

# The Chile Diaspora: Unravelling Evidence from Sixteenth Century Botanicals

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**ABSTRACT:** In Europe, capsicums were widely distributed early in the sixteenth century due to a fascination with exotica arriving from the Americas and Asia. This craze for the new was manifested in a fashion for botanical gardens and herbals that documented the new arrivals. Many herbal entries on chilis copied or amended earlier sources leading to misunderstandings though they also provide regionally specific information. One point of confusion is nomenclature, which can be misconstrued to prove that the spice arrived in Europe from India, Turkey or West Africa. Comparing multiple editions and translations of the herbals provides a valuable source for tracing the arrival of the plant in specific European regions, though even here the information can be ambiguous. The texts also hint at the medical and culinary uses of capsicums in Europe. In India there is no proof until the seventeenth century that chilis were cultivated or grown.

Step into a restaurant in Seoul or Seville, in Tunis or Tijuana, and you will likely detect the sweet and pungent aroma of chili peppers in the air. The fiery pods are the world's favorite seasoning. Today, the planet produces and consumes more chili (*Capsicum spp.*) than all other spices combined, over four and half million tonnes in 2017.<sup>1</sup> And that is only the dried chili that is dried, packaged and sold. It is not only marketed as a spice, but used as a colorant, a pharmaceutical, and even weaponized as pepper spray to ward off ursine and human assailants alike. Yet little more than five centuries ago, the genus *capsicum* was limited to a narrow tropical and subtropical strip of the Western Hemisphere, something that changed with remarkable rapidity following 1492. In a matter of decades, botanists, apothecaries and even blue-blood amateurs were cultivating the little shrubs across Europe, not so much as a food stuff but as an exotic curiosity. The plant's popularity rode on a wave of enthusiasm for horticulture set in motion by Europe's global expansion in the so-called "Age of Exploration." The botanical Wunderkammern have long gone under the plough but we have scores of herbals and botanicals, in hundreds of editions and translations to document the period's gardening frenzy. When it comes to *capsicum*'s dispersal across the globe, the texts are both a treasure load of valuable insights and sinkhole of misinformation and misdirection. My ambition here is to sort out the fool's gold from the real thing.

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## Gardens and Herbals

The sixteenth century enthusiasm for gardening that culminated in the following century's tulip mania has been widely documented. Gardeners all over Europe, especially in Italy and

the Low Countries, sought out the most exotic specimens from ever more distant climes. Networks of plant enthusiasts sent each other seeds, bulbs and even dried samples with instructions on what to grow, how, where and when. In all this, *capsicum* seeds were no more than a footnote. Gardeners tended to be the most interested in plants producing unusual blooms. Other than for their exoticism, botanist sought out chilis for their colorful and varied pods. The Italian botanist and Capuchin friar Gregorio a Reggio (d. 1618) for example, listed a baker's dozen chili varieties in his mini-treatise on the subject, each focused on the plant's appearance, not its flavor.<sup>2</sup> It was generally understood that the pods were edible and were in the same pharmacological category as black and long pepper, it's just that elite cuisine seemed to have no interest in the incendiary spice.

The line between botany and pharmacy was often nebulous in an age that was trying to make sense of the world. Virtually every author of the botanicals was a physician or had studied medicine. Universities at Pisa, Padua, Bologna, Leipzig, Leiden all established botanical gardens in the sixteenth century supposedly to further their curative curriculum—even if many of their rarefied plantings were more spectacle than *materia medica*. While moneyed amateur enthusiasts had the showiest gardens of exotica, apothecaries were at least as enthusiastic. Some gained fame for pioneering the cultivation of particular exotic plants in Europe for both decorative and curative ends.<sup>3</sup>

The Southern (Hapsburg) Netherlands, was especially renowned for its gardens. The aristocratic Charles de Saint Omer (1533–69), now mostly known as the patron of the famed, Flemish botanist Carolus Clusius (1526–1609) had a garden that Lodovico Guicciardini described as “admirable with an infinity of excellent plants.” He compared it favorably with a nearby garden owned by the Antwerp apothecary Peeter van Coudenberghe (1517–99) noting some 400 exotic plants under cultivation.<sup>4</sup> It’s worth noting that both gardens included *capsicums*, Clusius gave Saint-Omer seeds of a “Brazilian Pepper” in 1566 that apparently flowered that autumn; records show that Coudenberghe had a similar variety growing in his vegetal menagerie. Clusius’ compatriot and fellow botanist Matthias de Lobel (1538–1616), insisted that the region exceeded all others in botanical and horticultural matters. He claimed that here, more flora could be found than in any other place not excluding “ancient Greece, spacious Spain, the whole of Germany, England and France, and even Italy which is so well cultivated.”

It may seem odd that the inclement Low Countries would have provided such fertile soil for exotic imports. Lobel attributes it to the hard work, diligence and perseverance of his countrymen, and it’s certainly true that the region had devised specialized techniques to deal with frost and drizzle. Cold frames were pioneered here in the sixteenth century and Flemish tools, techniques and even gardeners were in demand across Europe.<sup>5</sup> Moreover, what the Southern Netherlands, lacked in terms of weather they made up in spades in location. For much of first three quarters of the century, until it fell victim to the Spanish

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Dutch wars, Antwerp was the hinge of a global trading network. Portuguese naus arrived here from the Indian Ocean and the South Atlantic bearing loaded with pepper and sugar and other tropical stuffs, possibly including Brazilian pepper. The port was a stone's throw from England, France and the German lands washed by the Rhine but its tendrils extended across the Hapsburg realms from Vienna to Naples to Madrid and farther, to the newly-occupied lands in the Americas.

It's perhaps no wonder that some of the century's most notable botanists hail from here, not only Clusius and Lobel but also Rembert Dodoens (1517-1585). All mention chilis in their botanical works and, are, in turn cited (with attribution but often without) in other botanists' work. In England, John Gerard's 1597 *Herbal* mostly just copies Dodoens on the topic, while some forty year later, John Parkinson's *Theatrum botanicum* (1640) lifts most of his capsicum entry from Clusius.

The mania for exotica and its documentation was Europe-wide. The Spanish physician Nicolas Monardes (1493-1588) had his own garden in Seville to cultivate American arrivals and documented capsicums and their commonplace use in Andalusia in, *Historia medicinal de las cosas que se traen de nuestras Indias Occidentales* (1565), an herbal devoted to New World plants. Several Italian naturalists describe chili peppers, most notably Pietro Andrea Mattioli (1501- c. 1577), but also Castore Durante (1529-1590), the above-mentioned friar Gregorio a Reggio and, intriguingly, Pietro Antonio Michiel (1510-1576), in a manuscript that was only published in 1940. Worth mentioning here are at least two India-based authorities who conspicuously do not mention capsicums. Neither the converso physician Garcia da Orta nor his colleague Cristóbal Acosta mention the spice.

In his day, perhaps the best known of the European herbalists was the Bavarian Leonhard Fuchs (1501-1566) who, by virtue of being the first to describe chili peppers in a work of botany in 1542, was also one of the most commonly quoted authorities on the subject. Authority was important. One of the challenges that European scholars faced when confronted with flora and fauna that had no antecedents in the classics was how to categorize it. Thus, Fuchs insisted that Pliny had called this American native *siliquastrum*, or *piperitis*, names that stuck for generations. The German doctor also postulates that it is the same plant as Avicenna's Zinziber caninum, another point of confusion for decades to come.<sup>6</sup> Lacking older authorities, numerous writers fell in line with Fuchs and his reading of the ancients.

The era's enthusiasm for plants created a large market for herbals, which resulted in publishers across Europe cranking out multiple editions over the years. While Latin was the preferred language of scholarship, it limited the customers to the well-schooled, and they were not necessarily the ones who could afford the gorgeous, hand-colored editions some publishers offered. Consequently, a flourishing trade in translations ensued. Fuchs' herbal was rendered into Dutch, German, Spanish and French. Editions of the Sienese

doctor Pietro Andrea Matthioli's (1501-1577) books appeared in Latin, Italian, German, Czech, French; close to 300 editions in all prior to 1650.<sup>7</sup> The editions were often recycled, as were the illustrations. The latter were expensive to commission and produce, moreover the plants in question were often unavailable. So, publishers recycled the plates in multiple volumes, not always by the same author. Fuchs may have been even more influential for his illustrations than his writing. Images from the 1545 octavo editions of the herbal show up in Rembert Dodoens' *Crüÿdeboeck* (1554), as well as Lyte's 1578 English translation, Willian Turner's *New Herball* (1551-1568) and others.<sup>8</sup> Even when the plates were unavailable, a copy would do. For instance, the images in the 1590 edition of Matthioli's *Kreutterbuch*, show an unmistakable similarity to the almost 50-year old plates! Editorial requirements sometimes required the image to be smaller, or for several images to be combined into one. In a feat of graphic taxidermy Hieronymus Bock's, *Kreuterbuch* (1546) includes an image of a pepper plant that blends all three pepper varieties illustrated in Fuchs' seminal volume. Inevitably errors would creep into the translations as well. Monardes English translator, for example, confuses "axi" (a native American word for capsicums) with "Asia" and changes the original Spanish *pimienta de India* to "peper of East India" completely changing the meaning. All this is to say *caveat lector*.

### The Garden of Babel

230 The problem of translation becomes especially problematic with names. And, as Fuchs' attempt to slot capsicums into existing taxonomy demonstrate names are as likely to confuse as to elucidate. As an epistemological strategy, etymology is notoriously problematic in tracing food origins. Think of French fries, turkey or English muffins. This hasn't stopped authors from trying.

The Arawak name for the spice was *axi* (sometimes spelled *aji* in Spanish sources and the current preferred spelling in the Andes) whereas chili (chile, chilli) is derived from Nahuatl. Spaniards occasionally used the native American names but more typically, Europeans used some version of pepper, usually with a modifier appended to distinguish it from the Indian spice. There were numerous variants, even within a single language. Fuchs himself, offers that the spice, in Latin, is commonly called *piper Hispanum* or *piper Indianum* and by some *piper ex Chalicut* (Spanish, Indian or pepper from Calicut). In German, he offers *Chalecutischer* or *Indianischer Pfeffer* (Calicut or Indian pepper).<sup>9</sup> The connection to Spain and to the (West) Indies make sense given the plant's origin and its early arrival in Spain. The association with Calicut has led several writers, most notably Jean Anderson, to the conclusion that Fuchs, located in Tübingen, the university town some way east of the Black Forest, was getting his chilis from the South Indian spice emporium.<sup>10</sup> If Fuchs really did believe that capsicums were related to Pliny's cardamom (*siliquastrum*) did he imagine that, like cardamom, they were native to the Malabar coast? Possibly, but a more likely explanation is that *chalecutischer* (also *calecutischer* and *kalecutischer*) was used in a generic way for all things exotic at the

time.<sup>11</sup> Nonetheless, the modifier does keep showing up in botanicals throughout the century, especially those penned by non-German speakers who are presumably citing Fuchs whether directly or through some other interlocutor. On the other hand, the German Hieronymus Bock names it *Teütscher Pfeffer* (sic) in 1646 as does Eucharius Röslin's who also calls it *Indianischer Pfeffer*. The 1662 Czech translation of Mattioli refers to it as "Pepř Indyánký kterémuž wuobec Turecký říkagi" (Indian pepper which is called Turkish). The term is repeated in later editions and seems to have entered German as well. It seems plausible that a 1604 imperial Hapsburg register of tariffs listing something called "Turkish or Moravian pepper" refers to chilis.<sup>12</sup> A few years earlier, Johann Coler had reported seeing *Turkisch Pfeffer* in Frankfurt which, given his description of "red pods harvested after Michaelmas" seems to leave no doubt that these were indeed capsicums. So, does that mean that some chili peppers arrived in Central Europe via some point in the vast Ottoman Empire? Or was the word used in much the way nineteenth century Europeans used the word "Oriental," as something exotic and strange? Or, as I would suggest, is it a data point too ambiguous for any definite conclusion? Coler points to the fact that even as *Turkischer Pfeffer* was used in Frankfurt for capsicums, in Vienna, the identical term referred the best-quality black pepper imported from Venice.<sup>13</sup> Making any etymological significance even more unreliable is the fact that in Czech the term "Turkish pepper" was a synonym for *piperát*, that is pepperweed (*Lepidium latifolium*).<sup>14</sup>

In English and French, the most common appellation was Ginnie pepper (as Gerard spells it) or *poivre de Guinée*. Here it is perfectly possible that capsicums reached English and French entrepôts from Brazil via Portuguese ports of call on the West African coast. Gerard says "these plants are brought from forren countries, as Ginnie, India and those parts, into Spaine and Italy; from whence wee have received seede for our English gardens."<sup>15</sup> Dodoens notes the use of Brasilien pepper for peppers, perhaps because of the Portuguese connection to Brazil via Antwerp.

African Guinea, sometimes known as the Malagueta coast, was in fact the source of malagueta pepper (*Aframomum melegueta*)--also just melegueta or Grains of Paradise. This spice has nothing to do with capsicums, it is related to cardamom and was a favorite of the French at the time. By the late fifteen hundreds, Portuguese visitors started to reference plants resembling capsicums as "malegueta." Eventually that become the default name for chilis in Brazil.

In Italy, the term *pepe cornuto* is noted by Durante alongside *pepe d'India*. Michiel adds that commoners called it *pepe rosso* as well as *pepe Hispano or Indiano* at mid-century. A hundred years later across the Adriatic, a Bosnian-Italian dictionary translates *pepe d'India* as "paprika" (as well as well *Papar crregleni*, red pepper) for the first time.<sup>16</sup>

### Vectors of Diffusion

Whereas depending on etymological signposts to follow the pathways of chilis throughout Europe is likely to lead to a maze of dead ends, the botanicals are valuable

in other respects. They are one of the very few sixteenth century sources that provide eyewitness testimony to chiles' presence in regions across Europe and, given the complete absence of period recipes, hint at their culinary use. Here too the reader need be careful that a text isn't merely a citation rather than first-person evidence, but there are enough of credible mentions to make the exercise worthwhile.

The arrival of capsicums in Europe is uncontroversial. Chilis were domesticated as early as 4000 BCE at several locations in the Americas and eventually spread throughout what is now Latin America so by the time Europeans arrived the plants were being cultivated in a variety of climactic conditions from the tropics to the Andes. The European arrivals noted the spice early and often. The first report comes from Christopher Columbus' first voyage.<sup>17</sup> On his return, the Genoan adventurer presented the New World spice to the Spanish sovereigns and the following year, chili seeds apparently reached Italy when Peter Martyr (Pietro Martire d'Anghiera) an Italian humanist resident in Madrid forwarded the spice to papal vice-chancellor, Ascanio Sforza.<sup>18</sup> In 1535 Fernández de Oviedo y Valdés' who had lived and later made repeated visits to the Caribbean reported, "It is brought to Spain and Italy where it is considered a very good spice, and it is very healthy, and appreciated everywhere it can be found; and merchants and others send for it from Europe, and search it out to eat and enjoy it."<sup>19</sup>

It wasn't just chiliheads who were interested, of course. A lively system of correspondence crisscrossed the continent, trading information and seeds from across Europe's now global trade network. The correspondents were more likely botanists than cooks. It is, in fact, unlikely that chili seeds were initially planted in countries as widely separated as Italy, Hungary, Moravia, the Southern Netherlands and even England as anything but exotic curiosities. While it's impossible pinpoint just how quickly this occurred, the herbals give some indication of the chronology of this diffusion. Authors sometimes add more information in later versions of texts, making it clear that they had had more exposure to capsicums in the interim. Other authors, even if they do little more than cite an earlier, sometimes decades-old source often add a few words of local information. Translators do the same thing, though here again misinformation can creep in.

Matthioli's texts serve as a particularly clear example of this, since his writing extends over decades, and his work documents the presence of chilis in several locations. His early work, mostly notably his commentary on *Dioscordides*, which would be published in dozens of editions starting in 1540, discusses black and long pepper but there is no mention of capsicums. He does mention tomatoes in the expanded 1544 edition, so clearly the text wasn't limited to plants only familiar to the Roman botanist. Was Matthioli unfamiliar with the American spice? The Sienese physician didn't address the subject of *Capsicums* until he relocated to the court of Ferdinand II in Prague in 1554. *Herbarz, ginak Bylinář*, (1562) was first published in Czech and then in German a year later. The

differences between the two editions are telling. The Czech begins with “Indian pepper which is generally called Turkish pepper is also [like marsh pepper] common with us.” The German (also published in Prague) begins “the Indian pepper is newly arrived in German lands, it is grown fresh. It is grown in planters and herb gardens.” Was it? Fuchs, writing in 1542 claims writes that it was “found almost everywhere in Germany now, planted in clay pots and earthen vessels” adding, “many use this instead of true pepper.” Did the translator just adapt the information from Fuchs? A posthumous 1590 German version of the herbal published in Frankfurt, retains the remark about the novelty and the pots even though the rest of the text is now quite different, and, jarringly, replaces the lovely illustration from the Prague editions with a lightly edited version of the ubiquitous Fuchs’ octavo woodcuts. A subsequent 1596 Czech Prague edition mostly keeps the 1590 text (as well as the Fuchs plates) but inserts the statement that it is “common and well known” in both the Czech and German lands. Given the Fuchs precedent, my tendency here would be to ignore the German-language comments but to credit the Czech observations. In part, this is because there are several other data points substantiating Mattioli’s (or his translators’) remarks about the commonness of *capsicum* in the lands of the Czech crown. One is from another botanical. Clusius recalls having “seen [the pepper plant] grown in the greatest abundance, in the 1585th year of Christ, in the suburban gardens of the famous city of Brno in the March of Moravia; and the farmers made a considerable profit from it, since the common people used it frequently.”<sup>20</sup> A 1578 letter from the Flemish botanist also confirms that pepper were growing in the Szalónak garden of Count Boldizsár Batthyány some 200 kilometers south of the Moravian capital. The Hungarian count was one of regions notable amateur horticulturalists and a frequent recipient of Clusius’ letters and specimens. The most solid corroboration, however, comes from archeologists who found pepper seeds they dated to the sixteenth century in Prague and in Brno.<sup>21</sup>

This sort of multidisciplinary proof does not exist in other European locations. Nonetheless the case of England, shows that the botanicals have some merit in establishing chronology. John Turner (1508?-1568) was an English botanist who wrote several texts, the most notable among these *A New Herball* (1551-1568). He does not mention chilis in *Libellus de re herbaria novus* (1538). He seems to be only barely more familiar with it in an expanded English language version from 1548, where he pretty much just quotes Fuchs, adding the original tidbit that in English the American plant is called “Indishe pepper,”—this presumably only by botanists who had read Fuchs! He does add that “The herbe groweth in certeine gardines in Englande,” though this comes across as hearsay. He skips over the subject altogether in his magnus opus, thus giving the impression that it wasn’t very common in Albion. The next time the spice makes an appearance--other than works of translation such as Dodoens 1570 London edition--is in John Gerard’s 1587 *Herbal*. Gerard cribs most of his description of what he calls “Ginnie Pepper” from Dodoens but

then adds several informative details. He expands on the Flemings' warning on "the great care and diligence" necessary to grow the semi-tropical plant and, helpfully, tells the reader that it is on sale "in the shoppes at Billingsgate." In other words, even if it was an exotic rarity, it could be had in the East London Harbor market.

Gerard's comment is one of the very few references to a market for capsicums. Bock, writing in the Rhineland-Palatinate, mentions that some German merchants used it to adulterate black pepper.<sup>22</sup> As we've seen it was also on sale Frankfurt and was possibly taxed by the Hapsburgs. Given the paucity of mentions in other records, it seems improbable that merchants were the main vector of diffusion. More probably it was sent from botanical enthusiast to botanical enthusiast in the north of Europe and exchanged by aficionados of the spice in south.

### A Taste for Spice

From a pharmacological perspective, the botanicals generally lump capsicums in with black pepper. Depending on the authority it was, in the Galenic system, hot to the third, or fourth degree. While the physician authors were generally in accord about its potential curative utility, there is some skepticism about whether it was edible. Dodoens thought it "dangerous to be often used or in to a great a quantitie: for this pepper hath in it a certayne hidden evyll qualitie, whereby it killeth Dogges, if it be given them to eate."<sup>23</sup> Gerard ascribed to it a "malitious qualitie, whereby it is an enemie to the liver & other of the entrails."

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Southern European consumers, on the other hand apparently discovered a liking for the exotic American seasoning quite early. According Gonzalo Fernández de Oviedo y Valdés' *Historia general y natural de las Indias, islas y tierra-firme del mar océano* (1535) Spaniards picked up the taste while residing in the New World:

Axi is a well-known plant used in all parts of the Indies, both the islands and the *terra firma*, and useful and necessary, because it is hot and makes other dishes tasty or appetizing, whether they be fish or meat. It is the pepper of the Indians, and they make much of it, there is an abundance of axi, because in all their farms and orchards they plant it and raise it with great diligence and attention, since they continually eat it with fish and with most of their dishes. It is no less agreeable to the Christians, who use it as much as the Indians, because not only is it a very good spice, it adds a good taste and warms the stomach; it is a healthy thing, though rather hot in taste.<sup>24</sup>

The Portuguese naturalist, Gabriel Soares de Sousa, made much the same point in Brazil a half century later noting that the Portuguese ate certain chiles "in imitation of Indian custom." They would apparently grind the dry peppers, mix the powder with salt and use it to season both fish and meat. He adds that this salt "displeases no one."<sup>25</sup>

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Oviedo explains how it spread further: “It is brought to Spain and Italy where it is considered a very good spice, and it is very healthy, and appreciated everywhere it can be found; and merchants and others send for it from Europe, and search it out to eat and enjoy it.”<sup>26</sup> Clusius also reports seeing peppers in Portugal during his tour of Iberia in 1564-65.<sup>27</sup> The local fondness for chilis is corroborated by Monardes writing contemporaneously. His English translator renders it thus: “I will not let to speake of the Peper that they bring from the Indias, that not onely it serveth for Medicine, but it is otherwise most excellent, the which is knownen in all Spayne, for there is no Gardeyne, nor Orchard, but that it hath plentie thereof in it, for the fairenesse of the fruite that it bringeth forth.” His next comment speaks to at least one reason why it was quickly adopted by Spaniards (at least the thrifty ones):

All the sortes are used in all manner of meates and potages for that it hath a better tast then the common Peper hath. Beaten in peeces, and cast into the brothe it is an excellent sauce, they doe use it in al things that the aromatike spices are used in, which are brought from *Maluco*, and *Calicut*. It doeth differ from that of the East Indias, for that costeth many ducates; and this other doth cost no more but to sowe it, for that in one plant you have spice for one whole yere, with lesse hurt and profite.<sup>28</sup>

This points to the two primary uses of the spice: for food and for medicine, these uses tightly linked in the Early Modern mind.<sup>29</sup> The Italian botanist Castore Durante gives a recipe that combines the two. After mentioning that it used in “all the sauces (*condimenti*) and foods because it is of better taste than common pepper” he explains how to make the nutraceutical more digestible. He instructs the reader to grind up the whole pod including the seeds stir into dough and make a *pan biscotto* out of it.<sup>30</sup>

Throughout Europe, though, whether in Central Europe, Iberia or Italy, the implication was that capsicums were a poor person’s substitute for black pepper, or occasionally for saffron. Elite cuisine had no use for the interloper. The only early elite recipe for chilis that I’ve been able to identify is in Antonio Colmenero’s *Curioso tratado de la naturaleza y calidad del Chocolate* (1631). He reports on chilis’ use as a chocolate additive. Despite laying out the medical risks of this habit, he gives a thorough recipe. He notes that in Mexico the preference is for the hot “Chilparalagua” (elsewhere spelled “Chilpaclagua”) chili whereas in Spain they prefer the broad, milder *pimientos de España*.<sup>31</sup> Cookbook mentions come much later. An early instance shows up in a recipe for “Spanish-style” pork in a Czech manuscript dated to 1645, attributed to a minor noblewoman. Here, pork chops are smeared with cloves, garlic and “Turkish” pepper then marinated, smoked and finally braised.<sup>32</sup> In Spain itself the first collection of chili recipes come a century later in another manuscript written by a woman, the Andalusian Calvillo de Teruel’s *Libro de apuntaciones*

*de guisos y dulces* (1740).<sup>33</sup> Almost a quarter of her recipes include pimentón, indicating how ubiquitous the Indian pepper now was in southern Spain.

### In the Wake of the Naus

Yet what of India itself? Numerous scholars insist that it reached the coast of Malabar in the first decades of the sixteenth century and was even reexported to Europe. I remain highly skeptical. There is, I think, a stronger case to be made for Africa.

For the Gulf of Guinea, the records are not as clear-cut as for Europe or America but there is at least some evidence that chilis had been adopted by the late fifteen hundreds. The Cape Verdean writer, André Alvares d’Almada described “a sort of pepper which climbs up trees like ivy, and grows in little bunches like the flower of the grape when it is opening to form a bunch. In these parts this pepper is called *mantubilha*: it burns like pepper and dyes like saffron.” Some South American chiles do climb and both pungency and dyeing effect are certainly chili-like. Less ambiguous is Manuel Alvares description from about 1615 of French sailors being tortured by a Sierra Leone potentate by rubbing their eyes with “red malagueta, which are a kind of pepper.”<sup>34</sup> That said, neither mention is proof certain.

For India, however, there isn’t even this fragmentary evidence. Scholars have made much of the Fuch’s *Calecutischer* moniker, which, as I suggest above, is a non-starter. In Flanders, Mattias Lobel states that “in our memory, has been brought from Goa and the shores of Calicut.”<sup>35</sup> Given that the Portuguese had lost Calicut almost fifty years earlier, at least half of that statement is highly improbable. Perhaps he genuinely believed capsicum’s origin was in India, but from what we know there is no local mention of it. The botanists on the ground do not remark on its presence, nor do any visitors. Neither the very thorough Garcia da Orta or the more lackadaisical Cristóbal Acosta mention the spice, writing in the 1560s and 1570s respectively. If it was so widely distributed in Portugal’s Indian territories, why would both botanists have ignored it? Similarly John Huyghen Van Linschoten, after visiting the Portuguese India describes all the types of pepper available on the Malabar coast, including a cheap form of black pepper called camorin, but makes no mention of capsicums.<sup>36</sup> It isn’t until 1670s that Hendrik van Rheede describes it in the East Indian context.<sup>37</sup>

There are, however, at least three other mentions worth repeating. K.T. Achaya references a composition by the South Indian poet Purandaradasa from the sixteenth century, postulating that it refers to chilis. This reads: “I saw you green, then turning redder as you ripened, nice to look at and tasty in a dish, but too hot if an excess is used. Savior of the poor, enhancer of good food, even to think of [the deity] is difficult.”<sup>38</sup> There are two problems with this verse, the first is that black pepper as well as chili starts out green and ripens to red. The second, as Divva Schäfer has pointed out, is that the poet’s work wasn’t codified until the nineteenth century. She is also skeptical of the 1649 mention by Fray

Sebastien Manrique of a green-pepper laced pickle served him at the home of a Mughal notable.<sup>39</sup> Schäfer suggests that he is referring to green peppercorns rather than chilis but the context is too ambiguous to say anything definitive.<sup>40</sup> Given van Rheede's reporting, it is almost certain that chilis were present in South Asia by this point, but whether they would have been used in elite Mughal cookery is another matter altogether. The third bit of evidence comes from the Tibetan herbal, *The Blue Beryl*, a classic text of the Tibetan medical tradition from the late seventeenth century, which tells us that "Capsicum (*tsi-tra-kas*) increases digestive warmth of the stomach and is the supreme medication for the alleviation of oedemata, haemorrhoids, animalcules, leprosy and wind." Elsewhere, the spice is also supposed to alleviate diseases of phlegm and prolong the lifespan.<sup>41</sup> There is little doubt that chilis were being cultivated in South Asia in the seventeenth century and may have been incorporated into the pharmacopeia, but the sixteenth century is a cipher.

Even if a date is impossible to pinpoint, and there is no proof tracing the vectors of the plant's diffusion, I think it's possible assemble a working hypothesis of its Indian landfall by looking at the context of 16th century long-distance trade in both the Atlantic and, more tentatively, in the Indian ocean.

Historians have identified a number of nodes that anchored sixteenth century trans-oceanic trade routes. In Europe these included Lisbon, Cadiz (the port of Seville) and Antwerp; in the West Indies there were Cartagena, Havana, Santo Domingo and Veracruz (depending on the commodity); in Brazil, São Salvador da Bahia; in Africa the Cape Verde Islands and São Tomé; and in Asia, not only Goa but Malacca located in the eponymous straights, as well as Manila, the destination of the so-called Manila galleon originating in Acapulco.

The foods the sailors brought with them created a world-wide revolution in diet and agriculture; the basis of the so-called Columbian exchange. It bears repeating that the climatic conditions at each point of contact had to be analogous. Thus, despite the Europeans unbridled enthusiasm for pineapples, they never became a European staple. This explains, in part, the adoption of *C. annuum* in Central Europe but not other, more hot weather varieties which, instead, found their way to Africa and tropical Asia.

In the tropics, the most critical nodes for the distribution were the Portuguese islands of Cape Verde Islands off the Western tip of Africa and São Tomé in the Gulf of Guinea. There is good sixteenth-century documentation that American yams (*Dioscorea spp.*), peanuts, pineapples, sweet potatoes (*Ipomoea batatas*) and manioc (*Manihot esculenta*) were transferred from Brazil to the Atlantic islands and then in turn to the African mainland.<sup>42</sup> The ubiquity of so many New World plants would argue for the presence of chilis as well. Eventually many of these American natives made the voyage to India as well, but how quickly did this occur?

The adoption of chilis in Spain makes some sense as an inexpensive stand-in for pepper and saffron but why would Indians, and especially South Indians pick up the taste for

chilis? It would be hard to apply the cheap substitute for black pepper rationale to a place where pepper was growing wild in the Kerala hills. I am also not convinced by the cavalier statements of Western scholars that Indians changed the profile of their cuisine the moment chilis arrived.<sup>43</sup> There were other factors at play on the Malabar coast though. Pepper may have been free for the picking, but it was also something you could sell, an internationally-traded commodity, it was quite literally money that grew on trees--or vines at rate. Several visitors to the Malabar coast report that the poor people there did not eat black pepper (*Piper nigrum*) but rather an inferior kind called canarins, (possibly named after Kanara, a community south of Goa?). Linschotten describes it as looking like buckwheat, writing, "it is on an ashe colour, and hollow within, with some small kernels is in eating and tasteth like other pepper, yet is used onely by the poore people." He adds that it is not commodified like black pepper.<sup>44</sup> Perhaps the locals found the New World pepper more to their liking than this poor man's substitute for real pepper? Or it may have insinuated itself into the local culinary culture more slowly, through the native wives of Portuguese settlers or the Indian cooks of missionaries. Or perhaps it was first inserted into local medical practice before entering the cuisine. As unsatisfying as the answer is, all we can do for now is guess.

### Conclusion

In some ways, the sixteenth century echo chamber where information and misinformation was widely printed, reprinted, copied and plagiarized, should be all too familiar to us. Yet even as the internet has required the modern citizen to constantly shovel away a blizzard of falsehood it has also provided the scholar a way finding paths to legitimate sources that were once buried in inaccessible archives. This paper has only looked at a handful of editions of about a dozen sixteenth century botanists who addressed (or in some cases omitted) capsicums, a selection that is no more than a fragment of what is now available online. But even this cursory perusal would have been entailed terrific effort a decade ago. A more complete examination of all of the available editions of Fuchs or Clusius, for example will undoubtedly reveal more detail and inconsistencies than I have been able to find. What academic historians have long understood, but food historians sometimes ignore, is that so-called primary sources are anything but. As the botanists invented a new field of human knowledge in the early modern period they had to wrestle with the conflict between authority and empiricism. Until we more fully understand *their* sources, it can be difficult to disentangle eyewitness accounts from hearsay. Given the absence of other documents, the botanicals are an invaluable source of information on the distribution of peppers in Europe, less so in other parts of the world. Without corroborating evidence from other sources, whether literary or archeological, the herbals' credibility will always have limits.

I have addressed, in part, the who, when and what of chili distribution but much more work needs to be done on the why's. To what degree was the driver of the capsicum diaspora

medical or culinary, if the two can even be disentangled? While published botanicals and travelers' reports are of enormous value they do not provide an adequate explanation of why culinary cultures around the world shift and change with the arrival of foreign ingredients. This is especially true when the ingredients serve virtually no nutritional value and yet are a carrier of culinary culture. It is easier to explain the adoption of maize by the Portuguese or manioc by West Africans than the introduction of a foreign food stuff that induces pain orders of magnitude greater than any local ingredient. Because chilis entered cuisines under the radar of elite cookbooks they present an even greater explanatory challenge. Consequently, they are not a fashion that can easily be can be periodized like, say, the sixteenth-century Italian fad for cinnamon sugar. Yet if we can understand the adoption of the genus *capsicum*, perhaps we can better explain the formation of non-elite foodways.

There are number of potential avenues of further research. There may be ships' manifests that list supplies taken on board. These certainly exist for the VOC. Another potential source of information are letters, especially those sent by Portuguese Jesuits between Brazil, Portugal and India. There was certainly medical interest in the plants so a further analysis of plant use in both European and Indian medicine could provide further context for capsicums world-wide distribution. Perhaps when all these have been exhausted, then we will fully understand the taste for the world's most popular seasoning.

### Notes

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1. FAO, 2017 figures are: 4,625,833 tonnes chilis, 690,467 tonnes black pepper and 2,807,229 tonnes miscellaneous spices,
2. The treatise is included in Carolus Clusius, *Curae Posteriore*s (Antwerp: Plantiniana Raphelengii, 1611) and is also extensively cribbed in John Parkinson's 1640 opus.
3. Florike Egmond, *The World of Carolus Clusius: Natural History in the Making, 1550-1610* (Taylor & Francis, 2010), 22.
4. Quoted in Egmond, 17.
5. Egmond, 12.
6. Leonhart Fuchs, *De Historia Stirpium Commentarii Insignes* (Basel: In officina Isingriniana, 1542). Pliny describes siliquastrum or piperitis, as "a kind of pepper" from southern India with seeds in "small pods...such as we see in beans." (*silisqua* is Latin for pod.)
7. "Mattioli, Pietro Andrea 1501-1577 [WorldCat Identities]," accessed May 30, 2020, <https://worldcat.org/identities/lccn-n81007084/>.
8. The authors, Agnes Arber and William Thomas Stearn, *Herbals: Their Origin and Evolution* (Cambridge University Press, 1986), 70, point a few of the editions cribbing Fuch's illustrations, there are many others. Note that the Turner does not include *capsicum* illustrations.
9. Fuchs, *De Historia Stirpium Commentarii Insignes*, 731.
10. Jean Andrews, "Diffusion of Mesoamerican Food Complex to Southeastern Europe," *Geographical Review*, 1993, 194-204. Andrews offers a peculiar theory that the capsicums reached Fuchs from India via Ottoman routes. This odd hypothesis has been roundly disproven by numerous scholars but still seems to circulate in popular accounts of chili diffusion.
11. See Christian Feest, "Selzam Ding von Gold Da von Vill Ze Schreiben Were? Bewertungen Amerikanischer Handwerkskunst Im Europa Des Frühen 16. Jahrhunderts," *Pirkheimer Jahrbuch*, 1992, 105-26. Perhaps the best-known use of "calecutisher" used in this way is in series of woodcuts created for Maximilian I depicting South American natives carrying stalks of maize!

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12. *Underschidlicher so wohl zu Wasser als Landt im Ertz-Hertzogthumb Oesterreich unter und ob der Ennß sich befindenden Privat-Herren-Mauth zusammen getragene Vectigalia* (Mayr, 1681), 252.

13. Johann Coler, *M. Johannis Coleri Calendarium Perpetuum, Et Libri Oeconomici*, 1603.

14. Hadrianus Junius, *Nomenclator Quadriglingvis Boemicolatinograecogermanicus*. (Veleslavín (Prague): M. Danielis Adami, 1598).

15. John Gerard, *The Herball, or, Generall Historie of Plantes* (Imprinted at London: By Iohn Norton, 1597), 292–93.

16. Jacobus Micalia, *Blago jezika slovinskoga (etc.) - Thesaurus linguae illyrica sive dictionarium illyricum, in quo verba illyrica italice et latine redduntur* (Seraphinus, 1649), 402.

17. Columbus, *The Journal of Christopher Columbus*, 164.

18. Otto Gecser, “Some Like It Hot: Piquant Taste between the Middle Ages and Modern Times Why,” in *My Favourite Things: Object Preferences in Medieval and Early Modern Material Culture*, ed. Gerhard Jaritz and Ingrid Matschinegg (Münster, Vienna, and Zurich: LIT, 2019), 96.

19. Oviedo y Valdez, *Historia General y Natural de Las Indias, Islas y Tierra-Firme Del Mar Océano*, 275.

20. Clusius, *Curae Posteriore*.

21. Michal Preusz et al., “Exotic Spices in Flux: Archaeobotanical Material from Medieval and Early Modern Sites of the Czech Lands (Czech Republic),” *Interdisciplinaria Archeologica* VI, no. 2 (2015): 223–236.

22. Gecser, “Some Like It Hot: Piquant Taste between the Middle Ages and Modern Times Why.”

23. The translation is from the 1578 translation. Rembert Dodoens, *A Nieve Herball, or, Historie of Plantes* : (At London: By Mr. Gerard Dewes, 1578).

24. Gonzalo Fernandez Oviedo y Valdez, *Historia General y Natural de Las Indias, Islas y Tierra-Firme Del Mar Océano*. (Madrid: Imprenta de la Real academia de la historia, 1851), 275.

25. Gabriel Soares de Sousa and Francisco Adolfo de Varnhagen (Visconde de Porto Seguro), *Tratado descriptivo do Brazil em 1587* (Typographia Universal de Laemmert, 1851), 176.

26. Oviedo y Valdez, *Historia General y Natural de Las Indias, Islas y Tierra-Firme Del Mar Océano*, 275.

27. L’Écluse, *Exoticorum Libri Decem*, 341.

28. Monardes, *Joyfull Newes out of the Newe Founde Worlde*. London 1577 (W. Norton, 1580), 20, <https://www.biodiversitylibrary.org/item/31924#page/2/mode/1up>.

29. There is some indication that the spice may have been used in another way that it is used today, mainly as a weapon. Hans Staden, *The Captivity of Hans Stade of Hesse: In A.D. 1547-1555, Among the Wild Tribes of Eastern Brazil* (Hakluyt Society, 1874), 67. Interestingly, this may also be the first record of chilis being weaponized. Staden reports on how the natives would burn chilis and fan the fumes toward their enemy, see pages 23 and 154. reported on this use in Brazil and there is at least one mention of it in Italian military texts when Giovanni Battista Martena, *Flagello Militare* (1676) gives a recipe for a sort of pepper bomb, a not-dissimilar device to the one used to quell protesters by American police in 2020.

30. Castore Durante, *Herbario nuouo di Castore Durante medico, & cittadino romano*. (Rome: Iacomo Bericchia & Iacomo Tornierij, 1585), 344.

31. He also includes a list of four kinds of chiles noting that only the relatively mild Chilpatlagua is used in chocolate. Antonio Colmenero de Ledesma, *A Curious Treatise of the Nature and Quality of Chocolate*, (London : J. Okes, 1640), 6.

32. Čeněk Zíbrt, Viktor Faktor, and Michal Hrubý, *Staročeské umění kuchařské* (V Praze: Dauphin, 2012), 406.

33. Ana Vega Pérez de Arlueca, “María Rosa, Una cocinera andaluza del siglo XVIII,” *Las Provincias*, (29 June 2018) <https://www.lasprovincias.es/planes/maria-rosa-cocinera-20180629004018-ntvo.html?ref=https%2F%2Fwww.google.com%2F>

34. Alvares, Manuel, 1526-1583, et al. / *Ethiopia Minor and a geographical account of the Province of Sierra Leone*: (c. 1615)

35. Matthias de l’Obel, *Nova Stirpium Adversaria : Perfacilis Vestigatio, Lvcvlentaquv Accessio Ad Priscorum, Praesertim Dioscoridis, & Recentiorum, Materiam Medicam* / (Antwerp: Christophorum Plantinum, 1576). Several twentieth-century authors also allude to the Portuguese bringing something called Pernambuco pepper from the Spanish West Indies to Goa. As best as I can tell this comes from George Watt, *The Commercial Products of India: Being an Abridgement of The Dictionary of the Economic Products of India* (1908), who cites the 1605 edition of Clusius, *Atrebatis Exoticorum*, as his source. While the page does mention a Capsicum brasiliannum (not “brazilianum” as Watt transcribes it), there is no mention of Pernambuco or Goa whatsoever.

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36. Jan Huygen van Linschoten, *The Voyage of John Huyghen Van Linschoten to the East Indies*, (Hakluyt Society, 1885), 74.
37. Hendrik van Reede tot Drakestein et al., *Hortus Indicus Malabaricus*, vol. v.1-2 (1678-1679) (Amsterdam: Johannis van Someren & Joannis van Dyck, 1678), 110.
38. Achaya, *A Historical Dictionary of Indian Food*, (Delhi and New York: Oxford University Press, 1998), 42.
39. Sebastião Manrique, *Itinerario de las Misiones que hizo el Padre F. Sebastien Manrique, missionario apostolico treze anos en varias misiones del India Oriental* (Rome: F. Caballo, 1649), 329-30.
40. Plausibly, she cites as evidence for the green peppercorn reading the use of *pimienta* in the Spanish for black pepper vs. *pimiento* for capsicums. Contemporary dictionaries do point to a gender change in process in the seventeenth century, though this rendering was hardly consistent. Divya Schäfer, "Exotic Tastes, Familiar Flavours: Transcultural Culinary Interactions in Early Modern India," in *HerStory. Historical Scholarship between South Asia and Europe: Festschrift in Honour of Gita Dharampal-Frick*, ed. Rafael Klöber and Manju Ludwig (BoD – Books on Demand, 2018), 50.
41. Amit Krishna De, *Capsicum: The Genus Capsicum* (CRC Press, 2003), 5. This assumes that *tsi-tra-kas* really is capsicum. I have not been able to confirm this from another source and the author gives no citation.
42. Mendes Ferrão, "Intercâmbio de Plantas Nos Séculos XV e XVI," *Revista de Ciências Agrárias* 36, no. 2 (2013): 258-66.
43. Jean Andrews is typical in this respect, writing: "The new spice was welcomed by Indian cooks who, accustomed to pungent black pepper and biting ginger, produced hot, spicy foods. The Mesoamerican pepper provided more heat with less grinding and expense. It grew readily and fruited abundantly in a sympathetic environment. The easily cultivated and naturalizing *C. annuum* var. *annuum* was a welcome addition to the native spices, whose restrictive cultural requirements and high costs put them in a luxury category. Into the curries they went." Jean Andrews, *Peppers: The Domesticated Capsicums* (University of Texas Press, 1995), 199.
44. Linschoten, *The Voyage of John Huyghen Van Linschoten to the East Indies*, 74.