

Landscape and History in the Early Modern Atlantic Basin¹

PETER C. MANCALL

Andrew W. Mellon Professor of the Humanities
University of Southern California

The arrival of Europeans in the Western Hemisphere initiated unprecedented changes in American communities and the lands they inhabited. These shifts reflected the catastrophic decline in the population of Indigenous peoples in the Western Hemisphere. As the environmental historian Alfred Crosby explained, Europeans transporting Old World pathogens and livestock across the Atlantic introduced new dangers to Native Americans, which contributed to enormous decline in their numbers from c. 1492 to c. 1800. At the same time, the arrival first of Europeans and then of enslaved Africans contributed to wide-ranging changes in the ways that human communities used resources. There were many visible manifestations of these changes across American landscapes, including the spread of European-style farming, fenced Old World livestock, and plantation-style agriculture.²

It is tempting to think about American landscapes in two stages: before the arrival of Europeans, when Indigenous peoples determined land use patterns; and after the arrival of migrants who took possession of land and modified it to meet their purposes, often regardless of the implications for those who already lived there. But environmental

1 Read 26 April 2019.

2 See Alfred Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Publishing Group, 1972); Alfred Crosby, "Virgin Soil Epidemics as a Factor in the Aboriginal Depopulation in America," *William and Mary Quarterly* 3d Ser. 33 (1976): 289–99; and Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (Cambridge: Cambridge University Press, 1986). For the implications of the growing European population on American landscapes see, e.g., William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill & Wang, 1983), 127–56; and Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600–1860* (Cambridge: Cambridge University Press, 1995), 63–72. The nadir of Indigenous populations was likely around 1900. According to one estimate, there were approximately 1.9 million Native peoples in North America in 1500 and less than 550,000 four centuries later; see Douglas H. Ubelaker, "North American Indian Population Size: Changing Perspectives," in *Disease and Demography in the Americas*, eds. John W. Verano and Douglas H. Ubelaker (Washington, DC: Smithsonian Institution Press, 1992), 173.

change in the early modern Atlantic Basin (or anywhere) was rarely so simple.³ Alterations in American landscapes, which began long before Europeans arrived but accelerated after they came, happened slowly in many places. The sluggish pace of change was also evident in human understanding of the natural world, a reflection of the role that culture played in environmental perceptions, including the definition of landscapes.⁴

Here I consider the history of 16th-century Atlantic landscapes in chronological context. I pay particular attention to specific visual evidence: a series of 14th-century paintings on wooden boards in a church in Fréjus in the South of France; an atlas created in 1547 in the possession of the Huntington Library in San Marino, California; a late-16th-century illustrated natural history of the Caribbean Basin at the Morgan Library in New York City; and 16th-century watercolors from coastal North Carolina, in the possession of the British Library, and engravings based on them. These images bring us into contact with three crucial stages of early modern environmental history. First, this evidence provides a glimpse into interpretations of the natural world that we now dismiss as superstition or nonsense. Second, they allow us to witness efforts to record the evolving environment of the basin. And third, these images, when studied as a group, offer an opportunity to examine the landscape of history.

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The first set of images can be found in Fréjus, a town that began to take shape when Julius Caesar organized the construction of a port there called the Forum Julii in c. 50 BCE. By the central middle ages, Fréjus had emerged as a market town with the Cathédrale Saint-Léonce rising as its most prominent building. The cloister of the church was once home to 1,235 wooden panels painted between 1353 and 1368, just a few years after the Black Death had swept across the region. A countless number of these images have faded over the centuries, but many of the panels remain quite clear. They illustrate religious figures such as tonsured monks and a symbolic lamb carrying a cross. There

3 As the environmental historian Elinor G. K. Melville put it, the introduction of new species (in her case study, Old World sheep brought by Spaniards to Mexico) into a new environment produced “a cascade of processes that resulted in a world as alien to the Indigenous people as it was to the Europeans themselves”; see her *A Plague of Sheep: Environmental Consequences of the Conquest of Mexico* (New York: Cambridge University Press, 1994), 151–66, quotation at 166.

4 See Simon Schama, *Landscape and Memory* (New York: Alfred A. Knopf, 1995), 7–19.



FIGURE 1. Fourteenth-century painters depicted a wide range of monstrous figures on the wooden panels in the cloister at Fréjus. Photo by the author.

are quotidian scenes of people hunting and fishing, and one of a young woman having her hair brushed by an attendant. More surprising are the many surviving images that depict fantastic and terrifying creatures, a sort of who's-what of the monstrous races that Europeans believed lived somewhere beyond the borders of Christendom. These images include Blemmyes with heads on their chests, dog-faced humans, and some that simply defy easy characterization, including one that resembles a fleur-de-lys with legs. There is no obvious order to the pictures. Pictures of the monstrous abut images of people and animals (Figure 1).⁵

Where did such images come from? The artists no doubt contemplated the rich tradition about the monstrous races kept alive in

5 For the history of the town and cathedral see Jule Charles-Roux, *Notes historiques sur Fréjus* (1989; reprint, Paris: Le Livre d'histoire-Lorisse, 2001); Michel Fixot, *La cathédrale Saint-Léonce et le groupe épiscopal de Fréjus* (Paris: Patrimoine, 2004); and Colette Dumas and Georges Puchal, *L'imagier de Fréjus: Les plafonds du cloître de la cathédrale* (Paris: Patrimoine, 2001). For an interpretation of the images see Peter C. Mancall, *Nature and Culture in the Early Modern Atlantic* (Philadelphia: University of Pennsylvania Press, 2018), 6–12.

encyclopedias and bestiaries since the time of Pliny.⁶ Eventually, long after painters created the panels in Fréjus, these monstrous races found systematic representation in Hartmann Schedel's *Book of Chronicles* of 1493 (also known as the *Nuremberg Chronicle*), a book that appeared at about the same time that Europeans began to learn of Christopher Columbus's voyages (Figure 2). The illustrators of this chronicle depicted 21 outlandish figures, including a dog-faced man, a Cyclops, a Blemmye, a sciapod with its single enormous foot, a creature with ears reaching to the ground, a man with six arms, a woman covered with hair, a man with the beak of a bird, a centaur, a man with the hooves of a horse, and another man with four eyes. Stories of these monsters circulated in manuscripts, including the frequently translated 14th-century tales of Sir John Mandeville, who claimed to be an English knight with extensive travel experience. Columbus was one of the believers; in two places in the first published account of his journey, he wrote that he had expected to find monsters in the West Indies but instead met humans. Yet even Columbus's public account could not replace the prevailing logic of monsters roaming the land. A 1494 or 1495 illustrated edition of an Italian verse translation of Columbus's report included monsters that Columbus never saw. Distant locales, Europeans believed, had to be populated by such creatures, even when new, first-hand reports of previously unknown lands suggested that those ancient notions might be retired.⁷

The painters of Fréjus were not alone in depicting the monstrous in their works. In the 16th century, scholars did the same. This is evident in a two-page tableau of sea monsters from Sebastian Münster's widely translated and reprinted cosmography. Such views depicted a cultural, if not a physical, reality: there were monsters everywhere in the early modern Atlantic world, from church walls like those at Fréjus to manuscripts and books. We think of landscapes as always visible, but, as these images suggest, we need to remember that early modern

6 For the likely source material see Rudolf Wittkower, "Marvels of the East: A Study in the History of Monsters," *Journal of the Warburg and Courtauld Institutes* 5 (1942): 159–97; Robert Bartlett, *The Natural and the Supernatural in the Middle Ages* (Cambridge: Cambridge University Press, 2008); James S. Romm, *The Edges of the Earth in Ancient Thoughts* (Princeton: Princeton University Press, 1992), esp. 83–120; Michel Pastoureau, *Bestiaires du Moyen Âge* (Paris: Seuil, 2011); and René Cintré, *Bestiaire médiévale des animaux familiers* (Rennes: Ouest France, 2013).

7 [Schedel], *Registrum huius operis Libri cronicarum cū figuris et ymagibus ab inicio mūdi* [a.k.a. *Book of Chronicles*] (Nuremberg, 1493), f XII^{r-v}; John Mandeville, *The Travels of John Mandeville*, trans. C. W. R. D. Mosely (London: Penguin, 1983), 9–12; Christopher Columbus, "The Barcelona Letter of 1493," trans. Lucia Graves, in *The Columbus Papers: The Barcelona Letter of 1493, the Landfall Controversy, and the Indian Guides*, ed. Mauricio Obregón (New York: Macmillan, 1991), 67–68; and Giuliano Dati, *El Secondo Cantare* ([Rome, 1494 or 1495]), sigs. [1^v], [2^v], [2^r].

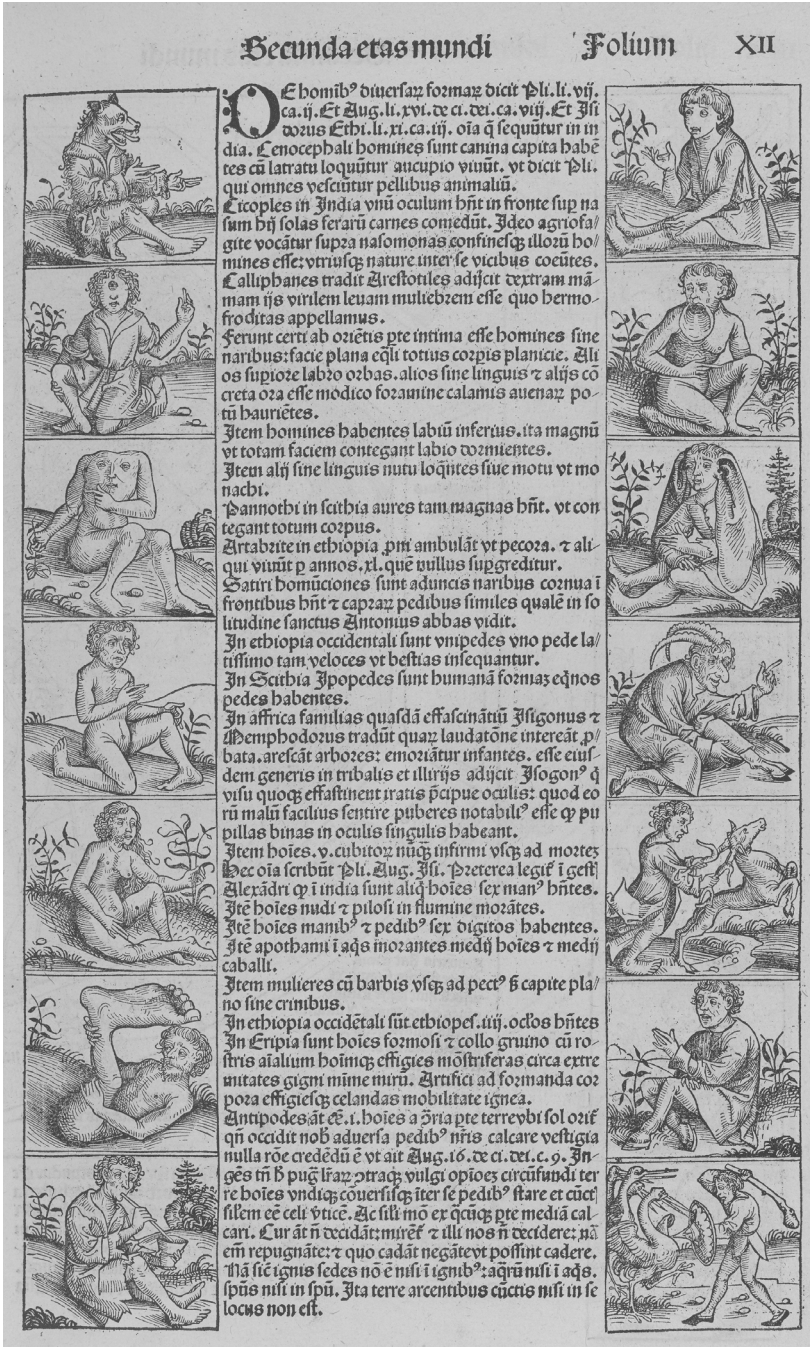


FIGURE 2. Harmann Schedel's 1493 *Book of Chronicles* depicts some of the most well-known of the monstrous races, including a Blemmye, a dog-faced man, and a Cyclops. The Huntington Library, San Marino, California.

commentators believed there were porous boundaries between the world we can see and the mostly unseen world of the monstrous.⁸

Columbus's voyage and other Europeans' travels began to change ideas about landscapes, and not just by proving that the monstrous races did not exist in the Western Hemisphere. These changes-in-progress can be seen in two manuscripts: a mid-16th-century atlas and a work of natural history created about a half century later.

The first of these manuscripts is known today as the "Vallard Atlas," named for its owner, Nicolas Vallard of Dieppe. It includes 15 hand-painted maps, probably created in 1547, as well as four pages of navigational instructions. The maps were bound together in 1805 in Dieppe, a port with a long history of being home to cartographers, including those who worked there during the reign of King Francis I. The artists who created these maps painted scenes of interiors based on travelers' accounts. They are striking inventions of Europeans who had not seen the vistas they depicted, working with source material that likely did not include any images other than those conjured in words by explorers and others far from the familiar landscapes of their homelands.⁹

The Vallard maps of the Americas, a hemisphere little known to the vast majority of Europeans in the 16th century, provide clues about perceptions of distant landscapes. The sheets reveal natural resources and ways that they could be harvested through the labor of Indigenous Americans. The map of Canada showed both fur-clad Native peoples and large fur-bearing animals in the forests (Figure 3). Such an image would have appealed to Europeans involved in the pelt trade. The timing was crucial: here was a depiction of desirable animals appearing at the same time that many Europeans, with growing awareness of the decline of such animals on their side of the Atlantic, were keen to find new sources of fur. The image implied that these Americans knew how to obtain rich pelts and could presumably be enticed into trading them to Europeans.¹⁰

8 "Tabula monstrorum marinarum atque mirabilium ferarum," in Münster, *Cosmographiae Universalis Lib. VI* ([Basileæ, 1552]), 851–54; on the ubiquity of such images, see Surekha Davies, *Renaissance Ethnography and the Invention of the Human: New Worlds, Maps and Monsters* (Cambridge: Cambridge University Press, 2016).

9 For the context of the creation of these maps, see Louis Filipe F. R. Thomaz and Dennis Reinhartz, "The Maps of the Vallard Atlas," in *Vallard Atlas* (Barcelona: M. Moliero, 2000), 140–41; and Gayle K. Brunelle, "Images of Empire: Francis I and His Cartographers," in *Princes and Princely Culture, 1450–1650*, eds. Martin Gosman et al. (Leiden: Brill, 2003), 81–102.

10 HM 29, Huntington Library, f. 9; and Eric R. Wolf, *Europe and the People Without History*, 2nd ed. (Berkeley: University of California Press, 2010), 158–60.

Equally revealing is the atlas's depiction of South America. The southern part of one image portrayed the legendary Patagonian giants, described by the associates of Ferdinand Magellan who brought back a report on their circumnavigation despite the loss of their commander. The artists filled in details of what they believed should be there, however fanciful (one of the maps of Africa included a Blemmye and a dog-headed man). A map of Brazil revealed a different and more realistic tableau. The center of the action focused on a well-dressed European man bearing the objects of European civilization, such as a mirror and metal tools, and offering them to a group of Tupinambá peoples (Figure 4). The nudity of the Native peoples, which had been a feature of earlier European travelers' reports, revealed them as primitive. But the feather headdress on one Tupinambá headman tempted Europeans who had already been craving feathers (and featherwork) from the Americas. In addition, this image revealed that, even by the 1540s, Indigenous peoples had been integrated into an export-oriented labor system, evident here in the hauling of brazilwood trees to be used by European dyers. The map, then, suggests how the landscape of the Americas had already begun to change through the extraction of animals and trees, a physical world now animated (in European eyes) by the arrival of market-oriented European Christians. There is no depiction of European settlements in this image, but one could form a mental image of how it would emerge through the harvesting of American resources with the labor of Americans themselves.¹¹

The other manuscript, the "Histoire Naturelle des Indes," also known as the Drake Manuscript, is in the possession of the Morgan Library. The work, like the Vallard, is by an unknown hand, or perhaps two unknown hands. The creators of the "Histoire Naturelle" illustrated unique flora, appealing to 16th-century Europeans always eager to find new plants to satisfy their medicinal and gastric demands. The opening pages described plants, including West Indian garlic, cassava, avocado, squash, pineapples, agave, tomatoes, sweet potatoes, coconuts, plantains, watermelon, cactus, maize, herbs, beans, nuts, figs, and sassafras. One plant appears more than once: tobacco. Europeans had been fascinated by tobacco and its alleged properties since explorers traveling with Columbus had described it in the late 15th century. News about the plant's curative powers had spread across the continent, most notably in a treatise from a Seville-based physician named Nicolás Monardes. His medical tract (in its English translation) bore

11 HM 29, f. 12 (southern South America), f. 7 (northwest Africa), f. 12 (Brazil).



FIGURE 3. The painting of Canada's Indigenous peoples in the Vallard Atlas emphasized the abundance of fur-bearing animals to be found. HM 29, The Huntington Library, San Marino, California.



FIGURE 4. This detail from the map of Brazil in the Vallard Atlas suggests the role that Tupinambás might play in an emerging, European-dominated economy—as consumers of new goods and producers of Brazil wood. HM 29, The Huntington Library, San Marino, California.

the revealing title *Joyfull Newes out of the Newfound World*. It contained a detailed chapter on the health benefits of tobacco.¹²

The “Histoire Naturelle” informed readers about the plant while also demonstrating its utility. The manuscript noted that the locals used tobacco “for food as well as an extremely beneficial medicine.” “When they are sick,” the text continued, “they breathe in the smoke by mouth with a straw; soon the ill humour escapes by vomiting.” For tobacco to be effective, it needed to be properly prepared, notably by crushing it. “They often pulverize it and, putting it in their noses, it distills several drops of water from the brain to discharge it.” Suffering from a toothache? Lay the leaves of tobacco on the tooth and “the pain disappears.” Those afflicted with eye problems would soak the leaves in water and then use them to flush out their eyes.¹³ The second tobacco image depicted a novel use of the plant—namely, that its smoke could bind wounds caused by arrows (Figure 5). The image married Indigenous technology, evident in the hammock, and the technique, with the European search for new *materia medica*. As the manuscript noted, “[w]hen the Indians are mortally wounded by arrows, one lays them on a rack and makes an oven with a tube leading to the wound of the sick man.” They would then burn tobacco and balsam (a resin), producing smoke that they directed toward the open wound. Then the healer would “take a leaf of tobacco with some of the balsam and make a plaster which they apply to the wound of the patient, and he is cured.”¹⁴

The description and the image conveyed a specific message: the Caribbean Basin was the home to a valuable plant with many uses. Those who cultivated it could share secrets about how best to extract its medicinal properties. This seems obvious enough from the picture, but only if we consider it along with other evidence that Europeans had already possessed about tobacco that identified its central role in what they saw as pagan practices. The newcomers wanted to extract the benefits of the plant but avoid the possible dangers of heathenism and the fear that the plant might become habit-forming. This image revealed how to extract the good without succumbing to the dangers.¹⁵

Like the Vallard, the “Histoire Naturelle” contained numerous examples of potential commodities in the islands that could be

12 “Histoire Naturelle des Indes,” MA 3900, Morgan Library, ff. 2–33; and Monardes, *Joyfull newes out of the newfound world*, trans. John Frampton (London, 1580), ff. 33–41.

13 “Histoire Naturelle des Indes,” f. 4^v; translation of the text from *The Drake Manuscript in the Pierpont Morgan Library: Histoire Naturelle des Indes*, trans. Ruth S. Kraemer (London: W. W. Norton & Co., 1996), 253.

14 “Histoire Naturelle,” f. 92^r; *Drake Manuscript*, 265.

15 On the quarrel about the plant see Peter C. Mancall, “Tales Tobacco Told in Sixteenth-Century Europe,” *Environmental History* 9 (2004): 648–78.



FIGURE 5. This image from the “Histoire Naturelle des Indes” depicts an Indigenous medicinal use for tobacco that was likely unknown to Europeans at the time. Reprinted with permission from The Morgan Library & Museum, New York. MA 3900. Bequest of Clara S. Peck, 1983.

explained in relation to the people who lived there. The manuscript told about how some of the locals found gold after strong storms deluged the mountains, creating streams that brought gold and fresh water to those below. Mundane activities filled its pages, informing readers about how the locals caught fish using spears, nets, and lines they dragged from their canoes. They placed these lines over their ears and in their mouths so that they could immediately feel the pull of the fish. Americans, the text revealed, mastered this environment on land as well as sea. They figured out how to spin cotton to make fine linen



FIGURE 6. According to the “Histoire Naturelle des Indes,” Native peoples of Trinidad lured their winged prey into a trap by baiting it with a live bird. Reprinted with permission from The Morgan Library & Museum, New York. MA 3900. Bequest of Clara S. Peck, 1983.

to clothe themselves, set elaborate traps in trees to catch birds (Figure 6), and used fire and fences to hunt coneys. Some became so adept at holding their breath that they could spend—so the authors claimed—up to 15 minutes underwater harvesting pearls.¹⁶

These marvels fit what was then a century-long European fascination with American nature. Since the early decades of the century, Europeans had heard stories about Native peoples’ command of their environment, including a Mexican ruler who could summon manatees

¹⁶ “Histoire Naturelle,” f. 100^r (gold), f. 120^r (fishing), f. 119^r (spinning), ff. 95^v–96^r (coneys), f. 83^r (catching birds), f. 57^r (pearls).

to haul him across open water.¹⁷ To triumph in America, the newcomers recognized, they would need to learn the secrets of the Indigenous peoples. Visual evidence, like that in the “Histoire Naturelle,” confirmed the benefits described in verbal travel accounts and provided more incentive to alter this American landscape in ways that would benefit Europeans. Europeans would do more than make a profit. They believed they would bring Christianity to those they felt lived in pagan darkness. By doing so, they would convert the Americans to civilization and proper religion, an idea expressed in the manuscript by a European man confident that he will vanquish the devil in the woods by sharing what he saw as the true faith with the locals. The author recognized that European conquest had drastic consequences for non-Europeans. The “Histoire Naturelle” demonstrated that the Spanish had already enslaved Indigenous Americans and Africans and put them to work harvesting mineral resources from Panama to Peru.¹⁸

We can gain our final sense of the relationship between early modern American landscapes and history by considering modern North Carolina, the setting of Roanoke and its mysterious lost colonists. In 1585, the English painter John White traveled there and created a series of watercolors, which were then engraved in the Frankfurt workshop of the Flemish printer Theodor de Bry. Those engravings, which are quite different from the original paintings, appeared in English, French, German, and Latin editions of a 1590 book by the mathematician Thomas Harriot, who had traveled with White, entitled *A Briefe and True Reporte of the New Found Land of Virginia*.¹⁹ This edition, perhaps the most influential book about the dawn of English colonization of North America, consisted of five parts: a description of the natural world, an accounting of the commodities that could be extracted, an ethnography of the people we call Carolina Algonquians, a series of illustrations of the Algonquians and their world, and a final set of images of ancient Britons.

Most of the pictures here featured people in action. The engravers illustrated Algonquian fishing techniques, the ways that residents burned out the inside of a large tree to make a canoe, and an ossuary where a local religious man (identified in the caption as a “priest”) tended a fire under the drying corpses of nine weroans (or headmen). Several pages showed resources to be harvested and the ways that the

17 See Pietro Martire d’Anghiera, *The Decades of the Newe World*, trans. Richard Eden (London, 1555), 130–31.

18 “Histoire Naturelle,” ff. 111^{r-v} (vanquishing a demon), f. 100^{r-v} (Panama), f. 104^r (Peru).

19 For an analysis of the difference in the images, see Mancall, *Nature and Culture*, 95–104.

Algonquians gathered them.²⁰ There were bird's eye depictions of two towns, Pomeiooc, a palisaded enclosure, and Secota, which incorporated some of the earlier images in the book. The Secota image, like the painting of Tupinambá peoples harvesting resources in Brazil in the Vallard, revealed a landscape shaped by the labor of local people (Figure 7). They have built their houses alongside a cleared path and, according to the image, planted their maize in straight rows that would have looked familiar to someone who had seen European agricultural practices. In the upper-left corner, hunters shoot arrows at deer. In the middle of the page, several Algonquians have gathered to share a feast. This tableau depicted not a state of nature, but instead a thriving community generating goods that Europeans desired, all of them produced by locals.²¹ The last picture in this section depicted a tattooed man and a series of other tattoos. That picture set up what followed in the book's final part, the images of long-gone inhabitants of Britain. Two engravings illustrated Picts as naked, heavily tattooed, and fierce. Why depict these ancient Scots in a book about North America? Because, as the text noted, these images reveal "how that the Inhabitants of the great Britannie have bin in times past as savage as those of Virginia."²²

Neither White, Harriot, nor de Bry could have imagined the impact this book would have. In the years that followed, other printers used the images time and again—to reveal how to understand tattoos, illustrate later historical events, and describe the past of the colony of Virginia.²³ Ultimately these images, which began with a series of watercolors painted in 1585, came to define Native Americans for generations of readers. In 1841, one unknown author redrew the engravings from the de Bry workshop to depict a vanished world of American "Aborigines" who, the book suggested, were long gone. This once-vibrant landscape had vanished, replaced by another in the onward march of history.²⁴

20 Thomas Harriot, *A Briefe and True Report of the New Found Land of Virginia* (Frankfurt-am-Main, 1590), plates 13 (fishing), 12 (canoe), and 22 (ossuary).

21 Harriot, *Briefe and True Report*, plates 19 (Pomeiooc) and 20 (Secota).

22 Harriot, *Briefe and True Report*, plate 23 (tattooed Algonquian), sig. E^r-[E^r] (quotation and Picts).

23 Edmond Bolton, *The Elements of Armories* (London, 1610), 20–22 (tattoos); John Smith, *The Generall Historie of Virginia, New-England, and the Summer Isles* (London, 1624), "A description of part of the adventures of Cap: Smith in Virginia," opp. 18; and Robert Beverly, *The History and Present State of Virginia* (London, 1705), Book III, images opp. 3 (tattoos), 6 (Indigenous priest), 7 (Algonquian women), 31 (an idol called Kiwasa), 48 (Carolina ossuary).

24 *Graphic Sketches from Old and Authentic Works, Illustrating the Costume, Habits and Character of the Aborigines of America* (New York: J. and H. G. Langley, 1841).

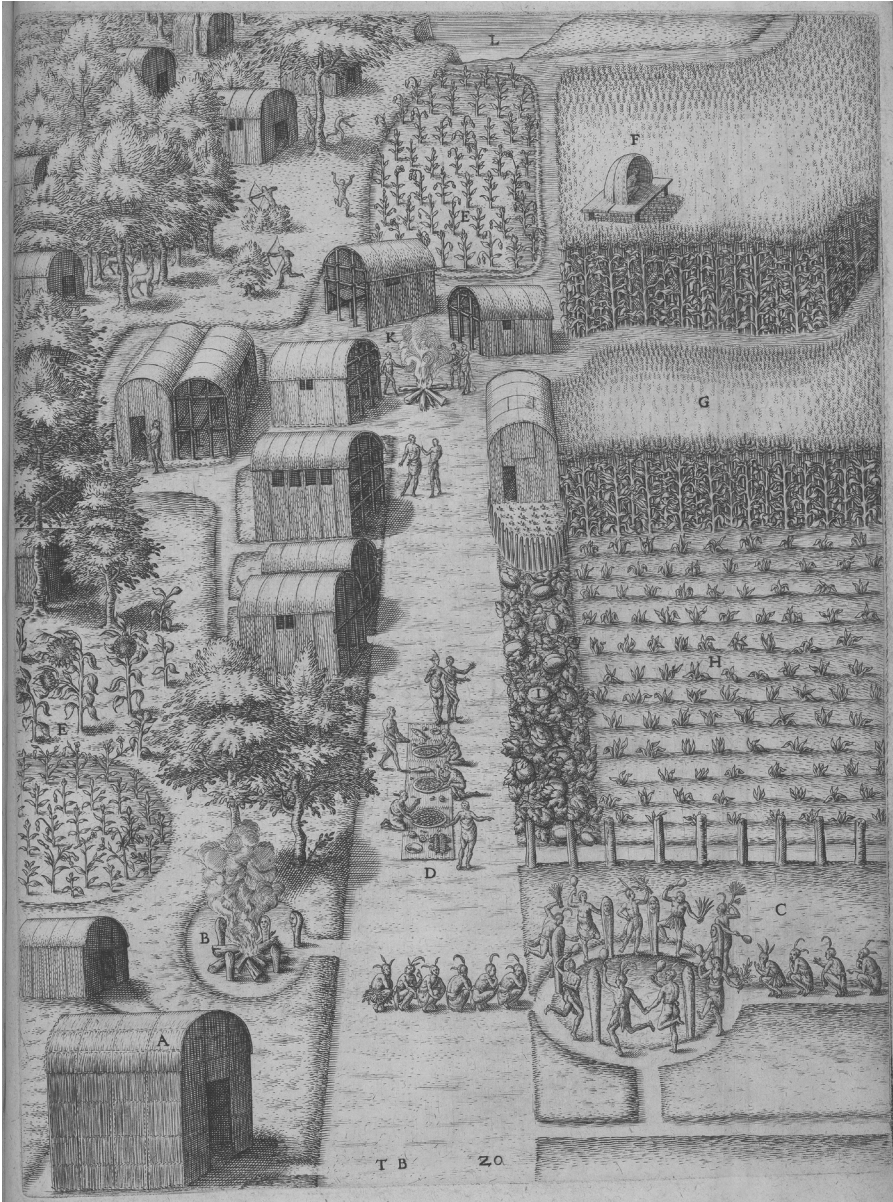


FIGURE 7. This 1590 bird's-eye engraving of the Carolina Algonquian town of Secota, based on John White's 1585 water color, reveals how Indigenous peoples created a prosperous economy. From Thomas Harriot, *A Briefe and True Report of the New Found Land of Virginia* (Frankfurt-am-Main, 1590). The Huntington Library, San Marino, California.

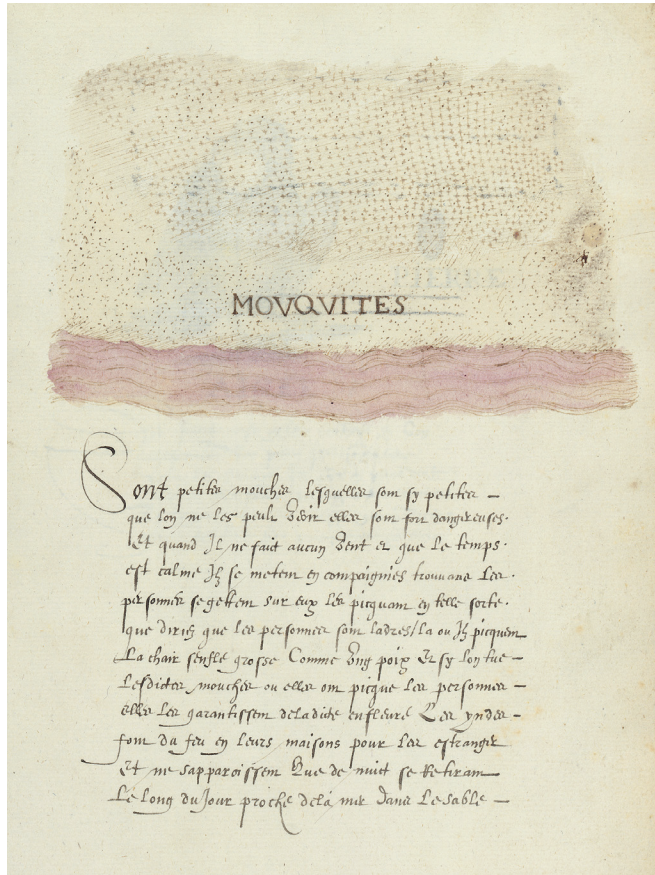


FIGURE 8. The caption for this depiction of mosquitoes from the “Histoire Naturelle des Indes” notes that “they come in droves attacking people, stinging them in such a manner that one would take them for lepers.” Reprinted with permission from The Morgan Library & Museum, New York. MA 3900. Bequest of Clara S. Peck, 1983.

Landscapes changed over time in the Americas, reflecting different moments of conquest and colonization and disparate Indigenous strategies for survival. Though landscapes evolved, some things remained—including mosquitoes, the seemingly timeless scourge of humanity. One image in the “Histoire Naturelle” needs almost no caption (Figure 8). In the frantic artist’s depiction of a swarm, a series of singular dots expressed pain and disorientation.²⁵ As this image reminds us, some things never change.

²⁵ Timothy C. Winegard, *The Mosquito: A Human History of our Deadliest Predator* (New York: Dutton, 2019); “Histoire Naturelle,” f. 72^r.