

Christopher Columbus, Gonzalo Pizarro, and the Search for Cinnamon

LIKE OTHER SPICES IN COMMON USE, cinnamon is nowadays not very mysterious and not very expensive. In exploring the role that this powerful aromatic has played in world history, we are recalling a period when cinnamon was highly mysterious and was one of the most expensive commodities on the market.¹

We know that cassia, a form of cinnamon, was available in the Mediterranean world by 600 B.C.: around that time it is mentioned both in Hebrew literature and in Greek. The prophet Ezekiel lists cassia among the trade goods that formed the wealth of the Phoenician city of Tyre. The Greek poetess Sappho imagines a wedding at which the smoke of frankincense, myrrh, and cassia rose to Heaven. Two hundred years later the “father of history,” the Greek author Herodotus, describes both cassia and cinnamon and is able to say exactly how they are obtained. Cassia, he assures his audience, grows in a shallow lake somewhere in Arabia, where the air is filled with fierce bats that attack the eyes of the harvesters.

The process of collecting the cinnamon is even more remarkable. In what country it grows is quite unknown. The Arabians say that the dry sticks, which we call cinnamon, are brought to Arabia by large birds, which carry them to their nests, made of mud, on mountain precipices which no one can climb. The method invented to get the cinnamon sticks is this. People cut up the bodies of dead oxen into very large joints, and leave them on the ground near the nests. They then scatter, and the birds fly down and carry off the meat to their nests, which are too weak to bear the weight and fall to the ground. The people come and pick up the cinnamon, and, having acquired it in this way, they export it to other countries.²

It is true that later authors reject Herodotus’s wild tales. Yet scarcely anyone in Europe, for the next two thousand years, was able to say accurately where cinnamon came from and how it was harvested. The best attempt in ancient times was made by Pliny, first-century A.D. author of the encyclopedic *Natural History*. Pliny had somehow learned that cinnamon originated not in Arabia, as nearly all his

contemporaries believed, but thousands of sea-miles further east. It came westwards “over vast seas on rafts which have no rudders to steer them, no oars to push them, no sails to propel them, indeed no motive power at all but man alone and his courage,” and the brave traders who brought it to the Red Sea harbors spent “almost five years” on their epic voyages, in which many of them perished.

Pliny has it right, as modern historians have recognized. But some important features of his account (including the “five years,” and other details not quoted here) are confused

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or erroneous. This has left plenty of room for disagreement among modern historians on the ancient cinnamon trade and the route it followed. In particular, did some cinnamon already come from Sri Lanka, origin of *Cinnamomum zeylanicum*, recognised today as the finest grade? Or was Indochina, origin of *Cinnamomum cassia* and other species, the only ancient source of cinnamon? There is no positive evidence on this crucial question.³

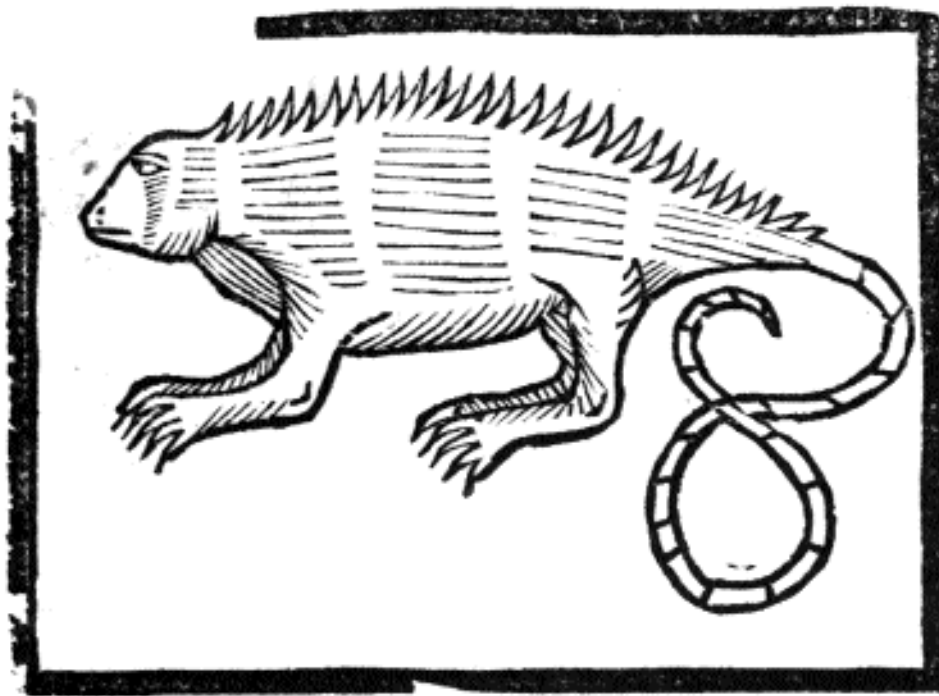
In Rome, in the first and second centuries A.D., cinnamon fetched a fabulous price. “It used to sell at a thousand denarii per pound,” writes Pliny, “but this price has been

Right: *The true cinnamon of Sri Lanka, Cinnamomum zeylanicum, from an early nineteenth-century Indian botanical painting for the East India Company.*

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Chromolaena odorata (L.) Link. & DC. *Chromolaena odorata* (L.) Link. & DC.



An iguana, which the Caribbean Indians used for food. Oviedo believed that iguana meat was especially harmful to syphilitics. From Gonzalo Fernández de Oviedo y Valdés's *La Historia General y Natural de las Indias...*, 1535.

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increased to half as much again after angry natives had burnt the cinnamon forests.” He gives two examples of how cinnamon, embellished with gold, formed a costly offering in Roman temples. We can see from Pliny’s figures that an ounce of cinnamon (the quantity we might buy for kitchen use) would have cost between sixty and a hundred denarii—several days’ pay for an army centurion, at least a month’s pay for a laborer. Galen, who served as Imperial physician a century after Pliny’s time, gives a contrasting insight into how greatly cinnamon was prized. He recalls making up a poison antidote for the emperor Marcus Aurelius, using cinnamon that had come in “a box four and a half cubits long, in which was a whole cinnamon tree of the first quality,” and tells us that the Imperial pharmacy used to store cinnamon, packed in this form, for many years.⁴

In the ancient West cinnamon was almost too costly to use in food. It is never called for in the Roman recipe book *Apicius*. Like other exotic imports such as rice, sugar, cloves, and ginger, cinnamon found its main use as a medicine. It was additionally used in divine worship, like other heady aromatics such as frankincense and myrrh. Finally, as a favored constituent of perfumes, cinnamon evoked sensuality. “Myrrh, aloeswood, and cinnamon” are the scents with which an adulteress, in the Hebrew book of *Proverbs*, entices her lovers. In a Latin novel a seductive young woman is credited with *inhalatus cinnameus*, “cinnamon breath.”⁵

In medieval Europe cinnamon remained one of the most prized and expensive of spices. By now it was certainly used in food, with close attention to its medicinal qualities.

Classed by the nutritionists as “hot and dry,” cinnamon in Byzantine cuisine claimed a prominent place in the winter diet. Byzantine food for January would include “roast lamb served hot, or roast sucking pig, and gravies spiced with pepper, spikenard and cinnamon.” In March, the reader of the same dietary manual is instructed, “Your sweet wine should be a spiced wine [*conditum*] including pepper, cinnamon, spikenard and cloves.”⁶ And so it was that such spices as pepper, cinnamon, cloves, and nutmeg held their very high price in Europe down to the fifteenth century. They remained indispensable in medicine. They were in continuous demand as luxury ingredients in foods and perfumes. Buyers had no choice but to pay the price demanded in the ports of the eastern Mediterranean: this was the only possible route by which the products of southern and southeastern Asia could reach Europe.

It is no contradiction that a spice of European origin—the mastic of Chios—would figure prominently in Christopher Columbus’s thinking whenever he wrote of his hopes and achievements in discovering New World aromatics. The special significance of mastic was that he had himself been privileged to observe its harvesting (so we are assured) and thus to verify how a monopoly supplier was able to impose an inflated price on the world market. In this case the monopoly was held by Columbus’s own home city of Genoa, which at that time ruled Chios. Mastic has “till now never been found except in Greece in the island of Xio,” writes Columbus in his *Letter on his First Voyage*, “and the Seigneurie of Genoa sells it for whatever

price it pleases.”⁷ In this case he knew the whole business, from harvesting to marketing, and he had the insight to apply the analogy to other spices of Asian origin. One of Columbus’s aims, from the very beginning of his exploration, was to find new sources of the most valued spices, and thus to break the monopoly power of the spice suppliers.

In his own lifetime Columbus was to achieve less than he hoped, and less than he publicly claimed. “I think that many trees and plants grow here which will be highly valued in Spain for dyes and medicinal spices,” he confided to his private log-book, soon after his first landfall in the Bahamas, “but I am sorry to say that I do not recognize them.” Meanwhile, the reports of his first voyage spoke confidently of the discovery of mastic, ginger, nutmeg, aloes, rhubarb,

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and cinnamon. The mastic tree, we are assured, was “very similar in leaf and fruit to the mastic of Chios, but considerably larger.” Dr. Chanca of Seville, a scientific observer on that first voyage, discusses the cinnamon find. “A kind of cinnamon has been found as well,” he writes, “though it is true that it is not so fine as the cinnamon we know at home. This may be because we do not know the right season to gather it, or possibly there are better trees elsewhere in the country.” In the case of the “cinnamon,” what they had actually found was *Canella winterana*, a tree found in Jamaica and Florida and known under names such as wild cinnamon, white cinnamon, and also canella—a significant name since *canela* is the Spanish for “cinnamon.” The aromatic part of this species, just as with true cinnamon, is the bark, which has been called “whitewood bark” or “Winter’s bark.” It is used in perfume sachets and in potpourris; but it was not the valuable prize

that Columbus had been seeking. All of Columbus’s other specific claims were fated likewise to be disproved. In spite of this, he set in motion two processes which would eventually destroy the spice monopolies.

The first step was quite a simple one: he planted a sugarcane root in Hispaniola, and it germinated in seven days. Sugar was soon thriving in the Caribbean, and eventually the world price of sugar (for better or worse) collapsed. After similar transplantings, cloves, nutmeg, pepper, and many other spices have gradually spread across the tropical world, and no single nation controls their supply.⁸

The second step was made when Columbus and his crew noted that a spice unknown to Europeans was in common use among the people of the Caribbean. To quote Chanca again, the natives “use as seasoning a spice called *aji*, with which they also season their fish and birds when they can get them.” This *aji*, as the Caribs called it, was one of the *Capsicum* species, most probably *C. chinense*, the “country pepper” of modern Jamaica. Like its relatives, it grew only in the New World. No European had encountered any of them before. The Spaniards were sufficiently adventurous to test the properties of this new spice immediately. They were soon applying to all the *Capsicum* species the significant name of *pimiento de las Indias*, “pepper of the Indies”; the pendulous red fruits look nothing like true pepper, but they confer a similar biting heat to food, and they turned out to be easy to grow in southern Europe. As a result, the European market for long pepper (*Piper longum*, an expensive extra-hot species formerly imported from northern India) was destroyed; and the European price of ordinary black pepper (*P. nigrum*, grown in southern India and Sumatra) fell rapidly, never to recover.⁹ Allspice (*Pimenta dioica*) was another Caribbean spice that soon found a secure place on the European market, thus increasing competition and reducing the prices of cloves and nutmeg, whose flavors are conveniently mimicked by allspice.¹⁰

A third procedure that Columbus set in motion was a good deal more frustrating in its results. He had found scarcely any gold. He also had found none of the famous Old World spices. This does not surprise us, since we know that he was half a world away from the places where they grew. But meanwhile, he had effectively talked up the probability that gold and well-known spices would be discovered; and so, from this point, the search continued under its own momentum. As regards gold, the result is well known. Gold was sucked from the Aztec and Inca empires. It was not enough. In their search for more, Spanish explorers built the myth of the valley of El Dorado, the land of abundant gold. Many died in the attempt to find it.



It is less well known that many lives were lost, and a great feat of exploration was performed, in the search for the parallel mirage of La Canela, the Valley of Cinnamon. The fateful expedition was led by Gonzalo Pizarro. The classic statement of the impulse for the search for La Canela is given by the historian of Peru, Garcilaso de la Vega “el Inca,” and it takes us to the year 1539, when Francisco Pizarro was establishing his family’s power in the ruins of the Inca Empire that he had destroyed.

Pizarro had heard that beyond Quito, and beyond the limits of the land ruled by the Inca kings, there was a large and broad country where cinnamon was produced, and which was therefore called La Canela, the Land of Cinnamon. He thought he would send his brother Gonzalo to conquer it, so that the latter might have as much land to rule as he had himself ... He surrendered the government of Quito to his brother.¹¹

Garcilaso was born in that very year 1539; he wrote in old age, in Seville, far from his native Peru. But since his

boyhood had been spent in Gonzalo Pizarro’s household, he would have heard the story told more than once—and would have been ready to omit the embarrassing fact that Francisco Pizarro had no authority to share his territory with his brother.

However, Garcilaso’s statement leaves something unexplained. By proving to his sponsors’ satisfaction that gold and cinnamon, products of immense value, would be found in “the Indies,” Columbus had indeed created the general conditions for the development of the myths of El Dorado and La Canela, but he had not placed them on a map; indeed, he was never close to the locations where El Dorado and La Canela were afterwards sought. How, then, did the story arise that the Land of Cinnamon lay, precisely, east of Quito among the mountains of Ecuador? The answer to this question was quite forgotten until the manuscript of Cieza de León’s *History of the Wars of New Spain* (written in 1550, only ten years after the fateful events) was at last published in the late nineteenth century.



Gonzalo Pizarro set his heart on discovering the Valley of El Dorado ... and the Valley called de la Canela, which had been visited, not very long before, by Captain Gonzalo Díaz de Pineda. He, with a number of Spaniards, had been exploring some very high mountains, on whose slopes many Indians had emerged with the aim of preventing their progress. They had killed some Spaniards including a priest, and they had made some big defensive walls and ditches. After several days' further advance Pineda came to los Quijos and the Valley of the Cinnamon, and then returned to Quito without being able to explore it all. But they had noted that the Indians told them that if they went further they would find big settled provinces in flat country, full of many Indians who had great wealth, because they were all decorated with coins and golden jewels, and there were no hills or mountains there.¹²

Pineda himself was to act as guide on the first stages of Gonzalo's expedition. Further details of La Canela were compiled sixty years later by Garcilaso de la Vega.

Raised-bed gardening among the Arawak Indians. From Gonzalo Fernández de Oviedo y Valdés's La Historia General y Natural de las Indias..., 1535.

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In this province of Sumaco, which is on the equator or near it, grew the trees called cinnamon of which the Spaniards were in search. They are very tall and have big leaves like laurels; the fruit consists of bunches of small fruit growing in husks like acorns. And though the tree and its leaves, roots and bark all smell and taste of cinnamon, these husks are the true spice. A great many such trees grow wild and produce fruit, but it is not so good as that obtained from trees planted and tended by the Indians, who trade in it with their neighbours, though not with those of Peru. These latter have never wanted any other spices but their chillies.¹³

We must now deconstruct these two descriptions of La Canela, privileged as we are with the knowledge that there is not, and never was, any cultivation of such a tree in Ecuador or western Brazil. Garcilaso's text is to be taken

first. As a native of Peru and son of an Inca princess, he had been in an excellent position to find out about the Inca administration in its last years. He also has a way of embroidering a story. The last two sentences of the extract quoted here allow us to read between the lines that he himself, like his fellow Peruvians, had never personally encountered the supposed cinnamon, and that it had not been of interest as tribute to the Incas. The casual mention of a local trade in “cinnamon,” never hinted at by any other observer, is to be classed as one of Garcilaso’s embroideries. Yet he appears sublimely confident of his detailed description of the tree; confident also that there were both wild and cultivated stands of it, and that the wild ones were not so good as the cultivated ones. At this stage I propose a hypothesis: these details of Garcilaso’s description originated with Pineda; they were told to Garcilaso by Gonzalo Pizarro, who had been told them by Pineda himself.

Cieza de León’s text is to be examined next. The telling details here are that Pineda, though he “came to the Valley of the Cinnamon,” was not able to explore it; and that he was told by Indians of rich, settled provinces in flat country further on. We cannot suppose that Pineda was a reckless liar, since he was prepared to retrace his steps in Gonzalo Pizarro’s company. I propose, therefore, as a further hypothesis, that Pineda really found wild trees that had an aroma of cinnamon, somewhere in the upper Cuca valley (the “province of los Quijos”); that he asked local people if there were more and better such trees to be found; that he understood from their replies (doubtless in some language unknown to him) that there were, and that there was cultivated land downriver. The fact that, according to those who reported his statements, he “came to the Valley of the Cinnamon,” need not be pressed into a claim that he saw, or asserted that he had seen, the cultivated cinnamon trees.

What were the wild trees that Pineda found? Many species within the botanical family *Lauraceae* have an aroma reminiscent of cinnamon.¹⁴ In the South American context the likeliest identification will be a tree of genus *Ocotea*. This includes several species that are now prized for their aromatic wood, and several with local Spanish and Portuguese names including the word *canela* ‘cinnamon.’ Duke and Vasquez’s *Amazonian Ethnobotanical Dictionary* lists, among other species, *O. aciphylla* with local names *Canela muena*, *moena nigra*; also *O. fragrantissima*, with local name *Anis muena* implying an aroma of anise. The wood of both these species is used for furniture. Umberto Quattrochi’s *CRC World Dictionary of Plant Names* lists twenty species of genus *Ocotea*. Among those native to Brazil are *O. pretiosa*, with local names including *canela-*

sassafrás, *canela-funcho*, *canela parda*; and *O. sassafras*, economically significant as the source of Brazilian sassafras oil, with local names including *canela-sassafrás*, *canela-funcho*.¹⁵ *Funcho* in these names implies an aroma of fennel. It remains to be clarified which of these or other species is found furthest west, in eastern Ecuador;¹⁶ but the fact that several similar species exist, with varying geographical ranges and varying aromatic qualities, explains the information evidently given to Pineda that better species existed than the one he saw.

The information was, in basis, true. All we can say is that Pineda, or his informants, or those who heard his story, gave it undue weight, and they mistakenly linked it with the

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information—likewise true—that cultivated lands existed in the vast flat country (which we know as the Amazon basin) that lay east of the mountains. People there grew cassava, maize, and yams,¹⁷ not “cinnamon” trees.

For a further, totally misleading, piece of information Gonzalo Pizarro would have no one but himself to blame. In the first few weeks of his expedition the route followed by Pineda was, naturally, retraced, and a forest of wild “cinnamon” trees, just such as those Pineda had found, was rediscovered. Here Pizarro and his followers captured some Indians and demanded to know the way to the valley, where more of these trees grew, and the flat country beyond, where there were rich, settled kingdoms. The Indians’ response was that they knew nothing about any of that. Pizarro, assuming that he was being deceived, had the Indians tortured to extract the truth. Having no satisfactory information to give, several Indians died under torture, while others were thrown to Pizarro’s hunting dogs. The Spaniards soon afterwards encountered another Indian headman, who assured them that the valley and the wealthy

country really existed some way further on. This helpful informant was forced to accompany the party, eventually escaping, somewhere on the banks of the river Napo, after giving the assurance that the rich province was only ten more days' journey downriver. The full story of the intelligence-gathering is given by Cieza de León. It possibly never occurred to Pizarro, even afterwards, that the headman kept up a supply of comforting information because he had heard what had happened at the previous village and wanted to avoid his neighbors' fate; Garcilaso de la Vega, probably basing his narrative on what he heard at Gonzalo's fireside, and still convinced that La Canela existed somewhere, is unable to explain why this and other Indian informants failed to guide the expedition towards its goal.¹⁸

Francisco Pizarro's grant of the governorship of Quito, "so that the inhabitants of this city would give him all necessary help, since it was to be the starting point of the expedition," did indeed allow Gonzalo to dedicate impressive resources to the search for the Valley of Cinnamon.¹⁹ Garcilaso enumerates the company thus:

Gonzalo raised more than 200 soldiers in Cuzco, 100 horse and the rest on foot: he spent over 60,000 ducats on them. He marched the 500 miles to Quito ... and, installed as governor, began to make ready what was necessary for his expedition. He raised more than 100 more soldiers, making 340 in all, 140 horse and the rest on foot. He was accompanied by more than 4,000 friendly Indians carrying his arms and supplies, and such requisites as iron, axes, hatchets, hemp ropes and cables, and nails, against any emergencies. They also drove a herd of about 4,000 stock, consisting of pigs and Peruvian sheep, which also helped to carry part of the munitions and baggage.²⁰

Other accounts make the party even larger. To quote W. H. Prescott's narrative, "Historians differ as to the number of Gonzalo's forces, of his men, his horses, and his hogs. The last, according to Herrera, amounted to no less than 5000: a goodly supply of bacon for so small a troop, since the Indians, doubtless, lived on parched corn, *coca*, which usually formed their only support on the longest journeys." Cieza de León, whose narrative was still in manuscript in Prescott's day, bids even higher with six thousand pigs. Whatever the precise figure, the supply of pork for the province of Quito was left severely depleted: its farmers regularly kept a total of no more than ten to twelve thousand pigs. Garcilaso's "Peruvian sheep" are of course llamas; the *coca* mentioned by Prescott is not "parched corn," as he supposed, but the intoxicating leaf of *Erythroxylum coca*.²¹

With this vast entourage Gonzalo Pizarro set out from Quito on Christmas Day, 1539. This paper will not recount

the terrible story of his expedition, though indeed it deserves retelling in full detail. Whether or not 4,340 is the true number of the people who set out from Quito, as stated by Garcilaso above, it is certainly true that only eighty staggered back to Quito, fully two-and-a-half years later, hungry, bare-foot, and almost naked. The pigs, horses, and dogs had long since been eaten. Apart from the stands of wild *Ocotea* trees encountered in the early weeks of the expedition, no cinnamon at all had been found. After more than a year of slow progress eastwards (and after dispatching a river-borne party under Francisco de Orellana, as explained below), Gonzalo and his remaining followers had penetrated far enough into the Amazonian rain forest to find "settled country," where yams had been planted and left to mature. It was lucky for them that they did, or all might have starved. Gonzalo Pizarro was, perhaps, intelligent enough finally to realize that these plantations represented the "rich provinces" that had been described or imagined in earlier encounters with Indian informants. Whether he realized that fact or not, as soon as all possible food value had been extracted from the yams he did in fact turn back and lead his shrunken party up river and across the Andes towards Quito.²²

Once having entered the mountains and jungles beyond the frontier of former Inca government, the problems faced by his expedition had indeed become almost insurmountable. Incessant rain rotted the clothes on their backs; an earthquake swallowed up a village of five hundred houses beside which they were encamped; their path was blocked by an enormous waterfall—twelve hundred feet high according to one source, twelve times that according to another—whose roar was audible eighteen miles away; downriver from the waterfall they crossed a rocky gorge of frightening depth by means of a tree trunk from which only one Spaniard fell to his death. If further research should show that these stories are all true, they will nowhere be found better told than by Garcilaso and by Prescott, who, like his Inca predecessor, has a gift for embroidery.

Because of the increasing difficulty of making a way through the forests alongside the river Cuca, and the Napo into which it flowed, Gonzalo Pizarro determined to build a brigantine. This vessel was at first used to ferry the party from bank to bank and to help in foraging for food, which was now in short supply. The work was delegated to one of his lieutenants, Francisco de Orellana.

It must be explained at the outset that Captain Francisco de Orellana was governor of [Guayaquil and Puerto Viejo]. At that time there was much discussion of a certain land where there was cinnamon. He determined to search for this cinnamon in His Majesty's service, and

was aware that [Francisco] had given Gonzalo Pizarro the position of Governor of Quito (including the towns of which Orellana himself had charge) so that Gonzalo might go in search of it. Orellana went to Quito, met the Governor, handed over his territory to him, and said that in His Majesty's service he wished to go on the expedition, himself and his friends, using his own wealth.²³

The existence of the brigantine appeared providential when, in late December 1540, the trusted Indian headman, mentioned above, finally made his escape. Orellana and fifty-seven other Spaniards were embarked in the vessel with instructions to sail downriver, find the rich province that was only ten days' journey away, and bring back supplies. Orellana and Pizarro differed (in their later recriminations) as to what was to be done should no supplies be found. In a six-hundred-mile voyage downriver, no village, and certainly no rich province, was discovered; and since Orellana himself was left without sufficient food to make the much more exhausting return journey against the current, he had no choice but to continue. So, at least, we are told by a participant in his voyage, Friar Gaspar de Carvajal, whose *Exploration of the Famous River of the Amazons* is the primary source for these events.

It is a fact, at any rate, that the voyage did continue. Noticeably more sensitive in his approach to American natives than the brutal Gonzalo Pizarro, Orellana (according to the faithful Friar) impressed the local people he met, at least in the first stages of the voyage, by his ability to speak their language—a most unexpected assertion which demands some explaining.²⁴ It is difficult to place on a map the successive adventures met with by Orellana and his crew; it is none too clear, for example, at what precise date they entered the greatest river in the world, the river which it was their destiny to explore. And many travellers, after their time, have attempted without success to find the nation of warrior women of whom Orellana heard so many reports, and who were said to have been directing the ambush in which Carvajal lost an eye. Although the warrior women have never yet been found, the name that Carvajal first applied to the river in their honor, *Rio de las Amazonas*, “River of the Amazons,” is the one by which it has been known ever since.

By contrast, Carvajal's description of the confluence of the Amazon and the Rio Negro (“Black River”), which he was again the first to name, is accurate and unmistakable.²⁵ There is a good deal still to be learned from his narrative. “I wish readers to know,” he observes in conclusion, “that all the people we met on this river, as I have set out above, were intelligent, vigorous and skillful, as is clear not only

from the practical things they made but also from their remarkable drawings and excellent coloured paintings.” Carvajal's story serves as a reminder that Spaniards, when unaccompanied by herds of pigs, were able to “eat what the Indians had prepared for themselves, and drink the Indian brews.” As Orellana's party reached the mouth of the Amazon and their supplies began once more to give out, they, like Gonzalo's party far away, learned to prepare cassava for food, and tasted yams (“some roots that they call *iname*”). While coasting Guyana, for some days they had nothing to eat but hog plums (*Spondias lutea*: “fruits rather like plums, which are called *hogos*”). And on an earlier page of his narrative Carvajal is the very first European writer to hint at the Amazon rain forest's wealth in medicinal herbs and in fruits, naming among the latter avocados, pineapples, and guavas.²⁶

So it was that the mirage of the Land of Cinnamon led Gonzalo Pizarro into two years of fruitless wanderings in the Ecuadorian jungles—and led Francisco de Orellana to begin the exploration of the world's greatest reservoir of edible and medicinal plant species.

NOTES

1. For more information and references on the early and medieval history of cinnamon, see Andrew Dalby, *Dangerous Tastes: The Spice Trade in World History* (Berkeley: University of California Press; London: British Museum Press, 2000), 36–42; Andrew Dalby, *Empire of Pleasures: Luxury and Indulgence in the Roman World* (London and New York: Routledge, 2000), 198–9.

Quotations from Columbus (Cristóbal Colón) and Chanca in this paper are based on *The Four Voyages of Christopher Columbus*, trans. J.M. Cohen (Harmondsworth: Penguin, 1969). Quotations from Garcilaso are based on Garcilaso de la Vega, el Inca, *Royal Commentaries of the Incas and General History of Peru*, trans. Harold V. Livermore (Austin: University of Texas Press, 1966). References to the Bible, Herodotus, Pliny, and Apuleius cite the standard book, chapter, and verse numbers of those texts. References to Fernando Colombo, Pedro de Cieza de León, and Toribio de Ortiguera cite the chapter numbers of their works.

2. Ezekiel 27.13–33; Sappho fragment 44 in *Poetarum Lesbiorum fragmenta*, ed. E. Lobel and D. Page (Oxford: Clarendon Press, 1968); Herodotus, *Histories* 3.110–111.

3. Pliny, *Natural History* 12.87–88. See J.I. Miller, *The Spice Trade of the Roman Empire* (Oxford: Clarendon Press, 1969), 153–172; L. Casson, *Ancient Trade and Society* (Detroit: Wayne State University Press, 1984), 225–246; Waruno Mahdi, “The dispersal of Austronesian boat forms in the Indian Ocean,” in *Archaeology and Language*, ed. Roger Blench and Matthew Spriggs (London: Routledge, 1997–9), vol. 3, 144–179.

4. Pliny, *Natural History* 12.93; Galen, *On Antidotes* (*Galenii opera omnia*, ed. C.G. Kuhn [Leipzig, 1821–33]), vol. 14, 63–65.

5. *Proverbs* 7.17–18; Apuleius, *Metamorphoses* 2.10.

6. John Russell, *Book of Nurture*, line 136, in *Early English Meals and Manners*, ed. Frederick J. Furnivall (London: Trübner, 1868), 10; Hierophilus the Sophist, *Dietary Calendar*. The latter text is translated in Andrew Dalby, *Flavours of Byzantium* (Totnes, Devon: Prospect Books, forthcoming).

7. Fernando Colombo, *Histories* 4 (see *The Life of the Admiral Christopher Columbus by his Son Ferdinand*, trans. Benjamin Keen (New Brunswick, NJ: Rutgers University Press, 1958), 11; Cristóbal Colón, *Letter on the Results of his First Voyage*. See Andrew Dalby, “Mastic for Beginners,” *Petits Propos Culinaires* 65 (2000), 38–45.

8. A.W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, Conn., 1972).
9. Fernando Colombo, *Histories 27 (The Life of the Admiral...)*, p.69; *Letter of Dr. Chanca to the City of Seville*. See Philip and Mary Hyman, "Long pepper: a short history," *Petits Propos Culinaires* 6 (1980), 50–52.
10. Columbus heard rumors of allspice, but never encountered it himself. Dalby, *Dangerous Tastes*, 150.
11. Garcilaso de la Vega, el Inca, *Royal Commentaries* 2.3.2; cf. Agustín de Zárate, *History of the Discovery and Conquest of Peru (Historia del descubrimiento y conquista del Peru* [Antwerp, 1555]), Book 4, chapter 1.
12. Pedro de Cieza de León, *The War of Chupas*, 18. For the text of this narrative see Pedro de Cieza de León, *Obras completas*, ed. Carmelo Saenz de Santa Maria (Madrid: Instituto Oviedo, 1984–5), vol. 2, 179–187.
13. Garcilaso, *Royal Commentaries*, 2.3.2.
14. J. H. Millares, editor of Carvajal's account of the exploration (see further below), suggests *Melia azedarach* and *Myrsine floribunda* as possible identifications. However, the first is believed to be native to southern Asia; the second has qualities more reminiscent of pepper than cinnamon. See Gaspar de Carvajal, *Relación del nuevo descubrimiento del famoso Río Grande de las Amazonas*, ed. Jorge Hernández Millares (Mexico: Fondo de Cultura Económica, 1955). References to Carvajal's account in this paper cite the page numbers of Millares's edition.
15. James Alan Duke and Rodolfo Vasquez, *Amazonian Ethnobotanical Dictionary* (Boca Raton: CRC Press, 1994); Umberto Quattrochi, *CRC World Dictionary of Plant Names* (Boca Raton: CRC Press, 2000).
16. According to a recent analysis, thirty-nine species of the *Lauraceae* family grow in Ecuador. None is considered locally to have medicinal value. See D.E. Moerman and others in *Journal of Ethnobiology*, vol. 19 (1999), 64. Relevant sources cited there include: C. Iglesias, *Hierbas medicinales de los Quichuas del Napo* (Quito: Abya-Yala, 1985); W. Jameson, *Synopsis plantarum aequatoriensium* (Quito, 1865); E.O. Kohn, *La cultura medica de las runas de la Regio Amazonica ecuatoriana* (Quito: Abya-Yala, 1992); R. J. Marles, D.A. Neill and N.R. Farnsworth, "A contribution to the ethnopharmacology of the lowland Quichua people of Amazonian Ecuador," *Revista de la Academia Colombiana de Ciencias Exactas, Fisicas y Naturales*, vol. 16, no. 63 (1988), 111–120; *Flora brasiliensis*, ed. K.F.P. von Martius, A. W. Eichler, and I. Urban (Munich: Fleischer, 1840–1906); S. S. Renner, H. Balslev, and L.B. Holm-Nielsen, *Flowering Plants of Amazonian Ecuador: A Checklist* (Aarhus: Botanical Institute, 1990); Maria Elisabeth van den Berg, *Plantas medicinais na Amazônia: contribuição ao seu conhecimento sistematizado* (Belem: Museu Paraense Emílio Goeldi, 1993).
17. Gaspar de Carvajal, *Exploration of the Famous River of the Amazons*, 80, 117; Cieza de León, *War of Chupas*, 21.
18. Cieza de León, *War of Chupas*, 19; Garcilaso, *Royal Commentaries*, 2.3.3.
19. On Gonzalo Pizarro, see Rosa Arciniega, *Dos rebeldes españoles en el Perú: Gonzalo Pizarro y Lope de Aguirre* (Buenos Aires, 1946). Documents concerning Gonzalo are collected in Luis Vázquez Fernández, *Tirso y los Pizarro: aspectos histórico-documentales* (Trujillo, Cáceres: Fundación Obra Pía de los Pizarro; Kassel: Reichenberger, 1993).
20. Garcilaso, *Royal Commentaries*, 2.3.2.
21. Garcilaso, *Royal Commentaries*, *ibid.*; Cieza de León, *War of Chupas*, 18; Toribio de Ortiguera, *Jornada del río Marañón*, 14 (for the text of this narrative see *Historiadores de Indias*, ed. M. Serrano y Sanz [Madrid, 1909], vol. 2, 325–331). William H. Prescott, *History of the Conquest of Peru* (New York, 1847).
22. Cieza de León, *War of Chupas*, 22.
23. Carvajal, *Exploration*, 41. A useful, annotated translation of the narrative of Carvajal is José Toribio Medina, *The Discovery of the Amazon According to the Account of Friar Gaspar de Carvajal and Other Documents*, trans. Bertram T. Lee, ed. H.C. Heaton (New York: American Geographical Society, 1934); reprinted under the title *The Discovery of the Amazon*, ed. José Toribio Medina, trans. Bertram T. Lee (New York: Dover, 1988).
- The story of Orellana's exploit has often been retold. See for example Walter Norman Breyman, *The Opening of the Amazon, 1540–1640* (Dissertation, University of Illinois, 1950); J. A. del Busto Duthúrburu, "Los Amazonautas del siglo XVI," *Revista histórica* (Lima), vol. 29 (1966), 207–280; George Reid Miller, *Orellana Discovers the Amazon* (London, 1954).
24. Carvajal, *Exploration*, 58. Orellana is most likely, perhaps, to have spoken some Quechua, but that is unlikely to have been useful once the voyage was under way. Otherwise the language concerned was possibly an unknown Tukánoan lingua franca or pidgin of the river Napo, possibly a Tupían lingua franca of the Amazon, and thus a forerunner of the Lingua Geral of Portuguese Brazil. In either case, Orellana was a quick learner.
25. Carvajal, *Exploration*, 53, 60, 85, 97, 103.
26. Carvajal, *Exploration*, 49, 83, 100, 117, 118. On the people of the Amazon basin at this period see Antonio Porro, *As crônicas do rio Amazonas: tradução, introdução e notas etno-históricas sobre as antigas populações indígenas da Amazônia* (Petrópolis: Vozes, 1993); Antonio Porro, "Social Organization and Political Power in the Amazon Floodplain: The Ethnohistorical Sources," in *Amazonian Indians from Prehistory to the Present: Anthropological Perspectives*, ed. Anna Roosevelt (Tucson: University of Arizona Press, 1994), 79–94; Neil Lancelot Whitehead, "The Ancient Amerindian Polities of the Amazon, the Orinoco, and the Atlantic Coast: A Preliminary Analysis of their Passage from Antiquity to Extinction," *ibid.*, 33–53.