly speaking, the dye is the pulverized body of the cochineal insect, *Dactylopius coccus*.

The insect produces carminic acid to defend itself against predators and spends most of its life feeding on cacti of the genus *Opuntia*. Fittingly, in Nahuatl, the dye is called *nocheztli*, meaning blood of the prickly-pear cactus (Figure 1). Some of the earliest representations of cochineal appear in the records of tributes imposed by the Mexicas or Aztecs on the peoples of their vast empire (Figure 2). The dye made its first journey across the Atlantic among the gifts sent by Hernán Cortés to Emperor Charles V. By the seventeenth century, cochineal, a monopoly of the Hispanic Monarchy, constituted an extraordinary source of revenue, surpassed only by silver. Like silver, it travelled the route of the Spanish Galleon. Stocked in leather pouches, cochineal arrived first in the Spanish harbors of Cádiz and Seville, whence it was traded and distributed to the world's most renowned textile-producing centers, such as Toledo, Segovia, Florence, Milan, Lyon, Amsterdam, and Venice, and as far as Cairo and Goa. It was only after the invention of

Comentado [DMT1]: Much more could be said about the uses and circulation of the red dye. Could you please add a paragraph or two? An illustration would be good.
I have included more information on circulation and uses of cochineal. I dread to include images because, as far as I understand, I am responsible for acquiring the copyright permissions and I have no idea how to go about asking for permission to use a Titian.

This image shows a collection of hand-drawn sketches of various Native American artifacts, arranged on a piece of aged, yellowed paper. The sketches include:

- Two long, beaded necklaces at the top left, one with green and yellow beads and the other with green and white beads.
- Two feathered headdresses in the upper middle, one with a red band and the other with a yellow band.
- Two decorated boxes or containers in the upper right, one with a red and white checkered pattern and the other with a red and white striped pattern.
- Two more feathered headdresses in the middle left, one with a red band and the other with a yellow band.
- Two decorated boxes or containers in the middle right, one with a red and white checkered pattern and the other with a red and white striped pattern.
- Two decorated boxes or containers at the bottom left, one with a red and white checkered pattern and the other with a red and white striped pattern.
- Two decorated boxes or containers at the bottom right, one with a red and white checkered pattern and the other with a red and white striped pattern.

The sketches are drawn in a simple, illustrative style, using colored pencils or dyes. The paper is aged and has some staining and wear.

Comentado [DMT2]: Please provide full citation and permission if needed.
Manuscript is held at the MNA. I will be going this week to see about permissions

Given its tremendous commercial potential, it is unsurprising that other European powers, in particular the British and French monarchies and the Indies trade companies, sought to secure a stake in its production and distribution. In his *Voyage to Jamaica* (1725), Hans Sloane, founder of the British Museum, dedicates a few lines to ‘this good commodity.’ Referencing two of the

more popular theories about cochineal, e.g., that it was a worm or a berry (the name '*grana cochinilla*,' as the dye is still called in Mexico, is a vestige of this belief), Sloane identified the plant on which it grew as '*Opuntia maxima*' (Figure 3). This 'tree' had spread across the island of Jamaica, brought there from the American mainland by a Spanish priest, but cochineal did not. As Sloane wrote, in Jamaica no one had ever observed 'that Worm upon any of their Trees.' Privateering, not animal husbandry, was the surer way to acquire the dye in Jamaica.

Some decades later, in 1777, French botanist Nicolas-Joseph Thiéry de Menonville risked life and limb to travel through the cochineal-producing valleys of Oaxaca as a spy, on a mission to extract cacti and cochineal and gather the information necessary to reproduce them in the French dominion of Saint Domingue. For his courage, he earned the title of royal botanist of the French king. But his endeavor to make the *jardin du roi* in Port-au-Prince a growing field for cochineal failed. In the colonial contexts of the modern world, where medicines, plants, animals, books, and practices travelled globally, cochineal invites us to think about the limits of circulation and networking. Surely, not all things circulated equally easily; sometimes, not even spying or piracy managed to break secrets or monopolies exerted over certain stuffs. Why?

Comentado [aR3]: I think it's important to keep this here because I think it is important to call attention to the fact that not everything flows. There are obstacles in the way the way things circulate. It might just introduce a kernel of doubt or a suggestion in the mind of the reader



Figure 3. Hans Sloane, 'The manner of propagating, gathering & curing ye Grana or Cochineel, done by an Indian in the Bishoprick of Guaxaca in the Kingdom of Mexico in America,' *Voyage to Jamaica*, vol. 2, Plate IX, 1725. Permission granted by John Carter Brown Library.

A reading of the most complete treatise on cochineal offers an answer. The same year Thiéry de Menonville made his way from the port of Veracruz to Oaxaca and back, José Antonio Alzate y Ramírez, one of New Spain's most respected and prolific scholars, was charged by Viceroy Antonio María de Bucareli with producing a detailed report on cochineal. Alzate's 'Memoria sobre la naturaleza, cultivo y beneficio de la grana' (Treatise on the Nature, Cultivation and the Processing of Cochineal) is, like the rest of his oeuvre, an enlightened effort to inventory and study the commercial, economic and medical uses of Mexico's natural treasures. Alzate begins his 'Memoria' in a critical fashion typical of enlightened Creole discourse in Hispanic America, dismissing the 'absurd and ridiculous things' written by European naturalists who lacked first-hand knowledge of the thing in question. No, the cochineal 'mother' does not wander about the

Comentado [aR4]: Beneficio (de minas, de grana, or whatever) refers to chemical and physical processes necessary to extract valuable substance.

cactus but instead stays attached to one place during its entire adult life. Yes, the species does have male individuals and thus offspring do not spontaneously materialize through putrefaction but are the product of sexual reproduction. Against such non-sense, Alzate presents the results of his own experiments and observations of the insect's morphology and life cycles.

Comentado [aR5]: I have decided we need this because it gives a much fuller picture of a Creole intellectual as a hands-on naturalist, not just as a collector of information produced by others.

For precise information on the cultivation and harvesting of cochineal, Alzate relied upon his Oaxacan informants. The cultivation of cochineal was a labor-intensive task carried out exclusively by indigenous communities. It depended upon detailed knowledge of seasonal cycles of cold and rain, and upon regimens of care such as building nests for the insects before releasing them on the cactus, sheltering them from the cold, and protecting them from predators and dirt by brushing them gingerly with squirrel and deer tail hairs. To harvest the insects after they reached maturity, the *indios* scraped them gently off the cacti and then 'suffocated' them, either by drying them in the sun (although this diminished their weight, hence their value) or by placing them in wood-fired saunas or *temazcales* (Figure 4). The final product, cleaned of impurities and chaff, was packed in leather bags, shipped to regional trading centers, then on to the ports of Veracruz and Acapulco, whence the red dye made its way around the Atlantic and Pacific worlds. In the process, adulteration by mixing cochineal with sticks, brazil wood, or grains was not uncommon.



Figure 4. Instruments employed in the preparation of the dye. José Antonio Alzate y Ramírez, 'Memoria sobre la naturaleza, cultivo y beneficio de la grana,' 1777 [facsimilar edition, Mexico City, Archivo General de la Nación, 1991], Plate III.

For Alzate, the intricate native care required for the production of the dye was one of the reasons why cochineal could not be transplanted from New Spain to other locales. Thus, Thiéry de Menonville's 'theft' of cacti and insects and his unsuccessful attempt to 'cultivate' cochineal in Saint Domingue were doomed to fail. 'The French colony' Alzate wrote, 'expected great profit, but their hopes have vanished because the trade in cochineal will continue only as long as it is cultivated by the phlegmatic and astute Indian artisans: it is not a trade that can be of any utility for other castes.'

Comentado [aR6]: I think we need to keep this here. It is key that Alzate divides the world into castes, each of them suited for different kind of work.

Alexander von Humboldt would reverberate these conclusions some years later in his *Essai politique sur le Royaume de la Nouvelle Espagne* (1811), a statistical treatise on New Spain's resources, from its mines and demographics to its agricultural products – including, together with ordinary staples like maize and potatoes, cochineal and vanilla. The passages devoted to cochineal draw heavily on Alzate's 'Memoria,' although Humboldt does not cite the source of his knowledge explicitly. Like Alzate, the Prussian suggests that 'despite the excessive price of cochineal,' there are no incentives to cultivate it outside New Spain, 'in countries where one knows how to take advantage of time and work.' For Alzate, on one hand, cochineal thrived locally because Mexico's native artisans had the temperament suited to produce it: artistic agility and the capacity for hard work. Humboldt, on the other hand, thought cochineal implied an amount of toil that was simply not commensurate with the 'universal' capitalist values of labour and time. It was so much work that it was not worth it to people who cared for their time.

While agreeing with Alzate, that it was impossible to transplant cochineal production to another land, Humboldt represented a very different approach to the natural world and its riches. For Humboldt, nature was available to man in the form of resources, that is, as things that can be counted and standardized, are transferrable from one place to another, and are thus available for development and financial speculation. As the Prussian aristocrat mused, 'the smallest corner of the world, if it may come to be the property of European colonists [...], will become witness to the activities that have engaged our species in the last centuries. A colony brings together in a small space all the precious things discovered by man on the surface of the globe.' Cochineal, despite its preciousness, would find no room in such a small place because it did not translate into values like time or money.

Comentado [aR7]: I revised this heavily to get my point across better. Maybe it did not come across in the last version, but the opposition I am setting up here is not between diligent and lazy Mexicans. Humboldt does not think Mexicans are lazy. He thinks they work too hard. The contrast, then, is one between a tendency to standardize worth, as time and money (such is Humboldt), as opposed to a contingent and historical situated way of natural knowledge (Alzate). This is the point I am trying to make here, as I hope becomes clearer in the following paragraphs. Overall, I advocate to remembering the 'history' in 'natural history' – that is, in this case, that color has a history, even if we forget that today.

Alzate, on the other hand, had very serious misgivings about translation, whether it meant moving between languages or between geographies. He assiduously opposed the first lessons in Linnaean taxonomy, which arrived in New Spain in 1789 along with a botanical garden and a chair of botany. He opposed the Linnaean system on moral and intellectual grounds, in the former case because, as a priest, he believed Linnaean sexual classifications exposed young men to lascivious thoughts; and in the latter, because the new nomenclature erased the original or older names of things. For Alzate those words held knowledge about the origin, meanings, and uses of things. Against an abstract, latinate system of universalization, Alzate upheld a Neoplatonic vision of natural history as the contingent coming together, in dense and complex ways, of words and things. In our twenty-first century world, color lacks history; one is mostly unaware of where the colors one inhabits come from. Alzate's 'Memoria' invites us to rethink perfect red as an assemblage of plants, insects, meteorological conditions, qualities of soil and climates, and temperaments, of places and of people.

In his insistence on the historical, that is, on the local, temporal, and practical dimension of knowledge, Alzate was not an exception among the Creole scholars writing at the height of the Spanish and Portuguese Enlightenment. Indeed, Hipólito Unanue, Antonio de León y Gama, and José Francisco de Caldas, his contemporaries, produced dense and nuanced meteorological, antiquarian, and cartographical natural histories as well. At stake in each of their enterprises was also the vindication of their own claims to participate in imperial politics precisely because they knew local nature more intimately than anyone else.

Comentado [aR8]: I was not sure what you were asking when you suggested I bring in other Creoles. I feel this paragraph is an afterthought, although I have written extensively on the political dimensions of Creole knowledge before. But I feel this paragraph just takes everything into a flat direction. I am much happier with making this piece not about Alzate and Humboldt – even as I describe Creole production of natural knowledge – but on the situated, local, practical histories of things. I am sure others in this collection will involve Creoles extensively, so the reader can make connections with this piece.

Further reading

José Antonio Alzate y Ramírez, 'Memoria sobre la naturaleza, cultivo y beneficio de la grana,' 1777 [facsimilar edition, Mexico City, Archivo General de la Nación, 1991].

Amy Butler Greenfield. *A Perfect Red. Empire, Espionage, and the Quest for the Color of Desire*, New York, HarperCollins Publishers, Inc., 2005.

Alexander von Humboldt, *Essai politique sur le Royaume de la Nouvelle Espagne*, Paris, 1811.

Roberto Moreno de los Arcos, *Linneo en México. La controversia sobre el sistema binario sexual (1788-1798)*, Mexico City, UNAM, 1989.

Museo del Palacio de Bellas Artes, *Rojo mexicano. La grana cochinilla en el arte*, Ciudad de México, 2017.

Carmella Padilla and Barbara Anderson, *A Red like no Other. How Cochineal Colored the World*, New York, Skira Rizzoli, 2015.

Elena Phipps, *Cochineal Red: the Art History of a Color*, New York: The Metropolitan Museum of Art/Yale University Press, 2010.