
SINO-PLATONIC PAPERS

Number 338

January, 2024

Mapping the Language of Spices: A Corpus-Based, Philological Study on the Words of the Spice Domain

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SINO-PLATONIC PAPERS

FOUNDED 1986

Editor-in-Chief

VICTOR H. MAIR

Associate Editors

PAULA ROBERTS

MARK SWOFFORD

ISSN

2157-9679 (print) 2157-9687 (online)

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A Corpus-Based, Philological Study on the Words of the Spice Domain

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ABSTRACT

Most of the existing literature on spices is to be found in the areas of gastronomy, botany, and history. This study instead investigates spices on a linguistic level. It aims to be a comprehensive linguistic account of the items of the spice trade. Because of their attractive aroma and medicinal value, at certain points in history these pieces of dried plant matter have been highly desired, and from early on, they were ideal products for trade. Cultural contact and exchange and the introduction of new cultural items beget situations of language contact and linguistic acculturation. In the case of spices, not only do we have a set of items that traveled around the world, but also a set of names. This language domain is very rich in loanwords and *Wanderwörter*. In addition, it supplies us with myriad cases in which spice names are innovations. Still more interesting is that examples in English, Arabic, and Chinese—languages that represent major powers in the spice trade at different times—are here compared.

After selecting a set of twenty-four spices, I collected data on their names and related etymologies. From these I selected six spices to examine in detail regarding their identity, botany, history, spread, and names.

The paper has two main parts. The first presents the geographic and linguistic diffusion of spices and their names. I here track and explain word origins and their subsequent spread by tracing the materials and the propagation of the accompanying *Wanderwort*. This part relies on philological literature and tools from historical linguistics such as etymological research, as well as geospatial visualizations. Part two examines the language of spices, referring to the terminology and nomenclature related to the spice domain from linguistic-cognitive perspectives. Focusing on the structure and components of 360 collected spice names, this section is a systematic investigation into how humans name spices: the mechanisms and motivations behind the naming principles and the ways these might relate to the salient sensory features of the products (their strong gustatory, olfactory, or visual stimuli). Conclusions are offered regarding the connections between the physical properties of the spices, their patterns of diffusion, and the effect of prototypical spices on general naming principles. Besides being a novel

and original approach to researching and categorizing spices, from a linguistic point of view, this study offers new insights into our knowledge about wandering loanwords and the effect of the highly sensory nature of spices in the naming process adopted by a community. It is also intended to be the basis for a working database for future research and to dispel some of the confusion surrounding spice names.

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GLOSSARY

<i>bencao</i>	the Chinese term for <i>materia medica</i> , works that record the sources and applications of medicinal substances (本草) ¹
cultigen	a cultivated plant species with no known wild ancestor
<i>materia medica</i>	an encyclopedic treatise of medicinal materials obtained from plants, animals, and minerals
pharmacopeia	a treatise on medicinal drugs and their formulas
phytonym	a plant name (non-taxonomic)
taxon	taxonomic group or unit, especially when hierarchic rank is not specified ²
<i>Wanderwort</i>	a word borrowed from one language to another across a broad geographical area, often as a result of trade or adoption of newly introduced items or cultural practices ³

¹ Z. Zhao et al., 2018.

² A back-formation from “taxonomy.”

³ Merriam-Webster, n.d., *Wanderwort*.

SOURCE ABBREVIATIONS

AHD	American Heritage Dictionary of the English Language
BCGM	Bencao Gangmu
BHL	Biodiversity Heritage Library
BNC	British National Corpus
CAD	Chicago Assyrian Dictionary
CBETA	Chinese Buddhist Electronic Texts Association
CTP	Chinese Text Project
EHBC	English Historical Book Collection
El2	Encyclopedia of Islam, Second Edition
EIr	Encyclopedia Iranica
EJ	Encyclopedia Judaica
FAOSTAT	UN Food and Agriculture Organization Statistical Database
FoC	Flora of China
GBIF	Global Biodiversity Information Facility
IPNI	International Plant Names Index
KSUCCA	King Saud University Corpus of Classical Arabic
LSJ	Liddel-Scott-Jones: A Greek-English Lexicon
MC	Middle Chinese
MW	Merriam-Webster’s Unabridged Dictionary
NFCM	Nanfang Caomu Zhuang
NS	Nişanyan Sözlük
OC	Old Chinese
OED	Oxford English Dictionary
PIE	Proto-Indo-European
POWO	Plants of the World Online
PWN	Princeton WordNet
SCB	Serbian-Croatian-Bosnian
SEAlang	Southeast Asian Languages Library

SkE	Sketch Engine
SS	Scripta Sinica
TCM	Traditional Chinese Medicine
TLFi	Trésor de la Langue Française informatisé
TPGJ	Taiping Guangji
TPL	The Plant List
WALS	The World Atlas of Language Structures
WFO	World Flora Online
WOLD	The World Loanword Database
YYZZ	Youyang Zazu

SYMBOLS AND NOTATION

*	reconstructed form
<	developed from
>	developed into
<?	uncertain development
†	obsolete
<i>fragrance</i>	italic: lexical item, a word or phrase
[fragrance]	square brackets: gloss, literal meaning
'fragrance'	single quotation marks: meaning, sense
FRAGRANCE	small capitals: a concept

1. INTRODUCTION

While reading about the different spices that nature has given us, I came across a quite unusual example. There is a small aromatic tree native to the islands of the Greater Antilles on the Caribbean that produces little berries. The indigenous people used this tree and its fruit in various ways in different stages of food preparation, as a medicine, and as a flavoring agent. It is still an important crop today, growing only in Central America. The wood is used to smoke meat, and the leaves are added to stews and rum for their aroma (similarly to the bay leaf in Europe), but most importantly, the dried berries are used as a spice. Outside this region it is not a particularly well-known ingredient; still, many cuisines have used it in various ways since its diffusion started in the seventeenth century. In English, we call it *Jamaica pepper* or *pimento*, but it is mostly known today as *allspice*. In Arabic, it is *fulful ifranjī* literally [Frankish pepper], meaning ‘European pepper’ or *bahār ḥulw* [sweet spice], and in Chinese it is mostly known as *duoxiangguo* [many-spice/fragrant-fruit]. Hungarians call it *szegfűbors* [clove-pepper], and in Turkish it is *yenibahar* [new-spice]. In Iceland it is known as the “handy spice,” *allrahanda*, and the Polish call it *ziele angielskie* [English herb]. What a variety! The tree itself is also called Caribbean laurel. However, this plant is not a laurel, not a pepper, nor a chili, and it is not an herb. What is this versatile spice exactly? How did it come about that this material has so many quite different names? And what is the explanation and motivation behind these names; what is their story? This paper is about answering such questions and telling the story of spices through examining their nomenclature.

1.1 SIGNIFICANCE

Understanding the language of spices is the key to opening the door to this world: a door that leads to the realization that our words and material culture—are deeply interconnected, and that they have been so for thousands of years. I will try to demonstrate this by introducing these fascinating substances from a new perspective, that of language.

It is trendy nowadays to talk about *foodways*, a term that refers to “the eating habits and culinary practices of people, regions, or historical periods” (L. H. Allen et al., 2013, vol. 2, p. 289). Food history, a relatively young interdisciplinary academic field, is starting to gain traction as well. The study of the connections between language and food, however, is one of the most interesting examples of

contemporary humanities research I have come across (see, e.g., Jurafsky, 2014). There is a segment of this topic—the spice domain—that encompasses products that have had profound effects on human imagination, culture, and history. Although somewhat overshadowed by questions of nutrition, modern scientific research on spices was never a fringe field. It is enough to look at the many pharmacological studies that investigate the chemistry of these materials to realize that people are quite as much interested in their effects on health—just as they were thousands of years ago—as their taste and aroma.

Spices were never a necessity to human survival but instead commanded intense desire and effort. As such, they constitute an enthralling phenomenon throughout human history, one that can be studied from many angles. Research on spices has been embraced by several historians, many botanists, and countless culinary enthusiasts. Scholars realized the cultural significance of these products and their trade early on, and, by following the paths of these materials, tried to uncover the stories they can tell us about cultural contact and exchange. Spices in the past conveyed the mystery and riches of faraway lands, were considered remedies for sickness, and seemed the ultimate gifts of paradise. While may be that spices are not vital for human life, sustenance by itself is merely enough to maintain life, not to live it to the fullest. Spices today represent the excitement, the joy and vigor, of existence: to *spice up* your life is to enliven it!

1.2 ORIGINALITY

This paper aims to systematically investigate spice names and their related terminology, including spices that were used (or are still being used) medicinally, as incense, or as perfume. Aromatics that were at some point considered spices have been traded and transported across long distances since antiquity, and the most coveted ones have slowly been dispersed throughout the globe. Spices and the spice domain are usually discussed within the broad disciplines of history, botany, chemistry, and gastronomy, each concerned with a different aspect of these materials. To the best of my knowledge, there is no academic work that makes the field of linguistics the lens through which the spice kingdom as a whole is viewed. Accordingly, I believe this project offers a unique contribution to our linguistic knowledge of the spice domain.

But why should anyone care about spices and their names? The most important reason may be that exploring the names of the products of the spice trade, traveling as it did on such vast networks of

trade routes as the Silk Road (with its small volume of goods) and its nautical counterpart, the Maritime Silk Road (with its larger volume), helps us to map and better understand linguistic contact and cultural exchange. These ever-expanding trade networks, first regional, later connecting East and West, were a precursor to today's globalized, interconnected world. One of their most lucrative products was dried plant-matter. These aromatic substances were lightweight, easy to transport, and resistant to spoilage. They were highly valued for their fragrant and pungent properties and for their reputed—both putative and real—benefits for the human body and soul. The role of exotic and rare spices in rituals, medicine, and, later, cuisine made them sought after, and the spice business inspired people to trade, travel, explore, and wage wars.

Spices are also important in world history because they were directly responsible for discoveries, colonization, and the birth of capitalism. We know a great deal about the nature of spices thanks to botanists and naturalists, their medicinal effects thanks to pharmacists and chemists, and their uses and culinary values thanks to experts in gastronomy. There is also a vast literature on the spread and economy of spices thanks to researchers of history, but the careful study of their names is often neglected. The meticulous study of spice terminology is important, because the words can tell us a huge amount about a material's origin and journey, even providing time depth in situations where textual or archeological evidence is not available. This work grew out of my fascination with the etymologies and global dispersion of spice terms. I hope this attempt to collect them in one study proves useful to others.

1.3 PROBLEM STATEMENT

The absence of proper research regarding spice terminology has resulted in a lack of understanding, and thus a decline of trust in the (secondary) literature. Authors often give misguided and contradicting information regarding the sources of spice names, or simply erroneously speculate on their meanings and origins. It sometimes appears that no two authors use the same set of names when discussing a spice. This is not perhaps a problem in itself, but the disjunction leads to misunderstandings in the case of lesser known or exotic items. There is also a great deal of confusion on the relationship between names and identities in the literature, especially in lay areas aimed at the general public, such as popular histories or guidebooks. The reasons for this are several.

First, experts on herbs, spices, and other aromatics are chiefly botanists, food industry

professionals, chemists, chefs and food writers, merchants, and historians. Most people conducting research related to spices focus on aspects other than the names of the products; from plant morphology, to chemical composition and pharmacological effects, to social and cultural histories, their symbolism in literature, not to mention the myriad writings on how to buy, store, mix, and use spices in the creative recipes provided by the handy spice encyclopedias tailored for gastro-enthusiasts. Relatively few linguists have devoted their time and attention to tracing spice origins and even fewer to compiling them. In other words, the topic of spices requires a highly multidisciplinary expertise, and when a plant taxonomist writes about linguistics, or a culinary writer approaches history, mistakes are inevitable.

Secondly, there is neither a reference work nor an agreed-upon inventory of spice names for the multitude of spices that exist, and their many names in various languages (and in different time periods), never mind a complete list of *every spice*. Truthfully, it seems almost impossible there could be one, or at least it seems quite a daunting task to embark on. Although the internet nowadays is full of compact guides and indices assembled by people who are fascinated with spices and their colorful uses, listing their names in many languages, these are not always trustworthy, and they often cite no sources. Similarly, in blogs and articles these names are more often than not dubious, and their use almost always requires fact-checking, as many are just permutations of historically inaccurate anecdotes and origin stories. Recently I have found spice lists that are clearly just a dump of computer-generated information floating around on the internet using web scraping and machine translation: these lists are highly inaccurate and should be avoided. I will further elaborate on the inaccuracies regarding names and etymologies found in the spice literature in the literature review in the next chapter.

There is still no comprehensive treatise on spice terms in academia even today, and no database that focuses on, lists, explains, analyzes, clarifies, traces, or compares spice names. Accordingly there is an obvious need for a standard work for others to turn to, and I hope that this paper can lay the foundation for future efforts to achieve this.

This is not to say that there has been no work done on spice terminology: in fact, there are a number of high quality writings from philologists, linguists, and historians well versed in one or more relevant linguistic and cultural areas. The problem is that this kind of research requires a highly specialized knowledge, and as a result the information already out there is sporadic, inaccessible, and grossly unorganized. Key pieces of information are often hidden in the pages of books on traditional

philology and material culture, literary critique, economic history, and even the botany, medicine, and archaeology of a given region. This is not even to mention the many old works that are the primary sources for the aforementioned publications. Consequently, since little effort has been made to collate the data, there is a chasm between the critically researched reliable information and what the end user—whether it is a fellow researcher or a spice zealot—can easily access.

1.4 AIMS

The original goal in the beginning of this work was to gather and augment the existing information about spice names and their origins, and to track their diffusion on spatial and temporal trajectories. This effort constitutes the core of this paper, and I hope to achieve it by combing through the existing literature, collecting the names of spices, amending the gaps, and correcting possible errors along the way. My hope is that the results of this effort will give birth to a carefully researched compendium of spice nomenclature, grounded in philology and linguistics, but with the awareness of what spices are to botany, and what their role has been in history. Chapter 4, *The Spices*, presents parts of this process, displays the data seriatim, and introduces some of the spices.

My procedure begins by manifesting a dataset of spice names, with complete lexicographical annotation including etymological information and attestation dates. This in turn allows me to trace the words and track the linguistic diffusion of spices through space and time, which then can be discussed alongside the physical diffusion of the materials. The discussion of the spread of the spices becomes the basis for examining the implications of linguistic and cultural contact and exchange, and this effort makes up chapter 5, *The Diffusion of Spices*. This chapter calls attention to the concept of *Wanderwörter*, “wandering loanwords,” a phenomenon known in the field of historical linguistics related to the topic of borrowing and material culture. The goal of this chapter is to map the diffusion of the terms of the spice domain, as informed by etymological research.

The data of spice names are also the basis of a linguistic analysis, focusing on the characteristics of terms, and the methods and strategies languages use to name spices, presented here in chapter 6, “*The Language of Spices*.” This part includes a deep dive into how spice names are devised or created, how prototype items beget prototype words to generate new names for novel items of trade, and what the mechanisms and motivations of linguistic acculturation and spice name propagation are. The goal of

this section is to shed light on how spice names are born and how they operate on a linguistic-cognitive level, what type of information they convey, and what sensory modalities they tie into.

1.5 DEFINITIONS

The first step is to clarify what falls under the term *spice*. According to the *Oxford English Dictionary* (OED), the definition of *spice* is as follows: “One or other of various strongly flavored or aromatic substances of vegetable origin, obtained from tropical plants, commonly used as condiments or employment for other purposes on account of their fragrance and preservative qualities.”⁴ Similarly, the first meaning for *spice* as a noun in *Merriam-Webster’s Unabridged Dictionary* (MW) is “any of various aromatic vegetable products (such as pepper or nutmeg) used to season or flavor foods.”⁵ The *American Heritage Dictionary of the English Language* (AHD) adds examples: “Any of various pungent, aromatic plant substances, such as cinnamon or nutmeg, used to flavor foods or beverages.”⁶ The Wikipedia entry on *Spice* covers slightly more territory, hinting at which plant parts are frequently used as spices and mentioning their food-coloring properties, while also—very appropriately—venturing beyond the culinary stance of usual dictionary definitions to state that “spices are sometimes used in medicine, religious rituals, cosmetics or perfume production.”⁷ This notion is much more important than the limitation “sometimes” could imply, as we will see; before modern times, spices were much more important for their medicinal properties.

There is no universal definition of what a spice is; botany, pharmacology, gastronomy, and history all have different perspectives. However, the idea about “spices” that the reader currently has in mind is bound to be a culinary one. Some authors try to give a definition according to plant morphology: Czarra (2009, p. 9) writes about “an aromatic part of a tropical plant” and goes on to mention bark, flower, root, and seed. J. Turner (2004, p. xix) adds gum and resin, fruit, and stigma to this listing. For a full picture, we must complement it further with other aspects, as spices can come in many forms: dried tree barks

4 OUP, n.d., *spice*.

5 MW, n.d., *spice*.

6 AHD, 2022, *spice*.

7 Wikipedia, 2022.

(cinnamon); twigs (cassia twigs); flower buds (cloves); stigmas or styles (saffron); fruits (pepper, chili); fruit walls or pericarps (star anise, Sichuan pepper); berries (allspice, juniper); seeds (nutmeg, coriander); seed coverings or arils (mace); seed pods (cardamom, vanilla); and roots and rhizomes (ginger, turmeric). Technically, every dried part of a plant can be referred to as spice, except the leaves. The green leaves—fresh or dried, but mostly used fresh—are considered herbs, and they are used for similar purposes to spices nowadays: flavoring, seasoning, garnishing. Dried leaves of herbs, such as basil, oregano, and thyme, can be categorized as “spice herbs”(see vanWyk 2014).

The category of herbs can itself be problematic, because there exists a botanical definition as well as a culinary one, and the literature often confuses the two. Botanically, an herb is an annual, biennial, or perennial plant that has a soft stem (never becoming woody) and that dies after flowering.⁸ A culinary herb is an herb of which the fresh leaves are used in food preparation, as opposed to other, dried plant parts. Medicinal herbs are those that are primarily consumed for their medicinal properties. O’Connell (2016, pp. 9, 16) backs this view in his informative compendium, but he also cites Rosengarten (1969/1973, p. 16), who maintained that it is “extremely difficult to determine where a spice ends and a herb begins.” According to him, culinary herbs are just one group of spices. Along these lines, the *Encyclopedia Britannica* (2022) for example treats herbs and spices in a single entry.

The above distinction—that herbs are the greens. and spices are every other (dried) part of a plant—is essentially nonsense to a botanist, since it echoes the needs of a chef. We can give examples for both spice and herb from the same species: coriander seeds and coriander leaves (also called *cilantro* or *Chinese parsley* in the United States.) are both from the plant *Coriandrum sativum*. Or see an even more elaborate example for culinary categorization: mustard (*Brassica juncea*, brown mustard). Mustard in Europe is mostly known in the form of a creamy yellow paste, often very pungent, and it is called a condiment. This condiment is made from the mustard seeds, which are considered to be the spice. Some regions enjoy mustard greens in their salads, and therefore we can categorize it as a (salad) herb. The roots of the mustard plant are popularly fermented in Chinese cuisine to make pickles, known as 榨菜 *zha cai* [to press, extract juices, salted vegetable; vegetable dish]. Another often-mentioned difference is that herbs are soft stemmed—as I just mentioned—and die at the end of the growing season, in contrast

8 OUP, n.d., herb.

to woody, spice-yielding trees or shrubs. This, on the other hand, is a botanical definition, and not very useful for somebody active in the culinary arts (G. Allen, 2012, p. 10). Moreover, most plants we consider herbs grow in temperate climates, while spices tend to grow in tropical regions (J. Turner, 2004), a further classification, here on an ecological basis. Herbs can also be divided into culinary and medicinal herbs, and in both cases the leafy, green parts of the foliage are used for their aroma and flavor, and supposed health benefits, respectively, but this division is a modern afterthought, not applicable to past times. In short, defining spices and herbs is difficult because the definitions vary by discipline, depending on the needs of the expert: the gardener, the herbalist, or the chef.

Just as *herb* has two main definition types—botanical and culinary—the term *spice* also has two definitions: culinary and historical. In the present study, I focus on dried, plant-based aromatic commodities that traveled long distances due to trade and that were at certain points in history considered a desired commodity or even a luxury. This is basically the definition of the historian, where the implications of climate and remoteness translated as value. Spices were difficult to obtain, and thus were often instantly expensive. Long-distance transportation was possible because the plant products were hauled across deserts and oceans in a dried form, making them lightweight and less susceptible to rot. Culinary and medicinal herbs had their value in their freshness and thus were not ideal products for trade; they spread through naturalization and transplantation and were generally available locally, commanding much more modest sums of money. As against herbs, spices were more versatile in their applications; they were used as medicine due to their (real, putative, or exaggerated) health benefits, as incense and perfume due to their aroma, as coloring pigments, as flavoring agents, and even as spiritual offerings. In connection with Portugal’s role in the fifteenth–sixteenth-century European spice trade, Halikowski Smith (2001) distinguishes four categories of spices along the same lines: spices as *pharmacia*; spices as *aromata*; spices as *pigmenta*; spices as *condimenta*. Historically speaking, anything rare and aromatic can be considered a spice, including incense for burning, coffee in its early days, chocolate, perfumes, or even exotic fruits such as pomegranates: anything ‘special’ (even if today nobody would agree).

This is well observed in the origins of the English name: the word *spice*, via Old French *espice*, coming from Late Latin *speciēs* (plural) ‘spices, goods, wares’ with the original meaning in Classical Latin being ‘kind, sort.’ English *species* and *special* are obvious cognates of the same Latin etymon: *speciō*,

which referred to anything observable: a sight, ‘spectacle’ (cf. *inspect*), and also anything extraordinary, a *specific* kind of item (Glare, 1982/2012, pp. 1983–84). This implies that in different periods, the meaning of the term *spice* covered different substances, based on what products were considered special, desirable, and difficult to obtain; the definition constantly changed. From this point on, whenever spices are mentioned, I refer to this broader definition, using *spice* as an umbrella term for any historical *exotica*. These definitions and the differences between the terms spice, incense, herb, condiment, etc., will be explored in detail, along with the shift in meaning accorded to the term spices (Section 2.1.5).

1.6 SCOPE

The scope of this study can be delimited by three factors: the subjects under study (i.e., the spices); the languages involved; and the time frames covered.

1.6.1 *The Set of Spices*

Due to the lack of a single definition and the vast number of both popular and rare materials, the lists of herbs and spices are as many as the books written on them. Every compiler—cook, linguist, or historian—comes up with his or her own list: there is no standard approach. Czarra (2009) discusses only five premier spices, ‘the foremost five’ as he calls them, Nabhan (2014) works with twenty-six ‘spice boxes’, to use his terminology, and Rosengarten (1969/1973) mentions forty-one “of the world’s most popular spices.” Van Wyk (2014) in his reference guide introduces 120, and the glossary of spice names in Dalby (2000) contains more than 200 entries. The Encyclopedia Britannica simply lists seventy (Petruzzello, 2021).

The attempt to collect and describe spices in their entirety is not a modern phenomenon: people tried to collect and assemble knowledge of aromatic and medicinal plants and products ever since the day we started to use them, proof being the countless herbariums,⁹ *materia medicas*, and pharmacopeias of the last two millennia, e.g., the *De Materia Medica* of Dioscorides. Besides the focus on their medicinal properties, spices were listed as commodities of trade. We know for example that for reasons motivated

⁹ A collection of preserved plants with descriptions and botanical analysis.

by customs tariffs and taxation, Roman ports, such as Berenike,¹⁰ had inventories of *speciēs* that required special attention (Parthasarathi, 2015), and, as a later example, we can mention an Italian merchant’s book on trade from the fourteenth century, which contains 188 “spices” (Pegolotti, ca. 1335–1343/1936, pp. 411–435). Modern considerations and regulations related to commercial shipping can also be consulted, the Harmonized System (HS)⁴ tariff codes (0901-0910) used in international trade differentiates around twenty different spices, the designations mostly driven by practical reasons related to storage and transportation requirements.¹¹

A comprehensive list of the world’s spices is likely to be extremely long, and collecting them all in this short work surely an unattainable aim, so I must limit my scope, selecting a small set of spices from the many. I have studied how others perform this selection and concluded that, unless we include every known item, there is no scientifically sound way of selecting just a few, as this will always reflect the compiler’s knowledge, interest, and cultural background. I have planned to include a number of spices, as many as needed for an attempt to find patterns in diffusion and language use, keeping in mind the expected variations per cuisine and cultural sphere.

As aromatic plant products are far greater in number than initially expected (in the hundreds), I had to delimit my study by selecting a small set of spices as the subjects of this study. One of the clearly intended future goals of this project is to include all known historically important aromatic products, but for the sake of time, I had to make some choices, and I have set up a list of criteria. The subjects under scrutiny shall adhere to the following rubric: (1) a plant-based material, with (2) aromatic or pungent properties, (3) traded over great distances, (4) known and used since pre-modern times, and preferably (5) once of significant value. The more criteria the substance has fulfilled, the higher it climbed on my list as I assembled a set of spices while reading through the literature. Most importantly, I tried to include globally popular spices that people are likely to be familiar with. In the end, I finalized my set such that it includes twenty-four spices, which you can see in Table 1.1.

¹⁰ For the history of the ancient Indo-Mediterranean trade through archeological research in the port of Berenike, see Sidebotham (2011).

¹¹ The Harmonized Commodity Description and Coding System is a standardized international system to classify globally traded products (<https://www.freightos.com/freight-resources/harmonized-system-code-finder-hs-code-lookup/>).

Table 1.1 The set of twenty-four spices included in this paper, with scientific names of the source plant, names in English, Chinese, Arabic, and their transliterations

Species	English	Chinese	Translit.	Arabic	Translit.
<i>Pimenta dioica</i>	allspice	多香果	<i>duōxiāngguǒ</i>	لفل إفرنجي	<i>filfil ifranjī</i>
<i>Pimpinella anisum</i>	anise	茴芹	<i>huíqín</i>	ينسون	<i>yansūn</i>
<i>Ferula assa-foetida</i> et al.	asafoetida	阿魏	<i>āwèi</i>	حلتيت	<i>hiltīt</i>
<i>Carumcarvi</i>	caraway	葛縷子	<i>gělǚzi</i>	كراويا	<i>karāwiyā</i>
<i>Elettaria cardamomum</i>	cardamom	荳蔻	<i>dòukòu</i>	هال	<i>hāl</i>
<i>Cinnamomumcassia</i>	cassia	肉桂	<i>ròuguì</i>	سليخة	<i>salíkha</i>
<i>Capsicumannuum</i> et al.	chile	辣椒	<i>làjiāo</i>	لفل حار	<i>fulful hār</i>
<i>Cinnamomumverum</i>	cinnamon	錫蘭肉桂	<i>xīlánròuguì</i>	قرفة	<i>qirfa</i>
<i>Syzygiumaromaticum</i>	clove	丁香	<i>dīngxiāng</i>	قرنفل	<i>qaranful</i>
<i>Coriandrumsativum</i>	coriander	芫荽	<i>yánsui</i>	كزبرة	<i>kuzbara</i>
<i>Cuminumcyminum</i>	cumin	孜然	<i>zīrán</i>	كمون	<i>kammūn</i>
<i>Anethumgraveolens</i>	dill	蒔蘿	<i>shíluó</i>	شبت	<i>shibitt</i>
<i>Foeniculumvulgare</i>	fennel	茴香	<i>huíxiāng</i>	شمر	<i>shamar</i>
<i>Trigonella foenum-graecum</i>	fenugreek	胡蘆巴	<i>húlúbā</i>	حلبة	<i>hulba</i>
<i>Zingiber officinale</i>	ginger	薑	<i>jiāng</i>	زنجبيل	<i>zanjabīl</i>
<i>Piper longum</i>	long pepper	萹撥	<i>bībō</i>	دار فلفل	<i>dār filfil</i>
<i>Myristica fragrans</i>	mace	肉荳蔻皮	<i>ròudòukòupí</i>	بسباسة	<i>basbāsa</i>
<i>Myristica fragrans</i>	nutmeg	肉荳蔻	<i>ròudòukòu</i>	جوز الطيب	<i>jawz al-ṭīb</i>
<i>Piper nigrum</i>	pepper	胡椒	<i>hújiāo</i>	لفل	<i>filfil, fulful</i>
<i>Crocus sativus</i>	saffron	番紅花	<i>fānhónghuā</i>	زعفران	<i>za'farān</i>
<i>Zanthoxylum spp.</i>	Sichuan pepper	花椒	<i>huājiāo</i>	لفل سيتشوان	<i>filfil sītshuwān</i>
<i>Illiciumverum</i>	star anise	八角	<i>bājiǎo</i>	ينسون نجمي	<i>yansūn najmī</i>
<i>Curcuma longa</i>	turmeric	薑黃	<i>jiānghuáng</i>	كركم	<i>kurkum</i>
<i>Vanilla planifolia</i>	vanilla	香草	<i>xiāngcǎo</i>	فانيليا	<i>fānīliyā</i>

In this work I have followed the criteria laid out above and included the most prominent spices, for example, black pepper (*Piper nigrum*). Pepper is the world’s most traded and consumed spice, followed by cinnamon (Senaratne & Pathirana, 2020, p. 16). In many parts of the world, pepper is also the *prototype* spice. In order of popularity, I have worked downward, considering at the top the most consumed and most traded spices. The current set of twenty-four, in my opinion, is enough to grasp the big picture, as it includes a large variety of spices from relatively¹² diverse areas. In the future I hope to extend this project and bring more aromatic materials into the fold.

The scientific literature usually categorizes spices by their taxonomy as governed by rules from the discipline of botany. Although above I mentioned standards of international trade and shipping that use different categorizations, I am discussing spices from a historical perspective, and I should emphasize that this is a linguistic study, and therefore the basis of comparison will be the spices as conceptual categories revolving around words, and the spice names themselves. Strict botanical or other categorizations must be only secondary. What I mean by this is that, even if the botanical reality tells us that chile peppers are in fact several different species and varieties on a taxonomic ladder, I will treat them as a unit according to the broad sense the term *chili pepper* conveys. Therefore, the close organizational units are words, meanings, and concepts. I will clear this up further in the chapter on methodology. Now that we have identified the subjects in our scope, let us move on to the languages to be included, and the time frames to be covered.

1.6.2 *The Languages*

To make this study more revealing culturally, I will look at three languages, namely English, Arabic, and Chinese. All from distant language families, with very distinct features, these languages represent three very different cultural spheres that all participated in the spice trade in different historical periods and were at times highly influential players. Investigating spices and spice names through the lens of these languages offers us an opportunity to take a step back from the usual Eurocentric viewpoint and observe the spice domain from a more global, intercultural perspective, investigating it via three pillars of human high culture as equals. Not only did these civilizations have interactions with each other, but their representative languages—rich in literary traditions—have left a mark on many of the world’s other

¹² Keeping in mind that almost all spices around the world originate from regions with tropical or subtropical climates.

languages, through migration, trade, cultural and religious influence, colonization, and imperialism. By tracing the words' histories up until contemporary English, Arabic, and Chinese, I must touch on the many other languages that have played a role in transmitting the words as source and donor languages in the spice domain, such as Latin, Persian, Sogdian, Sanskrit, and many more. Focusing on the three languages however, will allow us to take a comparative approach, but without overwhelming ourselves with the many related languages that would make for a scope too wide, and beyond my abilities.

1.6.3 *The Time Frame*

Lastly, a few words on defining the time periods to be covered: I will start the linguistic investigation using a set of contemporary names in the three languages mentioned above, and I will trace the histories of the words to the periods where the etymologies lead me. Consequently, the historical periods that saw the greatest exchange and knowledge production about spices will be treated with a much greater emphasis than others.

These significant eras for example include the seventh to twelfth centuries, a period significant from both the Arabic and Chinese points of view. In the Middle East we have seen the rapid expansion of Islamic empires in the form of the Umayyad (661–750) and Abbasid caliphates (750–1258), stretching over vast swathes of land from North Africa, on the west, to the easternmost extremities of Persia. In the Far East, the Tang dynasty (618–907) illustrated the peak of classical Chinese civilization—usually regarded as open and cosmopolitan—controlling the regions on the eastern terminus of the Silk Road, followed by the similarly important Song dynasty (960–1279). In both cases, this time is regarded as an important cultural and economic golden age: poetry, literature, science, and trade flourished. Important *materia medicas* are extant from the Tang era (J.-N. Wu, 2005), and Islamic authors were occupied producing heavy tomes on geography, alchemy, medicine, philosophy, and other topics (Meri 2006, p. 131). During the eighth century both powers reached each other's spheres of influence in Central Asia, and at 751 the Battle of Talas—ending with the victory of the Arab forces and their Tibetan allies—affected the fate of the region for centuries.

In the case of English, the appropriate, matching historical period would be that of Old English; however, this earliest recorded period is not abundant in spice-related terms, although attested wandering loanwords include *pepper*, *copper*, *gem*, and *mint* (Wollman, 1993). In the case of English, the most relevant historical period would correspond to that from Middle English (ca. 1150–1450) to Early

Modern English (late fifteenth to late seventeenth century), where the dichotomy in the domain of spice terminology between contemporary and historic times is still observable. This is the historical period marked by England’s slow emergence from the ragged periphery of Europe during the Age of Discovery, into a global superpower, thanks to its advances toward maritime supremacy, the zenith¹³ of which begins with the foundation of the East India Company in 1600, and later culminates in the expansion of the British Empire.

1.7 CONTRIBUTION

The main contribution of this paper is intended to be a working database of spices and their accompanying names that can serve as a basis for further study in historical linguistics, typology, and more. Spices and aromatic products with varying importance and relevance in different places and in different times are essentially endless, so there is always room (and need) to expand. This project treats these materials as unique witnesses of cultural interaction and tracks their physical and linguistic diffusion. Collecting the *Wanderwörter* of the spice domain and examining their linguistic history makes an interesting window through which to look at early human contact and exchange, and the dissemination of plants, materials, words, and knowledge.

Furthermore, a look into the role of spices’ highly sensory nature can be an exciting point of study regarding human cognition and language, and especially our attitude toward naming and conceptualizing novel substances.

1.8 LAYOUT

Chapter 2, Background, reviews the literature, further explains the research gap, and introduces the theoretical framework; chapter 3, Methodology, introduces the research design principles, its challenges, and the data collection process regarding spices, names, and etymologies. Chapter 4, The Spices, introduces a few spices in more detail, one by one, including their uses, botany, and history besides their names. The empirical chapters, 5 and 6, present the diffusion of spices and the language of spices, respectively. The work ends with a short conclusion detailing limitations and future plans.

¹³ From Arabic *samt* ‘astronomical path.’

2. BACKGROUND

Knowledge about and familiarity with spices varies greatly from person to person. Someone might live a life of actively pursuing, disseminating, and creating knowledge about spices, while someone else might go through life without caring or knowing a thing about them. However, it is probable both types of people would use and consume similar amounts of these substances, depending on which culinary or medicinal tradition they were born into. Spices are various, mainly plant-based substances that have played an essential role in human civilization for millennia. As I mentioned earlier, the assumed roles can be numerous: culinary, medicinal, cosmetic, and ritualistic, and different cultures attach varying degrees of importance to different products. In this chapter, I will explore the different fields that have generated information about spices, review and evaluate the existing literature, and present the available and appropriate sources for investigating these materials relevant to this project. I will also introduce the theoretical framework on which this paper and its methodology build.

2.1 LITERATURE REVIEW

2.1.1 *On Spices*

When we hear the word *spice*, our imagination rushes through far-flung tropical islands, busy seaports, lush jungles, and arid deserts; it invokes the sight of massive ocean-going ships, oriental traders, and camel caravans. A quick internet image search on the “spice trade” shows us antique maps in sepia and neatly arranged Moroccan spice markets in eclectic colors. We can almost smell the word *spice*. These envisioned, heavily stereotypical landscapes go hand in hand with stories of exotic peoples, fantastic creatures, prized commodities, tales of exploration, and much less glorious accounts of colonization. What I described here is an exclusively Westernized viewpoint. While most of the images in our minds are distorted under the influence of romantic orientalist paintings, and tales of triumphant discoveries retold over generations, the essence of the image is very true, and much more gruesome. Arguably, the peoples living in the native habitats of a once overvalued plant species have different experiences etched in their collective memories. One could argue that Europeans imported spice, but often exported horrors. The spice trade and its romantic imagination gave birth to many books, from historical non-fiction based on influential characters, such as *Nathaniel's Nutmeg* (Milton, 1999), to popular histories, such as *The*

Spice Route (Keay, 2006), and more popular science accounts, such as *Fruit From the Sands: The Silk Road Origins of the Foods We Eat* from paleo-ethnobotanist Spengler (2019a).

Today, spices are mostly discussed from a culinary point of view. The volumes of cookbooks and spice and herb companions are almost infinite. Gastronomy professionals, chefs, food writers, and hobbyists all participate in an endeavor to introduce spices to us in a fashionable manner, creating references for home cooks and health enthusiasts. Many authors attempt an overarching collection, presented in encyclopedic directories (Craze, 1997; Farrell, 1985; Herman, 2015; Lakshmi, 2016; Norman, 2002/2015; O’Connell, 2016; Opara & Chohan, 2021).

On a more scientific note, we find authors from the plant sciences, such as plant taxonomist and ethnobotanist van Wyk (2014), who delivers an excellent compendium titled *Culinary Herbs and Spices of the World*, in which he introduces dozens of aromatic plants, with a clear explanation of their uses and categorization. In her *Food Plants of China* S.-Y. Hu (2005) describes hundreds of edible plants relevant to Chinese eating habits, with the precision of a true botanist. Agricultural ecologist and ethnobiologist Nabhan (2014) takes the reader on a “spice odyssey,” with his illuminating *Cumin, Camels, and Caravans*, discussing the materials in chronological steps of global trade—on the incense trail, the Silk Road, and the spice trade.

Beyond general and introductory histories of spices, such as those offered by J. Turner in his *Spice: The History of a Temptation* (2004) or Czarra in *Spices: A Global History* (2009), most historians and philologists approach the topic in depth, from their own areas of expertise. Culinary historian Krondl (2007) compartmentalized the story of spices, and writes about Venice, Lisbon, and Amsterdam, “the three great cities of spice” in his *The Taste of Conquest* and presents the story of spices through the vying eyes of European powers. Spices in Greek mythology are explored in *The Gardens of Adonis* by an expert on Ancient Greece, Detienne (1994), while Schivelbusch (1992), a cultural historian, discovers the social history of spices, stimulants, and intoxicants in his *Tastes of Paradise*. Freedman (2008), a historian and expert on medieval cuisine, in his book *Out of the East: Spices and the Medieval Imagination* explores how the European fascination with spices fueled the quest for new lands and colonial expansion. The initial voyages to America by Columbus, Pizarro, and others were motivated by the search for spices, and the mirage of *La Canela*, a legendary valley abundant in cinnamon, equally promising to that of gold in El Dorado (Dalby, 2001). One of the most valuable works for us is Dalby’s *Dangerous Tastes: The Story of*

Spices (2000). Andrew Dalby is a linguist and historian, and besides Latin and Greek he has command of other languages, such as Sanskrit and Burmese, which allows him to present the topic of spices with the expertise of a truly versatile philologist and convey authentic scholarly information on spice names bridging East and West. A thought-provoking volume titled *The Poetics of Spice* by Morton (2006) is a literary critical study that discusses how spices were represented in Romantic- and Victorian-era English literature, and how the topic connects to romantic tropes; ideologies, such as consumerism, capitalism; and ideas, such as abstinence and luxury. “Spice is a complex and contradictory marker: of figure and ground, sign and referent, species and genus; of love and death, epithalamium and epitaph, sacred and profane, medicine and poison, Orient and Occident; and of the traffic between these terms” (Morton, 2006, p. 9).

Looking beyond holistic, comprehensive tomes on the history of spices that attempt to gather all of them into a single book, some commodities have already been explored thoroughly in a more concentrated approach. The history of salt (Kurlansky, 2002), tea (Mair & Hoh, 2009), pepper (Shaffer, 2013), and vanilla (Rain, 2004) are worth mentioning, and treatises on other popular substances of trade (chocolate, sugar, tobacco, etc.) are abundantly available. Even more outstanding are the works that focus their investigation on a specific area, whether it is the “cultural biography” of the chile pepper in China (Dott, 2020)—retelling an unquestionably influential incorporation of a new item into a diet— or the allure of musk and perfume in the Islamic tradition (King, 2007). These works contain valuable linguistic information as well, regarding the origins and spread of the names of spices, and they help us to investigate their spread and diffusion.

Studies on specific spices are one of the most important sources for this discussion, and they are highly related to this project; examples are the studies on the loanword status of ginger (Ross, 1952), on the diffusion of chile (Wright, 2007), on the identity and etymology of Sichuan pepper (Austin & Felger, 2008), and on the “trade-language origin” of turmeric (Guthrie, 2009). Recent advances regarding the name and identity of cinnamon and cassia in ancient vs. modern times published by Haw (2017), and the Eurasian itinerary of asafoetida (Leung & Chen, 2019) are pieces of research crucial to tracing the products accurately. These and similar types of research were highly influential in the preparation of this thesis.

For an overview about the concept, function, and uses of spices in the classical Islamic periods,

please refer to Dietrich (2004a); for the same in a Chinese cultural and historical context, please see S.-Y. Hu (2005, pp. 147–153), and Yan and Zhang (2006).

2.1.2 *On Food and Foodways*

Literature on gastronomy and the culinary sciences is plentiful, but high-quality scholarly works are fewer. Reference works include Davidson's *The Oxford Companion to Food* (2014) and Katz's *Encyclopedia of Food and Culture* (2003), and other key publications include Toussaint-Samat (2009)'s *A History of Food*. Remarkable contributions to ancient and medieval culinary history were made by Dalby, focusing on the cuisines of Rome, Greece, and Byzantium (Dalby, 1996, 2003, 2010; Dalby & Grainger, 1996)

In a Chinese context the definitive work is still Chang's *Food in Chinese Culture* (1977), while in the Islamic tradition, medieval cuisine and recipes are explored in detail by Zaouali (2007). A few works on the culinary history of the Middle East are also results of great scholarship, including the translation of Nawal Nasrallah, who made a tenth-century Baghdadi cookbook accessible for us in the *Annals of the Caliphs' Kitchens* (Ibn Sayyār al-Warrāq, 2007), and Lewicka (2011) who introduced us to *Food and Foodways of Medieval Cairenes*.

2.1.3 *On Trade*

I must point out that spices are mostly explored through their trade. And, as most spices originate in tropical Asia, our center of attention will be directed toward that continent. The term *spice trade* loosely refers to the cross-cultural, economic, and diplomatic ventures of historic kingdoms, empires, and companies, agglomerating around the Indian Ocean, and other regions such as the Mediterranean, East Africa, Maritime Southeast Asia, and by land Central Asia. The history of the spice trade is one of its own, covers hundreds of years, and it is fundamentally connected with the history of globalization. Naturally, the story of spices is intertwined with trade routes and geopolitical events, involving contact between peoples, cultures, religions, ideas, and languages. See general works on economic history, such as the *Spice Islands* (Burnet, 2011), or on political history *The Scents of Eden: A Narrative of the Spice Trade* (Corn, 1998). Specific eras and regions related to our topic include the ancient Indo-Roman trade (Cobb, 2019; Sidebotham, 2011), the medieval Indian Ocean sea trade spanning from the Persian Gulf to China championed by Arab seafarers (Hourani, 1975; Pearson, 1996), and the Southeast Asian maritime trade (Chen, 2019; Donkin, 2003; Hall, 2010; Reid, 1988). Young scholars are also doing remarkable work: I

would like to highlight the thesis of Hoogervorst (2012), who combines historical linguistic and archaeological approaches in the research of Southeast Asia in the ancient Indian Ocean world. Southeast Asia was the source for Chinese spices as well: in their 2021 paper, Xu and Sun detail the history of the spice trade between China and Srivijaya (and other kingdoms of maritime Southeast Asia), its rise during the Han and Tang, peak during the Song and Yuan, and decline during the Ming and Qing dynasties. They consult historical records regarding the volume of the trade and the nature of the tribute-trade relationships. For more on the spice trade from a Chinese perspective (in Chinese), refer to Yan (2016), Yan and Hui (2007), and Yan and Zhang (2012).

Besides a degree of domestication and long-standing cultivation practices, the abundance of spices today are a result of long-distance trade and cultural exchange. New advances in the field of archaeobotany concerning Roman and Islamic times, for example, help us to map the routes of the materials and trade connections better (see van der Veen & Morales, 2015; van der Veen, 2018).

One surprising fact I have learned from my reading, is that the Silk Road, the trade network of roads and desert pathways connecting Central Asia with China, did not really feature spices, or at least not to the extent I previously believed. Valerie Hansen's well-informed book of 2012, based on unearthed documents of the region show a trade that is small in volume and much less lavish in terms of luxury goods than previously thought. Most of the trade covered short distances and whirled around everyday goods and just a minute amount of exotic perfumes and aromatics, especially musk. Silk often acted as a currency. The word *spice* occurs only twice in her book, as she highlights the most traded products in each period. This is not to say that spices did not exist here at all—we know that many spices were introduced to China on the silk roads, and that traveling merchants carried pepper and propagated other spices via their journeys—but rather that the bulk of the spice trade between East and West did not happen overland.

Many of the contemporary works I mentioned that trace the initial steps of certain spices and other foodstuff relay accounts from primary sources. For example, Spengler (2019b) writes that the black pepper of tropical India is first mentioned by Chinese sources in during the Han dynasty (202 BC–9 AD; 25–220 AD), in the Hou Hanshu, quoting Laufer (1919, p. 374). I have noticed that in a lot of cases, we can thank a few giants for the reports, legendary scholars whose research we still use and reference. These are the people who laid down the groundwork for future studies by their hard work and language skills,

including Berthold Laufer (1919) and his invaluable *Sino-Iranica*, which catalogues “Chinese contributions to the history of civilization in ancient Iran, with special reference to the history of cultivated plants and products”; and Edward H. Schafer (1985), and *The Golden Peaches of Samarkand*, which lists luxury exotica that reached the Tang court, exploring cultural interactions with other regions. I would also like to mention Isaac Burkill (1935), who recorded every economically important plant and mineral under the sun of the Malay Peninsula, annotated with local names, traditional knowledge, and regional historical significance in his monumental *A Dictionary of the Economic Products of the Malay Peninsula*. Their command and knowledge in history, sinology, and botany is immeasurable.

In the study of spices, incense, and aromatics through the tools of Semitic philology, I should mention the recent addition of Amar and Lev’s *Arabian Drugs in Early Medieval Mediterranean Medicine* (2017) and Lev and Amar’s *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah* (2008), and we cannot leave out *Domestication of Plants in the Old World* by plant geneticist D. Zohary et al. (1988/2012), which supplies a great overview of the agronomic development of the region, or *Duke’s Handbook of Medicinal Plants of the Bible* (Duke et al., 2008).

2.1.4 On Chemistry, Medicine, and Healing

Besides history, archaeology, and botany, progress in spice-related research in recent times is predominantly from the field of medicine. There are uncountable pharmacological—clinical and in vitro—studies on the effects of various medicinal plants (Boy et al., 2018), and many of them are motivated by food and nutritional science research, such as the survey by Baker et al. (2013) on the effects of cooking with and ingesting cinnamon, nutmeg, and cloves. I will try to keep away from the deep deliberations of scientific treatises from medical, biochemical, and pharmacological journals as much as possible, though I will comment on issues related to folk uses and traditional knowledge where relevant.

I must briefly mention the fields closely knit with the food industry: chemistry and pharmacology. The authoritative *Handbook of Herbs and Spices* (Peter, 2012) and *The Encyclopedia of Herbs & Spices* (Ravindran, 2017a) are for industry professionals. These works detail the physical and chemical properties of the materials, and the plants and their products are described in detail. Besides botanical information, the plants’ chemical compounds and volatile oils are in focus, but general knowledge about the origins, names, uses, and functions is also presented. The chemistry of spices is an

interesting topic: scientific and popular books have both been published on it.¹⁴ The science behind how spices work is a fascinating one, and there are especially two questions we should pose, one: “Why are spices spicy?”, and, two: “Why do humans like spices?”

The answer to the first question is that the pungency we feel—a mild rush of heat or minutes of tingling lips—is in fact a toxic shield: it is the plant’s evolutionary response to herbivores, bugs, and pests (J. Turner, 2004, p. 21). However, this is not a crucial component in the organism’s life cycle; these substances (the volatile oils causing flavor and pungency) are so-called secondary metabolites, in that they are insignificant to the plant’s biology (Parthasarathy et al., 2008, p. 18). Rather, heat is to the chili effectively what thorns are to the rose. The spiciness of a spice is a weapon, and while bugs and insects would run amok from that effect if they were trying to make a snack of the fruit of *Myristica fragrans* (the tree of nutmeg and mace), it made humans—quite ironically—sail to the end of the world to find it. No obstacle was too great to stop mankind’s appetite for fragrant, pungent, and spicy flavors.

In answering the second question, we can expect that if the spiciness of spices has a Darwinian explanation, the human desire for them should also sound like one. Sherman and Billing (1999) in their influential, and aptly titled, article “Darwinian gastronomy,” claimed that spices taste good because they help us fight hostile bacteria and microorganisms responsible for digestive issues such as food poisoning: they are beneficial for our health. The authors also compared cuisines of the world based on how much spice they use in their everyday cooking. The piquancy of some capsicums is essentially an irritation, Spence (2018) explains, so why do so many people find the “oral burn” so appealing? Carstens et al. (2002) investigates the neural mechanism of oral irritation from spices and carbonated drinks, and we can learn about pungency and personal preference from Prescott and Stevenson (1995). The antibacterial and antioxidant effects of spices have been known for millennia, and recent research (Billing & Sherman, 1998; Nilius & Appendino, 2013; Yashin et al., 2017) shows that the old wise ones were not at all wrong compiling their materia medicas and bencas to guide future generations on herbal healing. Of course, there were plenty of exaggerated claims on the potential healing effects of some products, ranging from their being an antidote for snake venom to the cure for death itself.

¹⁴ For a work introducing the chemistry of spices with a highly visual and novel take, see Farrimond (2018).

Materia Medicas, Pharmacopeias, Bencaos

Materia medica (Latin for ‘medical material’) refers to a descriptive collection of knowledge about substances—plant-based, mineral, or from an animal source—with therapeutic properties, usually in the form of a book, often illustrated. It is a term from the history of medicine, named after the highly influential book of Dioscorides, a Greek physician and pharmacologist from the first century AD. The term pharmacopeia is closely related to this, but it refers to a more technical book that contains directions on how to combine different materials for effective healing remedies. Basically, it is a drug-making manual. *Bencao* (本草) [measure word for books; herb] is essentially the Chinese equivalent of *materia medica*. It refers to compilations of classical Chinese medicinal literature. The *Shennong Bencaojing* from circa 200 AD, although lost, is generally considered the first (see Nugent-Head, 2014; Yang, ca. 206 BC–220/1998). A great explanation of the *bencao* tradition can be found in the introduction of J.-N. Wu’s *An Illustrated Chinese Materia Medica* (2005), and Z. Zhao et al. (2018) offers a brief overview on the classification of *bencao* literature and how it connects to traditional Chinese medicine. The most famous *bencao* however, is the *Bencao Gangmu*, the sixteenth-century Chinese encyclopedia of *materia medica* and natural history written by Li Shizhen. It is probably the most important book of *Traditional Chinese Medicine* (TCM), building on the knowledge of earlier Chinese pharmacological works. It is often translated to English as the *Compendium of Materia Medica*, and the first complete English translation project is currently under way, headed by Paul Unschuld (2022). A modern, scientific example for a *materia medica*-style compilation would be Duke’s *CRC Handbook of Medicinal Spices* (2002).

In the Arabic context, on the other hand, we must acknowledge the advances of Islamic medicine, and the fruitful decades of the Islamic golden age that saw many scholars publish extensively, forwarding the tradition of the Greeks, building on the works of Dioscorides, Galen, and Hippocrates. The writings of philosopher and polymath Ibn Rushd (Averroes), physician and pharmacologist Ibn Juljul, botanist Ibn al-Bayṭār, and alchemist Abū Bakr al-Rāzī were all influential in the history of Western medicine and pharmacology. Maybe the most prominent of all was Ibn Sīnā (ca. 980–1037; latinized as Avicenna), inspiring many future scholars for over centuries, such as Thomas Aquinas (1225–1274) (Smith, 1980). His book *al-Qānūn fī l-Ṭibb*, completed in 1025, was used as a standard textbook at universities up to the seventeenth century (Musallam, 1987–2011). Scholars still discuss him and his contributions

(Sajadi et al., 2009), and compare his findings with recent pharmacological studies. An example is his writing on the traditional uses and health benefits of saffron (see Hosseinzadeh & Nassiri-Asl, 2013).

2.1.5 *On the Role of Spices through Time*

I must also touch on the change in meaning of what spices once were, and what they are now. It is now clear that, in contrast to the present understanding, in the past spices were more valued for their ceremonial or medicinal use. I would like to make the shift in usage explicit.

For example, the ancient Romans imported and used cinnamon in large quantities, but they did not eat it or cook with it. They treasured it as incense and medicine instead. It is often repeated that emperor Nero have burned (as incense and offering) a year's supply of Rome's cinnamon on his wife's funeral (whom probably he himself had killed) in 65 AD (Toussaint-Samat, 2009, pp. 437–438). We may have stopped burning cinnamon, but it is not because these practices disappeared: the Catholic Church still burns fifty tons of frankincense a year (Ash, 2020). It rather seems that most of the materials in question gradually gained more favor for their culinary, over their ceremonial, appeal.

In the notion that the role of spices has changed over time, there is a universally observable pattern: the gradual shift from their relevance in medicine toward gastronomy. Freedman (2015) writes on social and cultural implications of the role in spices and their importance in health and wealth during the Middle Ages. The shift is mainly due to the emergence of modern medicine and the marginalization of traditional folk medicine, especially in developed, Western societies. What could be more telling than the use of the term “alternative medicine,” clearly indicating the switch? What was once just “medicine” —the “only” medicine —is now merely a secondary (and sometimes frowned-upon) option. Now “medicine” refers only to (as it is called in some places) “Western medicine.” In many cultures with strong roots in folk healing, the widespread use of medicinal plants, herbs, and spices are thriving and in recent years these practices are even gaining international popularity. We could think of Traditional Chinese Medicine, the Indian Ayurveda, or the Indonesian practice of *jamu*.¹⁵ Besides this well-known shift regarding spices and the healing factor, it is important to point out that in the past the line between food

¹⁵ *Jamu* is the name for the traditional medicine of Indonesia, encompassing practices or herbal healing with Javanese origins, usually in the form of mixing ingredients in drinks and potions. For more, see Beers (2012).

and medicine were much more blurred; this can still be observed for example in modern Chinese food therapy, 食療 *shiliao*, rooted in ancient dietetic traditions (Engelhardt, 2001).

2.1.6 *On Food and Language*

One of the best examples of a linguistic study related to gastronomy is *The Language of Food: A Linguist Reads the Menu* by Jurafsky (2014). Dan Jurafsky, a computational linguist and authority in the field of Natural Language Processing (NLP), explores our connection to food and eating in a series of interesting studies. From tracing the historic and linguistic origins of ketchup, macaroni, or salami, to what the wording of a restaurant menu can tell us about prices. From a Chinese perspective, food and menus are explored by Yao and Su (2019), while the topic of fruit-words is presented by Depner (2019).

My discussion here makes use of sensory words—nouns, verbs, and adjectives of gustation and olfaction—surrounding spices and other aromatics, and in this aspect, previous studies of linguistic synesthesia will definitely prove useful (see Huang & Xiong, 2019; Q. Zhao et al., 2019). Some cognitive studies on sensory information have been conducted involving spices, and most interesting are the ones that explore cross-modality relations. For example, an fMRI experiment concluded that reading words with strong olfactory associations, such as ‘garlic’, ‘jasmine’, or ‘cinnamon’ activates the olfactory regions of the brain (González et al., 2006). Another unique study looked at the possible corresponding sound attributes to spiciness/piquancy, and a series of experiments found that fast tempo, high pitch, and distortion are indeed linked to the sensation (Q. J. Wang et al., 2017). On a more linguistic note, Zhong and Huang (2020) explored taste, examining the sensory lexicon around the realm of desserts. They showed that “mouthfeel”, a multi-sensory concept, plays a more important role than the quality of “sweetness.” Bagli’s *Tastes We Live By* (2021) is a recent publication that deals with the linguistic conceptualization of taste in the English language.

2.2 RESEARCH GAP

I have started this chapter with a discussion of the literature on spices through the lenses of different disciplines. I mentioned gastronomy, botany, history, trade, and economics, and after a brief touch of classical medicine, I have circled back to philology, and finally landed on research combining language and food, and the sensory modalities. So far, we have seen that studies on spices—specific or in

general—are widely available, most notably in the form of historical works focusing on some aspect of the spice trade or tracking the story of the material itself. Besides history, the availability of literature from food and nutritional science, biology, and medicine is satisfactory, quenching the need of industry professionals. In this field, we see a more rapid development, as new studies and findings are relatively frequent, especially about popular spices.

What we also have seen is the obvious lack of linguistic studies themed around spice. A handful of scholars have investigated questions related to language, almost exclusively from a historical linguistic point of view, trying to unearth etymologies. The few available findings, however, are not collected, and knowledge of spice names and related terminology is found only sporadically in many disciplines. In the face of such scarcity of linguistic studies on spice terminology, it is not surprising that the *Handbook of Herbs and Spices* of Peter (2012)—a standard reference work for chemistry and food industry professionals—often relies on an online blog to list spice names! This online blog, created in the early 2000s, is a personal website of one Gernot Katzer, who currently rules over the internet with his exhaustive collection of spice information, also including spice names in numerous languages. Katzer (2006) supplies a massive amount of valuable information to the public, but his lists on spice names are often inaccurate, and—since he is an individual writing about his own travels and empirical experiences and not aiming at academia—sparsely cited.

In the problem statement of the previous chapter, I briefly mentioned that, in my opinion, the lack of comprehensive publications regarding spice names causes a deficit of understanding among authors who write about spices. Take for example the very recent *Culinary Herbs and Spices: A Global Guide* by Opara and Chohan (2021, p. 11), in which the authors, attempting to give the Hindi name for allspice, write “*Kebab Chini*,” which is the Hindi name for cubeb pepper (*Piper cubeba*), कबाबचीनी *kabābcīnī*, a completely different spice. The problem is also illustrated by the examples below.

2.2.1 *Faulty Claims*

The following is a collection of erroneous, incorrect, inaccurate, or misleading quotations, supplied with my comments, that show that the historians, botanists, and food writers responsible failed to correctly identify the names of the very subjects of their treatises.

- “Cinnamon is derived from the Greek word for spice and the prefix ‘Chinese.’” (Czarra, 2009, p. 10)—a popular folk etymologization, with no proof.

- “The name saffron is derived from *zafarān* or *za’fran*, the Arabian word for yellow.” (van Wyk, 2014, p. 124)—it does not mean yellow, but it was conflated with the word for yellow by Europeans (also, “Arabian” is not a language).
- “The name [of saffron] comes from the Arabic for ‘thread.’” (McGee, 1984/2004, p. 422)—it does not, rather the Arabic word is a loanword from Persian, and it only means ‘saffron.’
- “Pliny named the plant *coriandrum*, from the Latin for bug, *coris*. But it has other names—*cilantro* (in the United States and Latin America), *dhana* [sic!] (in India), *Chinese parsley* (in China, presumably).” (O’Connell, 2016, p. 87)—an ill-informed presumption and goes against common sense. *Chinese parsley* is a name in English, not in Chinese.
- “In Sanskrit, black pepper is known as *maricha* or *marica*, meaning an ability to dispel poison, and it is taken to aid digestion, improve appetite, ease pain, and to cure colds [...].” (Shaffer, 2013, p. 3)—the fact that the author wrote “*maricha* or *marica*” shows that she does not know that these are two different ways to transliterate one Sanskrit word (which has no such meaning as she has described).
- “The name ‘paprika’ came from the Greek term for black pepper, *peperi*.” Other name changes occurred as the spice moved through regional languages such as Greek, in which it is called *piperia*.” (Czarra, 2009, p. 103)—while not entirely wrong, many steps were skipped in this explanation, making it difficult to evaluate.

There are fallacies not only regarding the names but the circumstantial information regarding the nature and history of the spices and the spice trade as well, ranging from failure to distinguish between spices and spice mixtures, to confusing cities and travelers important in the spice trade.

- “The main distinction between the Indian and Japanese curries is that the Indian version uses a combination of spices, while Japanese *karē* is made with curry powder.” (<https://www.tasteatlas.com/kare>)—absolute nonsense, as curry powder is a combination of spices as well.
- “And Malacca (Singapore today), a port poised at the gateway to the oceanic routes to Europe, [...].” (Hill, 2004, p. vi)—this statement is horribly wrong, as Malacca is not Singapore.
- “Chinese traveller Sulaiman visited Kerala coast—recorded the black pepper cultivation and

trade with China.” (Ravindran, 2000, p. 3)—Sulaymān was not a Chinese traveler, and the excerpt talks about Sulaymān at-Tājir, a ninth-century Muslim merchant from the Sassanid port of Siraf.

These few selected lines can make it feel as though we are doomed if we look for accurate spice names and origins in the spice literature, but the situation fortunately is not that bleak. I merely wanted to show that in many instances, there is simply no awareness or effort to supply the reader with the correct information, especially when it comes to names and etymologies.

Up to now, a comprehensive study on spices from a linguistics perspective is lacking. The information already out there is sporadic and unorganized, and, as I have discussed above, it has been botanists, historians, chefs, and historical linguists who contributed to the research on aromatic products, their origins, and their place in human culture and its lexicon. In a few cases, findings happen to be misinformed, thanks to some authors making presumptions along erroneous lines, which only adds to the confusion. This is bound to happen when botanists attempt to venture into the lands of etymology, or when food writers choose to sail the high seas of historiography. For a good illustration of this problem, see the criticism of Haw (2017) on Austin and Felger’s attempt (2008) to trace the etymology of *fagara* (Sichuan pepper), where the authors with a background in botany have made questionable assumptions related to Classical Arabic phonology and morphology. I try to be careful to avoid similar mistakes, never giving in to the temptation of baseless speculations, especially outside the realm of linguistics and philology. With that being said, this work is intended to fill the lacuna that exists regarding research on spice terminology.

Beyond my proposal to fill this gap with a study attempting to group and categorize aromatic materials of the spice domain, I also aim to analyze the diffusion of spices informed by tracing the journeys of loanwords and wandering words of three languages: English, Arabic, and Chinese. The quest for exploring patterns of spice diffusion and spice terminology could yield new insights and open possibilities for future research. Furthermore, an analysis of spice nomenclature based on linguistic-cognitive features has not yet been made and constitutes an original approach.

2.2.2 *Research Questions*

I will now try to formulate the questions I aim to answer. The first two questions arise from the investigation on the “diffusion of spices” and are more related to the philology component of the thesis.

The third question is related to the corpus linguistic and cognitive component of the study, investigating the “language of spices.”

- Q1 Does the propagation of *Wanderwörter* within the domain of the spice trade follow the diffusion of the materials?
- Q2 Is there any underlying pattern behind the mechanisms of spice diffusion, considering both the materials and the nomenclature?
- Q3 Is there any influence on the naming of spices, in terms of sensory words and synesthetic properties?

2.3 THEORETICAL FRAMEWORK

2.3.1 *On Wandering Loanwords: Wanderwörter*

Terms of the spice domain are often loanwords, likely to be *Wanderwörter*, meaning wandering words. A *Wanderwort* (also known as a *Kulturwort*, “culture word”), itself a loan from German, is “a word borrowed from one language to another across a broad geographical area often as a result of trade or adoption of newly introduced items or cultural practices” (Merriam-Webster, n.d.). We can observe this linguistic curiosity typically in names of foodstuff, plants, animals, metals, and other artifacts, such as copper, tobacco, potato, tomato, lemon (Trask, 2000, p. 366), materials which spread significantly due to trade. Further examples are numerous: cumin, ginger, orange, pepper, silver, soap, sugar, wine, the most famous example being tea.

The case of tea is well known, for its names have multiple origins in different Sinitic languages. Mair and Hoh (2009, pp. 262–268) identify three groups of names for tea: *te*, *cha*, and *chai*. Mandarin and Cantonese use *cha*, while *te* is from Hokkien, a Southern Min language variant. Tea trade was prevalent at the port of Xiamen (Amoy), especially with Europeans after the mid-1500s, while land routes such as the Tea Horse Road and the Silk Road already had exported tea for centuries from Yunnan and Sichuan, the homeland of *Camellia sinensis*. Eventually both *te* and *cha* entered the English lexicon, but more important is that almost all other languages adopted one or another of these words for tea (Mair & Hoh, 2009) in the wake of merchant ships and trading caravans. Depending on geopolitical circumstances, the maritime or continental name variants—*te* and *cha*—spread, so that in a drastic oversimplification, we might say: it is *te* if transmitted by sea, *cha* if transmitted by land.

This linguistic distribution is not unique to tea: genealogies of names for other consumables with similar global stories are observable in many other Wanderwörter, such as *chili*, and ‘pepper.’ Both the far-reaching journey of the Nahuatl word *chilli*¹⁶ from the Aztecs of Mexico, and the ancient Sanskrit term for the Indian long pepper, *pippali*,¹⁷ have intriguing stories to tell for linguists, historians, or anybody else; see Dott (2020) for the chili pepper’s “cultural biography” in China, and Shaffer (2013) for the story of black pepper. This becomes especially apparent when we think of the compelling fusion expressed in the term ‘chili pepper.’ One of the objectives of this study is to address peculiarities arising from complex histories of the spice names just mentioned above, but while trying to provide answers, a holistic view of the spice domain should be kept in mind. An overarching linguistic study of substances with similar features has not been conducted and might reveal new knowledge and patterns yet to be found.

The instance of tea as a Wanderwort is relatively recent, and thus we are able to reconstruct the steps of diffusion. Nonetheless, the origins of Wanderwörter are often obscure, and, to some extent enforcing this connotation, some scholars (chiefly Indo-Europeanists) still “borrow” this term to refer to a specific group of loanwords, where transmission through one or more unknown languages is suspected, and/or the donor language is uncertain, as Michiel de Vaan (2008, pp. 199–201) writes. In his short definition, Trask (2000, p. 366) fails to mention this latter issue with Wanderwörter. Another concern we must also remember is that ‘wandering words’ are not always easily distinguishable from loanwords. In fact, in the mid-nineteenth century, the beginnings of the Indo-European tradition of reconstructing a proto-language was briefly misguided by the failure to recognize and separate inherited lexical items from introduced ones (Polomé, 1990, p. 137). In hindsight, Wanderwörter should be considered a subgroup in the general category of loanwords. Appealing to this idea, Polomé (1990) renders it in English ‘wandering loanwords.’ One could argue that the main problem with Wanderwort research is that sometimes—to put it bluntly—they are just too old to trace with surety. There are hardly any means for uncovering origins and deciphering etymologies beyond a certain time-depth.

16 S. Wood, 2000–2022, chilli.

17 Macdonell, 1929, pippala.

2.3.2 *On Sensation*

The spread of spice-related words is not limited only to the nomenclature of new products—which presumably embraces foreign words, loanwords, and calques (loan translations) in high concentration—but also to the different categories of terminology that describe the substance. New sensations invoke new words (or give way to new meanings of existing ones), driven by the need to express and describe taste, smell, color, and texture. With the help of corpora, we can collect sensory words surrounding aromatics, and explore how humans discuss flavor, fragrance, heat, and spiciness. We shall see if the function of modifiers and adjectives are there to help to identify spices, and we shall see if patterns of spice diffusion (directionality, quantity of transmission) differ based on sensory properties. With enough data we will be able to examine tendencies that pertain to land-based or maritime trading routes.

Apart from words related to the sensory domains, mainly olfaction and gustation, it might be worth examining the “language of spices” from another angle as well. By comparing linguistic behavior regarding various spices, I expect to see different degrees of adaptation, ranging from just the basic existence of the borrowed/translated name for a newly introduced substance, to highly dynamic and versatile presence in everyday language use. Beyond the (a) name *pepper*—for example—we can observe and effortlessly identify other “degrees” of linguistic use: (b) the incorporation of words for the sensations induced by the spice or other characteristics of its nature (*peppery*); (c) cognate verbs of seasoning and cooking (*to pepper*); and (d) denominal metaphors and idioms (*to have pepper in the nose*). I hypothesize that the presence or absence of spice-related terminology and derivationally related words in a language correlates with the levels of acceptance and familiarity in a society, i.e., the language use reflects the degree of adaptation of the product, and ultimately its embeddedness in the culture. For example, if a language names a color after *coffee*, *cinnamon*, or *saffron*, it is a good guess that a large portion of the society is familiar with the product. This direction in research is one of the goals of this discussion, as noted previously. Furthermore, we can ask interesting questions, such as:

Would considering different spices affect the categories of linguistic presence discussed above? Would patterns of spice diffusion make a difference when looking at linguistic “behavior”? Spice names and collocates invoke sensations from different sensory domains, and are strong “carriers” of synesthesia. Zhao (2018) writes that linguistic synesthesia “describes a situation where perceptions in different

sensory modalities are associated in both perceptual experiences and verbal expressions.” Evidence for cross-sensory conventions occurs in the nomenclature of spices as well: sometimes such conventions are obvious, but cumbersome to unearth and explicate.

In Spanish, the word for pepper is *pimienta*, from the plural form of Latin *pigmentum*, which is “a material for coloring, a color, paint, pigment,” with an additional, transferred meaning in post-classical Latin, “the juice of plants” (Lewis & Short, 1958, p. 1375), and a Spanish etymological dictionary indicates “plant juice, food seasoning” (Gómez de Silva, 1985, p. 415). The emergence of this meaning of the word for ‘pigment’ is believed to be due to the observed Mesoamerican practice of using dried chilies of the genus *Capsicum* for seasoning dishes, which also worked as an organic food-coloring substance. After Christopher Columbus returned from the New World with *Capsicum annuum* in 1493, the impact of the new sensation was so strong that it replaced the existing Catalan word—*pebre*, the derivative of the already mentioned Sanskrit etymon, *pippalī*, via the Latin *piper*, referring to black pepper (*Piper nigrum*)—with *pimienta*. But, if *pimienta* is now black pepper, then what is the Spanish word for chili pepper, the fruit of *Capsicum*? Well, it seems it is *chile* in Mexico, *pimiento* in South America, but it is not that simple. Further adding to our perplexity, *pimiento* is masculine, *pimienta* is feminine in Spanish. And what is *paprika*, then? We start to see the piquancy of the problems, and the confusion is no less clear in Spanish than in English. And, to raise the distress level even a bit more, it is worth mentioning that chilies in Hindi are named *mirch*, which in turn comes from Sanskrit *marica/marīca*, the word for “pepper-shrub, pepper-corn; black pepper” (Macdonell, 1929b, p. 219; Monier-Williams, 1899, p. 790).

The goal of offering these examples of a few spicy Wanderwörter is to demonstrate the chaos surrounding conventions and common names of occasionally unrelated plants and their fruits, berries, and seeds; their confluence with historical and geopolitical developments. I hope that a systematic overview of the literature and methods combining corpus linguistics and philology will not only help to untangle the threads of vernacular names ungoverned by rules, but also help us gain insight into the connection between spice names and sensory domains.

The most exciting part of this novel approach is to see the “attitude” of different cultures. Are the properties of spices universal? Would speakers belonging to the Chinese cultural sphere describe a certain spice as having the same taste characteristics as Arabic speakers? Turmeric is often described as bitter in English; would other languages do this as well? Cross-cultural and cross-linguistic perspectives

in research on cognition, pragmatics, and semantics are copious, and one of the pioneers of their study is Anna Wierzbicka, who has worked on the concept of semantic primes for decades. Finding universal, equivalent core meanings spanning across languages has been a kind of holy grail in linguistics. Following her framework, we will adapt these ideas as they are related to physical qualities and linked metaphors (Goddard & Wierzbicka, 2014, pp. 55–79).

3. METHODOLOGY

Realizing that there is little work done on building a spice name database, or on analyzing spice nomenclature from historical and linguistic-cognitive perspectives, I have set out to assemble one that would facilitate this kind of analysis. To introduce this very briefly: I have built a database of spices and spice terminology by combing through secondary and primary literature, botanical databases, encyclopedias and dictionaries, and searching for the spices in contemporary and historical corpora. I then used a few selected features of these materials (region of origin, spreadability, etc.) and the corresponding terms (analyzability, borrowed status, etc.) and looked at the set of spices as a whole, trying to find patterns and make some observations about the geographic and linguistic diffusion of spices, and various aspects of their naming.

3.1 RESEARCH DESIGN PRINCIPLES

To achieve these aims, I first needed to think of an ideal way to compile and arrange complex sets of information from sources that are highly interdisciplinary in nature. From the very beginning of the design of this study, the following principles were kept in mind regarding the database of spice names:

1. The database must be grounded in the close study of the materials—the plants and their products—especially from a historical and botanical standpoint. Awareness of the material's physical journey will help us to contextualize some of the ways the associated names spread. Take for example the Sanskrit term referring to asafoetida (the dried oleoresin gum from *Ferula assa-foetida* et al.): हिङ्गु *hingu*, which is the etymon of both Chinese 興葉 *xīngqú* (Middle Chinese (MC) /hiŋ giɑ/), and English *hing*, but they took very different paths: while the Chinese term is a learned loan from the time of the spread of Buddhist scriptures on the overland Silk Road, the English word is a late sixteenth-century borrowing via the sea trade with Mughal India. And if we study the source of the materials and learn about the plants, we will also realize that all the asafoetida that was exported from India in the early modern period was in fact imported from Persia and Afghanistan.
2. The database must be thorough in citing evidence; every word, statement, date, or other piece of information should be carefully referenced. I have already explained the motivation and

necessity behind this practice in chapter 1: it is enough to say that no publication currently cites sources for the names they give (except philologists), and sometimes it is hard to find the motivation and inspiration behind a term. It is always a good scholarly practice to record where we found certain pieces of information, and when it comes to spice etymologies, this is necessary to make it easier for future experts to verify or refute the findings.

3. The database should be easily expandable. Because of limited space, it is impossible for me to include *every* spice. Therefore, I tried to create a pipeline, whereby a new material and its names can be easily added to the fold, and quickly analyzed. This in principle can also accommodate the future inclusion of incense, perfume, and herbs, which I will mention in Section 7.2 when discussing future plans to expand on this research.

3.1.1 *Identification, Confusion, Adulteration, Clarification*

The ideal first step of all types of research related to spices, herbs, incense, and other aromatics is to identify the product exactly. In the case of spices and incense, this is overwhelmingly a botanical question, while in the case of other exotic aromatics, such as musk or ambergris, we must involve the animal kingdom. Medical, pharmaceutical, and food industry studies are heavy on the hard sciences—chemistry, biology—but they sometimes also contain valuable information about both common and scientific names. All medical studies must start with the proper identification of the substance, in fact, there is a range of studies about various techniques on identification and differentiation (cf. Ford et al., 2019). The reasons for this are twofold.

First, in many cases it is not a straightforward task to tell the substances apart, because different spices can have very similar physical qualities. For example, the fruits of Chinese star anise (*Illicium verum*) and Japanese star anise (*Illicium anisatum*) basically look the same, yet the latter is toxic; see the excellent points made by Small (1996) on the confusion of their common names. Uncertainty in nomenclature and identity poses a further challenge to clinical trials if the origin of a substance is not properly identified. Take, for example, Oketch-Rabah et al. (2018), who write on the confusion of cinnamon and cassia nomenclature and its implications in pharmaceutical research. Consider first *cinnamon* (*Cinnamomum verum* syn. *C. zeylanicum*). Common names include *true cinnamon* and *Ceylon cinnamon*. However, the cinnamon sold in the US and UK markets is generally not the same spice: most

of the product labelled as cinnamon on American shelves is in fact cassia (*Cinnamomum cassia* syn. *C. aromaticum*) (Oketch-Rabah et al., 2018), which is sometimes called ‘fake cinnamon’ or ‘bastard cinnamon.’ With that in mind, the Latin scientific name of the former makes a bit more sense now: *verum* means ‘real, true, genuine.’ But why is cassia fake cinnamon? This is due to historical reasons, from a time when the introduction of the much cheaper cassia pushed down the cinnamon prices drastically in the nineteenth century (Wijesekera & Chichester, 1978). Most scholars consistently refer to *C. zeylanicum* as cinnamon, and to *C. cassia* as cassia, but it is not uncommon in everyday language use to confound the two, especially in referring to cassia as cinnamon, out of innocent ignorance. For more detail and on the identity of cinnamon and cassia, see Section 4.4.2. Uncovering confusions from under heaps of synonyms leads us to interesting historical events that sometimes explain the vernacular names of a particular product, as the case of cinnamon and cassia shows.

Second, adulteration and contamination are rampant in the spice industry. *Saffron* (*Crocus sativus*)—the most expensive spice by weight, nearing the price of gold—is famous for being cut with (and substituted by) the much cheaper safflower petals (*Carthamus tinctorius*). Even their names reflect these practices: although the two are very different and unrelated plants, their similar dyeing properties and the constant confusion about them have left their mark. The name of *safflower* has been influenced by the French word for saffron, but these names have different origins (both ultimately from Arabic). On account of its use in adulterating saffron, safflower has also come to be known as “bastard saffron,” first attested in 1548.

We do not need to stalk modern pharmacological studies to find examples of confusion: the identity of saffron was also elusive in ancient China, where, at its introduction in the early Middle Ages, it was confused with safflower, and both were casually called 紅花 *honghua*. It is said that Buddhist monks picked up saffron in Kashmir on their way from India to China, but the knowledge about how to employ it was not clear until the Yuan dynasty, when it was actually used and imported (Laufer, 1919). During Tang times, it was connected with the—also strongly yellow—spice turmeric. Turmeric came first, and got the name 鬱金 *yujin* [yü-gold], and later saffron was named 鬱金香 *yujinxiang* [yü-gold-aromatic] (Schafer, 1985). The confusion of saffron and turmeric (and truthfully every other yellow spice used as a dye) is also observable in Classical Arabic: *kurkum* ‘turmeric,’ historically also ‘saffron’ (etymon

of the word *curcuma*), and the perceived “similarity” of Sanskrit कुङ्कुम *kuṅkuma* ‘saffron’ did not help to clear the confusion either. See Section 4.6 for more on this issue.

Keeping all this in mind, I feel I must lean on rudimentary botanical identification in the investigation, clearly linking the plants and plant parts to the products and their vernacular names. This is important, as it can remove some of the confusion that arises when two or more product names are used interchangeably, and the practice will help highlight problematic cases from the start.

3.1.2 *Challenges in Spice Categorization*

One of the most challenging parts of this project is to choose a meaningful way to categorize spices and spice names. The design should make sense in multiple dimensions: botanically, historically, and maybe even gastronomically, but at all times the linguistic focus must be kept in mind. The main goal is to assign a spice name to the appropriate product/material, which is correctly identified on a botanical level. This is not always straightforward, as some materials can have multiple botanical sources, one plant can yield multiple differently used plant products, and the same names can be used for different substances.

One problem arises from the fact that many terms can have a meaning on different levels of specificity, depending on context and intent. Spice words are rich in senses. For example, according to the Princeton WordNet (PWN), *black pepper* can be both a hypernym and a hyponym to *pepper*, depending on whether it refers to the plant or to the dried fruits with the husks on (Fellbaum, 1998). In this specific case, *black pepper* #2 and *white pepper* are sister terms, but *white pepper* is also a subordinate to *black pepper* #1. This situation is then further complicated with the fruit of the *Capsicum* (and its endless cultivars), that also have the name *pepper*. Thus, it is not immediately clear if we should treat black and white pepper as two different spices, or two manifestations of the same spice. There are many other examples where a term can be understood on different levels: as a plant, a family of similar plants, a specific spice, or a group of spices. In an everyday setting, lexical semantic hierarchies are not always adhered to, and people organize spices in their heads according to their own convictions. One author might mention white pepper under the heading black pepper on account of their biology (a botanically driven categorization), while another might separate them and discuss them as different spices based on their different uses (a culinary approach). As for the historian, mentioning white pepper might be just not at all important. The reasons for these variations are usually determined by what is the intention of the categorization, and who is the target behind the treatise. For us layman, however, spice entities

are most prominently structured by way of their names: the words are the handrails to cling to if we are not familiar with an item. So what about pink peppers? Pink peppercorns (*Schinus terebinthifolius*; *S. molle*) are so-called “false peppers,” meaning that they are not from the *Piperaceae* family. Pink peppers are fruits of botanically unrelated trees in South America, matching the shape and size of peppercorns. Are they a kind of pepper?

My point with the above—admittedly rather confusing—example is to show that, if one were to debate whether black pepper and white pepper are the same spice (or not, for that matter), we would need gastronomical or botanical grounds on which to make our arguments. And despite all imaginary arguments, the real answer goes beyond the botanical or gastronomical reality (illustrated by adding pink pepper to the problem), to answer the question: What is pepper conceptually? We will see from the names and naming practices, that the word *pepper* and its equivalents carry a sense of ‘prototype pungent spice,’ and, above biology or function, it is ultimately the concept of “pepper” that matters. Thus, I propose that whenever a novel spice is considered appropriately close to the existing concept, it could also fit the category of pepper, as reflected in its name.

Even more challenging for categorization, is the case in which we are not sure which spices were meant under certain names in different times. Cinnamon and cassia are a great example of this (Section 4.4.2), as it is not certain whether the cinnamon and cassia of antiquity were the same spices or not. But, parallel to the question of identity, we also have seen that it does not always matter, attitudes differ from place to place: while Europeans do sometimes differentiate, in China and the United States the concept of cinnamon is singular, including cassia. For the analysis, I had to decide whether to treat them as one item or make a distinction. In a few cases, a spice name became obsolete and got “lost,” meaning that it cannot be identified with certainty, and we have to guess what the name referred to based on botanical and historical data, and categorize it accordingly; this is the case with *amomum*. The most extreme situation is the situation in which a spice goes extinct, as happened to *silphium* in antiquity. This study does not contain such items. In these cases, we need deep historical knowledge to say anything about the identity of said spices and their place in the context of the others.

Our knowledge or lack thereof also determines the concept we have of a certain item. For example, most people who know that nutmeg and mace come from the same fruit of the same plant and from the same place will always connect the two in their heads, so that the two spices are literally

inseparable (until harvest, of course). From historical records, however, it is clear that knowledge regarding these substances was spiked with misunderstanding and inaccuracy, even among people in the spice business. According to an anecdote, during the Dutch monopoly of the Banda islands, an officer back in the home office wrote an angry letter to the Spice Islands colony, ordering its leaders to plant more mace trees, because there was a higher demand for it than for nutmeg—a request that must have raised some eyebrows on the plantations (*National Geographic*, 2014). This shows that botanical organization is accessible only to those with botanical knowledge.

Lastly, I must also mention that the language and words we use for these materials also define our understanding of them. Analyzable, descriptive names help us to identify certain materials, while loanwords with forgotten original meanings (cf. *mace*) might not say much. For example, no Chinese would have the above misconception of mace, when faced with its name: 肉豆蔻皮 *roudoukoupi*, which means the ‘skin/cover of the nutmeg,’ which is what it actually is. Conversely, the Chinese initially confused some cardamoms and nutmeg (unrelated plants), simply because they were both round and sourced from the same region. Today, both are 豆蔻 *doukou*, with modifiers attached to distinguish between them.

Another point to take into account is the myriad of “fake” spices that feature especially in English. False peppers, false cardamoms, bastard cinnamon, and bastard saffron, are a reflection of historical economic attitudes, often pointing at the problem of adulteration. Names such as *true pepper* and *true cinnamon* summon a sense of authenticity. This, however, is highly subjective, depending on culture and language: after all, bastard cinnamon is just “normal” cinnamon for others, and false cardamoms are just cardamoms to those who have a different prototype for what a cardamom is. In a sense, it all boils down to translation, which can be arbitrary. Who decides if Chinese 桂 *gui* should be rendered *cinnamon* or *cassia* in English?

To avoid getting lost in the details of lengthy binomial names or botanical genera, I have opted to use a set of the common names of the spices to be used for identification, under which the various spice names belong. These identifications are sometimes arbitrary (e.g.: All spicy, red, hot, chili peppers of the *Capsicum* genus and their names go under “chile.”), but always clear-cut and explained in the data chapter. I have therefore grouped some spices and spice names into larger categories, trying to find a smallest common denominator within the three languages. This only affects a few items: various false

cardamoms in the *Amomum* genus will be grouped under the umbrella term: false cardamom. One better way would have been to divide the categories on a purely botanical basis, but I prefer this solution, in order to make this set of closely related spices more accessible to the reader and to avoid allowing some of these items to get lost in the crowded lists of botanical categories. They constitute a linguistic and conceptual category as well, using similar prototype words in all three languages in their names. Using common names as identifiers also facilitates linguistically driven comparison, and so these identifying names are essentially the same as the set of spices determined earlier in Table 1.1: allspice, anise, asafoetida, caraway, cardamom, cassia, chile, cinnamon, clove, coriander, cumin, dill, false cardamoms, fennel, fenugreek, ginger, long pepper, nutmeg, pepper, saffron, Sichuan pepper, star anise, turmeric, vanilla.

3.2 DATA COLLECTION

The data collection for this project was conducted in three stages: assembling the set of spices, gathering and analyzing their names, and researching the etymologies of their names. The result of these three stages are three datasets open for inspection as the electronic files *spices.csv*, *names.csv*, and *etymologies.csv*, available on my GitHub page: <https://github.com/partigabor/phd-thesis-viz/tree/main/data>. Chapter 4 will introduce and explain the data in all three levels.

3.2.1 *Collecting Spices*

In the first stage, after I have assembled the set of spices, I collected information about them from encyclopedic handbooks written by experts in the plant sciences and spice industry professionals. I have made great use of van Wyk (2014), Mabberley (2017), and S.-Y. Hu (2005) at the start, especially when matching plant products to plants. At this stage, I have focused on the identity and characteristics of spices including geographical distribution and native habitats, especially where I saw any room for confusion. As I collected scientific names, I also recorded the common/vernacular names for each spice as an initial exploration, and I linked them to a botanical database that can supply further information. I have also collected information regarding their cultivation and basic uses.

Surprisingly, the abundance of synonyms is also palpable in the scientific nomenclature, so that sometimes one plant species has dozens of binomial taxa. In an attempt toward standardization of

taxonomic data, collaborative efforts have sprung up across numerous authoritative institutions to assemble and link their respective databases and sources. These online projects are usually run by a consortium of leading botanical institutions worldwide, and among these key entities are the Royal Botanic Gardens at Kew and Edinburgh, the Missouri Botanical Garden, the Harvard University Herbaria & Libraries, the Geneva Conservatory and Botanical Garden, the Muséum National d'Histoire Naturelle in Paris, the South African Biodiversity Institute, the Australian National Botanic Gardens, and the Kunming Institute of Botany, just to name a few.

When it comes to botanical information, navigation in the ocean of scientific binomial names hiding the identity of a plant can be overwhelming (Spencer&Cross, 2020). To alleviate this, I turned to a range of botanical databases for the purposes of correct identification and information-gathering. I used databases such as *The Plant List* (TPL) (<http://www.theplantlist.org>), which was recently superseded by the *World Flora Online* (WFO) (<http://www.worldfloraonline.org>); the *International Plant Names Index* (IPNI) (<http://www.ipni.org>); *Plants of the World Online* (POWO) (<http://www.plantsoftheworldonline.org>); the *Global Biodiversity Information Facility* (GBIF) (<https://www.gbif.org>); the *Flora of China* (FoC) hosted on eFloras (<http://www.efloras.org/index.aspx>) and the *Biodiversity Heritage Library* (BHL) (<https://www.biodiversitylibrary.org/>). TPL, for instance, claimed to be “a working list of all known plant species,” though now under WFO it is “an online flora of all known plants,” and as such also connects different plant checklists and biodiversity databases using the nomenclatural and publishing information. I will frequently refer to POWO, which contains botanical descriptions and geographic data (native and introduced habitat), besides the usual taxonomic and botanical information.

In addition to online databases, I will occasionally also turn to reference books from the field of food technology and nutritional science, such as the *Handbook of Herbs and Spices* (Peter, 2006, 2012), and *The Encyclopedia of Herbs & Spices* (Ravindran, 2017a). These encyclopedias, although aimed at chemistry-focused food industry professionals, also contain holistic information on the plant-based products and discuss their origins and vernacular names, besides the usual particulars on usage and medicinal qualities. It is also worth noting that various dictionaries usually mention the scientific names of plants.

Regarding traditional medicine systems, I frequently consulted modern inventories of TCM to

identify materials and extract Chinese names, including the connecting databases of Hong Kong Baptist University: the HKBU Medicinal Plant Images Database,¹⁸ the HKBU Chinese Medicinal Material Images Database¹⁹ HKBU Chinese Medicine Specimen Database,²⁰ and the PolyU Chinese Herbal Medicine Database.²¹ Armed with botanical knowledge, we shall ideally have a clear picture of the spices, and a firm base to which we can connect linguistic data.

3.2.2 *Collecting Names, and Their Annotation*

In the second stage, I have collected the names of spices by combing through the published literature and online databases, whether botanical (as described above), historical, or culinary, always prioritizing the existing linguistic and philological treatises, of course. I have linked the collected spice names to the respective spices and the result of this is an inventory of around 360 spice names that link to the initial set of twenty-four spices. For each spice, I tried to collect its names in the three languages, and it was also my goal to record where I have found these names. Therefore, thorough citations are available in the dataset pointing to books, journal articles, databases, dictionaries, or sometimes even Wikipedia. As a preparatory step for the linguistic analysis, I have added some annotations.

Conventionalized terms

First and foremost, I have checked the words against dictionaries to see if their use is conventionalized or not, and I have marked words that appear in a dictionary. If a word occurs in multiple dictionaries, I only recorded the one that I deem the most authoritative or reliable, unless they are both extremely interesting entries (or contradict each other).

Present status of the terms

Then, as an internal operational measure, I have assigned the names to categories regarding their lexicographic status as spice terms: default, alternative, historic, archaic, and obsolete. This was

¹⁸ <https://library.hkbu.edu.hk/electronic/libdbs/mpd/index.html>

¹⁹ <https://library.hkbu.edu.hk/electronic/libdbs/mmd/index.html>

²⁰ <https://libproject.hkbu.edu.hk/was40/search?channelid=44273>

²¹ <https://herbaltcm.sn.polyu.edu.hk/>

mostly done to better orientate myself after the terms started to accumulate, and I used the following scheme:

“Default” marks the names the spices are mostly prevalently known by today, the terms that most people are familiar with. They comprise the words that should be most commonly found in a dictionary, or most frequent in a corpus. These are the names you see as section-headers in this study, and they also act as identifying names in my datasets. The term “default” as an indicator is somewhat arbitrary, since there is no reason for one item not to have several equally relevant synonyms (e.g., *chili* vs. *chili pepper*), but I needed to choose one main term to represent one spice. The reasons for this are the following: (1) I needed a convenient term to “call” each item, so they can be efficiently compared across the three languages. (2) I needed an identifying key for all of the other names of the same spice, and (3) I wanted to avoid any possible confusion between items that have overlapping common names (e.g., *pepper* vs. *pepper* is problematic, so I settled on *pepper* vs. *chile*²²).

“Alternative” refers to any other current name that a spice can be known by, regardless of popularity, context, or reason. For example, *aniseed* is an alternative for *anise* (the default term), and *Chinese parsley* is an alternative name (and also an alias) for *coriander*.

“Historic” refers to once-important terms that at a certain point in history would have been considered default but are now less used but, due to their role and popularity in the past, are still relevant today. This category especially includes cases where a spice was attested under a different name from what it is known by now. For example, *badian* is now a chiefly historical term and was attested before the now standard *star anise*.

“Archaic” refers to historic words that are rare and not relevant today, yet are still recognizable, such as *Guinea pepper*, an early name for Cayenne pepper (a name for chile, *Capsicum annuum*), but referring to one of three African spices today unrelated to chile.

“Obsolete” refers to names that are essentially dead, e.g., *amomum*, which was last used to denote a specific spice in the nineteenth century. Most of the above categorizations were made by following dictionaries. If a dictionary uses these remarks, (e.g., “obsolete”), I comply with the dictionary. I have identified a couple of cases that refer to spice names that are not attested anywhere, and I assume them

²² In my dataset and code, I use the more botanically affiliated term, *chile*, to avoid confusion/errors due to spelling.

to be the author's invention/translation, perhaps best characterized as "speculative." One example would be the term *English spice* for 'allspice', found in Raghavan (2007, p. 64) but nowhere else, where I think the author decided to translate this name from some other language which does use this name (e.g., Polish). The motivation behind the name is that Jamaica, where allspice is sourced from, was a British colony, and it was the English who disseminated allspice in Europe during that time.

I have highlighted the so-called default items in bold throughout the tables in chapter 4, as they also act as keys or identifiers with respect to the alternative names corresponding to the same spice.

Borrowed terms

In my analysis, I have marked spice terms according to their borrowed status. Based on data from dictionaries, etymological dictionaries, primary and secondary literature, and my own judgment, I have indicated whether the name is a borrowing or not, or whether it needs further checking. I have annotated spice names with 'yes,' 'not,' and 'maybe.' Whenever available, I relied on word origins from general and etymological dictionaries for this information, but for a number of words I could not find existing entries or published research, and I introduced my own theories.

Meanings, Literal Meanings, Glosses

For every term in Arabic or Chinese, I added a gloss, so the literal meanings could be decoded, and most names also have written notes and comments on their logic, formation, origin, or any other remarkable aspect. Sometimes a short explanation is needed to understand the emergence of a term, or the grounds for its existence. The dataset of spice names is populated with terms corresponding to the botanically informed binomial names and the materials they represent, and, based on the information from stage one, the names are also annotated with the macro-areas of their native geographic origin.

Attestation

I have recorded the details concerning attestation where available, noting a date, approximate date, century, and period (e.g., early Old English, Tang dynasty, etc.). For this information I used dates from the OED, for English, and historical corpora for Arabic and Chinese where available. The sources of the attestation dates are noted in the dataset. Whenever this was not available, I resorted to estimation based on circumstantial historical sources. These are all marked in the relevant dataset.

I have also tried to gather the pre-modern documents where each name was recorded, with the title and author of the historical works given for future reference.

3.2.3 *Collecting Etymologies*

In the third stage, I collected detailed etymological information on selected names: the terms that were marked as default, and a few historic and highly relevant alternative names. Accordingly, we now have a parallel set of spice nomenclature of the three languages for twenty-four spices, and we can compare them in terms of borrowed status, and their etymological development and origins. The etymologies will be discussed in the next chapter in detail, under every spice, and I also highlighted them using dedicated environments called *etymology boxes* (see, e.g., “Etymology 1”).

In terms of representation and storage, I deviated from the usual text format, and I have recorded etymological data in such a way that it is machine-readable, but still easy to grasp and edit for the human eye as well. I have separated etymological stages, and types of information for each word, creating large spreadsheets that are relatively easily accessible and modifiable for both human and machine. Doing so, I enabled a way to be able to extract only specific information when needed (sources, attestation dates, donor languages, etc.). I also facilitated for the geospatial plotting that can be found in chapter 6, which gives a visual representation of the etymological stages the words have embarked upon.

3.2.4 *Collecting Additional Data*

To facilitate for geospatial mapping, I needed language data that supplies coordinates. For this purpose, I used the *The World Atlas of Language Structures* (WALS) (Dryer & Haspelmath, 2013) and chiefly the Glottolog 4.6 (Hammarström et al., 2022) datasets published by the Max Planck Institute for Evolutionary Anthropology (under Creative Commons Attribution 4.0 International License). I have altered my data to conform to the above datasets in two ways. First, variations in language names were mapped to Glottolog *languoids*²³, for example, Middle Persian is mapped to Pahlavi. Second, I have added coordinates to some (dead) languages that did not have a location, for the sole purpose of putting them onto a map. For example, Medieval Latin lacked coordinates, and I have added the approximate geographical midpoint of Western Europe, where it was primarily used.

²³ <https://glottolog.org/glottolog/glottologinformation>

3.3 SOURCES

3.3.1 *Primary Sources*

One core component of this study is philological research. Philology is the meticulous study of literary texts, primarily of historical documents, to study language, history, philosophy, literature, culture, religion, or any traditional knowledge of exceptional importance strongly connected to a society, primarily through the analysis of historic texts (sometimes written in now-dead languages). Modern philological research relies on two types of sources: primary and secondary literature. Primary literature denotes historical texts, the so-called classics. The already-mentioned *De Materia Medica* of the Greek physician Dioscorides (ca. 40–90 AD) (Dioscorides, ca. 50–70/2005) and the books of Roman historians such as Pliny the Elder (23/24–79 AD) and his *Naturalis Historia* (Pliny the Elder, 77/1855) are good examples, as well as the first-century cookery book by Apicius (Apicius, 1977). Also available are materia medicas from the Islamic scientific golden age, such as the *al-Qānūn fī l-Ṭibb* (Canon of Medicine) of Ibn Sīnā/Avicenna (980–1037) (Ibn Sīnā, 1025/1329) and fantastic miscellanies from the Tang dynasty era, such as the *Youyang Zazu* (Miscellaneous Morsels from Youyang) from the ninth century (Duan, ca. 860). Indeed, we must not forget the Bible or the Quran, as they are also rich historical and linguistic sources for our topic. A number of these primary texts are available in their original form through museums' and libraries' online databases, as transcribed editions in historical corpora, and of course in published English translations. A vast number of classical texts (Greek and Latin) can be accessed through the Perseus Digital Library (Crane, n.d.). Critical editions of a classical text, such as that of the famous *Periplus Maris Erythraei* by Casson (1989), or de Goeje's *Bibliotheca Geographorum Arabicorum* series (1870) are also considered primary. Ancient and Classical dictionaries, such as the *Shuowen Jiezi*, or the *Lisān al-'Arab* are also an integral part of philology.

Secondary literature is everything building on these works, including monographs and histories published in recent times reviewing a multitude of original texts.

3.3.2 *Etymological and General Dictionaries*

Besides the literature itself discussed earlier, a core resource for the philology component in this research is etymological dictionaries. Etymological thirst, the seeking of word origins, has been one of the cardinal thrills for early thinkers starting with Plato, and we will make use of the advances made in the

past centuries. The OED provides detailed etymological information based on previous works in English. For other languages, a few other works serve the purpose: for Greek, Beekes and van Beek (2010); for Hebrew, Klein (1987); for Old Chinese, Schuessler (2007); and for Chinese, Liu et al. (1985). Unfortunately, Arabic, for many reasons,²⁴ lacks an authoritative etymological dictionary, but we can still turn to essential reference works such as the *Encyclopedia of Islam, Second Edition* (EI2)²⁵ (Bearman et al., 1960–2005), or the *Encyclopedia Iranica* (EIr) (Foundation & Yarshater, 1996–present).

Note 3.3.1. References to dictionary entries are made very frequently in this work, and so I made the decision to use a compact way of citing dictionaries. Instead of referencing every entry separately, I will indicate the entry as a page number or headword and reference every dictionary just once. This would save us from the pain of reading (Oxford University Press, n.d.-a) (Oxford University Press, n.d.-b) (Oxford University Press, n.d.-c) and its endless permutations. It will make the number of dictionary entries in the bibliography less oppressive and the running citations more reader-friendly. I will also use footnote citations whenever I reference a dictionary, to make reading throughout more comfortable.

3.4 CORPORA

The second major component of this study is corpus linguistics, and I will use corpora from three major languages: English, Arabic, and Chinese. I chose these languages for two reasons. First, they represent three influential civilizations in the history of spices, as well as powers actively participating in trade throughout history, each having its zenith at slightly different historical periods, as I described previously. Second, these languages have historical corpora available.

For modern corpora, I will use the English Web 2020 (enTenTen20, circa 36.5 billion words),²⁶

²⁴ For a brief overview on the matter, see Blažek (2006).

²⁵ Limited access online at <https://referenceworks.brillonline.com/browse/encyclopaedia-of-islam-2> 9. Accessible online at <https://iranicaonline.org/>

²⁶ Accessible at <https://www.sketchengine.eu/ententen-english-corpus/>

the Arabic Web 2012, preprocessed with the Stanford tagger (arTenTen12, ca. 7.5 billion words),²⁷ and the Chinese Web 2017, Simplified version(zhTenTen17, ca. 13.5 billion words),²⁸ all hosted on the website Sketch Engine (SkE) (<https://www.sketchengine.eu/>) (Kilgarriff et al., 2004, 2014). Enormous web corpora such as the above contain billions of words; therefore I will certainly have enough instances even for relatively rare spices.

Table 3.1 The list of corpora consulted in the thesis

language	type	period	corpus	size
English	web	modern	enTenTen20	36.5 billion words
Arabic	web	modern	arTenTen12	7.5 billion words
Chinese	web	modern	zhTenTen17	13.5 billion words
English	books	historic (15th–19th c.)	EHBC	826 million words
Arabic	books	historic (7th–12th c.)	KSUCCA	47 million words
Chinese	books	historic (–20th c.)	Chinese Text Project	25 million characters
Chinese	books	historic (–20th c.)	Scripta Sinica	797 million characters
Chinese	books	historic (–20th c.)	CBETA	? million characters

For historical corpora, I have consulted a few collections. For English, I relied on the *English Historical Book Collection* (EHBC) (EEBO, ECCO, Evans) hosted on the Sketch Engine, that is around 826 million words and contains material from books published between 1473 and 1820, with the vast majority written around 1600, and the OED itself is full of historical quotations and attestation dates. For Arabic, I have settled on using the *King Saud University Corpus of Classical Arabic* (KSUCCA), which is around 47 million words containing words from literature on various genres between the seventh and eleventh centuries, including words from books on medicine, geography, law, history, and religious texts (Alrabiah

²⁷ Accessible at <https://www.sketchengine.eu/artenten-arabic-corpus/>

²⁸ Accessible at <https://www.sketchengine.eu/zhtenten-chinese-corpus/>

et al., 2013; Arabiah et al., 2014). As for Chinese, I have used the *Chinese Text Project* (CTP) (Sturgeon, 2021, n.d.), which has base of 25 million characters from pre-modern Chinese documents, not including community-edited texts. I also used the *Scripta Sinica* (SS),²⁹ around 754 million words containing words from classics ranging from ancient times up until 1949 (Academia Sinica, 1993–2008); the Quan Tangshi³⁰ (Tang poetry collection), which contains around 48,900 poems; and the *Chinese Buddhist Electronic Texts Association* (CBETA)³¹ project, which contains the Chinese Buddhist Canon, also known as the Chinese Tripitaka (Ch'en, 1964, pp. 365–386). Thus, the sources accommodate textual heritage from ancient times up until the twentieth century.

3.5 ILLUSTRATIONS

All photographs of spices displayed (except where stated otherwise) are by courtesy of Christine Latour at Aromatiques Tropicales, a spice vendor in Dégagnac, France (<https://www.aromatiques.com/en/>). Credit also is due to the photographers Felix Farmer³² and Philippe Janina.³³ For some images of incense, photos are courtesy of Glorian (<https://glorian.org/>).

²⁹ Accessible at <http://hanchi.ihp.sinica.edu.tw/ihp/hanji.htm>

³⁰ Accessible via the CTP: <https://ctext.org/quantangshi>

³¹ Accessible at <https://cbetaonline.dila.edu.tw/en/>

³² <http://www.felixfarmer.com/>

³³ <https://philippejanina.wixsite.com/photographe>

4. THE SPICES

After outlining the background and methods for this study, I will now introduce the data that this project is built upon: the spices and their names. Every section in this chapter introduces a spice, and on some occasions two or more closely related ones. Introducing all twenty-four from the set of spices included in this study would make this work extremely long, so I selected six items that I think are interesting from a diffusion point of view. This sample of spices will now be presented alphabetically, with all sections adhering to the following structure:

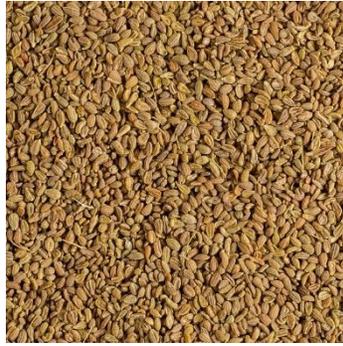
- (o) A *spice profile box*, a business-card-like environment for the spice under discussion containing short, factual information, linked to a botanical database. This box also identifies the spice by listing its vernacular names in multiple languages. This is intended to be a convenience for the reader, a reference point of sorts one can return to at any time.
- (1) A brief description of the nature, characteristics, and importance of the spice. This is intended to be an introduction to the spice and its uses, and it includes the physical description of the material, its role as medicine, culinary seasoning, perfume, or dye, and its cultural significance, either locally or globally.
- (2) A subsection on the botany, origins, cultivation, and identity of the spice, where the latter is included only if deemed necessary because the situation is unclear or confusing. Under the heading “botany” I discuss only basic information regarding geographic distribution, native and introduced habitats, and conditions of growth that factor into a plant’s “spreadability,” a quality directly indicative of its value as a crop. Agronomy and harvesting will also be mentioned where they reveal interesting details about scarcity and demand.
- (3) A subsection on the history of the spice follows, focusing on the first time(s) it is mentioned, whether it is evoked in religious scriptures, described in pharmacopeias, documented in historiography, or praised in poetry. Besides this, key steps and events on the spices’ journey and spread will be introduced, especially where an item’s history is not widely known, or where there are a lot of misconceptions. Materials whose cultural history, itinerary, and names have already been researched and written about will be discussed only briefly, the entry directing the reader to existing scholarly publications.
- (4) Lastly, I will examine the spice terminology in a subsection on the names of the spices under

scrutiny, focusing on word origins and etymological analysis on one hand, and collecting and explaining synonyms on the other. This step will consider three languages, English, Arabic, and Chinese, and will cover historic and closely related or alternative names. An inventory of spices treated in this work follows; items discussed in this chapter are shown in bold type.

- | | | | |
|----------------------|--------------------------------------|------------------------|--------------------------------------|
| 1. allspice | (<i>Pimenta dioica</i>) | 13. fennel | (<i>Foeniculum vulgare</i>) |
| 2. anise | (<i>Pimpinella anisum</i>) | 14. fenugreek | (<i>Trigonella foenum-graecum</i>) |
| 3. asafoetida | (<i>Ferula assa-foetida</i> et al.) | 15. ginger | (<i>Zingiber officinale</i>) |
| 4. caraway | (<i>Carum carvi</i>) | 16. long pepper | (<i>Piper longum</i>) |
| 5. cardamom | (<i>Elettaria cardamomum</i>) | 17. mace | (<i>Myristica fragrans</i>) |
| 6. cassia | (<i>Cinnamomum cassia</i> et al.) | 18. nutmeg | (<i>Myristica fragrans</i>) |
| 7. chile | (<i>Capsicum annuum</i> et al.) | 19. pepper | (<i>Piper nigrum</i>) |
| 8. cinnamon | (<i>Cinnamomum verum</i>) | 20. saffron | (<i>Crocus sativus</i>) |
| 9. clove | (<i>Syzygium aromaticum</i>) | 21. Sichuan pepper | (<i>Zanthoxylum</i> spp.) |
| 10. coriander | (<i>Coriandrum sativum</i>) | 22. star anise | (<i>Illicium verum</i>) |
| 11. cumin | (<i>Cuminum cyminum</i>) | 23. turmeric | (<i>Curcuma longa</i>) |
| 12. dill | (<i>Anethum graveolens</i>) | 24. vanilla | (<i>Vanilla planifolia</i>) |



(a) allspice



(b) anise



(c) asafoetida*



(d) caraway



(e) cardamom



(f) cassia



(g) chile



(h) cinnamon



(i) cloves



(j) coriander



(k) cumin



(l) dill

Figure 4.1 Photographs of the spices in this work (I). Credit: Aromatiques; *Glorian

PART I, "MAPPING THE LANGUAGE OF SPICES"



(a) fennel



(b) fenugreek



(c) ginger



(d) long pepper



(e) mace



(f) nutmeg



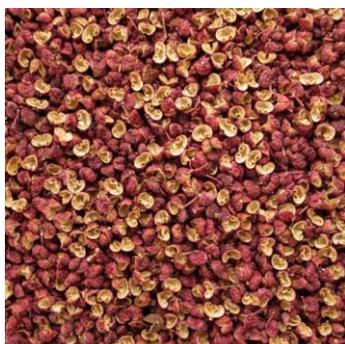
(g) star anise



(h) pepper



(i) saffron



(j) Sichuan pepper



(k) turmeric



(l) vanilla

Figure 4.2 Photographs of the spices in this work (II). Credit: Aromatiques

4.1 ALLSPICE

1. Allspice

English: allspice; pimento; Jamaica pepper. Arabic: فلفل إفرنجي fulful ifranji [Frankish pepper]. Chinese: 多香果 duōxiāngguǒ [many-spice-fruit]. Hungarian: szegfűbors [clove-pepper]; jamaicaibors [Jamaican-pepper]; amomummag [amomum-seed].

Plant species: *Pimenta dioica* (L.) Merr. (syn. *Pimenta officinalis* Lindl.)

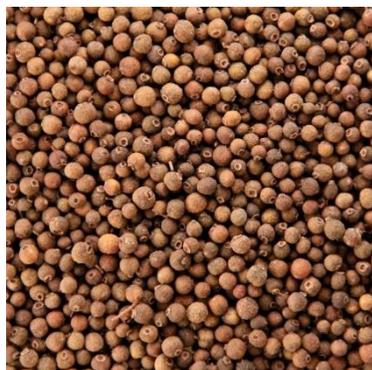
Family: *Myrtaceae*

Part used: unripe fruit; leaf

Region of origin: S. Mexico to C. America; Caribbean

Cultivated in: Jamaica; Mexico; Honduras

Color: dark brown



(a) berries



(b) powder



(c) leaves

Figure 4.3 Allspice berries, powder, and leaves from *Pimenta dioica*

Note 4.1.1. Introducing the *spice profile box*. As can be seen above in *spice profile 1*, presenting allspice, this business-card-like device gives a quick, concise reference for the spice under discussion. This is intended to be a convenience for the reader, who can check this brief, standardized summary for a given item whenever necessary. The box also contains a clickable link to the related plant species in the botanical database

POWO, where more information can be found, such as the plants’ biodiversity, distribution, botanical synonyms, as well as images of specimens.

Allspice, also known as pimento and Jamaica pepper, refers to the dried unripe fruits of a tropical evergreen tree growing in the Caribbean: the *Pimenta dioica*. The dried berries are dark brown, hard to the touch, and 4–6 mm in diameter (thus larger than black pepper). Their signature crown is a small ring of the calyx (van Wyk, 2014, p. 210). This is one of the few spices that do not come from the East; chili, vanilla, and allspice are the traditional three when one is listing spice products native to the Americas (disregarding cacao, which is not considered a spice today). It is also the only spice that is cultivated exclusively in the western hemisphere (Duke, 2002, p. 21). The term *allspice* is a coinage playing on the notion that the flavors and aroma of allspice are similar to those of clove, cinnamon, nutmeg, and black pepper (Mabberley, 2017, p. 717)—the most popular spices in Europe at the time Europeans first contacted this New World spice. People who see only ground allspice but not whole berries tend to think that is in fact a spice mixture, a mistake reinforced by its name and rich flavor profile. Usually ground to powder, allspice is one of the key ingredients of Caribbean cuisine, especially jerk style dry-rub meat preparation. It is also used in European sausage making, pickling, baking, and flavoring liqueurs, regarded as an overall “handy spice.”³⁴ It also found its way into some Middle Eastern spice blends.

Note 4.1.2. Allspice is sometimes called pimento, which is also the name of a cultivar of *Capsicum annuum*, famous from the Southern United States appetizer pimento-cheese. It is therefore important not to confuse allspice with the heart-shaped mild cherry peppers that North Americans also call pimienta or pimento.

4.1.1 *The Botany, Origin, and Cultivation of Allspice*

The allspice tree is a small mid-canopy tree or shrub with smooth, bay-like leaves and tiny white flowers. The berries turn dark purple if left to ripen, and the leaves and the bark are also aromatic (Riffle, 1998, p. 279). Belonging to the myrtle family (*Myrtaceae*), allspice is related to other aromatic trees, such as clove,

³⁴ The Icelandic name is *alrahanda*, literally ‘of all hands,’ meaning ‘for various purposes’; showing its multifaceted uses.

eucalyptus, and the bay rum tree. Its binomial name is made up of *pimenta*, the Portuguese (or corrupted Spanish) equivalent of ‘pepper,’ and *dioica* ‘of two houses’ (Greek *di-* from *dyo* ‘two’ and *oikos* ‘house’), indicating that the male and female flowers are found on different plants (Peter, 2012, vol. 2, p. 166).

Allspice is indigenous to the regions ranging from Southern Mexico to Central America and the Greater Antilles of the Caribbean, especially Jamaica (Czarra, 2009, p. 146). Where naturalized, it spreads by birds carrying the seeds. Allspice has been introduced into a few neighboring places, such as Colombia, Venezuela, and Florida (POWO, 2022a, p. 146). In 1885 it was introduced from Jamaica into Hawaii and Kauai, and it even reached Tonga.

Allspice is cultivated as a crop in a few countries, notably in Jamaica, Mexico, and to a lesser extent in Honduras and Grenada. The primary producer and the source of the highest quality being Jamaica. Saplings are grown from seeds, and transplanted when still small. The trees need well-drained soil and humid conditions (van Wyk, 2014, p. 210). It is one of the very few spices that no one has managed to grow in the East, so transplantation efforts were quickly abandoned, and its commercial cultivation is confined to the Americas (Duke, 2002, p. 21). Harvesting happens similarly to the way black pepper is harvested: the still-green, unripe fruits are picked by hand and then dried in the sun.

The flavor of allspice mainly comes from the component eugenol, which is dominant both in the fruit and the leaves, but other compounds also add to the complexity of its aroma. Eugenol—also called clove oil, for it constitutes 80-90% of the essential oil from clove buds (Barnes et al., 2007, p. 166)—is widely used as a flavoring agent by the food industry and in pharmacology and is also found in cinnamon, nutmeg, and bay leaves. It has antiseptic, antibacterial, anesthetic, and analgesic properties (Ulanowska & Olas, 2021). The leaves of a related plant called the West Indian Bay Tree (*Pimenta racemosa*) is used to produce bay rum, a popular essential oil used by the perfume industry for its spicy notes.

4.1.2 *The History of Allspice*

There is not much we know about allspice before the arrival of the Europeans, except that the Aztecs used it to spice up their chocolate drink (Farrell, 1985, p. 27), although Dalby (2000, pp. 145, 177) doubts this was the case as early as that period. According to Duke (2002, p. 21), the Maya used allspice for embalming. We know that it reached Europe as a consequence of Christopher Columbus’s voyages. Spanish colonizers must have encountered allspice in the West Indies sometime after Columbus and his crew explored the islands of Hispaniola, Cuba, and Jamaica, and the year 1494 is reported (Opara &

Chohan, 2021, p. 12). Columbus himself did not find it. In fact, he did not recognize any spice that he was so keen on finding—pepper, cloves, nutmeg, cinnamon—but kept himself and his patrons under the delusion that he would. In his first letter to Ferdinand and Isabella he writes: “On this island there are many spices and great mines of gold and other metals. [...] I believe that I have found rhubarb and cinnamon” (Columbus, 1893, pp. 10–18)—in reality, he had found none.³⁵

He was adamant that the islands he *discovered* were full of spices and brought up excuse after excuse (out of season, etc.) when after every voyage he returned with no spices (Dalby, 2000, p. 149). He also believed that he was in India or Cathay, on an outlying island. Between apologies, Columbus also promised more gold, silver, cotton, mastic, and slaves. As Dalby (2000, p. 150) reports, what he recorded in his private journal is a bit more honest and realistic version of events: “I think that many trees and plants grow here which will be highly valued in Spain for dyes and medicinal spices. But I am sorry to say that I do not recognize them.” Columbus repeatedly regrets his ignorance in botany in his journal (see also Columbus, 1893/2010, p. 57).

Interestingly, authors love to claim that Columbus brought back allspice (together with vanilla and chili): “He returned with allspice from the West Indies, chilies from Mexico and vanilla from Central America” (Craze, 1997, p. 17), and “Columbus brought it back to Europe thinking it was pepper.” (Czarra, 2009, p. 146), or “Though he did not find the Spice Islands, Columbus brought allspice, vanilla and red peppers from the West Indies back to his Spanish supporters” (Parthasarathy et al., 2008, p. 1). This is not true, as he most likely never even saw allspice, but it was reported to him that it is there and could be cultivated, along with cinnamon, and mulberry for silk production (Colón, 1571/1959, p. 151). Columbus returned from his first voyage of 1492–93 with some gold nuggets and jewelry, pearls, a hammock, tobacco, the turkey, and a few poor captured Taínos, but no spices were presented to the Spanish monarchs Ferdinand and Isabella. He did bring back pineapple and cassava (J. Turner, 2004, p. 11).

Diego Álvarez Chanca, the court-appointed physician who accompanied Columbus on his second expedition in 1493 is often credited with bringing home both chili, and allspice (McCormick, n.d.), but in his 1494 letter describing the flora and fauna, he mentions only *aji*, also *axi*—modern Spanish *ají*

³⁵ Columbus’s first letter of his first voyage, sent on March 4, 1493, from Lisbon to the Spanish court (and its translation) is also available online at King’s College London. Transcription: <http://www.ems.kcl.ac.uk/content/etext/e021.html>, translation: <http://www.ems.kcl.ac.uk/content/etext/e022.html>

from Taíno (see Corominas, 1987, p. 34). and says also that the natives use it to season their food, with what we now know as *Capsicum annuum*: the chili pepper (Chanca, 1494/2003, p. 31).

In the following century the Spanish tried to turn Mexico into a spice plantation by transplanting eastern spices, an effort that mostly failed. Only after this did the colonizers start to pay proper attention to native spices (Machuca et al., 2020, p. 6).

Francisco Hernández de Toledo, King Philip II's court physician and naturalist spent 7 years in New Spain between 1571–1577, studying its species and conducting interviews with the natives. He was the first to formally describe allspice. He called it *Pipere Tavasci* 'Tabasco pepper' (today *Pimienta de Tabasco*, after the region of Tabasco, famous today for a brand of hot sauce. Hernández also recorded the Nahuatl name of allspice: *xocoxochitl* 'sour flower.'³⁶ Hernández likens the flowers to pomegranates, and the aroma to that of orange blossoms, describing it as being very pleasant and attractive, with a sharp taste of fruit. (Hernández, 1615, p. 2). In the Machuca et al. (2020) translation:

Xocoxochitl, meaning sour flower, is a large tree, with leaves like those of the oranges, red flowers like a pomegranate, but with an aroma like the orange blossom, and in such a smooth and pleasant way, that even the leaves of the tree add to its attraction: the fruit is round, and hangs in clusters, which at first appear green, and then beige, and finally toward black: it is sharp and scathing to taste, and good-smelling.

According to Machuca et al. (2020), although allspice was known by the Spanish from early on, “there are few historical records of its production and trade,” and only in the eighteenth century did they start to consider American products to have economic potential.

Allspice berries are around thirty percent larger than peppercorns, and since their color and shape resembles black pepper and it gives a spicy taste to food, it is no wonder that the Spanish called them *pimiento* 'pepper.' The Portuguese version is *pimento*, and later the botanical name *Pimenta* was given to the genus of plants related to allspice (Farrell, 1985, p. 26). I disagree with the often repeated

³⁶ cf. S. Wood, 2000–2022, xococ, xochitl.

trope that the Spanish explorers took allspice berries for pepper and called them *pimiento* “by mistake.”³⁷ These people knew exactly what they were looking for and that what they found was not the mighty black pepper; but for them it was a *kind* of pepper. The crew showed samples of pepper and cinnamon to presumably confused Native Americans, hoping for directions, and, as Columbus wrote in his journal on the fourth of November, 1492, they indicated by sign language that there was a lot of it around (Duke, 2002, p. 21; Columbus, 1893/2010, p. 67). The Europeans, however, soon recognized the value of allspice, realizing that, even if it was not the expensive black pepper itself, it was more pungent and exotic than the cheap Old World substitutes juniper and myrtle berries (which are very similar to allspice in appearance and usage) (Dalby, 2000, p. 150).

In short, allspice was introduced to Europe by the Spaniards in the sixteenth century, and its import was first recorded in 1601, according to the Britannica (n.d.) and Farrell (1985, p. 26). After 1655, when Jamaica became a British colony, as it was for nearly three centuries, the Brits developed a taste for allspice and started to use it to season meat dishes, sauces, and pickles (A. Green, 2006, p. 74). They were also responsible for its spread to some extent, as illustrated by the names given to allspice in some languages, e.g., Polish *ziele angielskie* ‘English herb.’

4.1.3 *The Names of Allspice*

Allspice is a fascinating case, providing as it does a plethora of names that showcase many of the motivations, mechanisms, and solutions people use when naming spices. As I mentioned before, some people are puzzled about whether allspice is actually a spice blend. The names in some languages often add to the confusion, an example being the French *quatre-épices* (lit. ‘four spices’), which can have the sense ‘allspice,’ but also can be ‘a kind of spice mix’ made up of four different spices.³⁸

³⁷ Britannica, 2022, allspice.

³⁸ TLFi, 2012, quatre-épices

English

Etymology 1. English allspice, from all + spice; after the flavor profile that resembles the combined aroma of cloves, nutmeg, cinnamon, and black pepper, 1621^a

a. OUP (n.d., s.v. allspice)

Note 4.1.3. Introducing the Etymology box. This device, as seen above in Etymology 1, offers a quick look at a word's origins and development.

Since its introduction to the spice cabinet, allspice has been known by many names from which currently *allspice* seems to be prevailing. *Allspice* was formed by compounding *all* and *spice*, for its flavor was perceived to be a combination of four characteristic spices that the Europeans knew and sought: black pepper, cinnamon, cloves, and nutmeg.³⁹ It was first recorded in 1621: “Ambergreese, nutmegs, and all spice,”⁴⁰ and it probably inspired the French *toute-épice* ‘all-spice,’ attested in 1762.⁴¹

Sadly, the original word for allspice was lost with the demise of the native Taíno people of the Caribbean; nevertheless, we have Taíno⁴² words such as *barbecue*, *cassava*, *guava*, *hammock*, and *tobacco* (Rafinesque, 1836, p. 229). As noted above, it is assumed that it was the Spanish who first made contact with the allspice berry who simply called it *pimienta* ‘pepper.’

Etymology 2. English *pimento* ‘allspice; sweet pepper,’ ca. 1660 < partly Portuguese *pimenta* ‘allspice; sweet pepper; black pepper’ < and partly Spanish *pimiento* ‘hot and sweet pepper; formerly also black pepper; pepper plant of both kinds,’ earlier *pimienta* ‘black pepper; peppercorn; ground pepper’ thirteenth century, 1495 < Medieval Latin *pigmenta* ‘plant juice; food seasoning; condiment; spices; perfumes,’ plural of *pigmentum* < Latin *pigmentum* ‘colour, paint; ointment; drug; spiced wine,’ from *pingō* ‘to paint’ + *-mentum* ‘instrument.’^a

a. OUP (n.d., s.v. pimento); OUP (n.d., s.v. pimento); OUP (n.d., s.v. pimiento); Gómez

39 OUP, n.d., allspice; Britannica, n.d.

40 OUP, n.d., allspice.

41 TLFi, 2012, toute-épice.

42 Taíno is a now extinct Arawakan language.

de Silva (1985, p. 415) and Corominas (1987, p. 495); C. T. Lewis and Short (1879, s.v. pigmentum).

For a long time *pimento* (and to a much lesser extent *pimiento*)—the words for ‘pepper’ in Portuguese and Spanish, respectively—was commonly used in English to refer to allspice. This is still the case in Jamaican English, for example, where the term *allspice* is not used. In North American English however, *pimento* now rather refers to a small, round variety of chili pepper (*Capsicum annuum*), commonly known as cherry pepper, as explained in note 4.1.2.

The corruption and mix-up between the English words *pimento* and *pimiento* and their origins is as confusing as it gets. For the sake of a clear understanding, let us first consider the modern names for allspice in Spanish: *pimienta de Jamaica*, and Portuguese: *pimenta-da-jamaica*. In both cases, *pim(i)enta*, with a final *-a*, means ‘pepper’, referring to peppercorns of the usual black and white pepper (*Piper nigrum*). In Spanish and Portuguese, the word endings *-o* and *-a* mark the grammatical gender, the significance of which dissipates in English. It is important to remember, however, that the Spanish form *pimienta* emerged first from a Latin neuter plural suffix in the thirteenth century. Thus, perhaps a century or so later, when the word *pimienta* was already embedded in Spanish, speakers perceived the word as a feminine noun, and a vacuum of a masculine counterpart emerged. This allowed for a practical differentiation by gender between the peppers of the Old World and the New World. Corominas (1987, p. 459) explains that *pimiento* derived from *pimienta*, and it was first applied in the Americas for the red fruits of the chili.

Gómez de Silva (1985, p. 415) makes the most compact distinction: “*pimienta* ‘(black) pepper; allspice’, *pimiento* ‘(hot and sweet) pepper.’” In contemporary Spanish, *pimiento* (the masculine form) refers to the fruits and plants of the *Capsicum* family, e.g., the numerous spicy chilies and mild bell peppers of red, green, and yellow, while *pimienta* (the feminine form) refers to the small round fruits of black and white pepper and their powdered forms. The distinction seems consistent, belonging to this latter group, see, for example, *pimienta dulce* ‘sweet pepper,’ and *pimienta gorda* ‘fat pepper,’ both of which refer to allspice, not to be confused with *pimiento dulce*, which refers to sweet paprika powder.⁴³

Pimento in English is a partly Portuguese, partly Spanish borrowing, while *pimiento* comes from

43 Española, 2014, pimiento, -a.

Spanish. In fact, it is explained in the OED that in the ‘allspice’ sense of the word, *pimento*, from Portuguese *pimenta* (*da Jamaica*), went through an alteration influenced by the Spanish word form, which is not attested in the ‘allspice’ sense. Ergo, Spanish *pimiento* might not have referred to allspice in Spanish at the time when the borrowing happened. And if so, *pimento* is a borrowing from Portuguese *pimenta*, meaning ‘pepper,’ and, as *pimenta da Jamaica* ‘allspice,’ influenced by Spanish *pimiento* ‘chili, sweet pepper,’ also in the sense of the pepper plants of both kinds (chili and black). Spanish *pimiento* formerly had the sense of ‘black pepper, peppercorns, and ground pepper’ (before 1495), with an earlier form *pimienta* (thirteenth century), now usually in sense of ground pepper and peppercorns.⁴⁴ The Portuguese connection is discussed only by the OED, as other dictionaries do not mention it. A direct Spanish borrowing is also plausible if we consider that it was the Spanish who most likely brought it back first, probably calling it *pimiento/-a*, and they were responsible for its subsequent diffusion in Europe.

English spellings of this Romance word varied greatly, using forms such as *piemente* in the late 1600s. The origin of these words is the classical Latin *pigmentum* ‘a material for coloring, a color, paint, pigment,’ with a transferred meaning of ‘the juice of plants’ in post-classical Latin.⁴⁵ The word *pigmentum* is made up of *pingō* ‘to paint’ and *-mentum*, a suffix denoting an ‘instrument, medium,’ well recognized from Romance languages and English (e.g., *excitement*). According to Corominas (1987, p. 459), Catalan *pimienta* is attested in the thirteenth century, and it comes from the plural (*pimenta*) of Latin *pigmentum* ‘coloring, paint,’ which already meant ‘drug, ingredient,’ and later, ‘condiment’ in Medieval Latin. Deriving from this, in 1495 *pimiento* was applied to the plants bearing the pungent red fruits of the Americas. *Pigmentum* also entered English as *pigment* ‘paint, dye, ingredient in an ointment, drug.’ According to the OED, Medieval Latin *pigmentum* also referred to spiced drinks (ninth century), perfumes, and hence spice in general. Old French cognates support this, *pigment* having the sense of ‘balm, fragrant spice’ in the twelfth century. Anglo-Norman *pigment/piment* meant ‘spice, spice wine,’⁴⁶ and Middle English *pihmentum* (twelfth century, later *piment*) had a sense of “a spiced drink, a remedy

44 OUP, n.d., *pimento*.

45 C. T. Lewis and Short, 1879, *pigmentum*.

46 OUP, n.d., *pigment*.

or concoction containing spices,”⁴⁷ “a sweetened, spiced wine used for refreshment and in medical recipes; a medicinal potion.”⁴⁸ *Piment* in French was later applied to chili, especially the cultivar of cayenne pepper. (The OED points to the sense ‘cayenne pepper’ in a “tenth-century French source,” which must be an error.)

Allspice is also known as *Jamaica pepper*, for it mainly grows on the island and for the historical reasons described above. Many languages calqued *pimienta de Jamaica* from Spanish, or another transmitting language (e.g., Italian *pepe della Giamaica*). *Jamaica pepper* was first recorded in 1661: “A kind of Pepper, that tastes like Cloves, and very Aromatick (known by the name of Iamaica-Pepper).”⁴⁹

The name *myrtle pepper* echoes the similarities of the allspice tree with European myrtle (*Myrtus communis*), especially after the resemblance of their purple berries. Beyond the physical resemblance, myrtle berries are also edible and are also dried to add to pepper mills as a spice. Furthermore, the European myrtle has aromatic leaves and wood as well, and it is used to grill and smoke meat in Southern Europe since Roman times, especially on Sardinia and Corsica; the same way the Caribbean people use allspice wood and leaves. The myrtle berry appears in Roman and Greek mythology as well (van Wyk, 2014, p. 186).

The name *clove pepper* has “chemical reasons”, namely that this name arises from the aroma of allspice that reminded people of clove. This is due to its eugenol content we discussed above. *Szegfűbors* lit. ‘clove-pepper’ is the most common name for allspice in Hungarian still, and it is used in sausage making.

One of the most interesting spice names we can come across in my opinion is *news spice*. The term is now archaic in English, but the idea still exists in a few European languages, such as Serbian and Macedonian најгвирц *najgvirc* from German (*Neugewürz*), Czech and Slovak (*nové koření/korenie*), and Turkish *yenibahar* and Romanian *ienibahar* from Ottoman Turkish يَنْبِهَار *yeñibahar*; all the above literally mean ‘new spice.’

The reason behind these names is that, during the seventeenth-eighteenth centuries, allspice

47 Harper, n.d., pigment.

48 R. E. Lewis et al., 1952–2001, piment.

49 OUP, n.d., Jamaica.

“suddenly” arrived in Central and Eastern Europe as a new (and possibly marketed as a trendy) spice. This happened a century after the red hot paprika took the world by storm (by the sixteenth century it reached Hungary from the Ottoman Empire), and while the chili did not conquer northern Europe, allspice—to an extent—did. We could philosophize about why the chili did not deserve the name ‘new spice’ when it first arrived, or why the Europeans—except in the south—were reluctant to assimilate it into their cuisines. Was the pungent chili too harsh for a Northern palate to consider? Was it the sophisticated chemical complexity of allspice that made it fashionable in Victorian England? These questions could lead us into deep waters regarding the human palate and cultural attitudes toward spices and spiciness, as well as into considerations of environmental and genetic factors deciding the heat of preference, explored in interesting papers such as Spence (2018) and Törnwall et al. (2012).

We know that, in the beginning, allspice was overlooked by Europeans, and this is possibly the reason why allspice’s original name did not survive, unlike the Nahuatl word *chilli*. Allspice was later sold and used in beverages and cookery, but its rising star never came close to that of chili. In Asia, where chilies were adopted early on and, eagerly transplanted, transformed and revolutionized cuisine forever. It is impossible to think of Indian, Indonesian, or Chinese dishes without chilies today. Inversely, allspice is mostly unknown in East Asia, and the reasons behind it are as botanical as well as historical: in the sixteenth-seventeenth centuries no one knew how to grow allspice, while chili could effortlessly be grown everywhere. In addition, the whole trajectory was that Europeans did not sail to Asia to sell spices—they went to get them.

As the twentieth century came around, allspice—the only spice still exclusively imported from the western hemisphere—quietly became just one of many spices, and the fervor that had met its introduction had

faded a little. America was not new anymore, and the name *new spice* as well became obsolete. An English textbook for students of Italian narrates a letter from 1680 about this *Nuova Spezie* and the author’s opinion on it:

I Am much obliged to you for the Drug you sent me inclosed in your last letter, about which I cannot tell you any thing but that it is called the New Spice, and it comes as it is said, or as it is guessed, from the West-Indies, and not from the East-Indies; and it is but

six months that I had knowledge of it from Count Laurence Magalotti, who showed it me under the abovesaid name of New Spice. How many different tastes are found in it by several honest folks ! that of the clove is the principal ; that of the nutmeg is the second in rank ; the cinnamon comes as it were the third in order ; next the citron ; then the smell of the musk and of the amber, and the most sweet taste of sugar. The truth is, in my opinion, that it is a pretty Drug. I am in Florence, and with for an occasion to do you service ; so command me with all freedom, and be certain that I will count it as good luck to have any power to serve you. I affectionately kiss your hands. Florence, 26th March 1680. (Baretti, 1755, p. 5)

And so we have established a few categories when it comes to the names of allspice: (1) names that are made up of *spice* as a headword and a modifying word, (2) names that use *pepper* as a headword with a modifier, and (3) names that are taken from Portuguese and Spanish. See Table 4.1 for a concise overview.

Table 4.1 Various names for allspice in English

Species	Name	Source
<i>Pimenta dioica</i>	allspice	vanWyk (2014)
<i>Pimenta dioica</i>	clove pepper	Duke (2002)
<i>Pimenta dioica</i>	Jamaica pepper	van Wyk (2014)
<i>Pimenta dioica</i>	myrtle pepper	Peter (2012)
<i>Pimenta dioica</i>	newspice	Peter (2012)
<i>Pimenta dioica</i>	pepper cloves	James (2022)
<i>Pimenta dioica</i>	pimento	van Wyk (2014)
<i>Pimenta dioica</i>	pimento berry	OUP (n.d.)
<i>Pimenta dioica</i>	pimiento	OUP (n.d.)

Arabic

Etymology 3. Arabic إفرنجي فلفل *fulful ifranjī* ‘allspice’ [European pepper], literally ‘Frankish pepper,’ named so because it was transmitted by Europeans, 1700?^a

a. Baalbaki (1995)

Arabic, similarly to English, boasts a diverse set of names for allspice. First and foremost, it is known as *fulful ifranjī* ‘European pepper.’ *Ifranjī* literally translates to ‘Frankish,’ but it became the epithet for white Europeans, similarly to the term *farang*⁵⁰ in Southeast Asia. The rationale behind this name is evident: it was Europeans who introduced this spice to the Middle East and North Africa in the centuries following its debut.

Allspice’s Middle Eastern history is the topic I have found the least amount of information on, as against every other spice in this chapter. As it is an ingredient that arrived long after classical times and it is not discussed in the literature I have consulted; modern articles deal with it only for its pharmaceutical and health benefits, not describing its journey. The challenge to find further Arabic synonyms is also increased, because both the English names *allspice* and *pimento* are ambiguous. I have found examples of wrongly glossed entries in both Arabic and Chinese dictionaries. Be that as it may, I have managed to collect a few other Arabic names for allspice from contemporary dictionaries, and these can be seen in Table 4.2.

Further common vernacular names are *fulfil ḥulw* lit. ‘sweet pepper’ and *bahār ḥulw* lit. ‘sweet spice,’ where *bahār* ‘spice’ is a loanword from Persian. Persian بهار *bahār* means spring (the season), and it was borrowed into Arabic with the sense of blossoms and foliage, alluding to the leaves and flowers of plants as the source of many spices.⁵¹ In the ‘spice, seasoning, condiment’ sense, the word spread regionally via Ottoman Turkish (loaned from Arabic). Similarly to the case of English, the word for spice was associated with the allspice berries, and consequently resulted in the already mentioned Turkish *yenibahar* [newspice] ‘allspice,’ and μπαχάρι *bachári* ‘allspice.’ Thus, just like English, Arabic propagates

⁵⁰ A word of Persian origin, applied to the Franks during the Crusades (from Old French *franc*), and later by extension to any white merchant, and used from Persia to Thailand.

⁵¹ Dozy, 1881, p. 121.

allspice names by using the words for ‘spice’ and ‘pepper’ with modifiers indicating qualities of taste, or the name of those who carried the spice.

Table 4.2 Various names for allspice in Arabic

Species	Name Tr.	Gloss	Source
<i>Pimenta dioica</i>	بهار حلو <i>bahār ḥulw</i>	sweet spice	Wiktionary (n.d.-b)
<i>Pimenta dioica</i>	لفل البساتين <i>fulful al-basātīn</i>	pepper of the gardens	Almaany (n.d.)
<i>Pimenta dioica</i>	لفل إفرنجي <i>fulful ifranjī</i>	European pepper	Baalbaki (1995)
<i>Pimenta dioica</i>	لفل تابل <i>fulful tābil</i>	spice pepper	Almaany (n.d.)
<i>Pimenta dioica</i>	لفل حلو <i>fulful ḥulw</i>	sweet pepper	Baalbaki (1995)

Chinese

Etymology 4. Mandarin Chinese 多香果 *duōxiāngguǒ* ‘allspice’ [many-spice-fruit], maybe a semantic translation^a

a. MDBG (n.d.)

In Chinese, allspice goes by the name 多香果 *duōxiāngguǒ* [many-spice-fruit], supposedly a Chinese rendering of *allspice*. However, in China allspice is practically non-existent; it is not used in dishes, does not feature in TCM databases, and generally is unknown besides in Western specialty grocery shops. A search in Baidu Index yields no results as well. All the names except 甜胡椒 *tián hújiāo* ‘sweet (black) pepper,’ shown in Table 4.3, are relatively modern semantic translations of presumably English sources. Just as in Arabic, it obviously does not show up in pre-modern corpora, and is scarcely present in the modern corpus.

Summary

Table 4.4 shows all the names of allspice that can be found in dictionaries, in a trilingual setting.

Table 4.3 Various names for allspice in Chinese

Species	Name	Tr.	Gloss	Source
<i>Pimentadioica</i>	多香果	<i>duōxiāngguǒ</i>	many-spice-fruit	Kleeman and Yu (2010)
<i>Pimenta dioica</i>	全香子	<i>quánxiāngzǐ</i>	all-spice-seed	Spices Journey (2022)
<i>Pimenta dioica</i>	甜胡椒	<i>tiánhújiāo</i>	sweet-barbarian-pepper	Lau (n.d.)
<i>Pimenta dioica</i>	牙買加胡椒	<i>yámǎijiā hújiāo</i>	Jamaica-barbarian-pepper	MDBG (n.d.)
<i>Pimenta dioica</i>	眾香子	<i>zhòngxiāngzǐ</i>	many-spice-seed	MDBG (n.d.)

Table 4.4 Conventionalized names for allspice in English, Arabic, and Chinese, found in dictionaries

Language	Term	Gloss	Loan	Source
English	<i>allspice</i>		no	OUP (n.d.)
English	<i>Jamaica pepper</i>		no	OUP (n.d.)
English	<i>pimento</i>		yes	OUP (n.d.)
English	<i>pimento berry</i>		no	OUP (n.d.)
English	<i>pimiento</i>		yes	OUP (n.d.)
Arabic	<i>fulful al-basātīn</i>	pepper of the gardens	no	Almaany (n.d.)
Arabic	<i>fulful ifranjī</i>	European pepper	no	Baalbaki (1995)
Arabic	<i>fulful tābil</i>	spice pepper	no	Almaany (n.d.)
Arabic	<i>fulful hulw</i>	sweet pepper	no	Baalbaki (1995)
Chinese	<i>duōxiāngguǒ</i>	many-spice-fruit	no	Kleeman and Yu (2010)
Chinese	<i>tiánhújiāo</i>	sweet-barbarian-pepper	no	Lau (n.d.)
Chinese	<i>yámǎijiā hújiāo</i>	Jamaica-barbarian-pepper	yes	MDBG (n.d.)
Chinese	<i>zhòngxiāngzǐ</i>	many-spice-seed	yes	MDBG (n.d.)

4.2 ASAFOETIDA

2. Asafoetida	
English: asafoetida; hing; devil's dung. Arabic: حلتيت ḥiltit. Chinese: 阿魏 āwèi. Hungarian: ördögyökér [devil's root]; aszatgyanta [asat resin]; bűzös aszat [stinking asat].	
Plant species:	<i>Ferula foetida</i> (Bunge) Regel; <i>Ferula assa-foetida</i> L.; <i>Ferula narthex</i> ; et al.
Family:	Apiaceae
Part used:	gum-resin (latex)
Region of origin:	Iran; W. and C. Asia
Cultivated in:	Iran; Afghanistan
Color:	from pale yellow to brown



(a) resin



(b) powder, colored with turmeric



(c) plant

Figure 4.4 Asafoetida in various forms, and one of its principal sources *Ferula assa-foetida* in the Kyzylkum Desert. Credit: (a) Glorian; (b) Aromatique; (c) Public Domain.

Asafoetida is the dried, golden brown oleoresin that forms after the cutting of the stems of various ferula plants of Central Asia. The material itself is a waxy gum-resin, and it is sold either in gum or powdered form. Asafoetida is an extremely pungent, strong-smelling substance; it is described as having a “garlic-like” and “sulphurous odor” that is sometimes too strong in itself and must be diluted with other materials (van Wyk, 2014, p. 138). Asafoetida is a drug and spice, and it was used for centuries

in both Asia and Europe (Leung & Chen, 2019). It is still an integral part of Indian cuisine as an ingredient, while in Europe and East Asia it was mainly utilized as medicine.

Regarding the characteristics and uses of the plant asafoetida, there are parallels with the now extinct giant ferula plant, which is believed to be the source of the lost silphium or laserpitium of antiquity. Silphium was a drug used in ointments of traditional Greek medicine, and a coveted ingredient in Roman cuisine. It was introduced from Libya in North Africa and was once a commercially crucial product, even featured on Roman coins. We now believe that over-harvesting led to its demise (Dalby, 2000; Langenheim, 2003; Leung & Chen, 2019; van Wyk, 2014).

4.2.1 *The Botany, Origin, and Cultivation of Asafoetida*

Asafoetida is obtained from species of the genus *Ferula* in the *Apiaceae* family, such as *Ferula assa-foetida*, *F. foetida*, and *F. narthex* (Mabberley, 2017). These plants are “robust perennial herbs” that can grow to 2 m. high, and as umbelliferous plants surmounted by large yellow flowers (van Wyk, 2014, p. 138). The plants cope well in mountainous and dry, desert-like conditions of Iran (from Yazd to Lar), up to Southern Uzbekistan (Kyzylkum Desert), and the Qandahar region of Afghanistan, where they grow wild (Leung & Chen, 2019). Asafoetida is wild-harvested the same way it has been for thousands of years. The plant is cut before flowering, at the base of the stalk just above the root, and left exposed. The exudate is then collected once it solidifies, and this process is repeated again and again for up to three months, until no more liquid can be tapped (van Wyk, 2014, p. 138).

4.2.2 *The History of Asafoetida*

As ferula plants were never transplanted from Iran and Central Asia over the last couple of thousands of years, its history and spread are connected with trade, especially overland.⁵² A fantastic and recent chapter on the history of asafoetida now exists under the title *The Itinerary of Hing/Awei/Asafetida across Eurasia, 400–1800* by Leung and Chen (2019).

⁵² According to news reports of last year, India, the biggest consumer of asafoetida only started experimenting with its cultivation in the last couple of years (Express News Service, 2021).

4.2.3 *The Names of Asafoetida*

English

Etymology 5. English *asafoetida*, a. 1398 < Medieval Latin *asafoetida* [stinking asa] <[?] from Persian *āzā* ‘mastic’, in a Latinized form, *asa* + Latin *foetid* ‘ill-smelling, stinking’, (feminine of *foetidus*)^a

a. OUP (n.d., s.v. *asafoetida*); Laufer (1919, p. 353); Steingass (1892, p. 42)

Asafoetida (also spelled *asafetida*) is a term directly from Medieval Latin that found its way into the English lexicon via the early modern European medicinal and botanical literature. Often seen with archaic spellings, such as “*assafoetida*,” the name is made up of the Latinized version of Persian *lāza/āzā*⁵³ ‘mastic’⁵⁴, and Latin *foetida*, feminine of *foetidus* ‘stinking, ill-smelling, fetid.’⁵⁵

The first detailed discussion of *asafoetida*’s name comes from Laufer’s *Sino-Iranica* (1919, pp. 353–362), where he vehemently opposes the theories of Persian origin regarding *aza*, stating that its purported meaning, ‘mastic,’ is “a product entirely different from what we understand by *asafoetida*”; he prefers the inferred theory first proposed by Garcia da Orta (1563/1913, p. 41) that *asa*—“mutilated by the druggists of the middle ages”—somehow derives from the *laser* or Pliny’s *laserpitium* (a synonym for silphium, an important spice, medicine, and aphrodisiac used in antiquity, as just mentioned above). None of the two explanations are supported with documentary evidence, and he is right that “in no oriental language is there a word of the type *asa* or *aza* [...]” I am not sure why Laufer immediately dismisses the connection between mastic and *asafoetida*; both are obtained from the dried oleo-resin of Western and Central Asian plants, and even his own descriptions of mastic and its uses are very similar to that of *asafoetida* (Laufer, 1919, p. 252). His reports from a 1610 Chinese source, using the transcribed Arabic name *mastaki*, say that it is produced in Turkestan and used “as *jiao*” (Sichuan pepper), and that

53 Steingass, 1892, p. 42, https://dsal.uchicago.edu/cgi-bin/app/steingass_query.py?page=42.

54 Mastic, also known as *tears of Chios* is a resin exuded from the tree *Pistacia lentiscus*. The dried, yellowish, and translucent brittle pieces of resin resemble teardrops, and they turn white when chewed, behaving like nature’s (initially bitter) chewing gum. It is traditionally produced on the island of Chios, Greece.

55 OUP, n.d., *asafoetida*. 23. OUP, n.d., *asafoetida*.

its odor is very strong, and that it is beneficial for digestion. Laufer, an expert in East Asian languages, expects *aza* to come up in other oriental languages, but it seems to me that the problem of *aza* starts with Latin and therefore should be searched within the medieval European scientific literature. If *aza*, a Persian term for a dried resinous substance (i.e., mastic) loaned by scribes of Latin existed, why does *asa foetida*, literally ‘stinking mastic’ for a foul smelling dried resinous gum sound so impossible? In fact, one of the Arabic names for asafoetida literally translates to ‘the mastic of the giant ferula’; but here ‘mastic’ is likely to simply mean ‘gum.’

Asafoetida was first attested in Middle English, indicating its arrival in Europe. Sometime before 1398, we read: “Some stynkyng þinges beþ ydoon in medycyne, as ... brymston and asa fetida.”²³ This illustrious entrance of asafoetida immediately points out its stench, and it is paired here with brimstone—once a synonym for sulfur, now a term chiefly used in a Biblical context in the description of hell (cf. “fire and brimstone”)—is an apt foreshadowing of the nickname *devil’s dung*. It is also worth noting that, in English, the word first referred to the material, with the sense of the plant producing asafoetida appearing only secondarily: this is understandable, because no Europeans saw the ferula plants until the seventeenth century, and the origins of the drug were obscure.

Etymology 6. English *hing* ‘asafoetida’, 1599 < Hindi हींग *hīng* ‘asafoetida’ < Sanskrit िहङ्गु *hingu* ‘asafoetida’; cf. cognates Sogdian ‘ynkw < Proto-Iranian *aṅgu-*jatu-* ‘resin-gum’; cf. Tokharian B, Khotanese^a

a. OUP (n.d., s.v. hing); OUP (n.d., s.v. hing); Gharib (1995, p. 87); Adams (2013, p. 7)

India was always a big importer and consumer of asafoetida and also played a role in exporting it to other parts of the world. Bombay served as the key port in the nineteenth century, where the stinking gum would change hands (sometimes after a bit of manipulation and adulteration). Contrary to China and Europe, Indians also developed an affinity for using it in their cooking. Thus, when the British came in contact with asafoetida in India, they adopted the local name: *hing*.⁵⁶ *Hing* comes from Hindi हींग *hīng*, through Sauraseni Prakrit *hingu* from Sanskrit िहङ्गु *hingu*.⁵⁷ The Sanskrit term is believed to have

⁵⁶ See Yule et al., 1903, p. 418.

⁵⁷ AHD, 2022, hing.

derived from an Iranian source reconstructed as Proto-Iranian **anġu-ġatu-* where *ġatu-*⁵⁸ is ‘gum’ (Modern Persian زنج *zhad* ‘gum’), and other derivatives are Tocharian B *ankwaṣ(t)*, Khotanese *aṃḡuṣḡä*, and Sogdian **anġužat* (Adams, 2013, p. 7; Gharib, 1995, p. 87; R. L. Turner, 1962–1966, p. 281), also various Classical Persian forms, both inherited, e.g., انگدان *angudān*, آنگوزه *ānghuzah* and borrowed, e.g., انگزد *anġužad* from Parthian (Tremblay, 2005, p. 438).

In English, *hing* is first attested in Hakluyt’s *Principle Navigations* (new ed.): “One hundred and fourescore boates laden with Salt, Opium, Hinge, Lead, Carpets [etc.]”⁵⁹ and soon identified as a substance identical to asafoetida, as an example from 1662 shows: “The Hingh, which our Drugsters and Apothecaries call Assa foetida, comes for the most part from Persia.”⁶⁰

Among its many vernacular names in European languages, such as *devil’s dung* in English, there is often a hint to the devil, possibly due to the connection between the smell of sulfur and hell in the Biblical tradition (“fire and brimstone”). The name *devil’s dung* in its various glosses is popular among European languages (e.g., German *Teufelsdreck* lit. ‘devil’s filth,’ Finnish *pirunpihka* lit. ‘devil’s resin,’ or Turkish *şeytanboku* lit. ‘Satan’s shit,’ which shows the strong aversion this material induces in Europeans, and why it never gained popularity in their cookery. Other vernacular names in English include *devil’s dung*, *asant*, *stinking gum* (cf. George, 2012). At the far opposite, the phrase “food of the gods” on Wikipedia actually links to asafoetida, because in an Indian context asafoetida was and is a desirable ingredient. Garcia da Orta, a Portuguese Jewish herbalist and ethnobotanist pioneer who spent much time in Goa wrote in the sixteenth century:

Well, you must know that the thing most used throughout India, and in all parts of it, is that Assa-fetida, as well for medicine as in cookery. A great quantity is used, for every

⁵⁸ Proto-Indo-European (PIE) **g^wétu* ‘resin, gum.’

⁵⁹ Hakluyt, 1589, <http://www.perseus.tufts.edu/hopper/searchresults?target=en&inContent=true&q=hinge&doc=Perseus%3Atext%3A1999.03.0070>.

⁶⁰ OUP, n.d., *hing*, <https://www.oed.com/view/Entry/87092>.

Gentio who is able to get the means of buying it will buy it to flavour his food. (Garcia da Orta, 1563/1913, p. 44)

But he is a European, and so he notes on the next page: “The nastiest smell in the world for me is Assafetida.”

Table 4.5 Various names for asafoetida in English

Species	Name	Source
<i>Ferula assa-foetida et al.</i>	devil’s dung	van Wyk (2014)
<i>Ferula assa-foetida et al.</i>	hing	van Wyk (2014)
<i>Ferula assa-foetida et al.</i>	stinking gum	Peter (2012)
<i>Ferulaspp.</i>	asafoetida	vanWyk (2014)

Arabic

Etymology 7. Arabic حلتيت *hiltīt* ‘asafoetida resin’ ; cf. cognates Hebrew חֲלִיתִית *hiltit* < Aramaic ܫܠܫܘܢܐ ‘id.’^a

a. Fraenkel (1886, p. 140); Löw (1881, p. 36) and Löw (1924, vol. 3, p. 452-455)

Arabic terms now make a difference between the material and the plant; asafoetida as a spice/medicine is called حلتيت *hiltīt*, while the plant is called انجدان *anjudān*. The word *hiltīt* comes from Aramaic *heltītā*, and it also exists as a Hebrew cognate as *hiltit* (Fraenkel, 1886, p. 140; Löw, 1881, p. 36; Löw, 1924, vol. 3, pp. 452–455). It is first attested in Sibawayhi’s (ca. 760–796, a Persian native) *al-Kitāb* [*The Book*], which is the earliest work on Arabic grammar and linguistics. *Hiltīt* appears in the first Arabic dictionary, the *Kitāb Al-‘ayn*, compiled by al-Farāhīdī (ca. 786), simply sending the reader to *al-anjudhān* ‘asafoetida,’ which could mean that this word was more widely known than *hiltīt* at the time. *Anjudān* is first mentioned in its earlier form انجدان *anjudhān* in the *Kitāb Al-‘ayn*, which also tells us that the source (*uṣūl*) of *anjudān* is a plant called *maḥrūt*, which also appears in the poetry of Imru’ l-Qays, the most

eloquent poet of pre-Islamic Arabia.⁶¹ Arabic *anjudān* is a loanword from Persian, likely borrowed before the sixth century, and it comes from the same Proto-Iranian **aṅgu-ḵatu-* as Sanskrit, and later English *hing*.

Etymology 8. Arabic انجدان *anjudān* < Persian انگدان *angudān* < Proto-Iranian **aṅgu-ḵatu-* ‘resingum’ ; cf. Tokharian B, Khotanese^a

a. Lane (1863, pp. 79 – 80); Steingass (1892, pp. 114, 106); Adams (2013, p. 7)

Table 4.6 Various names for asafoetida in Arabic

Species	Name	Tr.	Gloss	Source
<i>Ferula spp.</i>	أبو كبير	<i>abū kabīr</i>		Wehr (1976)
<i>Ferula spp.</i>	أنجدان	<i>anjudān</i>		Baalbaki (1995)
<i>Ferula spp.</i>	صمغ الأجدان	<i>samgh al-anjudān</i>	gum of anjudan	Baalbaki (1995)
<i>Ferula spp.</i>	صمغ راتيناجي	<i>samgh rātīnājī</i>	rātīnājī gum	Baalbaki (1995)
<i>Ferula spp.</i>	حلتيت	<i>hiltīt</i>		Wehr (1976)

Chinese

Etymology 9. Mandarin Chinese 阿魏 *āwèi* MC /ʔa ŋuiH/ ‘asafoetida’ < Tokharian B *ankwaṣ(ʔ)* ‘asafoetida’ < Sogdian **angužat* ‘asafoetida’ < Proto-Iranian **aṅgu-ḵatu-* ‘resin-gum’^a

a. Leung and Chen (2019); Laufer (1919, p. 353); Tremblay (2005, p. 438).

As for Chinese, 阿魏 *awei* is the term that gained wide prevalence in the seventh century (Leung & Chen, 2019). It seems likely that it was Kuchean traders from around the Tarim Basin who first brought asafoetida to Chang’an, the Tang capital on the eastern terminus of the Silk Road. The consensus now among both Sinologists and experts on the languages of the Silk Road is that *awei* is a loan from Tocharian B *ankwaṣ(ʔ)*, originating from the same Proto-Iranian etymon as two of the above Arabic and English examples (Laufer, 1919, p. 353; Baxter & Sagart, 2014, p. 121).

⁶¹ See Ibn Manẓūr, 1290/1979, p. 819.

Etymology 10. Mandarin Chinese 興藥/興渠/興瞿 *xīngqú* MC /hiŋ giA/ ‘asafoetida’, phonetic transcription < Sanskrit हिङ्गु *hiṅgu* ‘asafoetida’ < Proto-Iranian **aingu-ǰatu-* ‘resin-gum’; cf. Tokharian B, Khotanese^a

a. Leung and Chen (2019); Laufer (1919, p. 353); Adams (2013, p. 7)

However, there existed an earlier name for asafoetida in Chinese: 興藥/瞿/渠 *xīngqú*, doublet of 形虞 *xīngyú*. These are direct transcriptions of the Sanskrit *hiṅgu* mentioned above, and they were attested in fifth-century Buddhist sutras (Leung & Chen, 2019). It is also worth mentioning that in this case, the Chinese monks most likely had no idea what exactly *xīngqú* is, just that it was plant resin, and thus it exemplifies the rare case in which the word precedes the thing it refers to. In the *Bencao Gangmu* (BCGM), besides the names above, other synonyms can also be found. These are 阿虞 *ayü*, from the transcription of Persian *anguza(d)*, and 哈昔尼 *haxini*, the transcription of Ghazni, a city in Afghanistan from which asafoetida was exported. In the *Taiping Guangji* (TPGJ) (citing the *Youyang Zazu* (YYZZ), it is said that *awei* comes from the country of 伽闍那 MC /gazana/, which is likely a rendering of Ghazna, a variant of Ghazni.⁶²

Of all the names, the most successful was unquestionably *awei*: it enjoyed popularity for centuries and was further propagated into Sinoxenic words of Japanese 阿魏 あぎ *agi*, Korean 阿魏 아위 *awi*, and Vietnamese *ngui* (Leung & Chen, 2019).

I highly recommend both Laufer’s *Sino-Iranica* (1919) and Leung and Chen’s “The Itinerary of Hing/Awei/Asafetida across Eurasia, 400–1800” (2019), for those who are interested in asafoetida’s journey and its names.

Table 4.7 Various names for asafoetida in Chinese

Species	Name	Tr.	Gloss	Source
<i>Ferula spp.</i>	阿虞	<i>ayü</i>		Leung and Chen (2019)
<i>Ferula spp.</i>	哈昔尼	<i>hāxīní</i>		Leung and Chen (2019)

62 CTP—<https://ctext.org/taiping-guangji/414/awei?searchu=%Eg%98%BF%Eg%AD%8F&searchmode=showall#result>

Species	Name	Tr.	Gloss	Source
<i>Ferula spp.</i>	黑黎提提	<i>hēilítí tí</i>		Rossabi (2013)
<i>Ferula spp.</i>	形虞	<i>xíngyú</i>		Leung and Chen (2019)
<i>Ferula spp.</i>	興蕖 / 興渠 / 興瞿	<i>xīngqú</i>		Leung and Chen (2019)
<i>Ferula spp.</i>	阿魏	<i>āwèi</i>		Leung and Chen (2019)

Summary

And so, what we see here is that all three languages under scrutiny—English, Arabic, and Chinese—have at least one word that goes back to the same Proto-Iranian etymon, from the geographic source of the material it signifies and from the native region of the plant it is harvested from. This is not a surprise, rather evidence showing that the words do follow the material, even with twists and turns, and that tracing their journey correlates with the trade routes, thus marking the contact zones where information about the material was transmitted.

Table 4.8 Conventionalized names for asafoetida in English, Arabic, and Chinese, found in dictionaries

Language	Term	Gloss	Loan	Source
English	<i>devil's dung</i>		no	OUP (n.d.)
English	<i>hing</i>		yes	OUP (n.d.)
English	<i>asafoetida</i>		yes	OUP (n.d.)
Arabic	<i>abū kabīr</i>	big father	no	Wehr (1976)
Arabic	<i>anjudān</i>		yes	Baalbaki (1995)
Arabic	<i>samgh al-anjudān</i>	gum of anjudan	no	Baalbaki (1995)
Arabic	<i>samgh rātīnājī</i>	rātīnājī gum	no	Baalbaki (1995)
Arabic	<i>ḥiltīt</i>		yes	Wehr (1976)
Chinese	<i>āwèi</i>		yes	MDBG (n.d.)

4.3 CARDAMOM

3. Cardamom

English: cardamom. Arabic: هال hāl; هيل hayl. Chinese: 豆蔻 dòukòu [bean-cardamom]. Hungarian: kardamom.

Plant species: *Elettaria cardamomum* (L.) Maton (syn. *Amomum cardamomum* L.)

Family: *Zingiberaceae*

Part used: fruit (seed pods, capsules)

Region of origin: India

Cultivated in: Guatemala; India; Sri Lanka; Tanzania; Papua New Guinea

Color: green seed pods, brown seeds

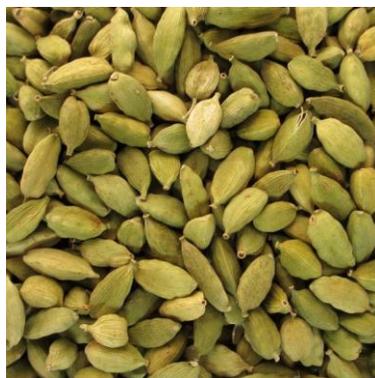


Figure 4.6 Cardamom fruits cured, and powdered (*Elettaria cardamomum*). Credit: Aromatiques

Cardamoms are the dried, ripe fruits of the cardamom plant *Elettaria cardamomum*. These fruits are sometimes called seeds, but they are in fact the seed pods, “three-valved capsules” (vanWyk, 2014, p. 132), containing several brown-colored small seeds, as can be seen in Figure 4.6. The cardamom of commerce is widely used in Asia as medicine and spice, and it is valued for its unique minty and eucalyptus-like flavor. It is most prevalent in Indian cooking, but also known from the Arabic coffee tradition where it is sometimes added to the beverage. Indian restaurants often place a bowl of cardamoms at the entrance, so customers can take one as a masticatory on their way out, and chew on

the refreshing capsules as nature's breath mints. Native to the same region as the mighty black pepper in India, cardamom is sometimes referred to as the "queen of spices" (Ravindran & Madhusoodanan, 2002, p. 1). Cardamom was imported to Europe since the Roman era, and it is still used in meat dishes, sausages, Swedish meatballs, Danish pastries, ice-cream, and liqueurs (Mabberley, 2017, p. 326). It is the third most expensive spice of our time, after saffron and vanilla (*Business Insider*, 2021).

Although *cardamom* usually refers to the fruits of *E. cardamom* from India—also sometimes known as green cardamom and true cardamom—there are numerous other cardamoms, similarly segmented capsule-like fruits used as spices and medicine in South, Southeast, and East Asia, and even in Africa. Many of these belong to the *Amomum* genus of the ginger family (*Zingiberaceae*), such as the black cardamom from the Himalayas (*Amomum subulatum*), and the round cardamom from Java (*Amomum compactum*). See them in detail below in Section 4.3.3.

4.3.1 *The Botany, Origins, and Cultivation of Cardamom*

The cardamom plant is a tall perennial herb from the ginger family (*Zingiberaceae*), with pink white flowers that grow at the base of the stem in clusters (van Wyk, 2014, p. 132). *Elettaria cardamomum* is indigenous to the Western Ghats region in South India, the same area that gave us black pepper and the center of its production and biodiversity (Ravindran & Madhusoodanan, 2002, p. 1). Together with black pepper and ginger, it has been wild-harvested since time immemorial, and it formed the livelihood of many from the beginnings of the ancient spice trade around the third century BC, until today (van Wyk, 2014, p. 132). Cardamom can grow only in a tropical climate, thriving in higher altitudes in the shade of trees, similarly to black pepper (which is a climbing vine), and thus modern cultivation does not differ much from traditional wild harvesting (van Wyk, 2014, p. 132). Cardamom is handpicked when ripe or near-ripe one by one—explaining its relatively high price—and then dried. It generally comes in light green, but one can also find them in white, which is a result of an extra step of steaming or bleaching before the drying process (van Wyk, 2014, p. 132). From the 1920s, Guatemala gradually became a major cardamom exporter, surpassing India in production. It is also grown in Tanzania and Papua New Guinea on a small scale.

4.3.2 *The History of Cardamom*

It is difficult to trace the history of cardamom with certainty because of the confusion in nomenclature

(Cumo, 2013). However, the cardamom described in fourth century BC in Indian Ayurvedic literature is probably the green or true cardamom of today, called *elā*⁶³ in Sanskrit. Cardamom was also described by Theophrastus in the fourth century BC. He reports that *kardamomon* and *amomon* (cardamom and black cardamom) come from Media, or according to some, from India—just like spikenard and most other spices (Theophrastus, 1916, p. 249). Pliny connects amomum to North India, which is quite an accurate source for black cardamom. Cardamom was known to Dioscorides and Hippocrates, who have both written on its health benefits, e.g., aiding digestion. In Modern Greek, there is an informal way of saying ‘to strengthen, get strong’: *καρδαμώνω kardamóno*⁶⁴ deriving from the name of the spice.

Medieval Arab doctors wrote about cardamom in similar ways, and the geographer al-Idrīsī described ca. 1150 that it was brought to the port of Aden from Sindh, India, and China, whereas in China, black cardamoms were important in the economy of the Song period (960–1279) (Prance & Nesbitt, 2005, pp. 158–159). Green cardamom reached China from Southeast Asia; in Hong Kong it is consumed primarily by the Indians and the Portuguese. It is cultivated in Guangdong, Guangxi, and Yunnan, used in medicine rather than in cooking (S.-Y. Hu, 2005, pp. 325–326). For more on cardamom’s history, see Dalby (2000, pp. 102–106).

63 Monier-Williams, 1899, p. 232.

64 https://www.greek-language.gr/greekLang/modern_greek/tools/lexica/triantafyllides/search.html?lq=%CE%BA%CE%B1%CF%81%CE%B4%CE%B1%CE%BC%CF%8E%CE%BD%CF%89&dq=

4.3.3 *A Crowd of Cardamoms: Identity and Confusion with Other Spices*

(a)

(b)

(c)

Figure 4.7 False cardamoms: (a) Black cardamom from the Himalayas (*Amomum subulatum*), (b) Chinese black cardamom or *tsao-ko* from Yunnan, China (*Amomum tsao-ko*), and (c) round cardamom from Java (*Amomum compactum*). Credit: Aromatiques, NAI

When it comes to cardamoms most of us are only familiar with one or two kinds; however, there is a multitude of plant species that are harvested for their fruit known by their common names as some kind of cardamom. All of these belong to *Zingiberaceae*. True cardamom—commercially the most important species—belongs to the genus *Elettaria*, a name derived from the Tamil root *elettari*, meaning cardamom seeds (Ravindran & Madhusoodanan, 2002, p. 1). Besides the genus *Elettaria*, “false” cardamoms are found in two other genera: *Amomum* and *Aframomum*. Following van Wyk’s checklist (2014, pp. 290–308), these are listed in Table 4.9.

*Amomum*⁶⁵ is a genus home to a remarkable number of plants that yield pungent fruits and seeds, the best known being *Amomum subulatum*. The *Amomum* genus consists of dozens of aromatic, spice-yielding, and medicinal plant species primarily growing in India and China and elsewhere in tropical and subtropical Asia, New Guinea, and North Queensland. Commonly called black cardamom or brown cardamom, but also referred to by various other names in English, such as Nepal cardamom, greater cardamom, Indian cardamom, Indian black cardamom, fake cardamom, Bengal cardamom, big

⁶⁵ GBIF Secretariat, 2021, *Amomum* Roxb.

cardamom, hill cardamon, and winged cardamom, the fruits of *A. subulatum* are larger than green cardamom, and it is native to the eastern Himalayan region: North India, Nepal, Bhutan, and Tibet. In Hindi it is called बड़ी इलाइची *baḍī ilāichī* ‘big cardamom’ or काली इलाइची *kālī ilāichī* ‘black cardamom.’ In Chinese it is known as 香豆蔻 *xiāngdòukòu* ‘fragrant cardamom,’ and S.-Y. Hu (2005, p. 327) also reports a local name in eastern Tibet for it: 嘎哥拉 *gágēlā* (ka-ko-la), which we will return to later. The dried fruits of this plant (see Figure 4.7) are used in savory dishes of northern India and Pakistan and have a heavy smoky aroma and camphor-like taste. The brown color is a result of roasting and smoking on open fires (van Wyk, 2014, p. 132).

Table 4.9 Spice plants with a common name that includes *cardamom* from the *Amomum* genus in Asia cultivated for their fruit and seed, and those from the *Aframomum* genus of Africa, cultivated for their seed (van Wyk, 2014)

Species	Common name(s)	Region
<i>Amomum aromaticum</i>	Bengal cardamom; Nepal card.; large card.	Bangl.; Nepal
<i>Amomum compactum</i> *	Indonesian cardamom	SE. Asia
<i>Amomum costatum</i> *	Chinese black cardamom	E. Asia
<i>Amomum globosum</i>	round Chinese cardamom	China
<i>Amomum kepulaga</i> *	round cardamom	Trop. Asia
<i>Amomum krervanh</i>	Cambodian cardamom; krervanh	Trop. Asia
<i>Amomum maximum</i>	Java cardamom	Trop. Asia
<i>Amomum subulatum</i>	brown cardamom; greater card.; Indian card.	Asia
<i>Amomum tsao-ko</i> *	tsao-ko cardamom; large cardamom	Asia
<i>Amomum villosum</i>	Malabar cardamom; Tavoy card.; wild Siamese card.	Asia
<i>Amomum xanthioides</i>	bastard Siamese cardamom; wild Siamese card.	Asia
<i>Aframomum alboviolaceum</i>	Cameroon cardamom	Trop. Africa
<i>Aframomum angustifolium</i>	Madagascar cardamom	Madagascar
<i>Aframomum daniellii</i>	bastard Melegueta; Cameroon cardamom	Trop. W. Af.
<i>Aframomum hanburyi</i>	Cameroon cardamom	Trop. W. Af.

Species	Common name(s)	Region
<i>Aframomum corrorima</i>	Ethiopian cardamom; korarima	Trop. NE. Af.
<i>Aframomum macrospermum</i>	Guinea cardamom	W. Af.

* Items identified as botanical synonyms by me.

There are even larger (black) cardamoms, growing in the mountainous Vietnam-China borderlands, important in the cuisines of Vietnam, Yunnan, and Sichuan, such as *A. tsao-ko*⁶⁶ (recently renamed as *Lanxangia tsao-ko* (Crevost & Lemarié) M.F.Newman & Skornick.), which S.-Y. Hu (2005, p. 326) calls Yunnan cardamom, and explains that in Yunnan, it goes into the chicken soup whole, as a flavoring agent. It is also used medicinally,⁶⁷ and the scientific species name comes from the transcribed Chinese name 草果 *cǎoguǒ*. In English it is called *tsao-ko cardamom*. S.-Y. Hu (2005, p. 326) distinguishes an *A. hongtsaoko* Liang et Fang (red cardamom), which appears, after consulting botanical databases, to be a synonym for *A. tsao-ko*. If one searches for “red cardamom” online, spice vendors’ advertisements appear, offering *tsao-ko cardamom*, also named “cao guo.” Putzel (2017) calls *tsao-ko cardamom* simply black cardamom and explores its cultivation and trade in Yunnan in great detail. He explains that in the last fifty years it has become a cash crop, and it is now the primary source of cardamom in Yunnan, together with *A. villosum*,⁶⁸ known as Tavoy cardamom, or 砂仁 *shārén* in Chinese (Putzel, 2017, p. 41).

Lastly, there are cardamoms that are round and white, indigenous to Southeast Asia. *Amomum krervanh* (newly reassigned as *Wurfbainia vera* (Blackw.) Skornick. & A.D.Poulsen) is Siam cardamom, Cambodian cardamom, or *krervanh* in English, and 白豆蔻 *báidòukòu* ‘white cardamom’ in Chinese. *A. compactum* (newly reassigned as *Wurfbainia compacta* (Sol. ex Maton) Skornick. & A.D.Poulsen) is known as round cardamom, Indonesian cardamom, or Java cardamom in English, and 爪哇白豆蔻 *Zhǎowā báidòukòu* ‘Java white cardamom’ in Chinese, a spice used in TCM, and botanically very similar to *A. maximum*, which is 九翅豆蔻 *jiǔchìdòukòu* ‘nine-winged cardamom’ in Chinese. These are the first cardamoms that were imported to China from mainland Southeast Asia, together with nutmegs that

66 <https://herbaltcm.sn.polyu.edu.hk/herbal/caoguo>

67 FoC—http://www.efloras.org/florataxon.aspx?flora_id=2&taxon_id=240001100

68 <https://herbaltcm.sn.polyu.edu.hk/herbal/villous-amomum-fruit>

caused an initial confusion, as we will shortly see. Cardamom in Indonesian is called *kapulaga* (Javanese ꦏꦥꦸꦭꦒꦒꦏꦒ *kapulaga*), primarily referring to *A. compactum* (more specifically *kapulaga jawa* ‘Javanese cardamom,’ with an Old Javanese word⁶⁹ that people on the Wiktionary try to connect with Sanskrit कक्कोल *kakkola*.³⁸ Wyk’s *A. kepulaga* is a synonym for *A. compactum*.

Moving on to Africa, the genus *Aframomum*⁷⁰ contains around fifty species from the tropical regions of Africa, including Madagascar, Mauritius, and the Seychelles on the Indian ocean. The most important spice crop of this genus is *Aframomum melegueta* (grains of paradise, Melegueta pepper), and *A. exscapum* (alligator pepper), and, staying on cardamoms: *A. corrorima*, commonly known as Ethiopian cardamom, or korarima. The latter is also often referred to as false cardamom, because the structure of the fruit imitates the true cardamom. One difference between the African and Asian cardamoms, is that in Africa, mostly the seeds are used, while in Asia, the whole seed pods are made use of (van Wyk, 2014).

What is common to all these different spice plants spanning from Asia to Africa? What connects them and makes us discuss them under “cardamom”? Their physical (and biochemical) properties. Not only are these plants related botanically, but the anatomy of their fruits is quite similar. Consequently, we can deduce that cardamom as a prototype has two features: (1) it is aromatic, and (2) it is a capsule containing edible seeds. And just as cardamom is a prototypical object, *cardamom*—as a name—is a prototypical word that is used and reused as a headword to propagate spice names. There is also a certain dichotomy at play, in the dynamics of the adjectives that describe, distinguish, and evaluate a type of cardamom. Think of: green vs. black, Indian vs. Nepal, lesser vs. greater, true vs. false.

Some remarks on common names

When combing through the literature of cardamoms, we find there is small degree of conflict and overlap in the English common names that authors give to a plant and its spice. The vernacular names contend with each other because authors come from different backgrounds, where one name might exist, but another does not, and—as mentioned in the introduction of this paper—there are no rules governing this; it is up to each author. Scholars such as van Wyk from South Africa, Ravindran and

69 *Southeast Asian Languages Library* (SEAlang)—<http://sealang.net/ojed/index.htm> 38. Monier-Williams, 1899, 241.

70 GBIF Secretariat, 2021, *Aframomum* K.Schum.

Madhusoodanan from India, and S.-Y. Hu from China all bring a layer of diversity to the discussion of spices with their mentions and omissions of various common names of the plants/spices they so systematically try to present. This is to be expected, because, while writers with a botanical focus pay attention to the strictly regulated scientific names in plant identification, sometimes the included and excluded vernacular names they use are chosen on a whim, or depend on how much space is left on the page. Some authors note just one common name, while some try to include all available. A more interesting question would be: how do authorities on plant science go about the selection process? Where do they gather the vernacular names from?

Often, botanical and gastro writers have to make up what I call “speculative names,” where an author feels the need to devise/translate a common name for a plant that does not necessarily exist in the target language they write. In this section, *red cardamom* is certainly a case in point. This is not a judgment, rather an observation; sometimes these inventions come to life and begin their journey as “real” plant/spice names that people will use if it fills a need. Further examples are found in Raghavan (2007, p. 64), who calls allspice *English spice* in English, which is an obvious translation from other languages that do in fact call it “English spice” (because the English fleet disseminated it from their colony of Jamaica).

4.3.4 The Names of Cardamom

English

Etymology n. English *cardamom* ‘cardamom’, (via post-classical Latin *cardimomum*, a. 1398), ?ca. 1425 < later also from **Old French** *cardemome* ‘cardamom’, ca. 1170; cf. modern French *cardamome* < **Latin** *cardamōmum* ‘cardamom’, first century AD < **Hellenistic Greek** καρδάμωμον *kardámōmon* ‘cardamom’, haplological κάρδαμ- *kárdam-* ‘cress’ + ἄμωμον *ámōmon* ‘an Indian spice plant’, third century BC < **Ancient Greek** κάρδαμον *kárdamon* ‘garden cress *Lepidium sativum*’, perhaps a loanword (many plant names with *-amon* are clear loanwords; the suffix *-amon* is known from Pre-Greek; ultimately of uncertain origin), fourth century BC; cf. cognates classical Latin *cardamum* <^a

a. OUP (n.d., s.v. cardamom); TLFi (2012, s.v. cardamome); C. T. Lewis and Short (1879, s.v. cardamomum); Liddell and Scott (1843/1940, s.v. καρδάμωμον); Liddell and Scott (1843/1940, s.v. κάρδαμον); Beekes and van Beek (2010, p. 644)

Table 4.10 Various names for cardamom in English

Species	Name	Source
<i>Elettariacardamomum</i>	cardamom	vanWyk (2014)
<i>Elettaria cardamomum</i>	green cardamom	Ravindran and Madhusoodanan (2002)
<i>Elettaria cardamomum</i>	true cardamom	Ravindran and Madhusoodanan (2002)

The word *cardamom* came from Latin *cardamōmum* via a Late Latin form attested in the late fourteenth century, and it was later also influenced by French *cardamome*, which has the same Latin etymon. *Cardamōmum* is the Latinized form of Greek καρδάμωμον *kardámōmon*, a word that was formed by compounding the Ancient Greek κάρδαμον *kárdamon* ‘cress,’ which is of unknown origin, and ἄμωμον *ámōmon* ‘amomum,’ signifying an unidentified Indian spice plant, formed with haplology (**kardamamōmom*).⁷¹ The OED also lists many other European cognates of the English word, such as Spanish *cardamomo* (mid-thirteenth century or earlier), Italian *cardamomo* (late thirteenth century), and Middle High German *kardamōm* (thirteenth century, modern German *Kardamom*). In some cases, the form shows a dissimilation of the two final nasals, and so we can come across forms such as *cardamon*.

Beekes and van Beek 2010 (p. 644) does not speculate on the origin of *kárdamon*, but explains that plant names ending in *-amon* are clearly and frequently loanwords, and that the suffix *-anon* is a known pre-Greek element. He also mentions some doubtful attempts to explain the word by previous authors, and mentions that it has been connected with a Hittite word: *karšani* ‘an alcalic plant.’ *Kárdamon* was identified with the word $\Theta\uparrow\check{V}\check{M}$ *ka-da-mi-ja*,⁷² (*kardamia* as a feminine form of *kardamon*) appearing on Mycenaean tablets listing spices in Linear B, excavated in the “House of the Sphinxes” in the 1950s, and dated to the 1200s BC (Bennett et al., 1958, p. 107). Meaning ‘garden cress’ (*Lepidium sativum*), of which the pungent seeds were consumed similarly to that of mustard and which was popular in ancient Persia, it has been suggested that this is a Near Eastern *Wanderwort*, related to Middle

⁷¹ OUP, n.d., cardamom; AHD, 2022, cardamom.

⁷² Palaeolexicon—<http://www.palaeolexicon.com/Word/Show/16764>

Armenian կոստեմ *kotem* ‘garden cress’, and Classical Persian کودم *kūdīm* ‘a sort of plant (water-cress?)’ and Akkadian *kudimmu(m)* ‘a herb, perhaps cress.’⁷³

Etymology 12. English *amomum* ‘any of several spices of genus *Amomum*, family Zingiberaceae, including cardamom.’ An odoriferous plant. The *Amomum* of the ancients not being certainly identified, the word was used with uncertain denotation by earlier writers; a. 1398 < Latin *amomum* ‘amomum and a balm containing this spice’ < Ancient Greek ἄμωμον *ámōmon* ‘an Indian spiceplant, black cardamom (*Amomum subulatum*),’ an Oriental loanword, cf. κιννάμωμον < Semitic ‘id.’; cf. cognates Classical Syriac ܚܡܡܐ *ḥamāmā* → Arabic حماما *ḥamāmā*; Akkadian *ḥamīmu*^a

a. OUP (n.d., s.v. amomum); C. T. Lewis and Short (1879); Liddell and Scott (1843/1940) and Beekes and van Beek (2010, p. 97); Löw (1881, p. 169), Lev and Amar (2008, p. 100), and Roth et al. (1968/2004, vol. 6, p. 66)

As for the identity of Greek *ámōmon* (Latin *amomum*),⁷⁴ it is one of the more perplexing ancient spices. Although some consider it unidentified, the amomum of antiquity was probably what today we call black cardamom. In the *Liddel-Scott-Jones: A Greek-English Lexicon* (LSJ) entry, it is defined as “an Indian spice plant, prob.,” but nevertheless recognized as *Amomum subulatum*, “Nepaul cardamom.”⁷⁵ Dalby (2000, p. 103) thinks that Linnaeus made a good guess about the identity of the spice plant when he aptly named the Asian genus *Amomum*, in which several other spice-yielding plants discussed above bear fruits known as “false cardamom” and “bastard cardamom.” The Greek word *ámōmon* is a loan from Semitic languages whose further origin is uncertain, akin to Akkadian *ḥamīmu*, Classical Syriac ܚܡܡܐ *ḥamāmā*, Arabic حماما *ḥamāmā*,⁷⁶ and Hebrew חממ *ḥāmām*, which are not re-borrowings from Greek according to Löw (1881, p. 123). Denoting ‘a spice-plant,’ these are probably from the Semitic root *h-m-m* ‘to be hot’ (Klein, 1987, p. 222). Thus, determining the Greek word to be a loanword, just as in the case of *cinnamon*, which is clearly marked as an “oriental loanword” in Greek etymological dictionaries.

73 cf. Kouyoumdjian, 1970, p. 371; Asatrian, 2012; Black et al., 1999/2000, p. L14.

74 C. T. Lewis and Short, 1879, amomum.

75 Liddell and Scott, 1843/1940, ἄμωμον.

76 cf. Roth et al., 1968/2004, vol. 6, p. 66; AHD, 2022, cardamom; Löw, 1881, p. 169; Lev and Amar, 2008, p. 100.

If the most likely candidate for this “lost spice” is black cardamom, what happened to the name? One of the last reports on it comes from 1834, when Edmund Roberts, traveling on a diplomatic mission sent by United States president Andrew Jackson, listed items of Chinese trade lesser known in the West, and among them: amomum. He notes in his account that amomum is a seed, with “strong pungent taste, and a penetrating aromatic smell; [...] used to season sweet dishes” (Roberts, 1837, p. 135), which can easily describe any kind of cardamom people nowadays use. The term *amomum* is not used anymore; no prevailing spice, seed, or medicinal herb today is called by that designation; however, the Latin name for the genus *Amomum* from the ginger family (*Zingiberaceae*) carries on the name. The question of amomum will come up again in the discussion of *cinnamon’s* origins in Section 4.4.4. Cardamom is also referred to as the queen of spices, as can be seen in the title of Nair’s book (2011), *Agronomy and Economy of Black Pepper and Cardamom: The “King” and “Queen” of Spices*, and we can come across green cardamoms advertised using its Hindi name spelled in English: *ilaichi/elaichi*, especially in the locales of the Indian diaspora. And so, reflecting on Table 4.10, which shows all the names using the headword *cardamom*, we identified *cardamom* as a prototype word used in the propagation of other, related spice-names.

Arabic

Etymology 13. Arabic هال *hāl* ‘cardamom’ < Persian هیل *hil* ‘the lesser cardamoms’ <

Sanskrit एला *elā* ‘cardamom’ < **Proto-Dravidian** **ēla* ‘cardamom’; cf. Tamil *ēlam*^a

a. Wehr (1976, p. 1223); Steingass (1892, p. 1521); Dalby (2000, p. 104); Burrow and Emeneau (1984, p. 87)

In Arabic, cardamom is known by many different names varying from dialect to dialect, but the most common to come across in both modern and historical dictionaries is هال *hāl* or هیل *hayl*. *Hāl* is from Persian هیل *hil* ‘id.’ which goes back to a Sanskrit etymon, एला *elā*, which is ultimately a Dravidian loanword, reconstructed as **ēla*. In modern Arabic dialects, an occasional /l/ to /n/ sound change can be observed, resulting in a version with a final /n/. Sometimes it is also prefixed by the word for ‘seed,’ as in *ḥabb al-hāl* [cardamom seed], referring to true cardamom, hence the contracted modern Egyptian Arabic *ḥabhān*. *Hāl* appears in Ibn Sīnā’s *Canon of Medicine* (1025), in a passage on how to prepare a

concoction made with *hāl* (cardamom), *qāqulla* (black cardamom?), *qaranful* (clove), *dār filfil* (long pepper), using one *dirham* (~3 gr) each.⁷⁷

Etymology 14. Arabic قاقلة *qāqulla* ‘cardamom; black cardamom’ < Classical Syriac *qāqullā* ‘cardamom’ < Akkadian 𒊩𒌆𒍪𒌆𒍪𒌆 (qa-qu-ul-lu.SAR) *qāqullu* ‘cardamom’ <² Sanskrit तक्कोल, कक्कोल *takkola, kakkola* ‘plant with aromatic berry; the perfume made from it’; cf. Pali *takkola*; Tibetan ཀ་ཀོལ *kakola*^a

a. Wehr (1976, p. 863); Löw (1924, vol. 1, p. 489); Zimmern (1915, p. 58); Monier-Williams (1899, pp. 431, 241)

Whether we consult dictionaries, explore the spice terminology of modern dialects, or read medieval travel writers, the word قاقلة *qāqulla* emerges often. This word is unmistakably a loanword, indicated by its distinct, alien form deviating from the usual Arabic word patterns. It is first attested in eighth-century medical literature.⁷⁸ In contemporary dictionaries it is usually glossed simply as ‘cardamom.’ If we look at the origins of names for cardamom in modern languages, *qāqulla* is not a remarkably “successful” word; in terms of distribution, words originating in Greek surpass this and most others. However, if we dig deeper, we will find that *qāqulla* is likely a prominent ancient Wanderwort, possibly exhibiting a long journey in its history. Modern Turkish *kakule* is one of the few breadcrumbs to hint that we are dealing with a regional Wanderwort. According to the *Nişanyan Sözlük* (NS), *kakule* is attested in the fifteenth century and comes from Arabic whose etymon is Aramaic *qāqūlā*, a word going back to Akkadian *qāqullu*, thus stretching our investigation to quite the time depth.⁷⁹ The *Chicago Assyrian Dictionary* (CAD)’s only information on it is that it was a plant grown in the garden of Merodach-Baladan II, a king of Babylon who ruled in the eighth century BC.⁸⁰ The Arabic word later entered the Latin vocabulary, and it survives today as the name for the genus *Cakile*.

Similarly to amomum, we are not entirely sure what Arabic *qāqulla* denoted in the past, but due

⁷⁷ SkE.

⁷⁸ SkE.

⁷⁹ Nişanyan, 2022, *kakule*.

⁸⁰ Roth et al., 1968/2004, Vol. 13, p. 124.

to the fact that some medicinal recipes list both *hāl* and *qāqulla* as ingredients, we can be certain that they denoted different materials. Furthermore, it is likely that, similarly to the word *cardamom*, *qaqulla* was an umbrella term. Consulting Ibn Sīna confirms this approach: he distinguishes a greater and a lesser kind of *qāqulla*, and describes their appearance, taste, and uses:

Qāqulla. Its nature: There are big ones and there are small ones. The big ones are like small black walnuts [...] reminding the tongue of aromatic cubebs. The small ones are like cloves in shape, and also aromatic. (Ibn Sīnā, 1025/1329)

In Amar and Lev’s work (2017, pp. 66–68), the big *qāqulla* is identified as *Amomum melegueta* [sic] (grains of Paradise) with a question mark attached to it, while the small *qāqulla* is identified as true cardamom *E. cardamomum*. I would argue with the first. Both items appear in the book of Ibn Rushd (1126–1198), also known as Averroes.

Table 4.11 Various names for cardamom in Arabic

Species	Name	Tr.	Gloss	Source
<i>Elettaria cardamomum</i>	هال	<i>hāl</i>		Wehr (1976)
<i>Elettaria cardamomum</i>	خير بواء	<i>khayr buwwā’</i>	good-scent	Lane (1863)
<i>Elettaria cardamomum</i>	قاقلة صغيرة	<i>qāqulla ṣaghīra</i>	small cardamom	Amar and Lev (2017)
<i>Elettaria cardamomum</i>	حب الهال	<i>ḥabb al-hāl</i>	cardamom-seed	Baalbaki (1995)
<i>Elettaria cardamomum</i>	حبهان	<i>ḥabhān</i>	cardamom-seed	Wehr (1976)

Chinese

Etymology 15. Mandarin Chinese 豆蔻 *dòukòu* MC /dəuH həuH/ ‘cardamom’ [bean-cardamom], compound of 豆 ‘bean(-like)’ + 蔻 ‘many; profusion’ (BCGM); or phonosemantic matching (also written using 荳 ; it was confused with nutmeg at first), ca. 863 <² Middle Chinese 多骨 *duōgǔ* MC /ta kuət/ ‘round cardamom’ <² Pali *takkola* ‘Bdellium, a perfume made from the berry of the kakkola plant’ <² Sanskrit तक्कोल,

कक्कोल *takkola, kakkola* ‘plant with aromatic berry; the perfume made from it’; cf. Pali *takkola*; Tibetan ཀཀོལ *kakola*; Chinese 嘎哥拉 *gágēlā*^a

a. Donkin (2003, p. 22); Duan (ca. 860, 18:55); Pali Text Society (1921–1925, p. 292); Monier-Williams (1899, pp. 431, 241)

In Chinese, the word equivalent to English *cardamom* is 豆蔻 *doukou* [bean-cardamom], sometimes with a variant of the first character meaning ‘bean’ containing the grass radical 荳. As Donkin (2003, p.22) points out, cardamom and nutmeg were initially confused in classical Chinese literature, probably on account of their similar appearance and the fact that Chinese merchants imported both from somewhere around mainland Southeast Asia, more specifically, from the Malay Peninsula. Initially *doukou* referred to both spices (attested ca. 863), then, in later sources, nutmeg was distinguished as 肉豆蔻 *roudoukou*, literally meaning ‘fleshy-cardamom.’

Doukou appears in ninth- and tenth-century sources such as the YZZ and the TPGJ, as 白豆蔻 *baidoukou* [white-cardamom], reportedly called 多骨 (MC /ta kuət/) from the land of 伽古羅 *jiaguoluo* (Kakola?), describing the round cardamom sourced from either Siam (*Amomum kravanh*) or Java (*Amomum compactum*).⁸¹ This country refers to Kakola/Takola, a settlement on the western coast of the Malay Peninsula, where cardamoms were marketed together with nutmegs from the Moluccas (Donkin, 2003, p. 22). This word is said to be connected to Sanskrit तक्कोल *takkola* ‘a kind of perfume,’ कक्कोल *kakkola* ‘a kind of aromatic plant; and a perfume made from its berries,’⁸² a word that is the proposed etymon for others, such as Tibetan ཀཀོལ *kakola*, referring to black cardamom, or Pali *takkola*. The Pali word is given as ‘a perfume made from an aromatic berry,’ and also the name of a country.⁸³ 嘎哥拉 *gagela/kakola*, a local name for red cardamom mentioned by S.-Y. Hu (2005), also fits in here. Takola as a place name for a trading settlement on the Malay peninsula appears in Ptolemy’s *Geography*, better known as “Golden Chersonese” in antique writings. For more on the mystery of Kakola, see Wheatley (1961). It has not yet been established whether *doukou* derives from a foreign name, such as the one reported in the YZZ, or the phonological similarity is coincidental, but I hope an expert

81 Duan, ca. 860, 18:55.

82 Monier-Williams, 1899, pp. 431, 241.

83 Pali Text Society, 1921–1925, p. 292; Trenckner, 1879, p. 59.

Sinologist one day will help me find the connection. I think it is a plausible assumption for the following reasons: the character 寇 *kou* does not appear in any other context or meaning, and, consulting the CTP, the first mention is in a Tang dynasty poem about Jiangnan⁸⁴ cardamom. The *Nanfang Caomu Zhuang* (NFCM), traditionally dated to the fourth century BC, mentions cardamom, but the authenticity and dating of this particular botanical treatise had been questioned for over a hundred years before (Ma, 1978). Moreover, the character itself seems to have been utilized on purely phonetic grounds, with the attached grass/herb radical hinting at the new meaning (艹 *cao* ‘grass’ + 寇 *kou* ‘bandit’). I reckon that the forms that supply both characters with the ‘grass’ radical are typically loanwords in the plant kingdom, and the variant 荳寇 *doukou* seems to support this. And, last but not least, Shi’s (2000, p. 40) *Hanyu Wailaici* [*Chinese Loanwords*] directly tells us that it is an Arabic loanword, from “takur” [sic]. Sadly, there is no Arabic word to the effect of *takur*, and I cannot guess what the author had in mind, but he also connected it with the place name, Takola. Besides this publication, I could not find it in any other etymological dictionary. The BCGM interprets *doukou* as ‘bean’ + ‘many; profusion’ (which does not explain its use for nutmeg).

As it is based on Middle Chinese pronunciation, *doukou* cannot derive from Pali, and so it was suggested to me to look into a Southern Min variant. A brief correspondence with a professor familiar with Southern Min reconstructions did not exclude the possibility of a Minnan connection, calling it “tempting” and stipulating that the Proto-Southern-Min reconstruction could be **tau-khau*. But what would be the etymon of a Minnan word? Arabic “takur”? He also pointed out that “the impact from Proto-Min and its descendant Proto-Southern-Min to other Chinese dialects is very minor, taking into account the geographical isolation of Fujian (where Proto-Min was spoken) during the ancient time,” and hardly any common Chinese words originate from Min.⁸⁵ I hope to pursue the tracking of *doukou* in the future in order to offer a plausible hypothesis better than this.

84 Historical region of China south of the Yangtze river.

85 Email exchange with Prof. Bit-Chee Kwok.

Table 4.12 Various names for cardamom in Chinese

Species	Name	Tr.	Gloss	Source
<i>Amomum</i> spp.	豆蔻	<i>dòukòu</i>	bean-cardamom	S.-Y. Hu (2005)
<i>Elettaria cardamomum</i>	綠豆蔻	<i>lùdòukòu</i>	green-cardamom	Wikipedia (n.d.)
<i>Elettaria cardamomum</i>	青砂仁	<i>qīngshā rén</i>	green-gravel-kernel	Wikipedia (n.d.)
<i>Elettaria cardamomum</i>	小豆蔻	<i>xiǎodòukòu</i>	little cardamom	DeFrancis (2003)

Zhang and Unschuld (2015, p. 729) identifies 豆蔻 with *Alpinia hainanensis* K.Schum. (syn. *Alpinia katsumadai* Hayata),⁸⁶ a medicinal plant bearing round compact fruits, commonly referred to now as 草豆蔻 *caodoukou* [herb-cardamom]. In modern TCM, *doukou* is either *Amomum kravanh* or *Amomum compactum*⁸⁷ while the green cardamoms of *Elettariacardamomum* are designated as 小豆蔻 *xiaodoukou* [little cardamom]. Finally, the seeds of the greater galangal (*Alpinia galanga*)⁸⁸ are referred to in Chinese as 紅豆蔻 *hóngdòukòu* [red cardamom]. See Table 4.12 for an overview.

Summary

To summarize, I have presented the way of *cardamom* in English; on the journey I was led into a byway by the spice amomum, its etymology and possible identity. I have then presented a multitude of spice names, propagated using the word *cardamom* as prototype. In Arabic, I have identified *hal/hayl* and *qaqulla* as important words in the history of cardamom(s) in a Middle Eastern context, the latter term possibly having an obscure but potentially remarkable history. According to authors such as Donkin (2003), Sanskrit seems to be the origin of *qāqulla* and its cognates in the Near East, and there is a possibility that Chinese *doukou* as well is a loanword from the same region: the Malay Peninsula, from which the spices were sourced, and a country called Kakola/Takola. Product names derived from toponyms are a well-known historical linguistic phenomenon (e.g., cologne, hamburger), but here the

86 <https://herbaltcm.sn.polyu.edu.hk/herbal/katsumada-galangal-seed>

87 <https://herbaltcm.sn.polyu.edu.hk/herbal/round-cardamon-fruit>

88 <https://herbaltcm.sn.polyu.edu.hk/herbal/galangal-fruit>

connection between the Sanskrit plant name and the toponym Kakola is unclear and needs further investigation.

Spice names found in general dictionaries can be consulted in Table 4.13, and Figure 4.8 illustrates the journeys I discussed above.

Table 4.13 Conventionalized names for cardamom in English, Arabic, and Chinese, found in dictionaries

#	Language	Term	Gloss	Loan	Source
1	English	<i>cardamom</i>		yes	OUP (n.d.)
1	Arabic	<i>hāl</i>		yes	Wehr (1976)
2	Arabic	<i>khayr buwwā'</i>	good-scent	yes	Lane (1863)
3	Arabic	<i>ḥabb al-hāl</i>	cardamom-seed	no	Baalbaki (1995)
4	Arabic	<i>ḥabhān</i>	cardamom-seed	no	Wehr (1976)
1	Chinese	<i>dòukòu</i>	bean-cardamom	maybe	DeFrancis (2003)
2	Chinese	<i>xiǎodòukòu</i>	little cardamom	no	DeFrancis (2003)

4.3.5 *The Diffusion of Cardamom Names*

Etymological stages of names for cardamom

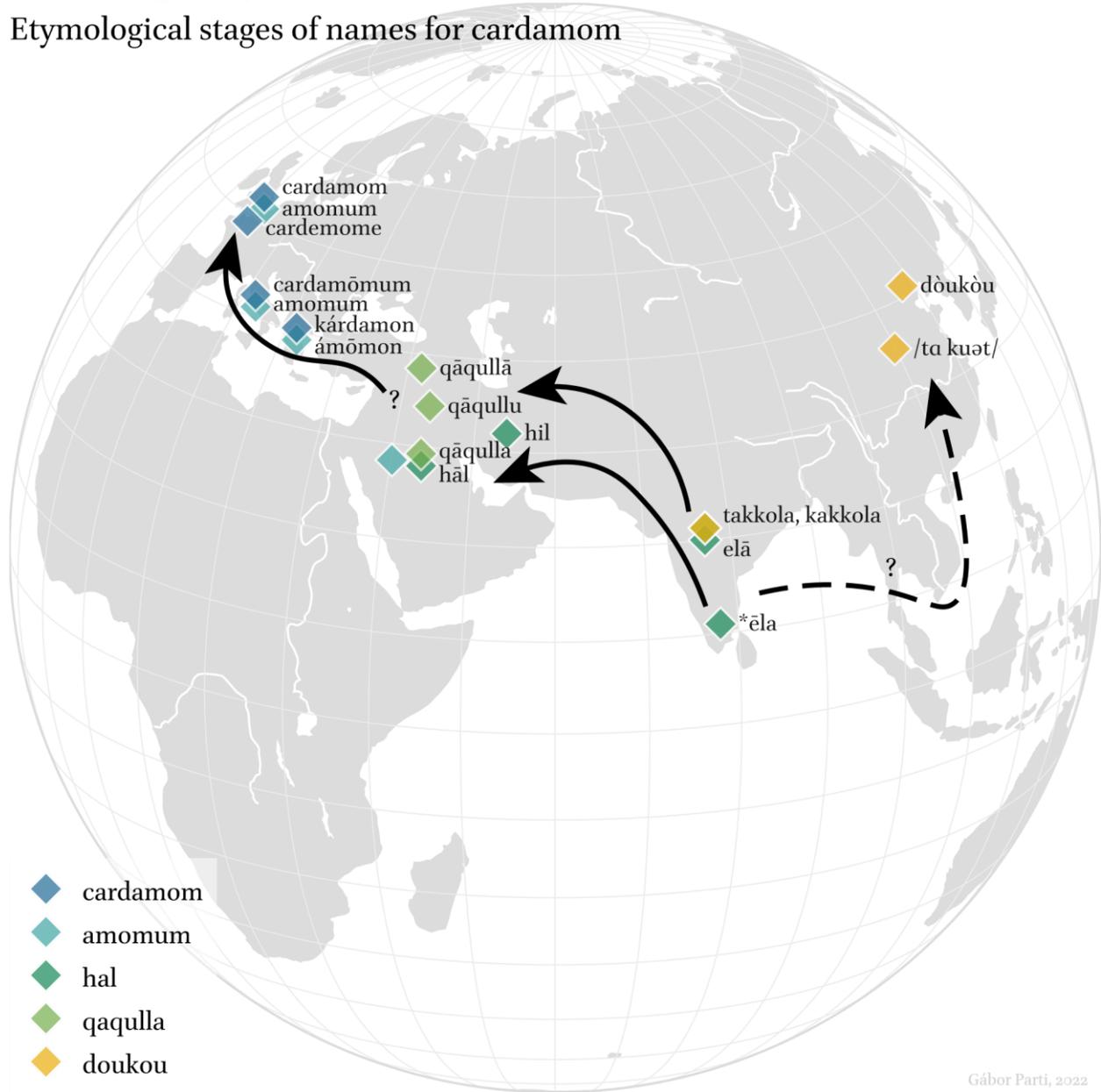


Figure 4.8 Diffusion of names for cardamom, and their etymological stages in English, Arabic, and Chinese

4.4 CINNAMON AND CASSIA

4. Cinnamon

English: cinnamon. Arabic: قرفة qirfa [rind; bark]; دارصيني darsīnī. Chinese: 錫蘭肉桂 xīlánròuguì [Ceylon-flesh-cinnamon]. Hungarian: fahéj [tree-bark].

Plant species: *Cinnamomum verum* J.Presl. (syn. *Cinnamomum zeylanicum* Blume)

Family: Lauraceae

Part used: bark; leaf

Region of origin: Sri Lanka; SW. India

Cultivated in: Sri Lanka; Seychelles; Madagascar; India

Color: warm yellowish-brown, cinnamon



(a) quills



(b) quills



(c) leaves

Figure 4.9 Cinnamon quills and leaves from *Cinnamomum verum*.

Cinnamon is well-known around the world for its sweet aroma and flavor, and as one of the oldest spices of commerce. It was a sought-after substance in rituals and traditional medicine systems of various cultures, and today it is an essential spice in several cuisines, both Eastern and Western. Cinnamon has maintained its level of demand ever since humans first traded it, and even in contemporary times it is the second most important spice in the markets of Europe and the United States (including cassia cinnamon), trailing behind only black pepper (Ravindran et al., 2004).

Cinnamon comes from the inner bark (cortex) of the tropical tree *Cinnamomum verum* J.Presl

(syn. *C. zeylanicum* Blume),⁸⁹ pieces of which are stripped and rolled into quills of several tightly packed layers by skilled peelers in (mostly) Sri Lanka, where the plant is native. In a rare example, the literal translations of the binomial names *C. verum*, meaning ‘true cinnamon,’ and *C. zeylanicum*, meaning ‘Ceylon cinnamon,’⁹⁰ are used as common names for cinnamon in several languages.

5. Cassia

English: cassia. Arabic: سليخة salikha [peel; bark]. Chinese: 肉桂 ròuguì [flesh-cinnamon]. Hungarian: kasszia(fahéj) [cassia (tree-bark)].

Plant species:	<i>Cinnamomum cassia</i> (L.) J. Presl. (syn. <i>Cinnamomum aromaticum</i> Nees); et al.
Family:	Lauraceae
Part used:	bark; fruit
Region of origin:	nan
Cultivated in:	Indonesia; China; Vietnam; Timor-Leste; etc.

⁸⁹ It is difficult to navigate between the hundreds of species and subspecies of cinnamon and their overlapping botanical taxons and binomial synonyms, *C. verum*, for example, has fifty-one scientific synonyms, mainly a result of botanical history and competing naturalists. In plant taxonomy, species often have dozens of scientific names called “synonyms.” If there is consensus on the name within the scientific community, that binomial name (appended with the abbreviated name of the person who coined it) will be marked as “accepted,” while the status of the other names will be “synonym,” or “unresolved.” This is the product of the efforts of the last couple hundred years, when botanists tried to collect, describe, name, and categorize plant life around the world. As the consensus changes with time, competing names can appear in the literature. Botanical databases, such as the WFO and POWO, or specialized plant name checklists usually list all synonyms of a species to help us orientate ourselves in the jungle of plant nomenclature. Synonyms (abbreviated as syn.) are only given if a plant is known by multiple names in non-specialist literature, such as the case above.

⁹⁰ Ceylon is the former name of Sri Lanka.



(a) stick

(b) powder

(c) buds (dried unripe fruit)

Figure 4.10 Cassia sticks, powder, and “buds” from *Cinnamomum cassia*.

The phrase *true cinnamon* implies that there is a false cinnamon as well, and that would be cassia. Cassia, also known as Chinese cinnamon, Chinese cassia, cassia cinnamon, and—somewhat harshly—bastard cinnamon, is obtained similarly from the aromatic inner barks of closely related species, especially *Cinnamomum cassia* (L.) J.Presl. (syn. *C. aromaticum* Nees), which is produced in Southeast China and Vietnam. Although, to the uninitiated eye, seemingly very similar, the two spices are different in many ways. Cassia is harder and coarser, and it is made up of a single layer of thicker rind that has curled up in the heat of the day after harvesting, in the shape of a scroll. This is the cinnamon stick that most of us are familiar with, and it is sufficiently hard to be capable of damaging a home grinder. It is also a bit darker reddish brown in color and more pungent in flavor. Ceylon cinnamon, on the other hand, is more fragile, slightly paler in color, and supposedly more delicate in taste because it offers a combination of different essential oils besides cinnamaldehyde (the principal component responsible for its aroma and flavor). Both are marketed in powdered form as well, and as such they are indistinguishable, creating room for adulteration. Since the Europeans took over the cinnamon trade of Sri Lanka and took over tapping the source of “true cinnamon” (first done by the Portuguese, who got a foothold in the city of Colombo in 1518 together with trading concessions), there is a still ongoing notion that cassia is an inferior product (Chennault, 2006). And this belief eventually became reflected in the plant’s Linnaean name. A few cuisines also make use of the leaves (usually from *C. verum*), and the dried, immature fruits called cinnamon buds (usually from *C. cassia*).

There are a handful of other species that are cultivated as a source of commercial cassia, such as *C. burmannii* (Indonesian cassia/cinnamon, Padang cassia, Batavia cassia, Korintje [cassia]), *C. loureiroi* (Vietnamese cassia/cinnamon, Saigon cinnamon), and *C. tamala* (Indian cassia (lignea), Indian bark, Malabathri bark), which is better known for its leaf as Indian bay leaf, malabathrum, or tejpat. As reported in Ravindran et al. (2004, p. 10), *C. loureiroi* is extremely rare, and in actuality most of what is known as Vietnamese cassia or Saigon cinnamon is in fact *C. cassia*, contrary to what is claimed in most of the literature. This is supported by reports from botanists of French Indochina who insisted that Saigon cinnamon is brought from the north by Chinese and Annamese merchants (S.-Y. Hu, 2005, p. 400). S.-Y. Hu (2005) recounts a personal experience from the 1960s, regarding a professor of pharmacy's asking assistance in the identification of a cassia shipment from Hong Kong to the United States, stopped at maritime customs. If the cinnamon specimens are from *C. cassia*, it must be sent back. If it is *C. loureiroi*, it will be accepted. With no certain indicator or characteristics on the species, Dr. Hu's team made a decision "for humanitarian reasons" and opted for *C. loureiroi*. It is fascinating to look behind the curtain and see how difficult it is sometimes to actually know the identity of plant products circulating in global trade, and what decisions plant taxonomists must make. This is also a good anecdote to demonstrate that, for the average consumer, the primary difference between these *Cinnamomum* species is purely geographic. The reason behind the hesitation to accept cassia was presumably due to its high coumarin content, a compound that is toxic in large quantities, and therefore cassia has often been portrayed as the less healthy option (Dinesh et al., 2015).

Note 4.4.1. In this work, the word *cinnamon* usually refers to all products from the species mentioned above—both cinnamon and cassia—following the everyday common usage in language. However, where a distinction is made between *cinnamon* and *cassia*, *cinnamon* refers only to *C. verum*, the "true cinnamon" of Sri Lanka, and *cassia* refers to cassia of any source (China, Indonesia, Vietnam, etc.).

4.4.1 *The Botany, Origin, and Cultivation of Cinnamon and Cassia*

The plant itself, (*C. verum*) is a medium-sized evergreen tree in the laurel family (*Lauraceae*), with glossy leaves, small white flowers, and oblong, acorn-like fruits (van Wyk, 2014, p. 104). New trees are propagated from both seeds and cuttings; they are often multi-stemmed due to *coppicing*: the practice of chopping

younger shoots to ground level to stimulate growth. Cinnamon is indigenous to Sri Lanka. Cultivation of high-quality true cinnamon is historically important on the island of Sri Lanka, which is the main producer and exporter to this day. It is followed by Madagascar and the Seychelles, with minute amounts. Cassia (*C. cassia*) is believed to be native to the borderlands between northern Vietnam and southern China, south of the Nanling mountain range, where the ethnic communities used its bark as medicine and spice from “time immemorial” (S.-Y. Hu, 2005, p. 400). Some sources also mention Myanmar, but others refute this (see Haw, 2017). Cassia of various kinds is widely cultivated now in many countries and regions, including India, Indonesia, Laos, Malaysia, Taiwan, Thailand, Vietnam, and tropical and subtropical provinces on the south of China: Guangdong, Guangxi, Guizhou, and Yunnan, where it is indigenous, and Fujian, Hainan, where it has been introduced (Chennault, 2006; Ford et al., 2019). It is hard to find detailed statistics on production, because most indexes such as the *UN Food and Agriculture Organization Statistical Database* (FAOSTAT) do not differentiate between true cinnamon and cassia varieties. In any case, most of the world’s “cinnamon” is actually cassia grown on a large scale in Indonesia, Mainland China, and Vietnam. I believe that it is impossible to discuss cinnamon without including cassia as well, since the two are often interchanged—not only in discourse, but also in the shelves of stores and in kitchens around the world. Popular spice compendiums often blend information of cassia and cinnamon, or just ignore the distinction altogether.

4.4.2 *The Identity of Cinnamon and Cassia*

Cinnamon is often used as an umbrella term and includes both the true cinnamon of Sri Lanka and cassia varieties of different origins. *Cassia* or *cassia cinnamon* is used as hypernym to refer to any cassia (sometimes explained as a lesser quality cinnamon), unless there is a need to specify the exact variety (e.g.: *Indonesian cassia*). There is a degree of perplexity between the two terms, and the material cinnamon was, and still is, often confused with cassia. Evidently, the two products have a high degree of resemblance and their methods of procurement are almost identical, so they are essentially the two main varieties of a spice product made from aromatic tree bark. Confusion in terminology also arises from the fact that while most of the European market differentiates between culinary cinnamon and cassia, North America does not. In Europe, Australia, New Zealand, and Mexico, where the higher quality—and definitely more expensive—true cinnamon is desired and preferred, sellers must indicate if the product is cinnamon or cassia. Meanwhile, United States laws (or rather the lack of certain

regulations) allow for cassia to be labeled and marketed as “cinnamon”; distributors are not legally required to label their product accurately. Consequently, most of the cinnamon sold in the United States is in fact cassia (Czarra, 2009, p. 124). Cassia is the main product of choice not only in the United States and Canada, but also in South East Asia, and China as well, where it is a native spice (van Wyk, 2014, p. 104).

Different disciplines use varying levels of rigidity when it comes to the choice of names *cinnamon* and *cassia*. Wijesekera and Chichester (1978) consistently refers to *C. verum* as *cinnamon*, and to *C. cassia* as *cassia*, only discussing the cinnamon grown in Sri Lanka in their historical overview of the cinnamon industry, calling it “genuine” as opposed to cassia, a “substitute for cinnamon” that was flooding to London in large quantities starting from the second half of the nineteenth century, drastically lowering the prices for cinnamon from Ceylon (Wijesekera & Chichester, 1978). The practice of distinguishing the two as such is still commonly used and preferred among spice sellers, however one can find studies where researchers use the name “cinnamon” as an umbrella term for several species (see Rao & Gan, 2014), and it is not uncommon in everyday language use to confound the two, especially when referring to cassia with the word *cinnamon*, as I mentioned above. The *Handbook of Herbs and Spices* (Peter, 2012) discusses cassia (and other similarly used *Cinnamomum* species under the chapter titled “Cinnamon”), indicating that even for industry professional circles, *cinnamon* is the bigger set, usually referring to all species of the genus, even if there is no botanical hierarchy between cinnamon and cassia. In short, it is customary to use the term *cinnamon* as a collective term, and only to make a distinction between different kinds of cinnamon when it is necessary.

The notion that Ceylon cinnamon is “real” and “genuine” could not be more obvious than in the botanical name *C. verum*, ‘true cinnamon’ in Latin, already explained. Dinesh et al. (2015) outright call cassia “the fake cinnamon” and an “avatar” of true cinnamon (which is a truly creative witticism in an Indian journal), clearly elevating cinnamon to being on a pedestal and treating cassia as a counterfeit version of the former. Other articles with titles such as *Bastard Spice or Champagne of Cinnamon?* question the value of specific products and reflect on our bias and tolerance toward a spice, which would be a great discussion for marketing experts (see Derks et al., 2020).

This conveniently leads us to the topic of adulteration, which I will briefly mention. Numerous academic articles explore methods to identify the botanical species from cinnamon samples, in order to

verify origin and authenticate the quality of *Cinnamomum spp.* products, via analyzing chemical compounds. This unique set of methods rose from the need to expose substances (cinnamon powder, bark oil, leaf oil, etc.) in the spice industry, that are adulterated with other, cheaper, lower-quality species purely for financial gain, representing an interesting interpolation of chemistry and geobotany into the spice business (see Ford et al., 2019). Even more interesting is that the confusion in terminology is evidently a problem in pharmacological experiments, as indicated by Oketch-Rabah et al. (2018).

The species prevalent in human consumption today can be seen in Table 4.14 (Kawatra & Rajagopalan, 2015), with a minor source from additional species, such as *C. tamala*. According to Ulbricht et al. (2011), true cinnamon (*C. verum*) and cassia cinnamon (*C. cassia*) are the only two species of the genus that are approved medicinal herbs. The existence of an unrelated genus named *Cassia* in the pea family (*Fabaceae*) should be noted as well to avoid confusion. This genus used to be a wastebasket taxon, now containing many ornamental flowering plants, e.g., *Cassia fistula*, commonly known as “golden shower.”

For a comprehensive account on cinnamon, cassia, and other economically important products from the genus *Cinnamomum*, such as camphor, please refer to Ravindran et al. (2004).

Table 4.14 *Cinnamomum spp.* cultivated for commercial cinnamon and cassia, their common names and native regions

Taxon	Common name(s)	Native habitat
<i>C. verum</i>	cinnamon; true cinnamon; Ceylon cinnamon	Sri Lanka
<i>C. cassia</i>	cassia; cassia cinnamon; Chinese cinnamon	S. China
<i>C. burmannii</i>	Indonesian cinnamon; Batavia cinnamon; korintje	Sumatra; Java
<i>C. loureiroi</i> <i>C. cassia</i>	Vietnamese cinnamon; Saigon cinnamom	Vietnam

4.4.3 *The History of Cinnamon and Cassia*

During its several-thousand-year history of human use across various civilizations, knowledge and understanding regarding the origins of this once highly priced product often involved confusion and

mystery, and the uncertainty between cinnamon and cassia is just one of the reasons. While our contemporary knowledge of the various cinnamon products and their sources makes these quite clear, the identity of cinnamon and cassia used and described in antiquity is quite puzzling. Cinnamon has been claimed to have been found in pharaonic tombs of ancient Egypt (see Meyerhof and Sobhy in al-Ghāfikī, 1932, pp. 471, 475), and was mentioned by early Western authors such as Herodotus, Theophrastus, Dioscorides, Strabo, and Pliny (Laufer, 1919, p. 541), and the poet Sappho. Haw (2017) suggests that the assumption that the ancient and modern products are identical is problematic, and that the cinnamon and cassia described by early Europeans were sourced from different species of aromatic barks from Africa, and—as a plant taxonomist and historian himself—gives a hint as to a probable candidate. “There is no good reason to believe that cinnamon and cassia were traded to the western Indian Ocean and the Mediterranean region at any very early date,” he writes, even if others claim the opposite, such as: “The much-discussed identification of the biblical *kinnamon* as *Cinnamomum* has been clarified and confirmed by various scholars.” (M. Zohary, 1982, p. 202). In any case, cinnamon is one of the oldest of spices, its history reaching back millennia. It is mentioned in the Bible in the Old Testament, in Sanskrit texts, and in early Chinese materia medica.

It is said that the Chinese used it as early as the third millennium BC, and it reached the West in the second millennium BC (Dietrich, 2004b), with evidence of Chinese poetry from the second century BC (Dalby, 2000, p. 38). Archaeological discoveries from 2013 found 3000-year old cinnamaldehyde residue inside elegant flasks in a Phoenician site at Tel Dor, modern-day Israel. The researchers stipulate that cinnamon was used to flavor wine, and that this could be evidence for early trade in aromatics from Southeast Asia (Namdar et al., 2013). Besides its traditional usage as a stomachic and carminative medicine, aiding digestion and promoting appetite (still popular as such), it is a popular culinary spice today (Ulbricht et al., 2011). However, this was not always the case; for example, in European antiquity cinnamon was not used in food preparation, but rather was burned like incense as an offering to the gods, sprinkled in the air as perfume, and mixed in healing decoctions and spiced wines. It was reported by Pliny that after the death of Poppaea in 65 AD (at his hands?), her husband, emperor Nero, burned a year’s worth of Rome’s supply of cinnamon on his young wife’s funeral (Counts, 1996). The earliest mentions of cinnamon come from around the Mediterranean in sixth century BC. The *Exodus*, the second book of the Bible traditionally attributed to Moses, contains the following paragraph:

²²The Lord spoke to Moses, ²³“Take the finest spices: of liquid myrrh five hundred shekels, and of sweet-smelling cinnamon half as much, that is, two hundred fifty, and two hundred fifty of aromatic cane, ²⁴ and five hundred of cassia—measured by the sanctuary shekel—and a hin of olive oil, ²⁵ and you shall make of these a sacred anointing oil blended as by the perfumer; it shall be a holy anointing oil. ²⁶ With it you shall anoint the tent of meeting and the ark of the covenant ²⁷ and the table and all its utensils and the lampstand and its utensils and the altar of incense ²⁸ and the altar of burnt offering with all its utensils and the basin with its stand; ²⁹ you shall consecrate them, so that they may be most holy; whatever touches them will become holy.” (Exodus 30:22–29)⁹¹

This is a good demonstration of how important perfume and ointments were in early Judaistic rituals; while God is leading the Jews out of Egypt after the ten plagues, he methodically describes the expected sacrifices and rituals. If rightly prepared, these aromatics have the power to turn the things they touch sacred, and holy. Cassia appears in more mundane parts of the Bible as well, as in the *Book of Ezekiel* the Hebrew prophet, to whom is attributed the authorship of the chapter around the sixth century BC, gives his observations on the spice trade in Tyre (today on the coast of South Lebanon).

¹⁸ Damascus traded with you for your abundant goods—because of your great wealth of every kind—wine of Helbon and wool of Zahar. ¹⁹ Vedan and Javan from Uzal[a] entered into trade for your wares; wrought iron, cassia, and sweet cane were bartered for your merchandise. (Ezekiel 27:18–20)⁹²

In the chants of an unknown poet on a wedding, addressing a royal bride, cinnamon is accompanied with myrrh and aloes (wood): “Your robes are all fragrant with myrrh and aloes and cassia

⁹¹ <https://www.biblegateway.com/passage/?search=Exodus+30&version=NRSVUE>

⁹² <https://www.biblegateway.com/passage/?search=Ezekiel%2027%3A18%2D20&version=NRSVUE>

[...]” (Psalm 45:8).⁹³ This is similar to lines in a poem about adultery showing that it was used as perfume, sprinkled on clothes and linen, emanating beauty and attracting love seekers.

¹⁷ I have perfumed my bed with myrrh, aloes, and cinnamon.

¹⁸ Come, let us take our fill of love until morning; let us delight ourselves with love. ¹⁹ For my husband is not at home; he has gone on a long journey.

(Proverbs 7:17)⁹⁴

The Bible mentions cinnamon four times, three in the Old Testament and one in the New Testament, and cassia four times, three in the Old Testament and one in the Apocrypha. Besides the Bible, our most important source is Sappho (d. ca. 570 BC), a Greek poet from Lesbos. On an imaginary Trojan wedding she writes: “[...] and everywhere through the streets... wine bowls and goblets... myrrh, cassia, and frankincense mixed together.” (Rayor & Lardinois, 2014, p. 49). Cinnamon appears in *The Histories* of Herodotus, his 430 BC magnum opus about the Persian wars, which is considered the founding work of Western historiography.

As for cinnamon, they gather it in an even stranger way. Where it comes from and what land produces it they cannot say, except that it is reported, reasonably enough, to grow in the places where Dionysus was reared. There are great birds, it is said, that take these dry sticks which we have learned from the Phoenicians to call cinnamon and carry them off to nests stuck with mud to precipitous cliffs, where man has no means of approach. The Arabian solution to this is to cut dead oxen and asses and other beasts of burden into the largest possible pieces, then to set these near the eyries and withdraw far off. The birds then fly down (it is said) and carry the pieces of the beasts up to their nests, while these, not being able to bear the weight, break and fall down the mountain side,

93 <https://www.biblegateway.com/passage/?search=Psalm%2045%3A8&version=NRSVUE>

94 <https://www.biblegateway.com/passage/?search=Proverbs%207%3A17&version=NRSVUE>

and then the Arabians come and gather them up. Thus is cinnamon said to be gathered, and so to come from Arabia to other lands. (Herodotus, 430 BC/1921, p. 139)⁹⁵

Besides these fabulous tales regarding the procurement of cinnamon, Herodotus explains that the Greeks learned the name from the Phoenicians, and that the source of the product is from Arabia.⁹⁶ Theophrastus (d. ca. 287 BC) mentions cinnamon but remains vague about its origins (Arabia, Syria, or India). In his *Enquiry into Plants* he included accounts of plants found outside of Greece, such as cotton-plant, banyan, pepper, cinnamon, myrrh, and frankincense, based on the reports of Alexander’s followers (Theophrastus, 1916, pp. xix, 323).

Arabia was the source of cinnamon not only in ancient times, but throughout the Middle Ages as well. The Arabs used the tubular sticks as spice, as well as its leaves and unripe berries. They were familiar with its medicinal values to “strengthen the stomach, liver and spleen,” and thought it to be effective against scorpion venom (Dietrich, 2004b). Whenever the “real” cinnamon arrived to the ports of the Red Sea, it was most likely at Aden (Dietrich, 2004b), one of the most important ports after the eleventh century, but already important in the trade with India in the first century AD in the time of the *Periplus*. Western authors doubtful of Sri Lanka’s early cinnamon enterprise often give very much later dates for its export: fourteenth century (Dietrich, 2004b) or the 1770s (Alam, 1994/2011, referring to William Dymock), but we have Arabic eyewitnesses for the opposite. Buzurg ibn Shahriyār (ca. 900–953/1908, p. 126) mentioned *al-qirfat al-sahilānīya* “Sinhalese bark” on his travels. A native of Ramhormoz, north of the port of Siraf (in today’s Iran), Buzurg ibn Shahriyār was a Persian ship captain; his *Kitāb ‘ajāib al-Hind* [*The Book of the Marvels of India*] is one of the most important sources we have on tenth-century Indian Ocean trade: his travels and stories also inspired the tales of Sindbad. A century before, a source (Ibn Khurdādhbih, ca. 870) also talks about cinnamon (*dāršīnī*) as one of the economic products sold on the Indian Ocean route. For the Europeans, the source of cinnamon remained a mystery until the sixteenth century, and they had to buy it via Arab middlemen in Alexandria or elsewhere. In colonial

95 Hdt. 3.111—<http://www.perseus.tufts.edu/hopper/text?doc=Hdt.+3.111&fromdoc=Perseus%3Atext%3A1999.01.0126>

96 These mythical birds in Arabia are called “cinnamon gatherers” *κινναμωμο-φόρος kinnamōno-fōros* after Strabo and *κινναμωλόγος kinnamo-lōgos* after Pliny, or just simply *κιννάμωμον kinnāmōmon* after Aristotle.

times, the cinnamon export was so important in Sri Lanka that in the Dutch period (1602–1796), the colony's coat of arms featured three cinnamon bales and an elephant holding a cinnamon branch (Hartemink, 1995).

For further details on the history of cinnamon, I recommend Dalby's *Dangerous Tastes* (2000).

4.4.4 *The Names of Cinnamon and Cassia*

English

Etymology 16. English *cinnamon* 'cinnamon,' (Middle English *sinamome*, *synamome*), ca. 1430 < French *cinnamome* 'cinnamon,' (earlier *cynnamome*; also sixteenth century *cinamonde*), 1211 < Latin *cinnamōmum* 'cinnamon,' first century AD < Ancient Greek κιννάμωμον *kinnámōmon* 'cinnamon,' later refashioned as *kínnamon* after Latin *cinnamum/cinnamon*, which partly influenced the current English form (of Semitic origin), fifth century BC; cf. cognates Coptic ΚΙΝΝΑΜΩΜΟΝ *kinnamomon* < Semitic **qnmwn* 'cinnamon' (probably a loanword from a non-Semitic language); cf. cognates Ancient Hebrew קִנְאָמֹן *qināmōn*; Judeo-Aramaic קִנְמֹן *qnmw* < 'cinnamon'^a

a. OUP (n.d., s.v. cinnamon); TLFi (2012); C. T. Lewis and Short (1879); Beekes and van Beek (2010, p. 701); Klein (1987, p. 585); Rosól (2018)

Cinnamon, or more accurately one of its countless Middle English spelling variants among which are *sinamome* or *cynamom*, was first attested in the fifteenth century (ca. 1430) and became relatively more frequent in the following sixteenth century.⁹⁷ It can be traced back to Ancient Greek and Hebrew with certainty, but not further. According to the OED, the English term was loaned from French *cinnamome* (attested in the thirteenth century as *cynnamome*),⁹⁸ which comes from Latin *cinnamōmum*. The Latin word is a direct borrowing from the Greek κιννάμωμον *kinnámōmon* (since the fifth century BC), which is in turn a Semitic loanword. According to Beekes and van Beek (2010, p. 701) (citing Herodotus), the Greek word comes from Phoenician. Herodotus wrote in the third century BC that the

⁹⁷ OUP, n.d., s.v. cinnamon.

⁹⁸ *Trésor de la Langue Française informatisé* (TLFi)—<https://www.cnrtl.fr/etymologie/cinnamome>

word *kinnámōmon* was “taught” to the Greeks by the Phoenicians (Herodotus, 430 BC/1921, p. 139),⁹⁹ a Canaanite Semitic-speaking seafaring people, originally from the Eastern Mediterranean, roughly around today’s Lebanon. According to Klein (1987, p. 585), however, the Greek is a loanword from Hebrew, and he observes that this word seems to be “of foreign origin.” Indeed, the Semitic root system does not support this type of native word form, but we have no further attestation to the origins of the word. Besides Biblical Hebrew קִנְמֹן *qinnāmōn*, Semitic cognates are also attested in Judeo-Aramaic *qnmn/qnmwn* Samaritan Aramaic *qynmwn* and Syriac *qūnnāmā* (Rosół, 2018). The alteration of the Greek word ending (*kinnámōnon* > *kinnámōmon*) is probably due to folk-etymology, modelled after the phytonym ἄμωμον *ámōmon* ‘a spice plant’ (Beekes & van Beek, 2010; Klein, 1987).

Amomum is an spice of uncertain identity, featured in the writings of European antiquity but which cannot be positively matched today. I have briefly introduced amomum in Section 4.3, explaining that it most probably refers to black cardamom. Appearing in Pliny’s *Natural History*, it is “an aromatic shrub, from which the Romans prepared a costly, fragrant balsam,”¹⁰⁰ and for the Greeks it denoted an Indian spiceplant: “Nepaul cardamom.”¹⁰¹ This brings up one of the popular theories one finds when searching for the origins and explanations of the word *cinnamon*: that it is made up of the combination of Κίνα *Kína* ‘China’ + ἄμωμον *ámōmon* ‘amomum,’ as in ‘Chinese amomum.’ This is somewhat analogous to the plant’s Persian name *dârčîn* ‘cinnamon’ (lit. ‘Chinese tree’), which is a Wanderwort that has spread far, from South and Central Asia to the Balkans.

Another—seemingly rather far-fetched—theory is its presumed relatedness to Malay *kayu manis* ‘cinnamon’ (lit. ‘sweet wood’). Even a Google search for the etymology of cinnamon powered by Oxford Languages data returns Malay as a possible etymon. This speculation (probably on account of a similar consonant sequence) seemed to gain some traction with a reference work of Biblical Hebrew and Aramaic titled *A Hebrew and English Lexicon of the Old Testament*, commonly known as the Brown–Driver–Briggs (see Brown et al., 1906/1939, p. 890).¹⁰² “Prob. foreign wd., coming with the thing from

99 Hdt. 3.111—<http://www.perseus.tufts.edu/hopper/text?doc=Hdt.+3.111&fromdoc=Perseus%3Atext%3A1999.01.0126>

100 C. T. Lewis and Short, 1879, amomum.

101 Liddell and Scott, 1843/1940, ἄμωμον.

102 BDB—<https://mg.alhatorah.org/Dictionary/7076>

remote E[ast]; cp. with Malay *kainamanis* by Röd, *kāyü mānīs Lewi [...]*—says this old dictionary, referring to the material using the word “thing,” and guiding the reader further down the rabbit hole. As I mentioned above, cinnamon is attested in the Old Testament in three places,¹⁰³ among other spices, incense, and perfumes. I think the logic of the authors lay in the fact that cinnamon was thought to be imported to the Middle East at the earliest of times from East Asia, and that if anyone could afford exotic spices coming through the hands of early Babylonian and Malay traders, King Solomon—who is considered to be the author of several Biblical books—must be one. To sum up, we have no way of knowing *cinnamon*’s origins for certain prior to Hebrew, only speculation.

Besides *kinnámōmon*, there is also *κίνναμον* *kínnamon* in Greek, a later, more rare form of the former, appearing first in the writings of Pliny. The current English form is in part derived from the Latin versions *cinnamum/cinnamon* refashioned after this.¹⁰⁴

Etymology 17. English *cassia*, ca. 1000 < Latin *casia* ‘id.’ first century AD < Ancient Greek *κασία* *kasía* ‘id.’, sixth century BC < Ancient Hebrew *קִשְׁיָא* *qəšî‘á* ‘a bark resembling cinnamon, but less aromatic, so called from being stripped off;’ from *qša‘* ‘to cut off, strip off bark’ (*hapax legomenon* in the Bible; Ps. 45:9)^a

a. OUP (n.d., s.v. *cassia*); Rosól (2018); Beekes and van Beek (2010, p. 653); Klein (1987, p. 589)

The English word *cassia*, similarly to *cinnamon*, goes back to Latin. *Casia* (rarely *cassia*) is a direct borrowing from Greek *κασία* *kasía*, occasionally with double sigma: *κασσία* *kassía*.¹⁰⁵ The Greek word, appearing first in Herodotus’s writings, once again is “an oriental loanword” and often explained as ‘wild cinnamon,’ comparable to Hebrew *קִשְׁיָא* *qəšî‘á* and “Assyrian” *kasía* (Beekes & van Beek, 2010, p. 653). Although Beekes and van Beek (2010) indicates that the word originally is Austro-Asiatic, there is no further elaboration there, and according to Welles (1934, p. 342) it is a Semitic loan-word. This conforms

¹⁰³ Exodus 30:23; Proverbs 7:17; Song of Songs 4:14—<https://www.biblegateway.com/quicksearch/?quicksearch=cinnamon&version=NRSVUE>

¹⁰⁴ Hoad, 2003, cinnamon.

¹⁰⁵ OUP, n.d., s.v. *cassia*.

with the current popular theory that the source of the Greek term is the Hebrew word *qəšî'â*, literally meaning ‘peel’ i.e., “the peel of the plant, which is scraped off the tree” (Klein, 1987, p. 589). *Qəšî'â* derives from the root *q-š-*, and this Semitic root means “to cut, cut off; to scrape,” which clearly refers to the procurement of this spice, with the peeling off of the tree bark (Klein, 1987).¹⁰⁶ Not everyone subscribes to this inherited Semitic word theory, and there have been wild speculations that the Biblical Hebrew word is a loan from Chinese 桂枝 *guìzhī* or 桂子 *guìzǐ* (which were not attested until the eleventh and fourteenth centuries (Noonan, 2019, p. 197). This word is a hapax legomenon in the Hebrew Bible: it occurs only once¹⁰⁷ in the plural form (*qəšî'ōt*), mentioned, in connection with myrrh and aloes, as being used to perfume garments. It was probably prepared from the peeled bark of some cassia-like plant, as the Hebrew word suggests. (Noonan, 2019, p. 196) is sure that the cassia in the Bible is a spice from Arabia or Ethiopia, and not the cassia of today, trusting classical authors who state that it appears with other Red Sea products such as myrrh and ivory, and at the port of Ophir. He also thinks that this word has to be a loanword from a language in this region. Although, according to Klein (1987), a hapax legomenon, *qəšî'â*, also appears in Job 42:14 as a feminine proper name rendered usually as Keziah in English, given to the second daughter of Job (probably named after the fragrant spice tree). If we search English translations of the Bible, we find three occurrences of ‘cassia’ as an aromatic substance—in agreement with The Septuagint (Greek Old Testament)—but two of these (Ex. 30:24; Ezek. 27:19) are translated from the word *qiddah*, “of uncertain origin; prob. a foreign word”—writes Klein.¹⁰⁸ In the *Encyclopedia Judaica* (EJ), the three kinds of cinnamon are identified in the Bible and Talmudic literature, specifically: (1) Cinnamon, Ceylonese; *Cinnamomum zeylanicum* [sic]; *qiddah* aromatic tropical spice tree; Ex. 30:23; Prov. 7:17, et al. (2) Cinnamon, Chinese; *Cinnamomum cassia* [sic]; *qiddah* aromatic tropical spice tree; Ex. 30:24; Ezek. 27:19. (3) Cinnamon, Indo-Chinese; *Cinnamomum laurei* [sic]; *qiddah* aromatic tropical spice tree; Ps. 45:9 (Feliks, 2007, vol. 16, p. 221).

¹⁰⁶ Cognates are Aramaic *qat*, and Arabic *qata'a*

¹⁰⁷ Ps. 45:8—<https://www.biblegateway.com/passage/?search=Psalm%2045%3A8&version=NRSVUE>

¹⁰⁸ In Easton's Bible Dictionary: “*qiddah*, i.e., ‘split.’ One of the principal spices of the holy anointing oil (Ex. 30:24), and an article of commerce (Ezek. 27:19). It is the inner bark of a tree resembling the cinnamon (q.v.), the *Cinnamomum cassia* of botanists, and was probably imported from India.”—<https://www.blueletterbible.org/search/dictionary/viewto pic.cfm?topic=ET0000734>

Both words spread in Europe significantly via Latin, and especially with the spread of Christianity, through Medieval Latin. Words for cinnamon and cassia (cf. Musselman, 2012, p. 38) might be among the few spice names to spread to places where the spice itself had not yet reached. For example, *cassia* is attested in Old English and Middle English, but was not naturalized until the sixteenth century.¹⁰⁹ English names regarding cinnamon appear to be concerned with two things: place of origin, and genuineness. Sometimes the *semantics* of these two overlap, especially if one is familiar with the qualities and grades associated with the source of the cinnamon. For those who know what these epithets actually mean, *Chinese cinnamon* should signify the same thing as *bastard cinnamon*, and *Ceylon cinnamon* is the same as *true cinnamon*. For the rest, all these names would just fall in the category of culinary cinnamon, and users can only infer further information from the meaning of the distinguishing words (*true*, *Ceylon*, *bastard*, *Chinese*, etc.). The phrase *bastard cinnamon* is not in frequent daily use anymore, but at some point it was important enough that it was explained in dictionaries.¹¹⁰ Attested in 1678, it was inspired by French †*canelle bastarde*,¹¹¹ and was born during an English translation of a travelogue: “After the Dutch had disposses’d the Portugals of whatever they had in Ceylan, they cast their eyes upon Cochin, in the Territories whereof grows the Bastard Cinnamon, which hinder’d the utterance¹¹² of Ceylan Cinnamon” (Tavernier, 1678, p. 88).

As the quotation shows, the phrase *bastard cinnamon*’s sole role was to stand opposed to *Ceylon/true cinnamon*, and if we think about the European maritime powers vying for power at this time, this dysphemism could be regarded as a negative marketing strategy as well: whoever owned Ceylon, and thus the trade in *real* cinnamon, did not want others to have an attractive alternative supply from around the corner.

¹⁰⁹ Hoad, 2003, cassia.

¹¹⁰ cf. OUP, n.d., bastard cinnamon.

¹¹¹ Coined in 1605 or before; now *cannelle bâtarde*.

¹¹² The word *utterance*’s now obsolete meaning was: “the disposal of goods, commodities, etc., by sale or barter.”

Arabic

Etymology 18. Arabic قرفة *qirfa* ‘cinnamon’ [bark, rind], from qarafa ‘to peel, bark, derind’; Semitic root q-r-f (related to root q-l-f); cf. Amharic *kerefe*^a

a. Wehr (1976, p. 888) and Leslau (1991, p. 427)

In Modern Standard Arabic, cinnamon is known as قرفة *qirfa*, literally ‘rind, bark.’¹¹³ *Qirfa* is not a modern word, though, thanks to literary Arabic’s rigid resistance to change, so we can easily recognize cognates from the time of Classical Arabic and even before; e.g., Classical Syriac ܩܠܦܬܐ *qlāptā* ‘bark, peel, Hebrew ִקְלִפָּה *qalippā* ‘id.’, and many others (see Leslau, 1991, p. 427). When Herodotus mentioned cinnamon in his story about the giant cinnamon-gathering birds of Arabia (<http://www.perseus.tufts.edu/hopper/text?doc=Hdt.+3.111&fromdoc=Perseus%3Atext%3A1999.01.0126>), he used the word κάρφος *kárphea* ‘dry stalk, dry sticks of cinnamon; twigs that birds use to build a nest.’¹¹⁴ There is some speculation that this Greek word is a Semitic loan as well, but this is unfounded, and Beekes & van Beek 2010 stays silent on the matter; the related *kārō* ‘to dry’ seems to be of Pre-Greek origin. The wildest fantasies I came across tried to connect this word with a Dravidian etymon, musing that this Semitic word might be a loanword from Tamil கருவா *karuvā* ‘cinnamon.’ However, in this case the idea that the early Semitic root is related to the concept of peeling, attested in several languages strongly goes against any idea of borrowing. In the Lisān al-‘Arab, *al-qirfa* is defined as *dawā ma‘rūf* ‘a well-known drug/medicine.’¹¹⁵

113 From *qarafa* ‘to peel, bark, derind’ (Wehr, 1976, s.v. *qarafa*); doublet of *qilf* and *qulāfa* ‘bark, rind,’ from *qalafa* ‘to strip the bark of a tree.’

114 Liddell and Scott, 1843/1940, s.v. κάρφος.

115 Ibn Manẓūr, 1290/1979, 3599.

Table 4.15 Various names for cinnamon in English

Species	Common name	Source
<i>Cinnamomum burmannii</i>	Batavia cassia	van Wyk (2014)
<i>Cinnamomum burmannii</i>	Indonesian cassia	van Wyk (2014)
<i>Cinnamomum burmannii</i>	Korintje cassia	van Wyk (2014)
<i>Cinnamomum burmannii</i>	Padang cassia	van Wyk (2014)
<i>Cinnamomum cassia</i>	bastard cinnamon	OUP (n.d.)
<i>Cinnamomumcassia</i>	cassia	vanWyk (2014)
<i>Cinnamomum cassia</i>	Cassia cinnamon	Peter (2012)
<i>Cinnamomum cassia</i>	Chinese cassia	van Wyk (2014)
<i>Cinnamomum cassia</i>	Chinese cinnamon	van Wyk (2014)
<i>Cinnamomum loureiroi</i> ; <i>C. cassia</i>	Saigon cinnamon	van Wyk (2014)
<i>Cinnamomum loureiroi</i> ; <i>C. cassia</i>	Vietnamese cassia	van Wyk (2014)
<i>Cinnamomum tamala</i>	Indian bark	van Wyk (2014)
<i>Cinnamomum tamala</i>	Indian cassia	Peter (2012)
<i>Cinnamomum verum</i>	Ceylon cinnamon	van Wyk (2014)
<i>Cinnamomumverum</i>	cinnamon	vanWyk (2014)
<i>Cinnamomum verum</i>	true cinnamon	van Wyk (2014)

Etymology 19. Arabic دارصيني *dārṣīnī* 'cinnamon' < Persian دارچین *dārchīnī* 'cinnamon' [Chinese wood], from Persian *dār* 'wood' + *cīn* 'China'; cf. cognates Sanskrit *dāru* (PIE **dóru*) < **Pahlavi** **dār ī čēnīg* **dār ī čēnīg* 'cinnamon', (cf. Armenian *daričēnik*)^a

a. Wehr (1976, p. 311); Dietrich (2004b); Aflam (1994/2011)

In Classical Arabic literature, however, one can find other names for cinnamon, and the most important of these is دارصيني *dārṣīnī* or دارصيني *dār ṣīnī*, a loanword from Persian دارچینی *dārchīnī* (or دارچین *dār-i chīn*), literally meaning 'Chinese wood,' seemingly referring to Chinese cinnamon. In Persian, *dār* is 'tree;

wood,¹¹⁶ while *chīn* is ‘China’—arriving via Middle Persian *chīn*, via Sanskrit चीन *cīna*, likely originating from Old Chinese 秦 /*zin/, after the Qin dynasty of ancient China. The latter half or *dārchīnī* went through Arabicization, rendering it *ṣīn* in Arabic.¹¹⁷ The *-ī* suffix makes the adjective: ‘Chinese.’

As a loanword in Arabic, the word *dārṣīnī* must have been confusing for some people, and less so for others. After the eastward expansion of the Abbasid Caliphate consolidated, it was not uncommon for native Persian scholars to work and write in Arabic. One Persian bureaucrat and postmaster, Ibn Khurdādhbih (ca. 870, p. 71), writing in the ninth century in his *Kitāb Al-Masālik Wa l-Mamālik*, mentions *dārṣīnī*, as one of the many products that were shipped to *al-Sīlā* [Korea] from other parts of East Asia.¹¹⁸ He does not give any explanation of the name, and in fact *dārṣīnī* is one of the least confusing of them, which might indicate that for a Persian speaker, the meaning was trivial. On the other hand, Abū Ḥanīfah al-Dīnawarī (d. 895), a Persian polymath also writing in Arabic, mentions *dārṣīnī* in his *Book of Plants*, but he is quite confused about the term *ṣīnī*, which he associates with another (unidentified) drug called *ṣīnīn* (AD-Dīnawarī, 1974, p. 210). According to the EI2, Ishāq b. Sulaymān al-Isrāʿīlī (d. 955), a scholar from Egypt, was the first to acknowledge that *dārṣīnī* comes from China.

Etymology 20. Arabic سليخة *salikha* ‘cinnamon bark; cassia bark’ [peeled off, stripped off], from *salakha* ‘to pull off, strip off; skin, flay’; Semitic root *s-l-kh*; cf. cognates ^{*a}

a. Wehr (1976, p. 491)

Medieval Arabic pharmacognostic literature always makes a distinction between *dārṣīnī* and another substance, سليخة *salikha*,¹¹⁹ a term that has been associated with cassia (*C. cassia*) from early texts until today.

If *dārṣīnī* and *salikha* are not identical, *dārṣīnī* must be a cinnamon from another source. Could

¹¹⁶ PIE *dóru >

¹¹⁷ There is no, /Ü/, sound in Standard Arabic.

¹¹⁸ Also transcribed as Ibn Khordadbeh, he is the first Western author that mentioned Korea.

¹¹⁹ From *salakha* ‘to pull off, strip off; skin, flay’ after the method of peeling off a tree’s skin; <http://www.semiticroots.net/index.php?r=root/view&id=387>

it be the cinnamon from Sri Lanka? Documents from the Cairo Geniza show that Arab traders purchased cinnamon from Ceylon in rather large quantities (e.g., sixty bags, each bag weighing one hundred pounds) in around 1140, calling it *qirfa sili* ‘Ceylon(?) cinnamon’ (Goitein & Friedman, 2008, p. 375), and we can presume it was the local product. I agree with Dietrich’s (2004b) opinion that the identity of the plant source “cannot be established with certainty.” Lev and Amar (2008, pp. 143–144) suggest that the three terms were used interchangeably, but in general *dārṣīnī* referred to both Ceylon cinnamon and Chinese cassia, whereas *qirfa* was Ceylon cinnamon, and *salikha* was Chinese cassia. This could be close to the truth, but I would like to entertain Haw’s (2017) theory as well, who is convinced that “*salikha* really refers to the genus *Cassia*,” and to the Chinese cassia, and that Herodotus, Theophrastus, and Pliny were right when writing that ancient “cinnamon” came from Africa, which Haw identifies with *Cassia abbreviata*, a tree native to East and South Africa.

The other problem is that, according to our current understanding, Ceylon cinnamon was not exported from the island until a quite late date, “hardly before the fourteenth century” (Dietrich, 2004b), which agrees with the problems raised by Haw (2017). This sheds a cloud of uncertainty on the claim that the ancient cinnamon mentioned by the Greeks, Romans, and Arabs is the same as the cinnamon from Ceylon, and that what the Arabs knew and used early on was cinnamon from Asia or something else.

In the writings of Dioscorides from the first century AD, both classes of κινάμωμον *kinámōmon* and κασ(σ)ία *kas(s)ía* rind are listed, but he fails to mention their source (Alam, 1994/2011). Muslim writers translating the Greek works from the ninth century rendered the classes as *dārṣīnī* and *salikha* (Alam, 1994/2011). Figure 4.11 shows a folio from a Greco-Islamic pharmacopoeia, where the heading right under the red stroke says: وهو الدارصيني قينامامون *qīnāmāmūn wa-huwa l-dārṣīnī* ‘*Kīnāmāmōn*, which is cinnamon,’ shows that Arabic translators transcribed the Greek names for herbal remedies, even when they had their own terminology. The Islamicate scholarly world was closely familiar with the Greek works, and *dārṣīnī* seems to have indicated the same category as Greek *kinnámōmon*, and the scholars knew a “whole range of kinds” of it.¹²⁰ Ibn al-Bayṭār (d. 1248), an Andalusian Arab physician, pharmacist, and botanist, heavily relying on the writings of Dioscorides and Galen, listed the different

¹²⁰ For more on the Arabic transmission of Dioscorides’s *Materia medica*, see Gutas (2012)

kinds of cinnamon known under the category of *dārṣīnī* in his *Mufradāt*, citing Ishāq b. Sulaymān (Ibn al-Bayṭār, ca. 1248/ 1874, vol. I/2, p. 83, *dārṣīnī*). Dietrich (2004b) introduces these products listed by Ibn al-Bayṭār: Chinese cinnamon *dārṣīnī al-ṣīn* lit. ‘Chinese wood of China,’ an inferior kind called *dār ṣūṣ*, the “real cinnamon rind” *al-qirfa ‘alā l-ḥaḥīqa*, the “clove-rind” *qirfat al-qurunful* [sic], the “pungent cinnamon” *al-ḥādd al-madhāq* lit. ‘the sharp of taste,’ etc. The term *dārṣīnī* still exists in the Arabic scientific name for the genus *Cinnamomum*, and as a colloquial term without an emphatic /s/; *دارسين* (*dārsīn*) in some Khalījī (Gulf) Arabic dialects, where the Persian influence was always strong.

According to (Aḥlam, 1994/2011), some modern scholars have implied that ancient societies sourced their cinnamon from China overland, due to the interpretation of the name, but citing Laufer (1919)’s *Sino-Iranica*, there is no Sinological evidence to support this. I agree with the author here that if cinnamon came from Asia, it must have arrived via the sea trade with South India and Lanka. Yūḥannā bin Māsūya (d. 955), a contemporary of al-Isrā’īlī, mentioned three kinds of *qirfa*: *qirfat al-qaranful*, the best; *qirfa* that smelled like camphor; and *qirfa* that smelled like *dārṣīnī* (Aḥlam, 1994/2011).

Arabic names shown in Table 4.16, similarly to English, focus geographical origin and genuineness, but also quality and grade. This shows us two things. First, people who were part of the spice trade and had some knowledge of it were also concerned about the source of the *real* cinnamon: it was not only the Europeans who were actively trying to go and find it some centuries later. Second, there must have been several sources of “cinnamon.” It is not a secret that Arabia and neighboring East Africa had aromatic trees and shrubs; just think of myrrh and frankincense. It is not an impossible idea that words such as *qirfa* and *salīkha*—which literally meant ‘rind’ or ‘bark’—were sourced locally/regionally, and that these terms were also applied to similar products arriving from Southeast Asia. As for *dārṣīnī*, it is without a doubt an Eastern product. Terms, such as *dārṣīnī al-ṣīn* [*dārṣīnī* of China/Chinese *dārṣīnī*], also indicate that it was a category, rather than a specific kind of product.

Table 4.16 Various names for cinnamon in Arabic

Species	Name	Translit.	Gloss	Source
<i>Cinnamomum cassia</i>	دارصيني الدون	<i>dārṣīnī al-dūn</i>	inferior cinnamon	
<i>Cinnamomum cassia</i>	قرفة صينية	<i>qirfa ṣīnīyya</i>	Chinese bark	Wikipedia (n.d.)
<i>Cinnamomum cassia</i>	سليخة	<i>salīkha</i>	peel, strip	Wehr (1976)
<i>Cinnamomum spp.</i>	الحاد المذاق	<i>al-ḥādd al-madhāq</i>	the sharp taste	Dietrich (2004b)
<i>Cinnamomum spp.</i>	دارصيني	<i>dārṣīnī</i>	Chinese wood	Dietrich (2004b)
<i>Cinnamomum spp.</i>	دارصيني الصين	<i>dārṣīnī al-ṣīn</i>	Chinese wood of China	Dietrich (2004b)
<i>Cinnamomum spp.</i>	قرفة	<i>qirfa</i>	bark, rind	Wehr (1976)
<i>Cinnamomum spp.</i>	قرفة القرنفل	<i>qirfat al-qurunful</i>	the bark of clove	Dietrich (2004b)
<i>Cinnamomum verum</i>	الدارصيني على الحقيقة	<i>al-dārṣīnī ‘alā l-ḥaḥīqa</i>	the real darsini	Dietrich (2004b)
<i>Cinnamomum verum</i>	القرفة على الحقيقة	<i>al-qirfa ‘alā l-ḥaḥīqa</i>	the real bark	Dietrich (2004b)
<i>Cinnamomum verum</i>	القرفة الأصلية	<i>al-qirfat al-aṣliyya</i>	the original bark	Wikipedia (n.d.)
<i>Cinnamomum verum</i>	القرفة السهيلانية	<i>al-qirfat al-sihilānīya</i>	Sinhalese bark	A’lam (1994/2011)

Chinese

The Chinese language does not have two different words for cinnamon and cassia. The term 肉桂 *ròuguì* [flesh-cinnamon] is used, referring to the ‘cassia bark’ of *C. cassia*, often called just “Chinese cinnamon” in English. Furthermore, one can come across 桂皮 *guìpí* [cinnamon-skin] ‘id.’, and S.-Y. Hu (2005, p. 399) also lists 官桂 *guānguì* [official-cinnamon] ‘id.’ The latter makes sense if we imagine the resemblance of the curled barks of cinnamon to the written scrolls of the officials (see Zhang & Unschuld, 2015, p. 732). 桂心 *guìxīn* [cinnamon-heart] ‘id.’ refers to the inner bark specifically.¹²¹ Hu calls all these products—which are native to the mountainous regions of Vietnam and China borderlands—*cassia*, and she reiterates the notion introduced by (Ravindran et al., 2004) that Vietnamese and Chinese cassia are the same, explaining that those that are exported from Saigon are called *Saigon cinnamon* in English, while the others transported to the south to Guangzhou and Hong Kong “have the trade name

¹²¹ In case of some cassia varieties, the outer barks could be used as well.

cassia” (S.-Y. Hu, 2005, p. 400). There is also 桂枝 *guìzhī* [cassia-branches] ‘cassia twigs,’ which is a particular kind of cinnamon product unique to TCM, made up of the chopped-up young branches of the cassia tree, and 桂子 *guìzǐ* [cassia-seeds] ‘cassia buds,’ referring to the fruits. As for the other cinnamon products found outside of China, medicinal products from *C. burmannii* (root, bark, leaf) are called 陰香 *yīnxiāng* [yinspice]¹²² (S.-y. Hu, 1980/1999, p. 179). If Sri Lankan cinnamon must be expressed, 錫蘭肉桂 *xīlánròuguì* ‘Ceylon cinnamon’ is applicable.

In historical texts the character 桂 *guì*¹²³ refers to cinnamon/cassia. The Sinogram of *guì*, *Old Chinese* (OC) /*k^we:s/, is a phono-semantic compound made up of semantic 木 ‘tree’ + phonetic 圭 OC /*k^we:/. The first instance we find in the corpus available in the CTP of *guì* is in the *Liji*, from the Warring States period (fifth century BC–221 BC):

曾子曰：「喪有疾，食肉飲酒，必有草木之滋焉。以為姜桂之謂也。」

Zeng-zi said, ‘When one during his mourning rites falls ill, and has to eat meat and drink spirits, there must be added the strengthening flavours from vegetables and trees;’ meaning thereby ginger and cinnamon.¹²⁴

Here too, we must be careful when identifying plants and plant products, because *guì* can also be the sweet-scented osmanthus. In the past, *guì* marked both cinnamon species from the laurel family (*Lauraceae*), and sweet osmanthus (from Greek *osme* ‘fragrant’ and *anthos*, ‘flower’), a fragrant flowering bush with tiny white flowers common all around East and mainland Southeast Asia, frequently found in city parks. Osmanthus (*Osmanthus fragrans* Lour.)—also called “sweet olive” and “tea olive” in English—is a species in the olive family *Oleaceae* (Pearlstone, 2022, p. 191), and today it is referred to as 桂花 *guìhuā* [osmanthus-flower] to make a distinction. The synonym 木犀 *mùxī* is said to come from the similarity of the bark’s striations and the rhinoceros’s horn (Chennault, 2006); another name is 九里香 *jiǔlǐxiāng*,

¹²² From the feminine, dark, “negative” half of the yin and yang concept.

¹²³ Sturgeon, 2021, s.v. 桂.

¹²⁴ CTP—<https://ctext.org/pre-qin-and-han?searchu=%E6%A1%82>; translations from James Legge

lit. ‘fragrant-for-nine-li.’¹²⁵ Chennault (2006) uses reasoning along botanical lines to find out whether a given line is about cinnamon or osmanthus. For example, if the *guì*-wood is used for temple-building, it must be cinnamon (osmanthus is a shrub, less suitable for construction); if the verse talks about the scent of white or red flowers, it is likely to concern osmanthus (only the bark and leaves are aromatic in case of cinnamon, and cinnamon flowers are always white, as opposed to osmanthus, where some varieties have orange/reddish flowers). Osmanthus is used to season tea, and it is an ingredient in pastries. An alcoholic beverage called *guihua* liquor also uses osmanthus tincture to flavor rice gin (S.-Y. Hu, 2005, p. 627). Osmanthus flower is important in Chinese culture—from legends, in poetry, and as a Buddhist symbol—and it is associated with the Mid-autumn Festival. Chennault’s (2006) essay on the identity of *guì* explores the use of *guì* in traditional—especially Buddhist—poetry, and it clears up the confusion between cinnamon and osmanthus in a Chinese literary context. The character 桂 *guì* appears in the *Shuowen Jiezi* and *Kangxi Zidian* dictionaries, as well as the BCGM, where it has been identified as *Cinnamomum cassia* (Zhang & Unschuld, 2015, p. 732).

Chinese names are concerned with plant parts first and foremost. Even the modern Chinese distinction between the two basic meanings of *guì* (cinnamon/cassia and osmanthus) happens with the addition of other Chinese characters referring to the *guì*’s meat or flesh (also used for fruit pulp) if it is cinnamon, or its flower if it is osmanthus. As it is a native spice of China, we will not find loanwords for cinnamon.

Table 4.17 Various names for cinnamon in Chinese

Species	Name	Tr.	Gloss	Source
<i>Cinnamomum cassia</i>	桂	<i>guì</i>	cassia	DeFrancis (2003)
<i>Cinnamomum cassia</i>	桂皮	<i>guìpí</i>	cassia-skin	DeFrancis (2003)
<i>Cinnamomum cassia</i>	桂心	<i>guìxīn</i>	cassia-heart	S.-Y. Hu (2005)
<i>Cinnamomum cassia</i>	桂枝	<i>guìzhī</i>	cassia-branches	S.-Y. Hu (2005)
<i>Cinnamomum cassia</i>	桂子	<i>guìzǐ</i>	cassia-seeds	DeFrancis (2003)

¹²⁵ *Li* is an ancient measure of length, approximately equal to 500 meters.

Species	Name	Tr.	Gloss	Source
<i>Cinnamomum cassia</i>	官桂	<i>guānguì</i>	official-cassia	S.-Y. Hu (2005)
<i>Cinnamomum cassia</i>	肉桂	<i>ròuguì</i>	flesh-cassia	S.-Y. Hu (2005)
<i>Cinnamomum verum</i>	錫蘭肉桂	<i>xīlán ròuguì</i>	Ceylon-flesh-cinnamon	Wikipedia (n.d.)

Summary

Table 4.18 Conventionalized names for cinnamon in English, Arabic, and Chinese, found in dictionaries

Language	Term and gloss	Loan	Source
English	<i>bastard cinnamon</i>	yes	OUP (n.d.)
English	<i>cassia</i>	yes	OUP (n.d.)
English	<i>cinnamon</i>	yes	OUP (n.d.)
Arabic	<i>salīkha</i> peel, strip	no	Wehr (1976)
Arabic	<i>dārṣīnī</i> Chinese wood	yes	Wehr (1976)
Arabic	<i>qirfa</i> bark, rind	no	Wehr (1976)
Chinese	<i>guì</i> cassia	no	DeFrancis (2003)
Chinese	<i>guìpí</i> cassia-skin	no	DeFrancis (2003)
Chinese	<i>guìzhī</i> cassia-branches	no	DeFrancis (2003)
Chinese	<i>guìzǐ</i> cassia-seeds	no	DeFrancis (2003)
Chinese	<i>ròuguì</i> flesh-cassia	no	DeFrancis (2003)

To summarize, the two English quintessential names that cannot be broken down into further parts in English—*cinnamon* and *cassia*—are both loanwords arriving on similar pathways, and also Wanderwörter. From the three Arabic words that play an important role here, two—*qirfa* and *salīkha*—

are native Semitic words, while *dāršīnī* is a borrowing from Persian, which is the source language for many languages borrowing the name for cinnamon. As for Chinese, *guì* is the original Sinogram for cinnamon, and all further words are compounded with this character. In Table 4.18, I list the names that appear in modern dictionaries. One thing to notice here is that the farther we are from the source of cinnamon and cassia geographically, the more likely it is that the name is a loanword.

4.4.5 *The Contemporary Distribution of Spice Terms: The Case of Cinnamon*

This section aims to give an overview of the terminology used by various languages when referring to cinnamon. These words are connected to the spread of material culture, and a (not-so) specific plant product used and coveted for its aroma, used as spice and medicine. Known by humans for millennia, cinnamon is now present essentially on a global scale, and, by exploring its names in multiple languages, we can reconstruct its linguistic genealogy. These results also tell a story: giving us an account of the linguistic history of *cinnamonic* words, their origins, diffusion, and ultimately, the story of cinnamon. We can infer information on the trade routes on which it was conveyed and the peoples who transmitted it, and identify the cultures that used and diffused knowledge on it.

To those of us interested in the spread of words, especially Wanderwörter and their underlying cultural, historical, and geo-political significance, the map of tea might come to mind. This is a map that shows the journey of words for tea (either from Sinitic *cha* or Minnan *te*), and their distribution in a sample of the world's languages. The point of this map is that it clearly shows whether the name for tea arrived by overland trade or via a sea route. This peculiar phenomenon is a feature on its own (138A) in WALs, and it has been described in a chapter by Dahl (2013).¹²⁶ Discussions and maps of the land vs. sea distribution of tea terminology have since made it into popular science magazines and articles, done its rounds on Twitter, and hence is relatively well known.¹²⁷ On a more scientific note, the distribution of tea words is discussed in detail in Mair & Hoh, 2009, in an appendix titled *A Genealogy of Words for Tea* (pp. 261–270), which includes a discussion on historical phonology.

¹²⁶ The accompanying map is available online at <https://wals.info/feature/138A#2/25.5/143.6>

¹²⁷ See for example Sonnad (2018) in Quartz: <https://qz.com/1176962/map-how-the-word-tea-spread-over-land-and-sea-to-conquer-the-world/> or Netchev and Macquire (2022) in the World History Encyclopedia: <https://www.worldhistory.org/image/14112/movement-of-tea--cha-around-the-globe/>

Cinnamon as a spice is relatively common around the world, and the history of its diffusion goes back thousands of years, with words attested as early as the Bible itself, as discussed in Section 4.4. This is in contrast to the story of tea, in the sense that the international spread of tea is a relatively recent process in the economic history of plant products and colonial powers, and so we have a much clearer picture on the exact ways it was transmitted. Although tea-drinking in its homeland was practiced from time immemorial, and trade allowed it to spread regionally on networks such as the Tea Horse Road, its present global domination is a result of seventeenth-century European fascination and the establishment of large-scale shipping. While the tea map illustrates the long-haul trade connections of the time, such as those between Europe and the Far East, the map of cinnamon shows traces of an older, more gradual spread that happened in stages, outlining a more geographically contiguous development, and incremental trade networks. The propagation of cinnamonic Wanderwörter mirrors the historical processes, and, just as is the story of cinnamon, the words’ origins are sometimes obscured by the sheer time-depth that is covered.

Methods

Informative geospatial visualizations such as Figure 4.12 are a powerful tool in conveying information about the spread and distribution of words, and they can also help us to notice patterns and connections faster and more easily than studying long tables of words, especially when the distributions are more complex than the somewhat neat duality of tea. In this case study, I will attempt a classification of the words for cinnamon by looking at clusters and categorizing them according to their source, to see what the distribution of names today can tell us about the spread and history of cinnamon.

Because words for cinnamon or other spices are not included as features in balanced typological datasets, such as WALS (tea is an exceptional feature in this database), I have attempted a manual collection of words for cinnamon based on dictionary entries. As a starting point, I have crawled data from the Wiktionary (<https://en.wiktionary.org>), which is the closest resource we currently have to an open- and crowd-sourced multilingual dictionary. Similarly to the Wikipedia, the Wiktionary is edited and reviewed by the community, which has both advantages and disadvantages. On the one hand, information on the Wiktionary is free and broad in scope, usually represents the public consensus, and is often well cited. On the other hand, it is not always complete, the available languages do not represent

a balanced sample from a typological point of view, and the information can sometimes be ill-informed or deprecated. But in any case it is a rich resource to start with.

For cinnamon, first I scraped the translations for the word *cinnamon* in the sense ‘spice’ (Wiktionary, n.d.-a), and cleaned the data using regular expressions. After this, I have performed a round of manual checking where I fixed obvious mistakes in word forms and transliterations by consulting other dictionaries and reference works, in the languages and scripts I felt competent in which to do so. I proceeded to add a few missing translations with the help of other lexicographical resources and the Google Neural Machine Translation engine’s Python API (Y. Wu et al., 2016).¹²⁸ Then, I analyzed each word in terms of etymological origin and assigned them to categories. For example, words derived from Greek *kinnámōmon*, such as Lithuanian *cinamonas* or English *cinnamon*, constitute one category, and words derived from Persian *dārčīn*, such as Turkish *tarçın* or Hindi *dālcīnī*, make up another. I continued this categorization for all instances, and I created a new category for every group that has at least three attested members.

Instances that do not belong to any group or are undetermined were assigned to “other.” Finally, I merged this dataset with language data obtained from the databases of both WALS (Dryer & Haspelmath, 2013) and Glottolog (Hammarström et al., 2022) to prepare for geospatial plotting. The datasets were handled using the pandas library in Python, and the visualizations were created using the plotly Python library (McKinney, 2011; Plotly Technologies, 2015).

Results

Figure 4.13 shows the results of the analysis above, on a geographical scatter plot. As can be seen, there are six groups in total: canela, kinnamon, korica, qirfa, darchin, and gui, with a seventh one—other—containing those that do not belong to any of these. It is also noticeable that the groups that were manually identified from geographical clusters, for example, the gui group appears in East Asia, while the canela group is mainly found in Europe. Lastly, I would like to draw attention to the fact that the “other” group has a high number of members in regions where cinnamon (or cassia) is native. The canela group represent words that derived from Latin, the kinnamon group contains words going back to Greek, and the korica group represents mostly Slavic languages. Qirfa words are derived from Arabic, darchin

¹²⁸ <https://pypi.org/project/googletrans/>

gathers terms from the Persianate world, and gui embraces some terms from the Sinosphere. Let us now look at these categories one by one.

Note 4.4.2. The interactive plot can be rotated, zoomed in and out, and the groups of data points can be isolated with a double-click on the group name/icon. Hovering over a data point will bring forward further information on the term, its transliteration, associated language and language family.

The canela group

Words belonging to this group are cognates of Spanish *canela* and its variants in Romance languages, which have been formed with the diminutive of Latin *canna* ‘reed, cane.’ It is so named after the curled shape of the cinnamon sticks resembling a little, hollow reed-pipe.¹²⁹ Latin *canna* itself is a loanword from Greek *κάννα* *kánna* ‘reed, pole,’ which is probably a borrowing from a Semitic language (cf. Arabic *قناة* *qanāh* ‘hollow spear, cane; conduit, canal,’ Hebrew *קנה* *qāneh* ‘stalk, reed, cane,’ Aramaic *قנה* *qanyā* ‘id.’¹³⁰).¹⁰¹ According to Beekes and van Beek (2010, p. 636) the Greek word is from “Babylonian-Assyrian” (Akkadian)  *qanû* ‘reed,’ which may come from “SumerianAkkadian” (Sumerian)  *gin* ‘id.’ (cf. Roth et al., 1968/2004, vol. 13, p. 85), and proceeds to give Ugaritic *qn* and Punic *qn*’ as further Semitic attestations.

The distribution of this group is overwhelmingly wide in Europe, which seems to echo the strong influence of Latin vocabulary, especially in the developing Romance languages. One example would be Old French *canele* (modern *cannelle*), which was formed within French from *canne* ‘cane,’ and first attested in the first half of the twelfth century from an epic poem describing a fictional expedition of Charlemagne to Jerusalem,¹³¹ and the local vendors selling cinnamon, pepper, and “other fine spices.”¹⁰³ The TLFi explains that this word exists in most romance languages, so that it is impossible to determine

¹²⁹ OUP, n.d., *cannel*.

¹³⁰ <https://cal.huc.edu/oneentry.php?lemma=qnh+N&cits=all> ¹⁰¹ OED.

¹³¹ *Le Pèlerinage de Charlemagne* [*The Pilgrimage of Charlemagne*], or *Voyage de Charlemagne à Jérusalem et à Constantinople* [*Charlemagne’s Voyage to Jerusalem and Constantinople*], (c. 1140). ¹⁰³ TLFi, 2012, *cannelle*.

its progress, and also notes that the medieval Latin is not attested in the ‘cinnamon’ sense. Either French or Italian was the usual donor for other European languages: take for example Dutch *kaneel*, or Finnish *kaneli* through Swedish *kanel*. Spanish *canela* is attested around 1250, from “Italian” (Medieval Latin) *cannella* (Corominas, 1987, p. 125; Gómez de Silva, 1985, p. 98). Due to later colonization by European powers, many of these terms spread elsewhere, e.g.: Tagalog *kanela* from Spanish, or Haitian Creole *kannèl*.

[†]*Cannel*, also earlier as *canel*, had entered English usage in the thirteenth century from French, but is now obsolete. It existed in Early Modern English up until the eighteenth century, and was gradually replaced by *cinnamon* (also arriving through French), which was first attested in the first half of the fifteenth century (see Etymology 16). Neo Latin *canella* also appeared for a brief time, but its meaning as ‘cinnamon’ waned, and now it is used in botany to refer to a plant genus. In many other languages of Europe the opposite happened, and an existing word from Greek was replaced by the Latin term. Even Modern Greek uses *kanéla*, re(?)-borrowed from Italian *cannella*, instead of the Ancient Greek *kinnámōmon*.

The kinnamon group

This group centers around Ancient Greek *kinnámōmon*, most possibly a loanword from a Semitic language as I discussed in Section 4.4.4. *Kinnámōmon* is the source of words for cinnamon in many European languages (e.g.: German *Zimt*, Lithuanian *cinamonas*, and English *cinnamon*), prominently in Central Europe and the Middle East. In most cases, these words represent an area where words derived from Latin *cannella* (or one of its descendants) did not replace the earlier word derived of *kinnámōmon*. This group also contains South Slavic languages in the Balkan linguistic area (e.g., Slovenian *cimet*, Serbian *цимет cimet*) where it arrived via the earlier German term *Zimmet* (now *Zimt*), and therefore it diverges from West and East Slavic branches for this lexical item. It reached Southeast Europe in the sixteenth century (Snoj, 1997, *cimet*)¹³², from which we can assume that cinnamon started to arrive here from the West during this turbulent time in the Balkans, in the middle of the Ottoman Empire’s European expansion.

¹³² Fran—<https://fran.si/193/marko-snoj-slovenski-etimoloski-slovar/4285437/cimet?View=1&Query=cimet>

The korica group

The korica group contains languages that use words derived from the inherited Slavic lexicon, in this case the East and West Slavic branches. Proto-Slavic **korica* ‘bark’ is a derivative of **korà* ‘bark’,¹³³ and the suffix *-ica* is diminutive. Old Church Slavic *korice* meant ‘cinnamon,’ and further cognates are Russian *koríca* ‘id.’, Ukrainian *коріця korýcja* ‘id.’ (East Slavic), Czech *skořice* ‘id.’ (West Slavic). In other cases, words derived from **korica* can mean ‘bark, crust’ (e.g., Serb-Croatian) or ‘cover (of a book), binding’ (e.g., Bulgarian) (Derksen, 2008, p. 235). Due to the influence of Russian during Soviet times, some Central Asian Turkic languages ended up with foreign words in their vocabularies, e.g., Kirghiz *корица korica*.

The qirfa group

The qirfa group contains languages from Africa and the Middle East, whose words for cinnamon were borrowed from Arabic *qirfa*, for example Hausa *kirfa* (Newman, 2007, p. 114) and Amharic ቀረፋ *qäräfa* (Leslau, 1996, p. 74).

The darchin group

Names for cinnamon in this category originate from Persian, as was explained in Section 4.4.4. According to the data this cluster has the largest geographical extent, and by number of instances constitutes the largest group, almost head to head with the group of canela. Darchin represents the earliest stage of cinnamon’s westward spread from South, Southeast, or East Asia, depending which cinnamon or cassia we think became the first cinnamon of commerce. Consulting the plotting on the map (see figure 4.13 below), we witness the huge influence Persian had in this step of transmission to the Middle East and Central Asia. We can also see that central and north Indian languages use a loanword from Persian, which can be explained by the Persianate¹³⁴ societies that resulted from the Islamic conquest of India, starting from the thirteenth century. The first sultan to ravage the land, Mahmud of Ghazni was a Persianized *mamluk* Turk, who laid the foundations with his raids in the eleventh century for a series of Muslim dynasties on the Indian subcontinent, culminating in the Mughal Empire (1526–1857) and what we define today as Indo-Persian culture (Eaton, 2019, p. 33).

¹³³ PIE **(s)kor-* ‘to cut’ 106. Derksen, 2008.

¹³⁴ For a discussion on this term, see N. Green (2019).

The gui group

The gui group contains terms from the Sinosphere, words that borrowed the Sinogram 桂 *gui* (see Section 4.4.4), such as Japanese 桂 *kei* ‘cinnamon or cassia tree,’ synonym with 肉桂 *nikkei*, Korean 계 *gye* as 계피 (桂皮) *gyepi* and 육계 (肉桂), and the Sino-Vietnamese *quế*. This shows that the Chinese transmitted their cassia to their immediate neighbors east and southwest, together with the word and character for it. However, there is little evidence for trade in cinnamon between China and Southeast Asia in early history; G. Wang (1958) does not give any information on it in his “The Nanhai Trade: A Study of the Early History of Chinese Trade in the South China Sea.” This makes sense if we remember that all regions active in the South China Sea maritime trade—from Guangdong to Sumatra to Lanka—had their own sources of cinnamon, and traders would only transport it westward.

Others

We can see that the category of “others” is prevalent in areas where cinnamon of various kinds is native and therefore these languages often have native words to refer to it. Many words from this group are derived from the meaning of ‘tree bark, skin, peel’ Malay/Indonesian *kulit kayu manis* [bark-wood-sweet] ‘sweet wood bark,’ where *kulit* ‘skin, bark’ is often omitted, or Dhivehi *fonithoshi* [sweet-bark]. Hungarian *fahéj* [tree-bark] is made by compounding and was attested in ca. 1395 (Zaicz, 2006, *fahéj*), and Romanian *scorțișoară*,¹³⁵ is perhaps modeled after Slavic **korica*.

Conclusion

So what does this tell us exactly? It shows that the modern state of spice terms’ distribution is neatly arranged according to the influential languages that spread the name for particular material, pointing to certain civilizations which used, traded, and carried it, and which had great influence over their neighbors. In the future, I hope to extend this approach to other spices, as it would be fascinating to compare the data of many different items and their distribution patterns.

¹³⁵ Diminutive of *scoarță* ‘bark,’ from Latin *scortum* ‘hide, skin,’ PIE *(s)ker- ‘to cut.’



Figure 4.11 Cinnamon tree in a tenth-century Arabic translation of Dioscorides's *De Materia Medica*, a manuscript at the Oriental Collection of the University Library of Leiden (Shelfmark: Or. 289). This copy is from Samarkand and dates to 1083, the time of the Karakhanids (Dioscorides, 1083, f. 9a).

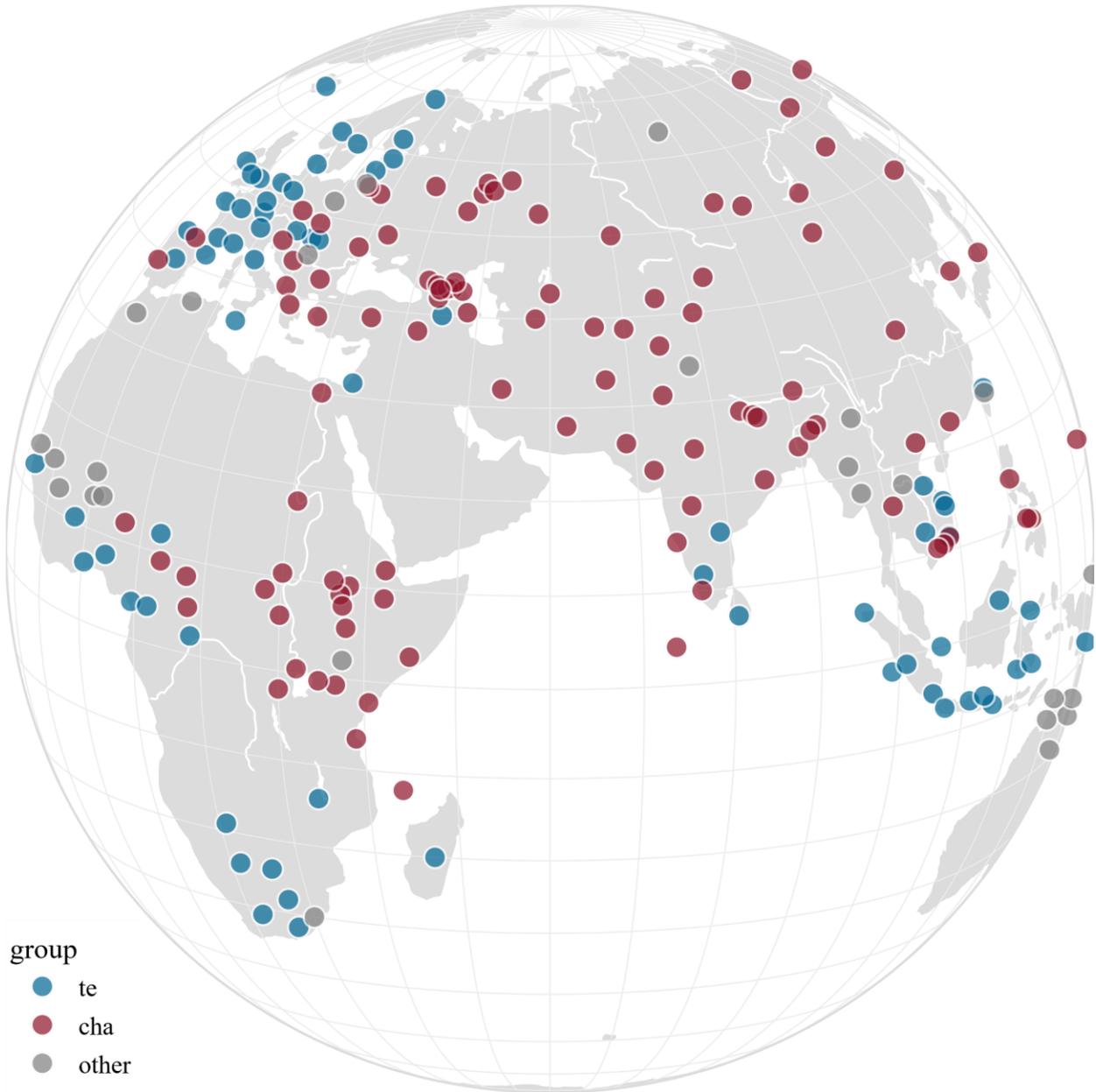


Figure 4.12 Distribution of words for tea from Sinitic *cha* and Minnan *te*, based on the data around the globe, from the WALS dataset.

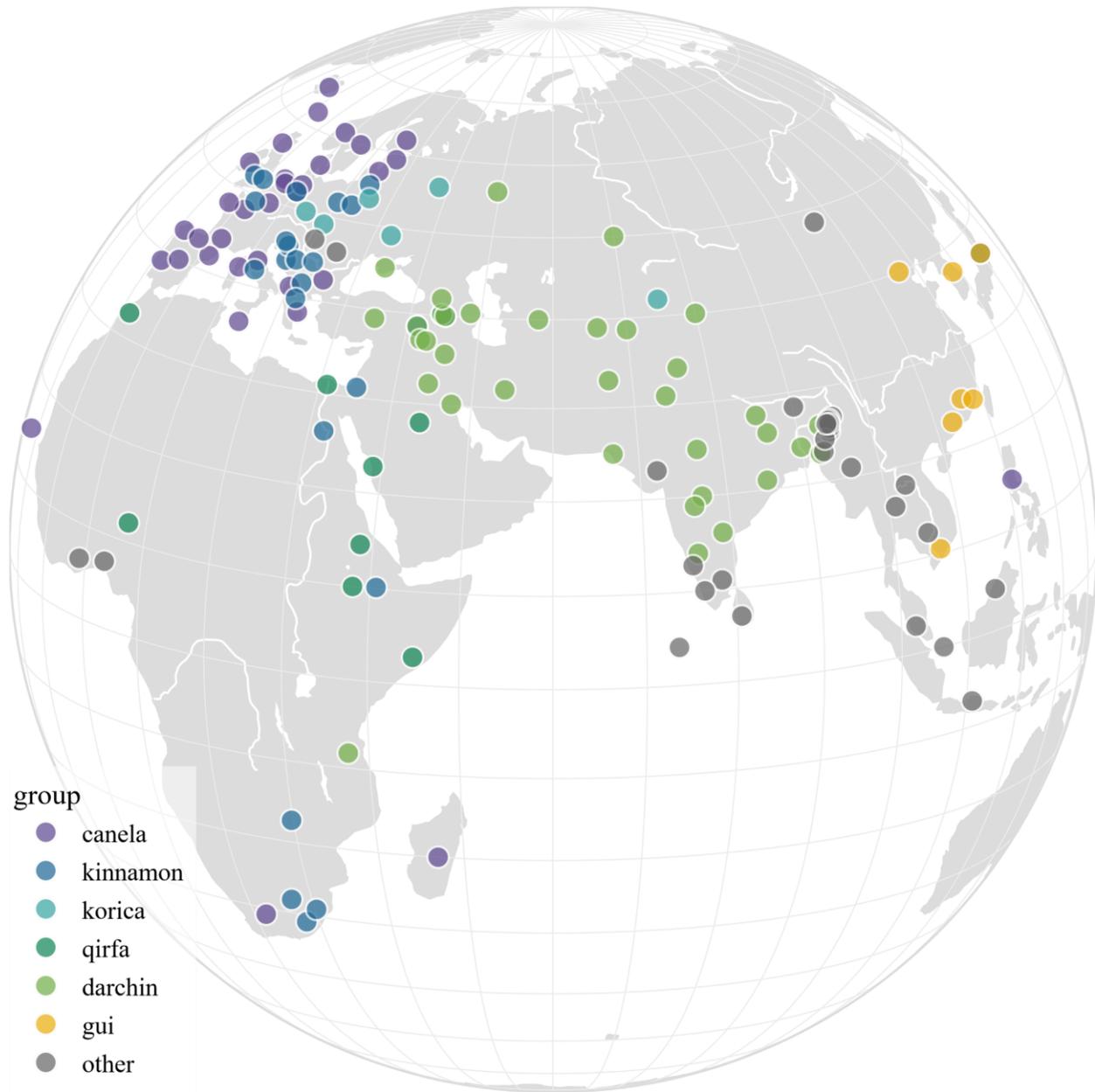


Figure 4.13 Distribution of words for cinnamon in a few languages around the globe. For a full, interactive, and explorable version of the plotting, please visit the following link: http://htmlpreview.github.io/?https://github.com/partigabor/phd-thesis-viz/blob/main/distribution_cinnamon.html

4.5 BLACK PEPPER AND LONG PEPPER

6. Pepper

English: pepper; black pepper. Arabic: فلفل filfil, fulful; أسود فلفل fulful aswad [black pepper]. Chinese: 胡椒 hújiāo [barbarian-pepper]; 黑胡椒 hēihújiāo [black-barbarian-pepper]. Hungarian: bors [pepper]; fekete bors [black pepper].

Plant species:	<i>Piper nigrum</i> L.
Family:	<i>Piperaceae</i>
Part used:	fruit
Region of origin:	Malabar coast (South India)
Cultivated in:	Vietnam; Brazil; Indonesia; India; Sri Lanka; etc.
Color:	black; white; green



Figure 4.14 Black pepper from the Malabar coast in India, white pepper from the Penja Valley in Cameroon, and green peppercorns. *Piper nigrum*. Credits: Aromatiques.

Black pepper is the dried fruit (drupe)¹³⁶ of the species *Piper nigrum*. Pepper fruits are often called peppercorns, and they come in black, white, green, and even red. However, black pepper, white pepper, green and “true” red peppercorns are not different varieties: they are the fruits of the same plant.

¹³⁶ A type of fleshy fruit with thin skin and a single, central pit containing the seed, also known as a “stone-fruit” (e.g.: plum, cherry, peach, nutmeg, olive, mango). It is a term used to denote the contrast to a botanical “berry,” which contains many seeds (e.g.: blueberry, grape).

Their difference merely lies in the harvesting and drying process. All of them have a unique, pungent taste and a fresh, spicy aroma that they release when being crushed or ground.

Black pepper is the most important, most popular, and most consumed spice in the world (Mabberley, 2017, p. 721). Valued for its pungency and flavor, pepper has been used since ancient times in traditional medicine and gastronomy from East to West, and it is the most influential spice to have shaped human history. It is found and used virtually everywhere around the globe (Hill, 2004, p. 253), and most of us are familiar with the biting sensation it causes on the tongue and in the nose. Black pepper was one of the first aromatic substances used medicinally in India, and one of the first products of global commerce to be traded, alongside long pepper, and ginger. It was transplanted to other tropical regions of Asia early on, and cultivated extensively. Black pepper’s early diffusion is remarkably interesting, and it is the prototype spice for many of us. Referred to simply as *pepper* from here on, it was among the first oriental spices to reach the Occident (Peter, 2012, vol. 1, p. 86). Pepper was known to the ancient Egyptians, Greeks, and Romans in the West, and it changed medieval Europe. It was even used as currency in small amounts. Today it accounts for more than a third of all spices traded in the world, making it the most traded spice as well (Ravindran, 2017b). Its importance is well demonstrated by the many books and monographs about its history (see Shaffer, 2013; Wernick, 2014), agronomy (see Nair, 2020; Ravindran, 2000), and appeal (see Barth, 2019; De Kerros, 2016).

Note 4.5.1. Throughout this work—unless stated otherwise—the term *pepper* alone always denotes the pepper(s) of *Piper nigrum*, of the genus *Piper*, from the pepper family (*Piperaceae*) originating in India (i.e., black pepper, white pepper, etc.). This is to make an arbitrary distinction with the various kinds of hot chile, or chili peppers of the genus *Capsicum* in the nightshade family (*Solanaceae*), native to the Americas. A partial objective of this work is to untangle the messy nomenclature around these plant and spice names, which is evident if we take into account all the different items we can refer to with the words *pepper* in English, *jiāo* in Chinese, and *filfil* in Arabic; a situation true of many other languages as well.

Uses

Black pepper had and has various uses in multiple areas. Nowadays, we mainly consider its importance

in the culinary arts—seasoning food in the kitchen and also in the dining table—but it is extensively used in the food industry as well for flavoring and preserving processed foods (Peter, 2012, vol. 1, p. 86). Often called the “king of spices,” black pepper is ubiquitous and so well-known in cooking that it is essentially pointless to list cuisines and dishes that feature it. It is present in practically all savory dishes, sauces, marinades, and pickles. It is used whole, crushed, or ground, and its role in Western gastronomy is well marked by the fact that virtually all restaurant tables host a pair of salt and pepper mills or shakers. However, white pepper is a key ingredient in French and Chinese cuisine, where it is much more popular than black pepper, while green pepper is popular in Thai and South Indian cooking. But besides just a seasoning, pepper also has roles in perfumery and beauty care, not to mention its use as a home remedy (Ravindran, 2000, p. 467). In fact, as is true for most spices, pepper in the past was considered primarily a medicine. Black pepper is well known in the traditional herbal systems, whether Ancient Greek, Ayurvedic, or Traditional Chinese Medicine, as well as contemporary pharmacology and phytotherapy (a modern name for chemistry-assisted herbalism). Reviews and updates on the research of *Piper nigrum*, its active components, and their effects on human physiology are being published at a steady pace (see Butt et al., 2013; Haq et al., 2021; Meghwal & Goswami, 2013; Srinivasan, 2007). Recent scientific research shows that piperine displays numerous pharmacological effects, such as antimicrobial and antioxidant (Haq et al., 2021). It is therefore not surprising that health benefits of black pepper have been recorded in pharmacopoeias since ancient times, and that it has been used for the treating of various illnesses, ranging from stomach pains and digestive problems to fever, cold, and even food poisoning (Quattrocchi, 2014, p. 2952).

4.5.1 *Long Pepper and other False Peppers*

There are other aromatic, spice-yielding plants (other kinds of peppers, if you like) in the *Piperaceae* family, constituting several different species, such as cubebs, tailed peppers, or Java peppers (*Piper cubeba*), (Indian) long peppers (*P. longum*; *P. retrofactum*), “piper chilies” (*P. chaba*), Ashanti/Benin pepper (*P. guineense*), etc., and they will be referred to using these common names throughout. Cubeb, and long pepper especially, were common in ancient times but virtually disappeared from the global spice trade in the modern age. Long pepper is the most important relative of the black pepper, and as a commercial product it comes from two sources: the Indian long pepper (*Piper longum*), and Javanese long pepper (*Piper retrofactum*). The latter is sometimes also called Balinese long pepper or Indonesian

long pepper Peter (551 2012, vol. 2). Other, less common spices unrelated to the *Piper* genus, such as pink peppercorns from South America (*Schinus molle*; *S. terebinthifolia*), Sichuan peppers from East Asia (*Zanthoxylum spp.*), and alligator peppers (*Aframomum danielli*) from Africa are sometimes referred to as “false peppers.” These will always be referred to with their usual full vernacular names to avoid confusion.

7. Long Pepper

English: long pepper. Arabic: دارفلغل dārfilfil. Chinese: 萹撥 bibō. Hungarian: hosszú bors [long-pepper].

Plant species:	<i>Piper longum</i> L.; <i>P. retrofactum</i> Vahl
Family:	<i>Piperaceae</i>
Part used:	fruit
Region of origin:	E. Himalaya to S. China; Indo-China
Cultivated in:	India; Indonesia; Thailand
Color:	green to red when ripe, dark brown when dried



(a)



(b)



(c)

Figure 4.15 Various “false peppers”: long pepper (*Piper longum*), cubeb pepper (*Piper cubeba*), and pink peppercorns (*Schinus terebinthifolius*). Credits: Aromatiques.

4.5.2 The Botany of Black Pepper

Pepper is native to the Malabar region in South India, where the Western Ghats, a mountain range parallel to the coastline, traps the monsoon rains. This results in the most humid region in India, making

it one of the plant biodiversity hot-spots on Earth (Ravindran, 2000, p. 1). Often called the “king of spices,” pepper originates here in the evergreen tropical forests of Kerala, which is the origin and center of plant diversity for the “queen of spices” as well: cardamom (Ravindran, 2000, p. 1). Wild populations of pepper and closely related species grow in the moist, shady forests, up to 1200 m above sea level (Ravindran, 2017b). Pepper was cultivated for thousands of years in these areas, and at one time South India was the only place that produced it. Due to the human desire for this valuable spice, the crop was slowly transplanted from here to other tropical zones, mainly in the Asia-Pacific: Sri Lanka, Malaysia, Indonesia; but also to the West as far as Madagascar and Brazil. Today it is cultivated in twenty-six countries (Ravindran, 2000). The top five producers in 2020 were Vietnam, Brazil, Indonesia, India, and Sri Lanka.¹³⁷ Pepper grows on a perennial vine, blooming with a cluster of small flowers on hanging spikes, producing young, round fruits that are first green, turning to bright red as they ripen, resembling berries. Pepper plants in their native habitats spread on the forest floor, or climb over rocks, shrubs, and trees. Pepper prefers the hot tropics with high humidity, and optimal temperatures of around 20–30°C. Open cultivation is possible in places where rainfall is well distributed (e.g.: Thailand, Vietnam, Malaysia), whereas in India shade is required because of the six months of drought between monsoon seasons (Ravindran, 2017b). Wild pepper species are dioecious,¹³⁸ having male and female individuals, while the domesticated pepper populations became monoecious:¹³⁹ one plant is both male and female. This is probably due to thousands of years of selective multiplication, and it has led to greater quantities in production: bisexual flowers mean high fruit yields (Ravindran, 2000, p. 38). Pepper lianes are propagated from cuttings, and, being climbers, they are usually grown around trees for live support, or with the use of artificial poles (van Wyk, 2014, p. 216).

When it comes to harvesting, the techniques are different depending on the intended end product. In the case of black pepper, the near-ripe (still green) fruits are handpicked and sun-dried in

¹³⁷ In order of production quantity, from highest to lowest. All production data is from FAOSTAT (Food and agriculture data of the Statistics Division, Food and Agriculture Organization of the United Nations): <https://www.fao.org/faostat/en/#home>; license: CC BY-NC-SA 3.0 IGO.

¹³⁸ Bot.: the male and female reproductive organs are found in separate individuals.

¹³⁹ Bot.: having both the male and female reproductive organs in the same individual; hermaphrodite.

the course of several days up to two weeks. Oxidization leads to the darkening of the pericarp¹⁴⁰ (the outside skin and flesh of the fruit) to a hue ranging from deep brown to jet black, while also attaining the signature wrinkles and dimples (Hill, 2004, p. 254). The drying process can be sped up by boiling the pepper fruits in hot water for a short time. Chemical changes induced by the heat hasten the subsequent oxidization process, which causes the outer layer to gradually shrivel and blacken while drying (van Wyk, 2014, p. 216). White pepper is obtained by letting moisture and micro-organism dissolve the cellular tissue of the fully ripe red fruits, basically letting them rot in a technique called retting. The fruits’ decomposed skin and flesh are easily removed by hand or machine after soaking and gentle washing, and the remaining pale seeds are then dried in the sun, or bleached (van Wyk, 2014, p. 216). Green peppercorns are a result of traditional pickling, or in modern times rapid freeze-drying of the unripe fruits as a way to prevent fermentation. This process results in a product with a light weight and seemingly higher price. Occasionally the ripe, red fruits are sold as well to be used fresh, but the “true” red peppercorns—as Hill (2004) calls them—are rare and mostly found in producing areas: they lose their vigour within days of harvest and so must be used fresh unless preserved in vinegar or brine. As it is a hallmark of spices, the two varieties that are dried (black pepper and white pepper) are much more known worldwide, and their dry quality allows them to be transported on longer journeys. If we think of white pepper as *de facto* decorticated black pepper, we would rightly guess that the flavor of white pepper is weaker than black pepper, as the outer peel of black pepper contains much of the spicy compounds responsible for the heat. Green peppercorns have an even milder taste and a much shorter shelf-life. Indigenous to the Malabar coast, a well-known and popular variant is the Malabar pepper or Malabar black, a commodity sought after by traders since Roman times (De Romanis, 2020). Another famous name on the market is the Tellicherry black, which according to spice traders is not a regional designation, but rather a requirement of size. If a peppercorn is larger than 4.25 mm pinhead, it is classified as Tellicherry (Eirinberg, 2021). Other famous and/or protected pepper variants with Geographical Indication (GI) certificates are Kampot pepper from Cambodia, the Muntok white and Sarawak white from Indonesia and Malaysia respectively, and the Penja pepper from Cameroon. A relatively recent publication by pepper grower and merchant De Kerros (2016), accompanied by

¹⁴⁰ Bot.: In fruit anatomy, pericarp is the collective name for the outer layers around the seed of a fleshy fruit or drupe: the endocarp (innermost covering of the seed; the pit), the mesocarp (flesh), and the exocarp (skin).

remarkable photographs, aims to present all the dozens of pepper varieties around the world that are available to those with an adventurous taste. Pepper owes its punch to the alkaloid piperine, while the wrinkly pericarp supplies the complex spicy aroma and flavor, thanks to a high number of chemical compounds in the form of volatile oils (Ravindran, 2000, p. 467), the most powerful one of which is rotundone, a highly potent compound also found in Shiraz wines (C. Wood et al., 2008). For more details on the botany, chemistry, cultivation, agronomy, and other aspects of black pepper, please refer to Nair (2011), Parthasarathy et al. (2008), and Ravindran (2000).

According to Mabberley (2017, p. 695), the following common names refer to the species *Piper nigrum*: pepper, black pepper, Madagascar pepper, and white pepper. Excepting the green peppercorns mentioned above, other spices, such as the Sichuan peppers from China, pink peppercorns from Brazil, and Guinea peppers (*Aframomum melegueta*) from tropical West Africa are different, often botanically unrelated species, only connected by their names and similar uses, looks, or flavor profiles.

4.5.3 *The History of Black Pepper*

The history of pepper accompanies the history of mankind from the earliest times of contact and exchange between civilizations. The story of pepper is global and must travel to Ancient Egypt to begin. According to a popular anecdote in books and articles about pepper, peppercorns were used in the embalming process of mummies (Ravindran, 2000), and they were found in the nostrils of Ramses II (J. Turner, 2004, p. 168). I have read this on many occasions, and I have spent way too much time trying to find out whether this is true or not. In short, I think there is no definitive answer: the peppercorns alleged to have been in Ramses II's body were only "seen" through X-ray, and the original reports are dubious at best, as reported by Bucaille (1990, p. 206). Ramses II died in 1213 BC, and even if these specifics were problematic, it is said that peppercorns and cinnamon were imported "from Southeast Asia and the East Indies" and thus available to wealthy citizens of Egypt as early as New Kingdom era (sixteenth century BC–eleventh century BC) (Salima, 2001/2005, p. 394).

Pāṇini, the famous Sanskrit grammarian (ca. fourth-sixth centuries BC) recorded the use of pepper in spiced wine, and pepper appears in early Indian medical texts of Suśruta as well (Ravindran, 2000). In the fourth century, Theophrastus recorded and described both black pepper and long pepper, and by the first century AD its source was accurately described by Pliny the Elder, who stated that black

pepper is from south and long pepper is from north India. Rome conquered Egypt in 30 BC, and with that the pepper trade as well, which was a key enterprise contributing to Rome’s later financial success. From here onward, the history of pepper within the Indo-Roman trade is well studied and documented; for further details, please see De Romanis (2020), Miller (1969), and Sidebotham (2011).

During the late Middle Ages, pepper also brought great riches to Europe, and the former wealth of Venice was due to its trade. Following the crusades, European sea powers tried to get hold of the monopoly of the spice trade. Vasco de Gama’s landing near Calicut in 1498 was significant in the era as the Venetians, Portuguese, Spanish, Dutch, and English vied with each other, a rivalry continuing for centuries, up to the modern era. The story of pepper is very well explored in the Age of Exploration as well, and there is no need for me to delve into it deeper. I recommend Shaffer (2013) for those interested in the big picture, but the sections about pepper in Dalby (2000) and J. Turner (2004) are also well researched.

4.5.4 *The Names of Black Pepper*

English

Etymology 21. English *pepper* <² West Germanic **pipor* ‘id.’ < Latin *piper* ‘black pepper, long pepper’ < Ancient Greek πέπερι *péperi* ‘id.’ < Middle Indo-Aryan पप्परी *pipparī* ‘long pepper’ < Sanskrit पप्पल *pippali* ‘long pepper *Piper longum* (plant and berry); a berry^a

a. Bosworth and Toller (1898/2014), R. E. Lewis et al. (1952–2001), and OUP (n.d.); Harper (n.d.); C. T. Lewis and Short (1879); Liddell and Scott (1843/1940); Sheth (1923–1928, p. 599); Monier-Williams (1899, p. 626)

The word *pepper* arrived in modern English via Middle English *peper* and Old English *pipor*, *piþer*, from an early, Proto-West Germanic borrowing of Latin *piper*.¹⁴¹ The Latin word comes from Greek πέπερι *péperi*, a word “of oriental origin”¹⁴² or “Indic origin.”¹⁴³ The ultimate source is most probably a Middle

¹⁴¹ OUP, n.d., pepper.

¹⁴² Hoad, 2003, pepper.

¹⁴³ AHD, 2022, pepper.

Indo-Aryan language, with a word akin to Prakrit *pippari*,¹⁴⁴ probably via Pahlavi (Middle Persian),¹⁴⁵ ultimately from Sanskrit *pippali* or *pippalī*.¹⁴⁶

As for the meaning, we know that in Latin the word *piper* was used for both black pepper and long pepper, and that this is true for the Greek word as well. As long pepper gradually disappeared and was completely replaced by black pepper in the Middle Ages, with it vanished that sense of the word. The original word's meaning, however, was exclusively long pepper: *pippali* did not refer to black pepper. In Monier-Williams (1899), *pippali* is 'long pepper,' while *pippalī* refers to 'a berry; Piper longum (both plant and berry).' The Sanskrit word for 'black pepper' was मिरच *marica*,¹⁴⁷ attested in the Suśrutasaṃhitā, the foundational text of Ayurveda. Hindi-Urdu मिर्च/مرچ *mirch* is the most obvious descendant of the Sanskrit word, and it is similar in meanings to the word *pepper* in English today: by itself it rather refers to chili, while with a distinguishing word, it refers to black pepper (i.e., *kālī mirc* [black pepper]). The use of both black and long pepper in India can be dated to ancient times, as Ayurvedic texts compiled in Sanskrit, such as the Suśrutasaṃhitā testify. Together with ginger (*śṛṅgavera* in Sanskrit), these three spices are a base combination in traditional Indian medicine, the name for which is त्रिकटु *trikaṭu* 'three spices.'

The ancestors of English speakers adopted the word during the Anglo-Saxon period, before they arrived in England, and so its cognates are found in other West Germanic languages as well.¹⁴⁸ As for the term *peppercorn*, attested in early old English, it is a compound of *pepper* and *corn* in its previous sense 'grain,' and it is used to refer to a single piece of the pepper fruit. Many other names of black pepper actually refer to varieties and cultivars, e.g., *Malabar pepper*, *Kampot pepper*, and the above-mentioned *Tellicherry black*.

144 Sheth, 1923–1928, p. 599.

145 Harper, n.d., pepper.

146 Monier-Williams, 1899, p. 628.

147 Monier-Williams, 1899, p. 790.

148 Cresswell, 2021, pepper, p. 123. OUP, n.d., longpepper.

Table 4.19 Various names for pepper in English

Species	Name	Source
<i>Piper nigrum</i>	black pepper	van Wyk (2014)
<i>Piper nigrum</i>	green pepper	OUP (n.d.)
<i>Pipernigrum</i>	pepper	vanWyk (2014)
<i>Piper nigrum</i>	peppercorn	OUP (n.d.)
<i>Piper nigrum</i>	white pepper	OUP (n.d.)

Etymology 22. English *long pepper* ‘long pepper’, eOE; cf. cognates Anglo-Norman as *poivre lonc* (13th cent.; Middle French, French *poivre long*) and also Middle Dutch *lanc peper* (Dutch *lange peper*), Middle Low German *lanc pēper*, *lancpēper*, Old High German *langpfeffar* (Middle High German *langer pheffer*, German *langer Pfeffer*), Old Swedish *langa pipar* (Swedish *långpeppar*) < Latin *piper longus* ‘long pepper’ [pepper-long]^a

a. OUP (n.d., long pepper)

In English, *long pepper* is a calque after the model of the Latin *piper longus*, and it first appeared in the early Old English Medicinal text known as *Bald's Leechbook*.¹²³ The plant's binomial name was also derived from this term, using the neuter form *Piper longum*. The OED points out that it was supposed to refer to flowers or unripe fruits of the (black) pepper plant in earlier times. This notion must arise from the fact that the long pepper fruits do somewhat resemble the unripe black pepper clusters that look like catkins, and some Romans must have assumed that long pepper is just the unripe version of small black pepper clumps. Nevertheless, I am certain that the Romans did not see young unripe black peppers still on the vine very often, so we can forgive them this time. The gloss of *long pepper* from Latin is not unique to English, as many European languages went down the same route.¹⁴⁹

149 Compare Anglo-Norman *poivre lonc* (13th cent.; Middle French, French *poivre long*), Middle Dutch *lanc peper* (Dutch *lange peper*), Middle Low German *lanc pēper*, *lancpēper*, Old High German *langpfeffar* (Middle High German *langer pheffer*,

In the East, however, where there was no Latin available to distinguish between black (*nigrum*) and long (*longum*), simply the Sanskrit name *pippali* was borrowed by the languages whose speakers got familiar with long pepper and its sisters directly from speakers of Indic languages; compare Malayalam *tippali*, Telugu *pippali*, or Tibetan *pi pi ling*. Modern Hindi *pippali* is most probably a *tatsama*¹⁵⁰ word, a learned loan from Sanskrit. The name of the sacred fig (*Ficus religiosa*)—otherwise known as the bodhi tree, under which the Buddha gained enlightenment (the name is rendered as *peepul* in English from Hindustani *pīpal*)—has Sanskrit *pippala* ‘berry, especially the fruit of the sacred fig’ as an etymon. The sacred fig was a kind of “spiritual import,” as we know from two instances in which the Indian king presented as a gift bodhi trees to the Chinese emperor, in 641 and 647 from Magadha, the homeland of these trees (Schafer, 1985, p. 122).

Table 4.20 Various names for long pepper in English

Species	Name	Source
<i>Piper longum</i>	Indian long pepper	van Wyk (2014)
<i>Piperlongum</i>	long pepper	vanWyk (2014)
<i>Piper longum</i>	pippali	van Wyk (2014)
<i>Piper longum</i>	thippali	
<i>Piper retrofractum</i>	Balinese long pepper	van Wyk (2014)
<i>Piper retrofractum</i>	Javanese long pepper	van Wyk (2014)

German *langer Pfeffer*), Old Swedish *langa pipar* (Swedish *långpeppar*), according to the OED; as well as Italian *pepe lungo*, Spanish *pimienta larga*, Portuguese *pimenta-longa*, Finnish *pitkäpippuri*, Polish *pieprz dtugi*, etc.

¹⁵⁰ *Tatsama* refers to a group of vocabulary terms consisting of learned loanwords from Sanskrit taken into modern languages of India, including both Indo-Aryan and Dravidian languages. It is comparable to the usage of Greek and Latin words in modern European languages, as they belong to a higher register, e.g.: the choice to use *curriculum* over *courses*. It is accompanied with *tadbhava*, which is the class of words that evolved.

Arabic

Etymology 23. Arabic فلفل *filfil*, *fulful* ‘pepper’ < Persian پلپل *pilpil* ‘id.’; cf. cognates Old Armenian պղպեղ *ptpet*, Old Georgian პილპილი *pilpili* <? Middle Indo-Aryan? ‘long pepper’ < Sanskrit पप्पल *pippali* ‘long pepper *Piper longum* (plant and berry); a berry^a

a. Lane (1863, p. 2434); Sultan Qaboos University (1985)

Arabic *fulful*¹⁵¹ comes via Persian from essentially the same Indic etymon as English pepper: Sanskrit *pippali*. The word is first attested as an Arabic spice term in this set (AD sixth century). Similarly to almost all other languages, the word can be appended by the adjectives for black and white. And, as *fulful* is a “collective” term, we can refer to a singular peppercorn by adding the singular feminine marker *-a* (*tā marbūta*) suffix.

Table 4.21 Various names for pepper in Arabic

Species	Name	Tr.	Gloss	Source
<i>Pipernigrum</i>	فلفل	<i>fulful</i>		Wehr (1976)
<i>Piper nigrum</i>	فلفل أبيض	<i>fulful abyad</i>	white pepper	Baalbaki (1995)
<i>Piper nigrum</i>	فلفل أسود	<i>fulful aswad</i>	black pepper	Baalbaki (1995)
<i>Piper nigrum</i>	فلفلة	<i>fulfula</i>		Wehr (1976)

Etymology 24. Arabic دار فلفل *dār filfil* ‘long pepper,’ compound of two Persian words < Persian دار پلپل *dār pilpil* ‘long pepper,’ formed within Persian from *dār* ‘wood’ + *pilpil* ‘pepper’ (both words are Sanskrit loanwords) < ultimately from Sanskrit *dāru* + *pippali* ‘long pepper’^a

a. Lane (1863, p. 2435)

¹⁵¹ “Also pronounced *filfil* but the vulgar pronounce it [thus] with *kesr*—name of the /i/—and the pronouncing it with *kesr* is said to be not allowable [...],” as reported by Lane (1863, p. 2434).

Table 4.22 Various names for long pepper in Arabic.

Species	Name	Tr.	Gloss	Source
<i>Piper chaba; et al.</i>	دارفلفل	<i>dārfilfil</i>		Wehr (1976)

Chinese

Etymology 25. Mandarin Chinese 胡椒 *hú jiāo* ‘black pepper’ [barbarian-pepper], from 胡 *hú* ‘Western barbarians, steppe nomads’ + 椒 *jiāo* ‘pepper, spice’ (*jiāo* was the prototype spice in China, originally referring to the local “Sichuan pepper” which is now called 花椒 *huājiāo* [flowerpepper]), [Northern and Southern] 420–445^a

a. Schuessler (2007)

There is no surprise in the anatomy of pepper terms in Chinese either, except that there we have an extra layer of modifiers, namely *hu* ‘Western barbarians, steppe nomads.’ This indicates two things: one, black pepper must have arrived China from the west, transmitted by the nomadic peoples of the steppe outside of Chinese territories. Two, *jiāo*, the term now denoting all kinds of ‘peppers,’ existed before *Piper nigrum* was known, and it refers to the prototype spice item for Chinese speakers. With some background knowledge, we know that this prototype spice in China was the fruit of the *Zanthoxylum* species, otherwise known as Sichuan pepper. *Hujiao* ‘black pepper’ first appeared in the Hou Hanshu ca. AD 450.

Table 4.23 Various names for pepper in Chinese

Species	Name	Tr.	Gloss	Source
<i>Piper nigrum</i>	白胡椒	<i>báihújiāo</i>	white-barbarian-pepper	MDBG (n.d.)
<i>Pipernigrum</i>	胡椒	<i>hújiāo</i>	barbarian-pepper	S.-Y. Hu (2005)
<i>Piper nigrum</i>	黑胡椒	<i>hēihújiāo</i>	black-barbarian-pepper	MDBG (n.d.)
<i>Piper nigrum</i>	綠胡椒	<i>lùhújiāo</i>	green-barbarian-pepper	Regency Spices (2022)
<i>Piper nigrum</i>	青胡椒	<i>qīnghújiāo</i>	green-barbarian-pepper	Regency Spices (2022)

Etymology 26. Mandarin Chinese 萹拔 *bibá* MC /piɿ̯˥˥ ɸuat/ ‘long pepper,’ a phonetic loan < Sanskrit पप्पली *pippali* ‘long pepper *Piper longum* (plant and berry); a berry’^a

a. Monier-Williams (1899, p. 626)

Long pepper in Chinese is 萹芡 *bibō*, as it appears on TCM databases¹⁵², or 萹拔 *bibá*, with some other historical character variations. A local Hong Kong spice vendor is marketing it as 長胡椒 / 萹撥 *zhǎng hújiāo/bibō*, the first of which is an obvious rendering of the English *long [black] pepper*, while the second uses the second character 撥 *bō*, the same one used when first recorded in historical documents. The first mention is in 通典 *Tongdian*¹⁵³ “Comprehensive statutes,” written by Du You, a late eighth-century encyclopedia and administrative history covering ancient times up to 756, including the Battle of Talas and other important events in Tang history. Long pepper appears in the last part of the book, which concerns “Frontier defense,” under the section 波斯 *Bosi* [Persia], in a listing of all the products that are supposed to be found there.¹⁵⁴ Long pepper also appears in the 酉陽雜俎 *Youyang Zazu*¹⁵⁵ “Miscellaneous Morsels from Youyang,” a ninth-century Tang miscellany on various topics by Duan Chengsi. It contains fantastic stories from ghosts to strange animals, “legends and hearsay, reports on natural phenomena, short anecdotes, and tales of the wondrous and mundane, as well as notes on such topics as medicinal herbs, perfume, tattoo and language” – to quote Reed (1995, p. 1). Book¹⁵⁶ eighteen contains twenty-four entries on exotic plants that have been imported into China or brought as tribute from places such as Syria, Persia, Malaysia, and Silla [Korea]. The author usually gives the foreign names of these products and tries to compare them to a plant more familiar to the Chinese readership. The plants featured here include cardamom, galbanum, acacia, jackfruit, Balm of Gilead, Narcissus, and jasmine (Reed, 1995, p. 68). Entry 56 is on long pepper (萹撥 *bibō*), where Duan tells us

152. E.g., in the Chinese Herbal Medicine Database of The Hong Kong Polytechnic University:

<https://herbaltcm.sn.polyu.edu.hk/herbal/long-pepper>

153 <http://www.chinaknowledge.de/Literature/Science/tongdian.html>

154 <https://ctext.org/dictionary.pl?if=en&id=565096>

155 <http://www.chinaknowledge.de/Literature/Novels/youyangzazu.html>

156 The original term is 卷 *juan*, meaning ‘scroll, book,’ or ‘volume, chapter.’

that it comes from Magadha and is pronounced as 萹撥梨 *bit-bat-li.¹⁵⁷ Magadha refers to a culturally important historic region of India roughly on the eastern Ganges plane. He also tells us the purported Fulin [Roman] name for it, and then proceeds to describe the appearance of the plant, likening the fruit to mulberries, which bear a close enough similarity to long pepper fruits. This is clear evidence that the Chinese used the Sanskrit word referring to long pepper, and Schafer (1985, p. 151) mentions that it was commonly shortened to *pippal* and mispronounced as *pitpat* or *pippat*.

萹撥，出摩伽陀國，呼為萹撥梨，拂林國呼為阿梨訶他。苗長三四尺，莖細如箸。葉似戢葉。子似桑椹，八月採。(YYZZ 18:56)¹⁵⁸

This is a good time to remind the reader that it is the long pepper that gave us the word *pepper* in English and many other languages around the world, as it was shown in etymology 21.

I mentioned its “sisters” earlier, because long pepper is not alone here, as there are other species, such as *Piper retrofractum*, also known as *Javanese long pepper* or sometimes as *Balinese long pepper*. At this point it will make sense to use the name *Indian long pepper* when referring to *Piper longum* to avoid confusion. These two plants and their fruits are very similar, and they are often lumped together in discussions. It is enough to remember that the Indian long pepper is important in India and mainland Southeast Asia, while the Javanese long pepper is more relevant to insular Southeast Asia, but both were exported to medieval China and most likely there was no distinction made between the two. Javanese long pepper is more pungent than both black and long pepper and is used in medicine, pickling, and curries, while much of it is exported to China—wrote Burkill (1935). Long pepper also spread through southern Asia before black pepper (Burkill, 1935, pp. 1746–1751).

We know that long pepper was popular in Rome during Pliny’s time, and that it was more expensive than black pepper. And if we look at the fact that the name borrowed into Greek from Sanskrit was *pippali* and not *marica*, we can readily assume that it was introduced to Europe before black pepper.

These plants hold the key to one of the questions I asked at the beginning of this project, that is:

¹⁵⁷ Reconstructed Tang pronunciation.

¹⁵⁸ The same page also has an entry on black pepper. <https://ctext.org/library.pl?if=en&file=85088&page=282>

Why was the Indonesian word *cabai* so resistant to change, and why did Indonesian not loan the words for ‘pepper’ or ‘chili’? They bear very similar fruits, turning bright red when ripe and growing as though reaching upward.

Table 4.24 Various names for long pepper in Chinese

Species	Name	Tr.	Gloss	Source
<i>Piper longum</i>	萹芡	<i>bibá</i>		DeFrancis (2003)
<i>Piper longum</i>	畢勃	<i>bibó</i>		
<i>Piper longum</i>	萹撥	<i>bibō</i>		S.-Y. Hu (2005)

Table 4.25 Conventionalized names for pepper in English, Arabic, and Chinese, found in dictionaries

Language	Term	Gloss	Loan	Source
English	<i>black pepper</i>		maybe	OUP (n.d.)
English	<i>pepper</i>		yes	OUP (n.d.)
English	<i>white pepper</i>		maybe	OUP (n.d.)
Arabic	<i>fulful</i>		yes	Wehr (1976)
Arabic	<i>fulful abyad</i>	white pepper	no	Baalbaki (1995)
Arabic	<i>fulful aswad</i>	black pepper	no	Baalbaki (1995)
Arabic	<i>fulfula</i>		no	Wehr (1976)
Chinese	<i>báihújiāo</i>	white-barbarian-pepper	no	MDBG (n.d.)
Chinese	<i>hújiāo</i>	barbarian-pepper	no	DeFrancis (2003)
Chinese	<i>hēihújiāo</i>	black-barbarian-pepper	no	MDBG (n.d.)

Table 4.26 Conventionalized names for long pepper in English, Arabic, and Chinese, found in dictionaries

Language	Term	Gloss	Loan	Source
English	<i>long pepper</i>		yes	OUP (n.d.)
Arabic	<i>dārfilfil</i>		yes	Wehr (1976)
Chinese	<i>bibá</i>		yes	DeFrancis (2003)
Chinese	<i>bibō</i>		yes	S.-Y. Hu (2005)

Summary

4.5.5 *The Diffusion of Pepper*

The names of pepper on the map in figure 4.16 demonstrate indirect evidence for the trails the materials have left and show the extent of trade networks at certain times. They reveal the cultures and civilizations located at the heartland of the product and the crossroads of its exchange. The distribution of clusters of words belonging to the same categories in this plotting also indicate the possible ways of diffusion. This can then be studied from a historical linguistic point of view through investigating language contact and loanwords, reinforced with historical awareness, and supported by botanical information. Domain knowledge of spices is also crucial, if we want to answer specific questions about the spread of spices and spice terminology. For example, one of the reasons pepper (and its name) was so successful at reaching faraway places so early on is the fact that pepper does not spoil. Or at least, not it does not spoil fast as compared to other agricultural products; it keeps its aroma and pungency longer than many other spices. Krondl (2007, p. 59) writes that “pepper, in particular, is remarkably stable and can be stored up to a decade as long as it’s kept reasonably dry.” This is one of the key features of spices, which allowed them to be shipped and carried thousands of miles away, during the course of several months if not years. Moreover, as dried plant matter, spices are also light, resulting in an extremely high price-to-weight ratio compared to, say, wheat. This is what made trading in pepper so lucrative in the past, and that defined the fate (and face) of cities, such as Venice.

Turning our attention back to vocabulary, the most fascinating part of this phenomenon is that

the word *pepper* originates at so great a distance from English—both in time and space. Thanks to the hard work of historical linguists and philologists, we have a decent reconstruction of *pepper*'s journey, and we know that Germanic tribes must have loaned the term on mainland Europe, some time before their migration to England around the fifth century. Early Old English *pipor* comes from Latin, which originates in the Sanskrit word *pippali* by way of an Indo-Aryan transmission (see etymology 21). The spatial and temporal trajectories of this word are remarkable, and they follow the path of the material. Indian pepper (black and long) was known and coveted in Arabia and Rome long before the Anglo-Saxons got to taste it. Still, much of the story of pepper and its worldwide diffusion goes back to prehistoric times. Tracing its itinerary on Eurasian pathways is difficult at this time depth, but we have breadcrumbs: its names. *Pippali* and its derivatives mark the way the spice spread, even where written documentation and archaeological finds are missing.

Now, homing in on our focus of English, Arabic, and Chinese, we will look at the etymological stages of the words for pepper in these languages. In Figure 4.16, I tried to illustrate the origins of the words for pepper in the languages under inspection. We see that the branch that leads to English is on the same trajectory as Arabic, both going back to the Sanskrit etymon. They also formed their words for long pepper with the prototype words *pepper* and *filfil*: English modeled it after Latin, while Arabic used a Persian term that compounded 'wood' and 'pepper' (*dar pilpil*), on the reasons behind which we can only speculate. Either it reminded the Persians of a piece of stick, or there was maybe some type of analogy with the name of cinnamon: *dar chini*. Unmistakably, the Chinese did not use a loan word for black pepper. They formed their own name by compounding their prototype word, *jiao*, appending it with *hu*, referring to foreigners, i.e., Western barbarians. Notwithstanding, Sanskrit *pippali* also survives in Chinese, in the form of *biba*, strictly referring to long pepper, known probably before Tang times (attested in the Tongdian) and still used in TCM. The question begs to be asked: Why was one pepper adopted with a native word and designation, and the other named with a loan word? Two facts are relevant: first, black peppercorns are very similar to the indigenous Sichuan peppers—in their shape, size, taste, and function—and therefore it was an obvious option to apply the term that already existed to the new material. By way of their similarity, a metaphoric way of expression extended the set of referents for this word, *jiao*. But long pepper was a new item not notably similar to already existing Chinese products, so it placed itself further away from Sichuan pepper in the semantic space. The two

do not match in color, shape, size, and even in its use long pepper was (and still is) rather a medicine than a culinary spice. It was alien enough to be adorned with a loanword.

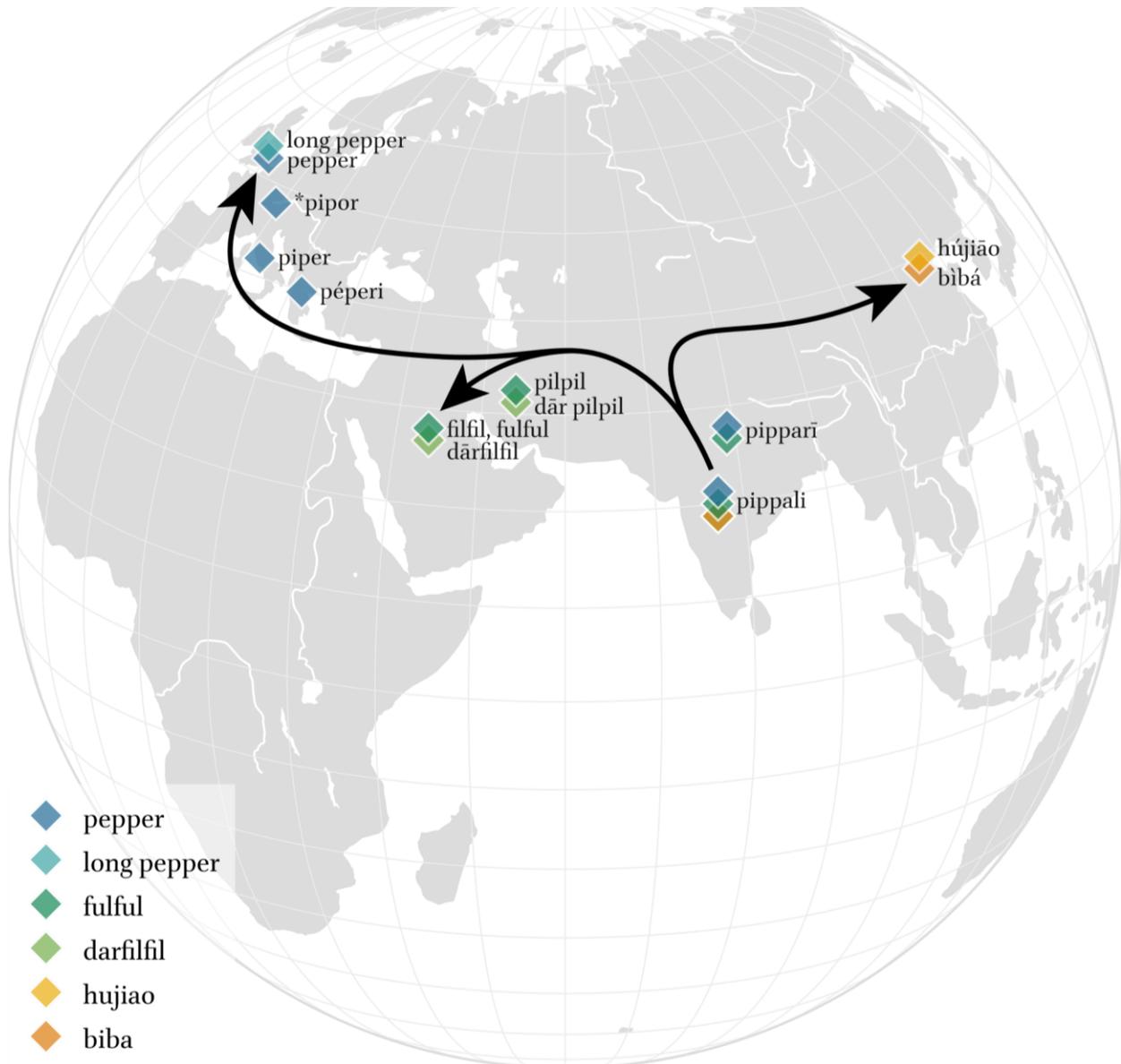


Figure 4.16 Diffusion of names for black pepper and long pepper, and their etymological stages in English, Arabic, and Chinese

4.6 TURMERIC

8. Turmeric

English: turmeric. Arabic: كركم kurkum. Chinese: 薑黄 jiānghuáng [ginger-yellow]; 黄薑 huángjiāng [yellow-ginger]. Hungarian: kurkuma.

Plant species: *Curcuma longa* L. (syn. *Curcuma domestica* Valetton)

Family: *Zingiberaceae*

Part used: rhizome

Region of origin: India

Cultivated in: China; Honduras; India; Indonesia; Jamaica

Color: orange-yellow



Figure 4.17 Turmeric rhizome, slices, and powder *Curcuma longa*. Credit: Aromatiques

Turmeric is a spice obtained from the dried rhizomes of *Curcuma longa*, an aromatic plant closely related and very similar to ginger. Commercial turmeric can be found in the shape of finger-like knobs, slices, and, most commonly, powder. It can be seen in Figure 4.17. Turmeric is an important ancient spice, medicine, dye, and social and ritual substance, and it turns everything it touches yellow. It has a distinct smell and taste—it is slightly bitter and somewhat pungent—and it is used to color food, textiles, and

even as a protection from evil spirits.¹⁵⁹ Turmeric, “the golden spice,” is well known for its importance in South and Southeast Asian culinary traditions (curries), traditional and modern medicine (Ayurveda, see Prasad and Aggarwal [2011]), and religious traditions (e.g., the *haldi* ceremony before Hindu weddings; as blessing or *prasad* ‘a benedictory material,’ see Nair [2019]). Turmeric’s color comes from curcumin, which is a coloring agent and a common and approved food additive marked by the code E100 on regulated food products.

4.6.1 *The Botany, Origins, and Cultivation of Turmeric*

Curcuma longa is a perennial herbaceous plant with large oblong leaves, short stem, and attractive white and yellow flowers that grow in clusters, from the ginger family *Zingiberaceae* (van Wyk, 2014, p. 128). The plant is rhizomatous, meaning that the stems are subterranean, sending roots downward and shoots upward. It is this rhizome that makes turmeric valuable as a spice, and it turns deeper and richer in color when dried.

Similarly to ginger, turmeric is an ancient sterile cultigen, not found in the wild (van Wyk, 2014, p. 128). It does not produce seeds; it is propagated by splitting the rhizome. Therefore, as Kikusawa and Reid (2007) point out, “its distribution in the Pacific area is considered to obviously be the result of human introduction [...]” Again, the origins of turmeric are not certain (and are disputed), but it is believed to have been domesticated either in India (Nair, 2019; POWO, 2022b; van Wyk, 2014), or Southeast Asia (Kikusawa & Reid, 2007; Mabberley, 2017). Turmeric needs a tropical climate to grow, as it requires high temperatures and rainfall. Harvesting means digging up the mature rhizomes, which are then dried, sliced, and powdered (van Wyk, 2014, p. 128). The top producer of turmeric is India, but neighboring and Southeast Asian countries also cultivate and market turmeric as well.

Similarly used and botanically close plants include the paler yellow mango ginger (*C. amada*), the Indonesian mango ginger (*C. mangga*), wild turmeric (*C. aromatica*, also a dye), and zedoary (*C. zedoaria*), an alternative source for turmeric, especially in China (van Wyk, 2014, p. 128).

¹⁵⁹ I have personally witnessed the practice of sprinkling turmeric on the doorstep of houses of the Indian community in Penang, Malaysia.

4.6.2 *The History of Turmeric*

Turmeric is widely used in South and Southeast Asia as a spice, medicine, cosmetic, and in rituals. In India, the use of turmeric dates back to Vedic period (ca. 1500–ca. 500 BC). It is featured in the *Suśrutasaṃhitā*, the foundational text of traditional Indian medicine, as an ingredient in an ointment to alleviate the effects of poisoned food (Prasad & Aggarwal, 2011). The use of turmeric is most salient in the various island cultures of the Pacific, where it spread with the Austronesian expansion there starting around 5000 BP, reaching as far as Polynesia and Fiji, and was used as a dye and ceremonial substance (McClatchey, 1993; Prance & Nesbitt, 2005; Sopher, 1964). For the early history of turmeric, I recommend the book chapter titled “Proto Who Utilized Turmeric, and How?” by Kikusawa and Reid (2007), which deals with the spread and uses of turmeric pre-European contact. It reached Tahiti, Hawaii, and the Easter Islands before the Europeans. Because of its role in Hindu rites, turmeric probably also spread to Southeast Asia at later stages as well, with the expansion of Hindu kingdoms in the region (Prance & Nesbitt, 2005, p. 170).

Turmeric, similarly to ginger, seems to have been known in Europe at early dates, but even if the modern identifications are correct, it was not a widespread substance before the seventh century. “There is no evidence of its use in the Levant and the Mediterranean Basin before the Islamic conquests,” write Amar and Lev (2017, p. 108). In the first century, Dioscorides noted in the *De Materia Medica*: “It is reported that there is also another kind of galingale that grows in India. It resembles ginger, it is saffron colored and bitter when chewed, and it is a fast-acting depilatory when smeared on.” (Dioscorides, ca. 50–70/2005). Despite the fact that both Dioscorides and Pliny mention it, medieval Arabic authors considered it a novel spice not identified by the classic Greek authors (Amar & Lev, 2017, p. 108).

According to Nair (2019, p. 2), its maritime dispersion from India intensified in the Middle Ages, reaching the coast of China in the seventh century AD, East Africa a century later, West Africa by 1200, and Jamaica in the eighteenth century. In Chinese medicinal literature turmeric first appears in the *Xinxiu Bencao*, and the *Bencao Gangmu* treats it as well (Feng et al., 2011).

From its initial diffusion up to Vasco da Gama’s journey and landing in Kozhikode, it was Arab traders who were instrumental in the westward spread of turmeric, similarly to pepper and other spices of the time. It is said that, in 1280, Marco Polo described turmeric in the China leg of his travels, but his

vague description might agree with bastard saffron (safflower, *Carthamus tinctorius*)¹⁶⁰, or a species of *Gardenia* that was used as yellow dye in East Asia at the time (Polo & Rusticiano, 1903/2004, p. 226).

There is also a vegetable which has all the properties of the true saffron, as well the smell as the colour, and yet it is not reall saffron. It is held in great estimation, and being an ingredient in all their dishes, it bears, on that account, a high price. (Polo, 1926, pp. 251–252)

4.6.3 *The Names of Turmeric*

English

Etymology 27. English *turmeric* ‘turmeric,, obscure origin (by alteration of earlier forms), 1545 <[?] akin to French *terre mérite* ‘saffron’ [worthy earth] <[?] and Medieval Latin *terra merita* ‘turmeric’ [deserved earth] <[?] Arabic *kurkum* ‘turmeric; saffron’, maybe a folk-etymological corruption^a

a. OUP (n.d., s.v. turmeric); Harper (n.d., s.v. turmeric); Guthrie (2009); Klein (1971, p. 789)

According to most etymological dictionaries, the origins of *turmeric* are obscure and uncertain.¹³⁶ However, they compare Medieval Latin *terra merita*, and French *terre mérite* meaning *meritorious earth*, which according to Nair (2019, p. 2) are the source, and refers to “the color of ground turmeric, resembling a mineral pigment”—I consider this pure speculation.

Truthfully, the English name of turmeric is probably the most obscure out of all English spice names. Dictionaries or authorities are only guessing, and even the immediate French and Latin etymons (*terre mérite; terra merita*) are speculative in terms of directionality. According to my readings, the latest attempt to explain the origins of the word *turmeric* was published in an article by Guthrie (2009), who tried to tie the European word form to the trade languages of Northern India, for example, Pashto *tzer*

¹⁶⁰ A plant introduced to China in the second century bc from Western Asia (Polo & Rusticiano, 1903/2004, p. 226). ¹³⁶ OUP, n.d., turmeric; Harper, n.d., turmeric; AHD, 2022, turmeric.

merich [yellow pepper] (cf. Persian *zard* ‘yellow,’ and Sanskrit *marica* ‘[black] pepper’), but because of the lack of attestation in other languages or a continuous trail of linguistic evidence, I do not find this explanation convincing. Nevertheless, the author does a good job circumscribing the problematics of *turmeric* and the previous attempts to solve it.

The term *Indian saffron* tells us that Europeans who first came into contact with turmeric (most likely in Asia, as Nair (2019) proposes, mentioning Marco Polo) were reminded of saffron due to its similar use and coloring properties, and so this name was devised by compounding the geographic origin of the novel item with a prototype spice name based on their similarity in function. Arabic also uses a similar term as we will shortly see.

It is worth pointing out that outside the United Kingdom, the whole of continental Europe uses derivations of the (scientific) Latin *curcuma*, or some other name not reminiscent of *turmeric*. *Curcuma*, besides being a botanical name for the genus, is not used for turmeric in English, but it is connected to the Latin name of saffron, *crocus*, which shows that the early confusion of the two names survives to this day in their binomial names. Both words go back to the Arabic etymon of *kurkum*, which originally meant ‘saffron.’

Table 4.27 Various names for turmeric in English

Species	Name	Source
<i>Curcuma longa</i>	curcuma	OUP (n.d.)
<i>Curcuma longa</i>	Indian saffron	Nair (2019)
<i>Curcumalonga</i>	turmeric	vanWyk (2014)

Arabic

Etymology 28. Arabic كركم *kurkum* ‘turmeric; saffron’; cf. cognates Hebrew קַרְכֹּמִים *karkom*; Aramaic ܩܪܩܘܡܐ / ܩܪܩܘܡܐ, Akkadian 𒌦𒍪𒌦𒍪𒌦𒍪 *kurkanū* <² Sanskrit कुङ्कुम *kuṅkuma* ‘saffron’^a

a. Kaufman et al. (1987, s.v. kwrkm); Guthrie (2009)

The Arabic word for turmeric is *kurkum*, which originally meant 'saffron.' The word *kurkum* has a Hebrew cognate *karkom*, and it appears in the Bible once,¹⁶¹ together with other perfumes of ancient times, where it was identified as saffron. It is also generally accepted that this Semitic word is the etymon in the name of the saffron crocus, via the Greek word *κρόκος* *krókos*, found now in the Latin binomial name of saffron (*Crocus sativus*).

Arabic *kurkum* has other Semitic (Aramaic, Akkadian), and regional cognates of Southwest Asia, such as Armenian *քրքում* *k'rk'um* (a loan from Syriac), Middle Persian *kwlkwm*, and it was suggested that this word originates in Sanskrit, with an etymon of *kuṅkuma* 'saffron; saffron powder used as *tilak*, a bright red dye used for marking forehead.'¹⁶² However, it might be the case that since these words originally mark saffron, native of the Eastern Mediterranean, it is actually the Sanskrit term that is ultimately derived from the Semitic, as claimed by Greppin (1987). According to Amar and Lev (2017, p. 108), turmeric received the Semitic name (*kurkum/karkom*) from saffron due to the close similarities of their main role: a yellow dye. They also say that this must have happened after the Islamic conquest of Arabia, which facilitated the introduction and diffusion of turmeric into the region.

Just as in English, medieval Arabic literature called turmeric *za'farān hindī* 'Indian saffron', and just as in Europe, turmeric in Arabia served as a cheap substitute for the extremely expensive saffron (Amar & Lev, 2017).

Further Arabic names include *hurd* (in and around the Gulf, e.g., Yemen), via Persian *hard*, most probably derived from the Sanskrit name of turmeric: *हिरद्रा* *haridrā* (cf. Hindi *हल्दी* *haldī*) (Laufer, 1919).

¹⁶¹ Song of Songs 4:14

<https://www.biblegateway.com/passage/?search=Song%20of%20Songs%204%3A14&version=NRSVUE>

¹⁶² R. L. Turner, 1962–1966, 164.

Table 4.28 Various names for turmeric in Arabic

Species	Name	Tr.	Gloss	Source
<i>Curcuma longa</i>	أصابع صفر	<i>aṣābi‘ ṣufr</i>	yellow fingers	Wikipedia (n.d.)
<i>Curcuma longa</i>	هرد	<i>hurd</i>		Amar and Lev (2017)
<i>Curcuma longa</i>	كركم	<i>kurkum</i>		Amar and Lev (2017)
<i>Curcuma longa</i>	شجرة الخطاطيف	<i>shajarat al-khaṭāṭīf</i>	tree of hooks	Amar and Lev (2017)
<i>Curcuma longa</i>	زعفران هندي	<i>za‘farān hindī</i>	Indian saffron	Amar and Lev (2017)
<i>Curcuma longa</i>	عقدة صفراء	<i>‘uqda ṣafrā’</i>	yellow knob	Baalbaki (1995)
<i>Curcuma longa</i>	عروق صفر	<i>urūq ṣufr</i>	yellow roots	Amar and Lev (2017)

Chinese

Etymology 29. Mandarin Chinese 薑黃 *jiānghuáng* ‘turmeric’, *jiang* ‘ginger’ + *huang* ‘yellow’^a

a. Kleeman and Yu (2010, p. 856)

In Chinese, turmeric today is known as *jianghuang* [ginger-yellow], or less frequently as *huangjiang* [yellow-ginger]. A historic name appearing in the Bencao Gangmu and reported by Laufer (1919, pp. 312–313) is used for both saffron and turmeric. More precisely, the *yujin* [yü-gold] aromatic (香 *xiang*) where the flowers are used (saffron), and the *yujin* of the roots (turmeric, or some other *Curcuma* species used similarly).

Table 4.29 Various names for turmeric in Chinese.

Species	Name	Tr.	Gloss	Source
<i>Curcuma longa</i>	黃薑	<i>huángjiāng</i>	yellow-ginger	DeFrancis (2003)
<i>Curcuma longa</i>	薑黃	<i>jiānghuáng</i>	ginger-yellow	Kleeman and Yu (2010)
<i>Curcuma longa</i>	鬱金	<i>yùjīn</i>	yü-gold	Schafer (1985)

Summary

Table 4.30 shows the names of turmeric that occur in modern dictionaries.

Table 4.30 Conventionalized names for turmeric in English, Arabic, and Chinese, found in dictionaries

Language	Term	Gloss	Loan	Source
English	<i>curcuma</i>		yes	OUP (n.d.)
English	<i>Indian saffron</i>		no	OUP (n.d.)
English	<i>turmeric</i>		yes	OUP (n.d.)
Arabic	<i>hurd</i>		yes	Lane (1863)
Arabic	<i>kurkum</i>		yes	Wehr (1976)
Arabic	<i>ʿuqda ṣafrāʾ</i>	yellow knob	no	Baalbaki (1995)
Chinese	<i>huángjiāng</i>	yellow-ginger	no	DeFrancis (2003)
Chinese	<i>jiānghuáng</i>	ginger-yellow	no	Kleeman and Yu (2010)

5. THE DIFFUSION OF SPICES

In this chapter, I will present the findings on the diffusion of spices, by looking at the distribution of spice plants and their primary names. First, an overview of the spices’ geographical distribution will be presented. Then, a discussion on their spread and *spreadability* will ensue, and lastly, I will present my findings on the diffusion of wandering spice names along spatial and temporal trajectories, and how they relate to the botanical reality. The aim of this chapter is to present an understanding of how spices spread around the globe as informed by their names and etymologies, but one at the same time supported by other evidence and the current state of their physical diffusion.

5.1 THE GEOGRAPHIC DISTRIBUTION OF SPICES

In general, it is true that spices come from the hot and humid tropical regions, especially Asia. However, there are a number of aromatic plants that originate from more temperate regions, and here we should think about the umbelliferous plants of West and Central Asia: asafoetida, fennel, cumin, caraway, and others, and we must not forget the three American spices: chile, vanilla, and allspice. Figure 5.1 shows the macroareas where the 24 spices originate.

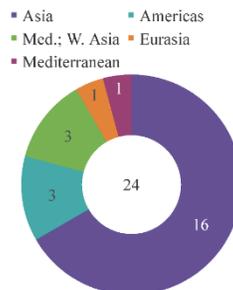


Figure 5.1 Distribution of spice plants by the macroarea of their native habitat

Botanical databases, such as POWO, often show distribution and give us the regions where a plant is *native* to, and where it has been *introduced*. “Introduced” means that the plant is not native in the area, but now grows wild due to human intervention—whether the plant escaped cultivation, or became naturalized after accidental introduction—or due to natural spreading. Looking at this information reflects on the plants’ ability to adapt and grow in new places, but also hints at how human usage and

transmission affected and created habitats. I have collected this information and used it to compare the spices in question, simply counting the native and introduced regions, and adding them up. In Figure 5.2, you can see the spices ranked by the total number of the regions they grow in, including both native plants and places where the plants were consequently introduced. I would like to highlight the fact that the highest ranks are occupied by aromatic plants that are also herbs, both in the botanical and in the culinary definition. This makes sense, since these plants—e.g., fennel, coriander, dill, fenugreek, etc.—are not only cultivated for their seeds, but also for the fresh leafy green parts that are made use of as well, so it is without question that the whole plant “travels” to new places, not only its dried product. Chili peppers are also available fresh in many places today. People transplant their ingredients whenever they can, unless the primary goal of cultivation is purely profit.¹⁶³

The far side of the rankings shows the spices that do not grow extensively across many regions, regardless of how valuable or popular they are: star anise, asafoetida, saffron, cardamom, cloves. Of course, behind this are the complex issues of plant biology, ecology, and the many factors that decide a plant’s resistance to transplantation and whether it can grow in new, alien environments. However, there is another point to notice here: labor. The lower rankings feature spices that are highly labor-intensive to cultivate and harvest, including star anise, cardamom, and saffron, but the collection of asafoetida is cumbersome as well, and this also affects prices. This seems to indicate that the harder it is to cultivate a spice plant, the less likely it is that it will spread to new places. Interestingly—and of course, closely related to what was just said—all of these are products that are very specific plant parts, the pericarps (star anise, Sichuan pepper), dried oleo-gum-resin (asafoetida), stigmas (saffron), and dried flower buds (cloves). Figure 5.2 shows a grouping by macroarea and by plant family as well.

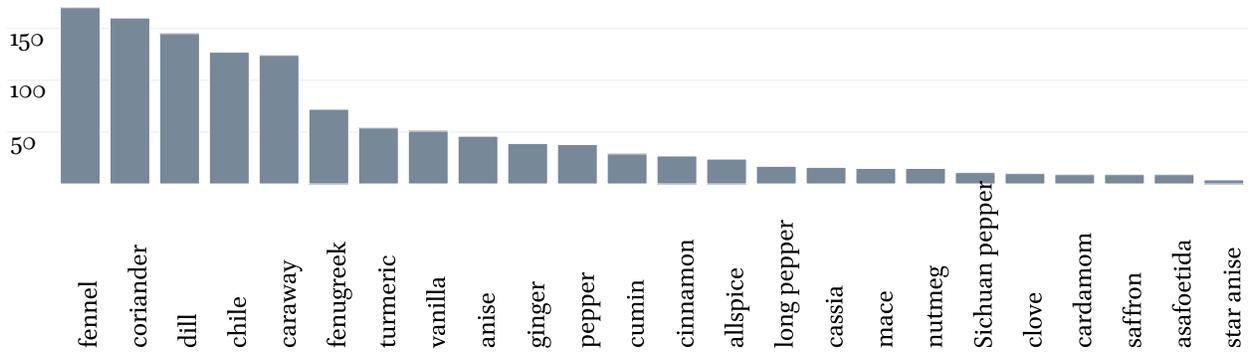
5.1.1 *The Spreadability of Spices*

When it comes to spices of commerce, there is a factor that greatly weighs in on their diffusion: their ability to spread. I have noticed that while some spices were very expensive at some point in time (or still are), others, with the same levels of demand, were never particularly costly. Related to the ideas of supply and demand, the answer to this question was scarcity; or in this case, the lack thereof. To put it

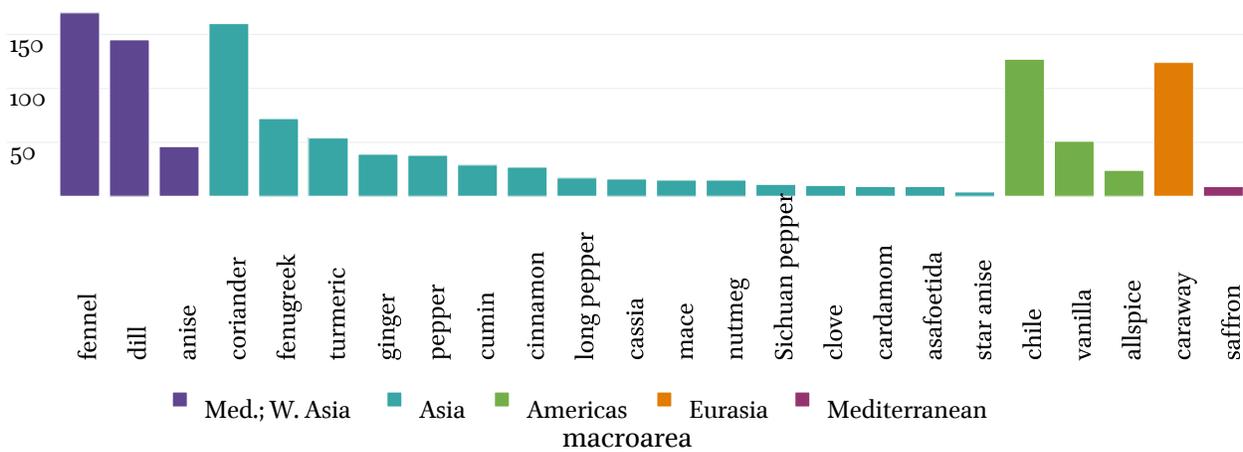
¹⁶³ The Dutch for example actively destroyed plant habitats, and wiped out whole islands—including the population—in the Spice Islands of Indonesia to generate scarcity and ramp up value during their monopol rule in the seventeenth century.

simply, a spice was expensive if it was rare or its supply was tightly controlled, not unlike diamonds today. Spices that could be easily grown anywhere were transplanted early on and were therefore not considered for their lavish returns, however venerated and influential they were. The two best examples for this are ginger and chili.

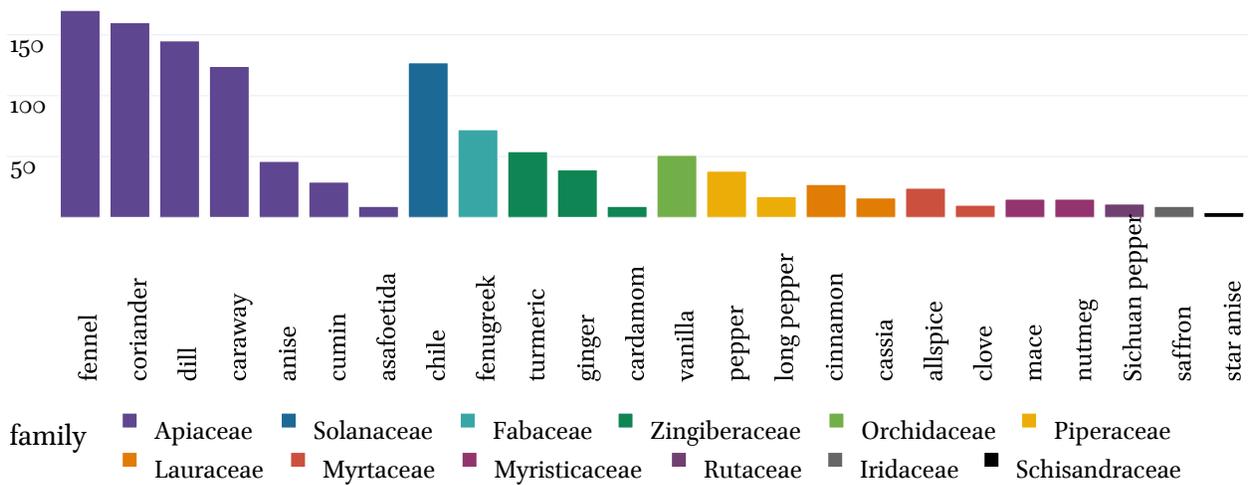
If you have ever left a knob of fresh ginger on your kitchen counter for weeks or even months, you might have noticed that it does not rot: in fact, it will eventually sprout and start growing a plant (similarly to an onion or a potato). And if you want more ginger root later, you should put it into a pot of soil. This was the secret of ginger’s prehistoric success, best known in connection with the Austronesian expansion that began around 5000 years ago and populated the Pacific lands; it is generally believed to have unfurled out of Taiwan (Mirabal et al., 2013). The early Austronesians carried ginger everywhere on their migrations into Maritime Southeast Asia and the Pacific on their outrigger boats (a native Austronesian invention that enabled people to reach as far as Hawaii and Madagascar), as it was a valuable source of nutrition with added medicinal value (see Dalby, 2000, pp. 21–25). Ginger, among its numerous health benefits, strengthens the immune system, and it was therefore an invaluable crop to carry on long ocean voyages and therefore a constant feature on board ships of maritime Asia (compare the “discovery” of lemon’s effectiveness against scurvy by British naval doctor James Lind in 1747 [Allan, 2021]). Accordingly, there is a reconstructed Proto-Oceanic term for ginger, **laqia* (Bellwood et al., 2006, p. 52), and a Malagasy term for ginger seems to correspond to a Sanskrit etymon: *sakarivo* < *śṛṅgavera* (Adelaar, 1994, p. 41). More recent genetic and archaeobotanical studies support the Austronesian expansion theory, which in the past two centuries stood solely on linguistic grounds. The names of ginger are among the linguistic clues that helped anthropologists, ethnographers, and linguists to reconstruct and establish a chronology. But there is a botanical clue as well that this is a very ancient spice and a long-term product of trade: it is not found in the wild anymore (Ravindran & Nirmal Babu, 2005). Although it is naturalized in India, it is believed to originate in Southeast Asia (Ravindran & Nirmal Babu, 2005). The ease of ginger rhizomes’ transportation over long distances means that it had spread to other tropical and subtropical regions at a very early time, making the primary center of domestication hard to locate. It was hence called the most widely cultivated spice (Lawrence, 1984), though I am almost certain today it would be the chili pepper. Dalby (2000) also points out that, because humans propagated ginger for millennia by splitting the rhizome, it has lost its ability to be grown from seeds.



(a) Total number of growing regions



(b) Spices by total number of growing regions, grouped by macroarea



(c) Spices by total number of growing regions, grouped by family

Figure 5.2 Spices ranked according to the total number of regions they grow in, both native and introduced

Chili, on the other hand, can reproduce from seeds, and it is easy to grow in temperate areas as well, so much so that the American spice became an integral part of many European, African, and Asian cuisines in less than a hundred years since its introduction by the Portuguese, and many forget that it in fact came from the New World. The red peppers were introduced to Hungary by the Ottomans soon after their conquest, marked by the Battle of Mohács in 1526, hence the initial name *törökbors* [Turkish-pepper (of *Piper nigrum*)], and Hungarian *paprika*—referring to the fine red powder made from dried chilies (attested in 1748, a borrowing from *Serbian-Croatian-Bosnian* [SCB])¹⁶⁴—soon came to be an integral part of Hungarian cuisine and identity. Chilies soon reached Asia as well; Dott (2020) in his well-researched book about the cultural history of the chili in China writes that a 1614 Korean encyclopedia noted “Now it is grown everywhere [in Korea],” which means it had been introduced into Korea before then. Even in 1621, one Chinese *bencao* author believed it to come from Sichuan! “It comes from central Shu [Sichuan]. Now it is found everywhere,” reports the *Shiwu Bencao* (Dott, 2020, pp. 24, 28).

And so, it is clear that some spices spread more easily than others, affecting trade patterns, prices, and the diffusion of names. But how to compare these data? How to measure them? To have a basic understanding of what effect spices’ ease or difficulty in spreading can have on their diffusion, value, and global popularity, I created a rudimentary metric based on geographical-botanical data from POWO (POWO, 2022b). I will call this *spreadability*. I have simply divided the sum of the introduced regions with the sum of the native regions, to serve as a crude indicator of how *well* a spice plant has spread. Intuitively, this index concerns spice plants’ ability and “ecological willingness” to spread to new regions, whether as a result of human hands (by trade and transplantation) or through nature (self-seeding, spreading by birds, etc., into neighboring areas).

$$\frac{\sum region_{introduced}}{\sum region_{native}} = spreadability\ index$$

This metric accounts for the initial difference between whether a spice was minimally distributed (i.e., found only in one or two regions), or well distributed, before being introduced into either a few, or many, new places. Figure 5.3 shows the spices ranked by their spreadability index. The figure shows for example

¹⁶⁴ Zaicz, 2006, paprika.

turmeric, originally from “one region” (India), is now found in 53 other regions, resulting in the highest score of 53. On the far side of the graph, we find Sichuan pepper, whose main source, *Zanthoxylum bungeanum*, is indigenous to ten geographical zones in China, but has been introduced to only one region (Uzbekistan), earning it the low score of 0.10.

This graph—like any other—greatly depends on the data fed into it, and, like any other quantitative analysis, it has its limitations. Although the regions in the POWO database are uniform, they are not clear-cut ecological zones, but rather are based on administrative divisions of countries, and thus it is not perfect. While some large countries are divided into broad areas that represent different biodiversity zones, their borders are arbitrary. For example, the United States, Australia, Russia, and China are divided by states, provinces, or still greater geographical areas (e.g., New South Wales, Central European Russia, China South-Central). But India is just one unit, which helps explain the very high score of turmeric.¹⁶⁵ Nonetheless, in terms of general usefulness, the index has some merit. If we look at the distribution map of turmeric,¹⁶⁶ we will see that it did indeed spread far and wide, from Southeast Asia through West Africa to the Caribbean, and, compared with Sichuan pepper¹⁶⁷—which is still mostly limited to China—it is much more popular globally. Figure 5.3 (b) and (c) show the spices ranked by their spreadability index as well, but broken down by macroarea and plant family. I have included the plant family groupings because this determination can be very interesting to those with affinity to the plant sciences, and, truthfully, this particular grouping would be much more exciting if more plants could be included in these analyses.

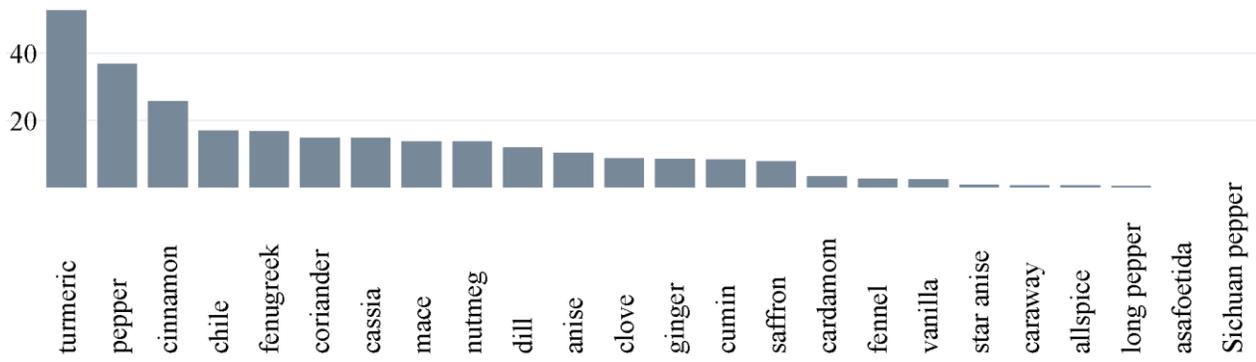
Based on my reading and the data from the botanical databases, I have tried to approximate the geographical origins of each spice discussed in this paper. Figure 5.4 shows this attempt, plotted onto the globe. In cases where a spice’s supposed native area includes a large number of expansive regions, I have opted for a geospatial mid-point as a compromise. Accordingly, you can see caraway placed in the middle of Eurasia, because I used the coordinates for Eurasia, as it is marked native everywhere in Eurasia in the

¹⁶⁵ Another limitation might be the age of this database, as we find zones named Yugoslavia, or Czechoslovakia, but I doubt the biodiversity changed as much as the political borders.

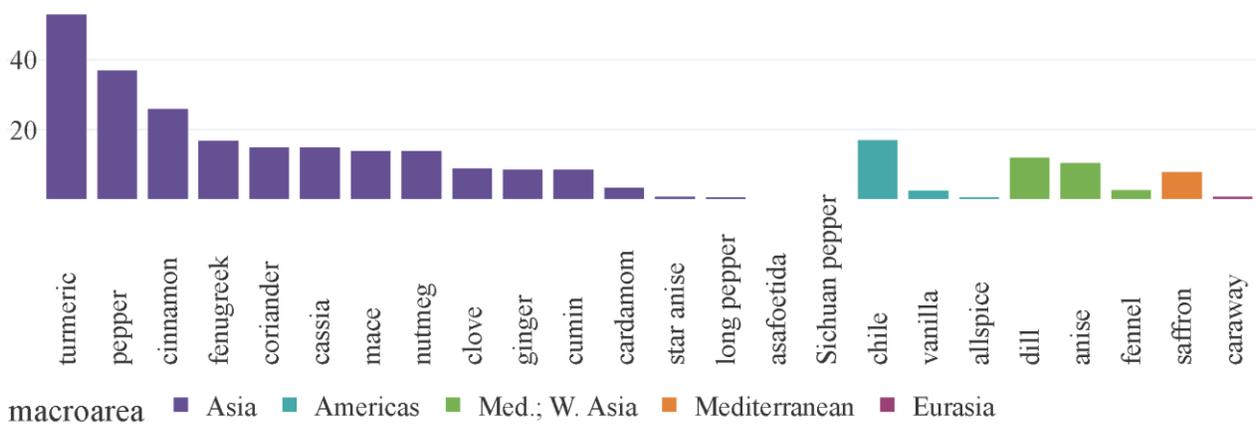
¹⁶⁶ *Curcuma longa* on POWO: <https://powo.science.kew.org/taxon/796451-1#distribution-map>

¹⁶⁷ *Zanthoxylum bungeanum* on POWO: <https://powo.science.kew.org/taxon/775625-1/#distribution-map>

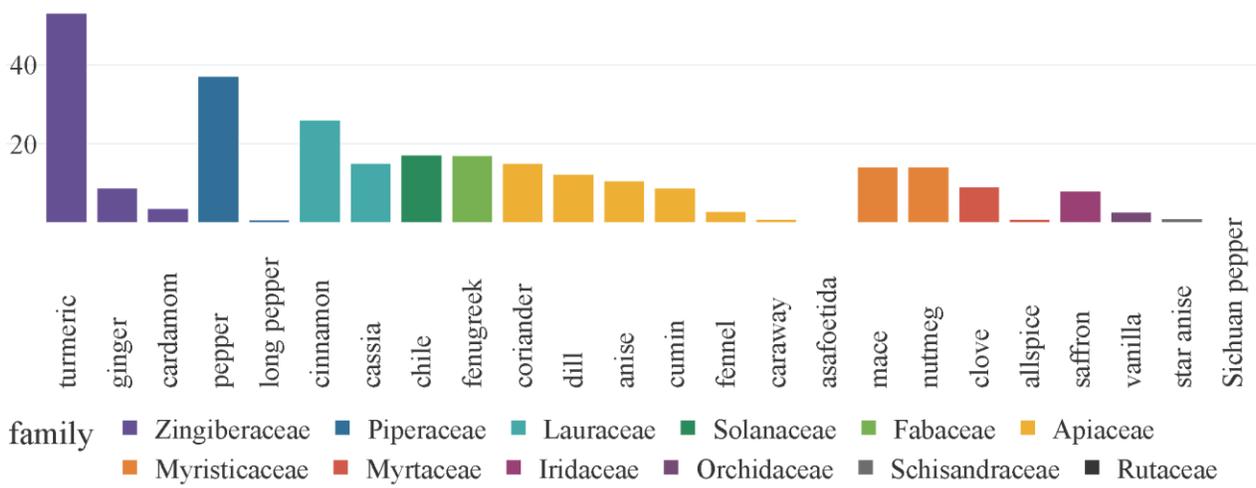
database. Most spice plants fortunately do not have such extensive native areas, enabling their origins to more precisely shown, and in many cases the exact origins can be pinpointed. For example, nutmeg and cloves are neatly situated on the tiny islands of the Moluccas in present-day Indonesia. The sizes of the data points correspond to the their spreadability values, and these indicate very clearly that South Asian spices had a tremendous "success" in terms of global diffusion. This also conforms to historical facts; during the centuries-old maritime trade between East and West, whose two main end points were the entrepôts of Arabia and the port cities of South China, India was the halfway point. Because of its central location on the Maritime Silk Road, it was on the shores of South India that Arabs, Persians, Southeast Asians, Chinese, and later Europeans exchanged goods with each other, and therefore this region was a key point in the spread of spices as well.



(a) Spices ranked by spreadability



(b) Spices ranked by spreadability, grouped by macroarea



(c) Spices ranked by spreadability, grouped by family

Figure 5.3 Spices ranked by their spreadability index, showing which spice plants spread to a greater number of regions, taking into account the initial state of their distribution

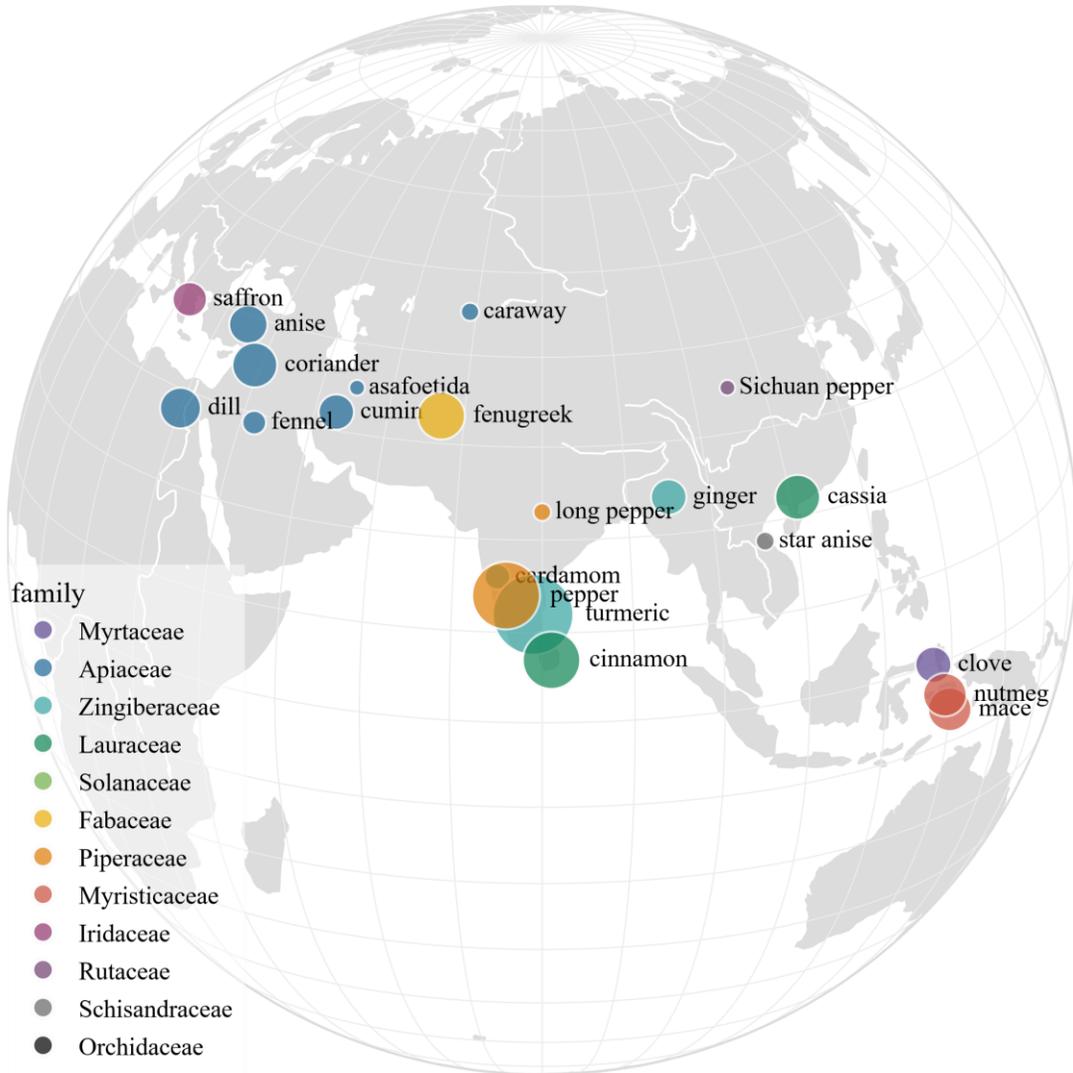


Figure 5.4 The approximate geographical origins of the spices in this paper; size represents their spreadability index. For a full, interactive version, please visit https://htmlpreview.github.io/?https://github.com/partigabor/phd-thesis-viz/blob/main/spices_map.html

What more we can know about the diffusion of spices beyond the botanical and historical evidence, is to be found in their names. In most cases, the spice names spread with the materials, and these have left their traces. Moreover, these linguistic traces—together with the close study of their respective materials—can help us match or reconstruct the exact routes the materials took, accounting for communities and cultures that have played important roles in their dissemination. The following section will focus on this phenomenon.

5.2 THE LINGUISTIC DIFFUSION OF SPICES

Turning at last to the language element of spice diffusion, I will illustrate linguistic diffusion through investigating spice terminology and its spread in spatial and temporal dimensions by tracing loanwords and analyzing attestation timelines. Before introducing the etymological findings, I must touch upon the terms' borrowed status, which I have previously introduced briefly in Section 3.2.2. Accordingly, this chapter focuses on the borrowed elements of spice terminology.



Figure 5.5 Ratio of borrowed terms in the spice nomenclature across the three languages, based on Table 5.1

5.2.1 Borrowings: Loanwords and Wanderwörter

In order to accurately compare the itineraries of loanwords and Wanderwörter in a trilingual setting, I had to determine which spice names are in fact borrowed, and which are native derivations/inventions. In most instances, it is rather obvious if a word is a borrowing or not, while in others, it was not so easy to determine. For example, I initially assumed that *Sichuan pepper* (which does not occur in English dictionaries) is an English construction and therefore not a borrowing, but after trying to find its source, I learned that it is a calque (loan translation) from Chinese 川椒 *chuanjiao* [Sichuan pepper],¹⁶⁸ devised in the field of herbal medicine (Hooper, 1929, p. 140). In short, I analyzed the names based on their borrowed status to find loanwords. The result of this analysis of the default names of the twenty-four spices can be seen in Table 5.1.

¹⁶⁸ Which uses the prototype spice word in Chinese, prefixed with the second character of Sichuan province (originally meaning 'river').

Table 5.1 Spice nomenclature, showing if the terms are borrowed (+), not borrowed (-), or maybe borrowed (?)

English	Borrowed	Arabic	Borrowed	Chinese	Borrowed
allspice	-	fulful ifranjī	-	duōxiāngguǒ	-
anise	+	anīsūn	+	huíqín	-
asafoetida	+	ḥiltīt	+	āwèi	+
caraway	+	karāwiyā	+	gěilǚzi	+
cardamom	+	hāl	+	dòukòu	?
cassia	+	salikha	-	ròuguì	-
chili	+	fulful ḥārr	-	làjiāo	-
cinnamon	+	qirfa	-	xīlánròuguì	-
clove	+	qaranful	+	dīngxiāng	-
coriander	+	kuzbara	+	yánsuī	-
cumin	+	kammūn	+	zīrán	+
dill	+	shibithth	+	shíluó	+
fennel	+	shamar	+	huíxiāng	-
fenugreek	+	ḥulba	-	húlúbā	+
ginger	+	zanjabil	+	jiāng	-
long pepper	+	dārfilfil	+	bìbō	+
mace	+	basbās	+	ròudòukòugānpí	-
nutmeg	+	jawz al-ṭīb	+	ròudòukòu	-
pepper	+	fulful	+	hújiāo	-
saffron	+	za‘farān	+	fānhónghuā	-
Sichuan pepper	+	fulful sītshuwān	-	huājiāo	-
star anise	-	yānsūn najmī	-	bājiǎohuíxiāng	-
turmeric	+	kurkum	+	jiānghuáng	-
vanilla	+	fāniliyā	+	xiāngcǎo	-

The most important finding here is that English has by far the most loaned terms in the spice domain—according to our modest sample of spices—followed by Arabic, and finally Chinese. Out of the 24 default names, there are 21 borrowings in English, 17 in Arabic, and 8 in Chinese. Figure 5.5 shows the ratio of borrowings concisely. Of course, this figure seen alone can be misleading, since the difference in ratio between the languages is not representative only of the spice domain; the English lexicon has a large number of loanwords in general. Dictionaries especially have a high number of loanwords, but everyday communication features them greatly as well. For example, out of the top 1000 most frequently used words in the *British National Corpus* (BNC), more than half are borrowed (usually from French and Latin) (Durkin, 2014, p. 38). We should always approach the percentage of loanwords in a language with caution, and I will not cite numbers, but from my studies I know that the percentage of loanwords in English is certainly higher than it is in Arabic, and Chinese, which *prefer* to coin words using native elements.

Word formation in Arabic most often happens internally by utilizing the possibilities of the highly productive root system, but it seems that in the spice domain, loanwords entered the Arabic vocabulary at high rates as well. Thankfully, the semitic root system and the rules of Arabic word patterns make it easy to spot loanwords. For example, if we take the words *zanjabīl* ‘ginger,’ *zafarān* ‘saffron,’ or *qaranful* ‘cloves,’ we can be sure that these are loanwords for the following reasons: There are no native quinqueliteral (five letter/consonant) roots in Arabic, the few existing ones being borrowings. Furthermore, there are no true “broken plural,” or related verbal forms for these words. Interestingly, a large number of Persian (and other) loanwords in the domain of plants, fruits, and vegetables have five-consonant roots, including eggplant, cauliflower, parsley, and oranges.

My knowledge of Chinese word formation is rather limited, but I would like to point out a few phenomena. First, it is well known that, while Classical Chinese operated with monosyllabic, single-character words, modern Chinese has a strong tendency to prefer disyllabic words, mainly to disambiguate homophones. Therefore, only the most ancient spices would have a monosyllabic ancestor, Sinograms that convey the meaning of the spice on their own (e.g., *jiao* ‘pepper,’ *jiang* ‘ginger,’ *gui* ‘cassia’). In modern Chinese, ginger is the only one that still can stand alone, where pepper and cassia are always affixed with modifiers to distinguish them from other items, and to fit the disyllabic trend. Loanwords will also often conform to this trend and become disyllabic in Chinese when integrated (e.g., *awei*

‘asafoetida,’ *bibo* ‘long pepper,’ *ziran* ‘cumin’). Tri-syllabic loanwords are often historical in this domain and not a common feature in day-to-day usage; they are not an integral part of the conventionalized vocabulary (e.g., *zafulan* ‘saffron,’ *huluba* ‘fenugreek,’ *geluzi* ‘caraway’). Second, I want to highlight the curiosity of phono-semantic matching. In Chinese, loaned elements are sometimes incorporated by words that are phonetically similar and semantically related, thus hiding the word’s or morpheme’s borrowed quality. For example, *husui*, a name for coriander literally meaning ‘barbarian coriander’ is supposed to be a phono-semantic matching of an Iranian term (**koswi*, **košwi*, **gošwi*), according to Laufer (1919). I will discuss the naming of newly introduced items in more detail in the next chapter.

The fact that English has many loanwords in the spice domain is not surprising if we consider that all of these aromatic products are *exotic*, they are not from anywhere near England, or the Saxon homeland. As for Arabic, we know from the history of the spice trade that virtually all materials from Asia passed through the Arabian Peninsula, and the names of many spices with origins in West Asia predate the Arabic expansion of the seventh century and therefore in Arabic, many are loanwords from other Semitic languages. Loanwords in Chinese in the spice domain are much fewer in number, with most of the historic words being Silk Road terms, or contemporary creations for those introduced in modern times.

5.2.2 *Spatial Trajectories: Tracing Spice Terms Around the Globe*

In order to present the findings in a convenient, reader friendly, and interesting way, I turned to geospatial mapping. The plots seen in this section are made possible by utilizing the etymological data on spice terminology, collected and introduced for each spice in chapter 4, and justified in Section 3.2.3. When creating these visualizations, I have included relevant historic names beyond the 24 default terms such as *amomum*, *dāršīnī* ‘cinnamon,’ or *xingqu* ‘asafoetida,’ and I have also left out terms that are not borrowings. Therefore, you will not find words on the tables such as *allspice*, *qirfa* ‘cinnamon,’ or *hujiao* ‘black pepper.’

Note 5.2.1. The geospatial plots in this section (fig. 5.6, 5.7, and 5.8) are a static version of interactive graphs available online via clicking the links given in the captions. I highly recommend examining these visualizations, as they supply further details on the words’ histories, and most importantly, the traces can be isolated by double clicking on

an item in the legend, allowing for a clearer view and comparisons. The color palette in these plots does not have any significance, the sole purpose of the colors being to visually separate the traces of the terms.

Spices Flow into Europe: The Case of English

Figure 5.6 shows the diffusion of spice names viewed from the progression of the words' etymological stages entering into English. Words that were coined in English (i.e., not loanwords) are not present. What we see here, is a very clear trend in the dispersion of English spice terminology to have an East-to-West directionality. Besides the few spices that came from the Americas, all via Spanish (*chili*, *pimento*, *vanilla*, where *chili* is represented by the single line crossing the Atlantic Ocean pointing to a Nahuatl etymon) after the fifteenth century, the majority of spice terms are oriental in origin, and have long histories reaching into times of antiquity and beyond.

As far as space and distance goes (and probably time as well), the most remote Wanderwort seems to be *ginger*, whose source can be traced back to a Dravidian language of South India, but even that form has been identified as a loanword from an unknown Southeast Asian language¹⁶⁹ (cf. Etymology 30). Based on the cognates in surrounding unrelated languages (Khasi, Thai, Old Chinese), we can assume that ginger is a very early Wanderwort of the region going back to a Proto-Tibeto-Burman reconstructed form, /*kjaŋ/ (Matisoff, 2003, p. 302). Even more exciting is the fact that, besides English, the Arabic and Chinese words for ginger originate in the same etymon as well. I recommend using the link to explore the interactive visualization isolating the trace for ginger, or any other spice, as the point is much more easily seen when inspecting a single item as opposed to a large group.

Besides the extreme case of *ginger*, we should take note that words from India (e.g., *pepper*) have passed through Persia, Arabia, and Greece, and, in the final stages, almost every loanword arrived via French and/or Latin. Examining the etyma of English spice terms, it is impossible not to acknowledge the role of the Arab traders, the Greek city states, and—most crucial for the rest of Europe—the importance of the Roman Empire.

¹⁶⁹ OUP, n.d., ginger.

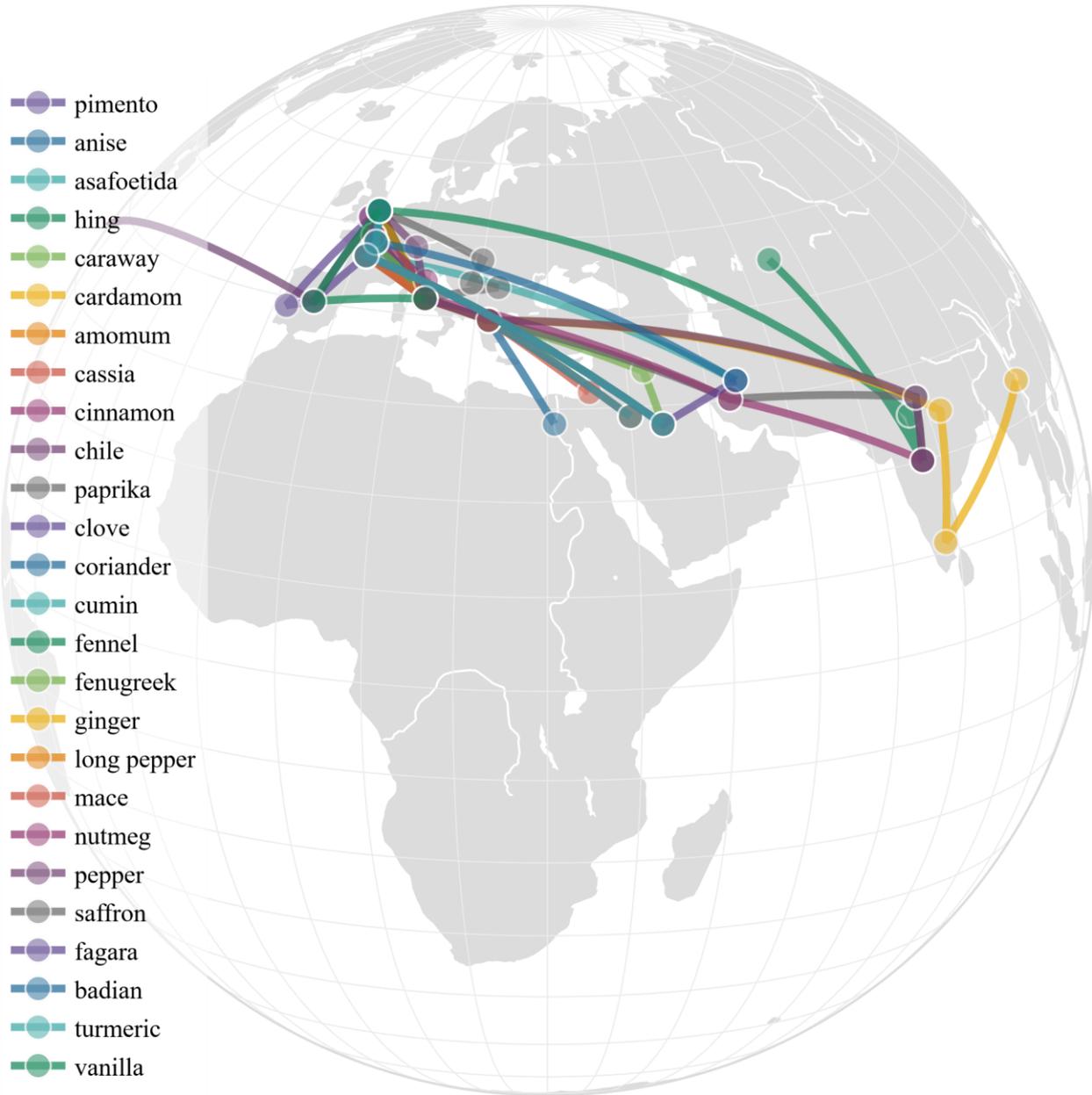


Figure 5.6 The diffusion of spice terminology in English, focusing on loanwords and Wanderwörter. For a full interactive version, please visit https://htmlpreview.github.io/?https://github.com/partigabor/phd-the-sis-viz/blob/main/diffusion_en.html

Etymology 30. English *ginger*, ca. 925 < reinforced by Old French *gingivere*, *gingibre* ‘ginger’ < Medieval Latin *gingiber* ‘ginger’ < Latin *zingiber* ‘ginger’ < Ancient Greek ζιγγίβηρις *ziggiberis* ‘ginger’ < Pali *singivera* ‘ginger’; cf. cognates Sanskrit शृङ्गवेर *śṛṅgavera* < Dravidian **cinki-wēr* ‘ginger,’ South dravidian nominal compound from the

etyma of Tamil and Malayalam *iñci* (both with regular loss of an initial sibilant) + *vēr* (Proto-Dravidian *wēr*); the base of **cinki* is a loanword < **unknown language** ? ‘ginger,’ unidentified Southeast Asian language; cf. cognates Khasi *syng* /sɔ̃ŋ/, Thai *khing*, Vietnamese *gùng*, Chinese *jiāng* <? Proto-Sino-Tibetan **kjaŋ* ‘ginger’^a

a. OUP (n.d.) and Ross (1952); Krishnamurti (2003, p. 5)

Spices Travel through Arabia: The Case of Arabic

Arabic loanwords in the spice domain reflect where the Arab merchants sourced their spices from: either overland via Persia or by sea from India (e.g., *fulful* ‘pepper,’ *dārṣīnī* ‘cinnamon,’ *dārfilfil* ‘long pepper,’ etc.). Regional Semitic borrowings are also present, and these include spices that originate relatively close to Arabia and the peoples of the region who knew and used them; e.g., *kammūn*, *shibitt* ‘dill,’ *shamar* ‘fennel,’ all three traced back to Akkadian. Arabia represents a bridge in the spice trade between Europe and Asia, connecting the Orient and Occident during the peak of the spice trade starting from the sixth century. In fact, the rise of Mecca, “the cradle of Islam,” is known to have become prosperous due to the trade that led ships to moor around the coast of Arabia, and turned caravans toward its flourishing trading posts with the ultimate goal of exchanging products for money with the merchants of the Mediterranean. The Arabs were such skilled traders that soon they managed the coastal trade in Indian ports as well, these representing the midway point in the Indian Ocean trade network (Parti, 2017).

Spices in the Middle Kingdom: The Case of Chinese

Loanwords of the spice domain in Chinese mostly testify to the early—indirect—relationships with India and Central Asia through the Silk Roads and their peoples (see *bibo* and *xingqu* from Sanskrit, and *awei*, *husui*, and *shiluo* via various Iranian languages). *Huluba* ‘fenugreek’ is unquestionably a rendering of Arabic *hulba*, most likely arriving via Persian. More recent borrowings include *duoxianggio* ‘allspice,’ a semantic translation of the English term, and *geluzi* ‘caraway,’ which I found to be a loan from the Japanese, who learned the term from Western medicinal herbals and coined this form. *Ziran* is also a recent loanword from Uyghur.

It appears that Chinese loanwords were used for spices that have arrived from a distance, so that those from India, Indo-China, and West Asia, and the Southeast Asian spices, such as nutmeg and

cloves, received Chinese names. A doubtful case is *doukou* ‘cardamom,’ because it might represent an early Southeast Asian loan hidden by a partial phono-semantic matching, as discussed in Section 4.3.

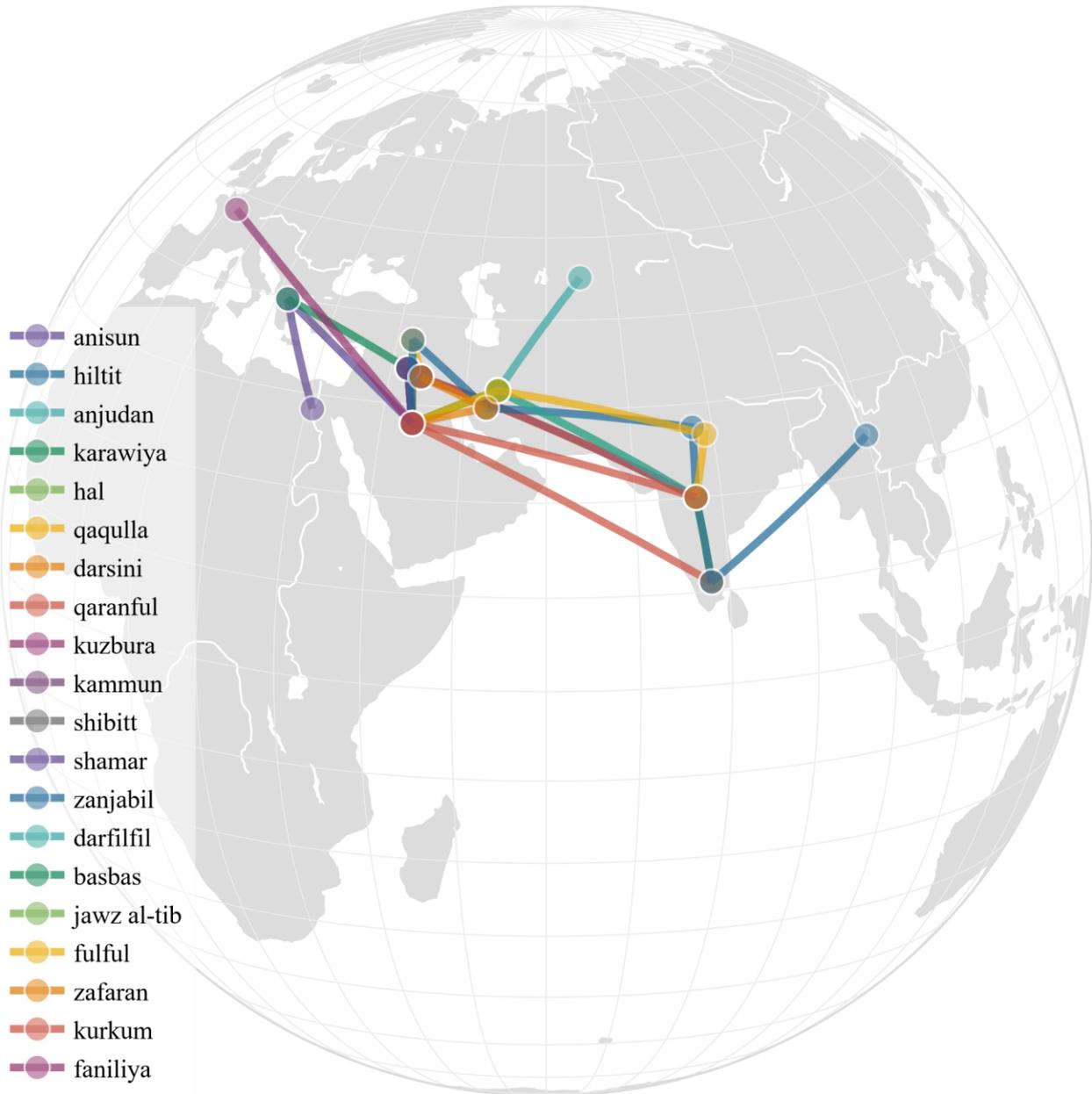


Figure 5.7 The diffusion of spice terminology in Arabic, focusing on loanwords and Wanderwörter. For a full interactive version, please visit https://htmlpreview.github.io/?https://github.com/partigabor/phd-the-sis-viz/blob/main/diffusion_ar.html

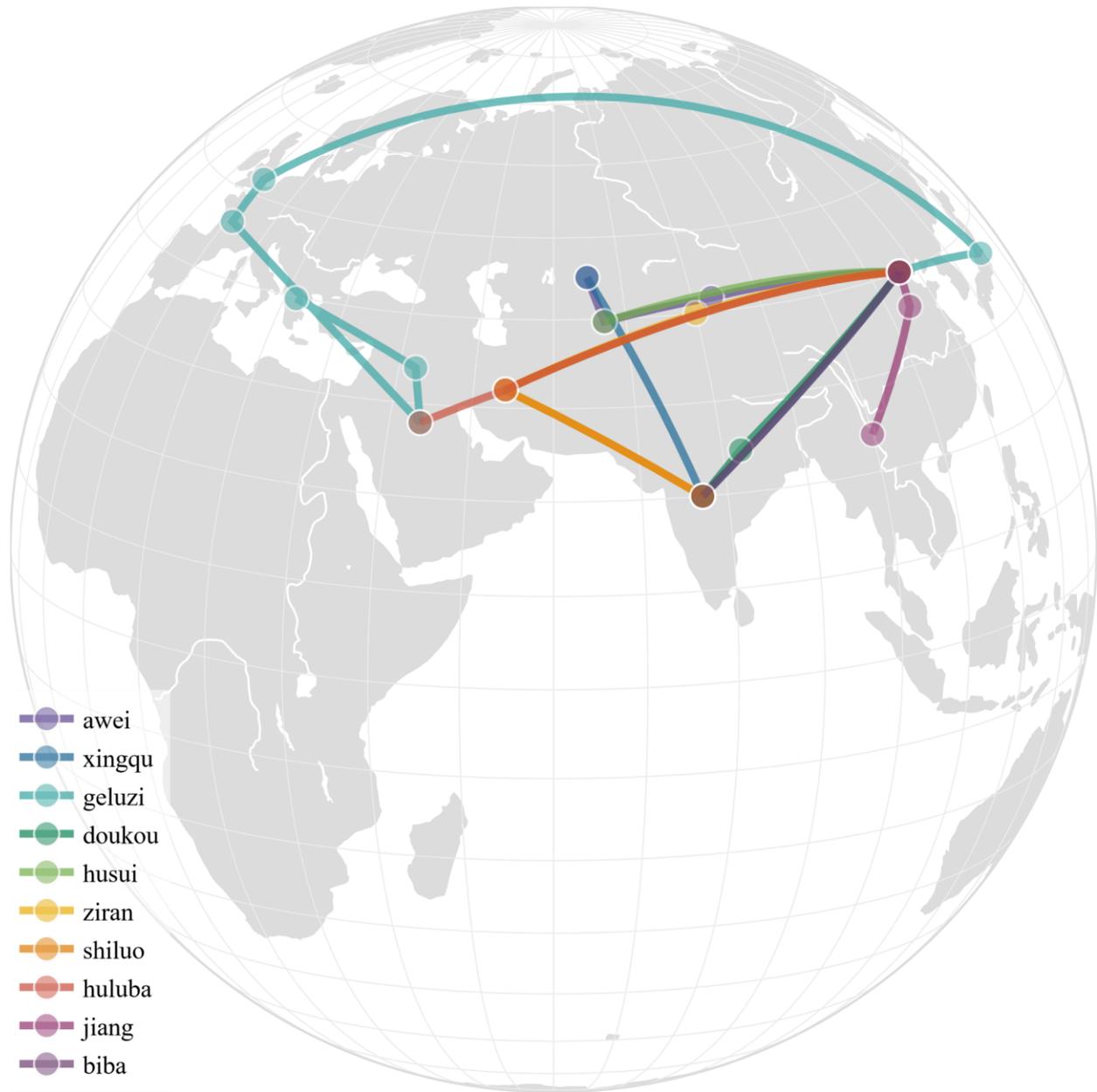


Figure 5.8 The diffusion of spice terminology in Chinese, focusing on loanwords and Wanderwörter. For a full interactive version, please visit https://htmlpreview.github.io/?https://github.com/partigabor/phd-thesis-viz/blob/main/diffusion_zh.html

5.2.3 Temporal Trajectories: The Attestation of Spice Words

After the investigation of how spice names reached English, Arabic, and Chinese on spatial trajectories, let us now look at how they have spread across time. One of the most exciting parts of this examination

is the data that was collected regarding dates of attestation. In other words, I tried to find the earliest possible mentions for each spice, and then combine this information in a way that enables us to see the diffusion of spices throughout the history of a language and culture. This information is a valuable indicator, as it shows the approximate times of the earliest contact and introduction of the materials. In essence, we can grasp the history of the spice trade in the words for them: when they arrived, which spices were the earliest to be recorded, and which ones make the latest additions to our vocabularies and spice cabinets. Here as well, from the nearly 360 names, I have used the selected few that—for lack of a better word—I marked with “default.” To make the attestation visualizations easy to read, I used only the default terms, with a small number of historic terms that preceded the contemporary default ones. This allows for less packed and cleaner plotting and offers a way to compare the attestations in the three languages.

The following figures should give a bird’s eye view of the history of the spice domain, and its mark on vocabulary. In Figures 5.9 to 5.11, you can see the timeline of the spice nomenclature language by language. Not surprisingly, these figures show that the native spices that are to be found the closest to the homeland of the ancestors of English, Arabic, and Chinese speakers, have been recorded first. See dill and fennel in English, saffron and fenugreek in Arabic, and Sichuan pepper and cassia in Chinese. If we reflect back on the geographical origins of the spices (Figure 5.4) the figures also show which are the earliest products of transnational trade: those that spread first, despite the fact that their origins were distant and unknown to the early recipients. Primarily, these are pepper and ginger, which, as already discussed, were ideal candidates for dispersion because of their resistance to long-haul transportation and high scores of (biological) spreadability.

In the final trilingual graph in Figure 5.12, I have produced a compact version of the same data, arranged by language. This offers a chance to compare the main attestation periods for these items, and I added an accompanying histogram to make it easier to see which periods have seen the emergence of new spice words, indicating flourishing periods of both literature and trade.

Looking at Figure 5.12, we can observe a few trends at a glance. First of all, it is clear that Chinese—the language with the longest literary tradition out of the three languages—has the earliest attested spice words, primarily *jiao* ‘pepper,’ originally referring to the indigenous Sichuan pepper, but now also used to denote black pepper and chili pepper especially. In this sense, *jiao* is the equivalent of

English *pepper* and Arabic *fulful*. *Jiao* is followed in time by *gui* and *rougui*, referring to the spice we know and use as cinnamon (but which is actually cassia), a tree native to the South of China, in the immediate proximity of the ancient Chinese heartland. As for *jiang* ‘ginger’—also attested at a very early date—I have already mentioned the reasons for its early diffusion and consequent inclusion into the medicinal and culinary traditions of ancient peoples *worldwide*. The attestation dates of other spices are distributed evenly starting from the fourth-fifth centuries, which marks the introduction of Buddhism into China from Central Asia along the Silk Roads, entering through the Gansu corridor. Besides monks carrying saffron, and asafoetida, we must not forget the many nomads and traveling traders, who likely introduced pepper as well—literally meaning (nomadic) barbarian-pepper in Chinese—before the emergence of the Sogdians responsible for the introduction of many articles of trade during the Tang dynasty. The attestation of many spice names in the modern period is worth noting, because these include spices that were known previously but not distinguished (caraway seeds were not considered a separate spice from cumin, but were surely known in the Western Regions), or spices that were (are?) not used traditionally (allspice, anise, Ceylon cinnamon).

PART I, “MAPPING THE LANGUAGE OF SPICES”

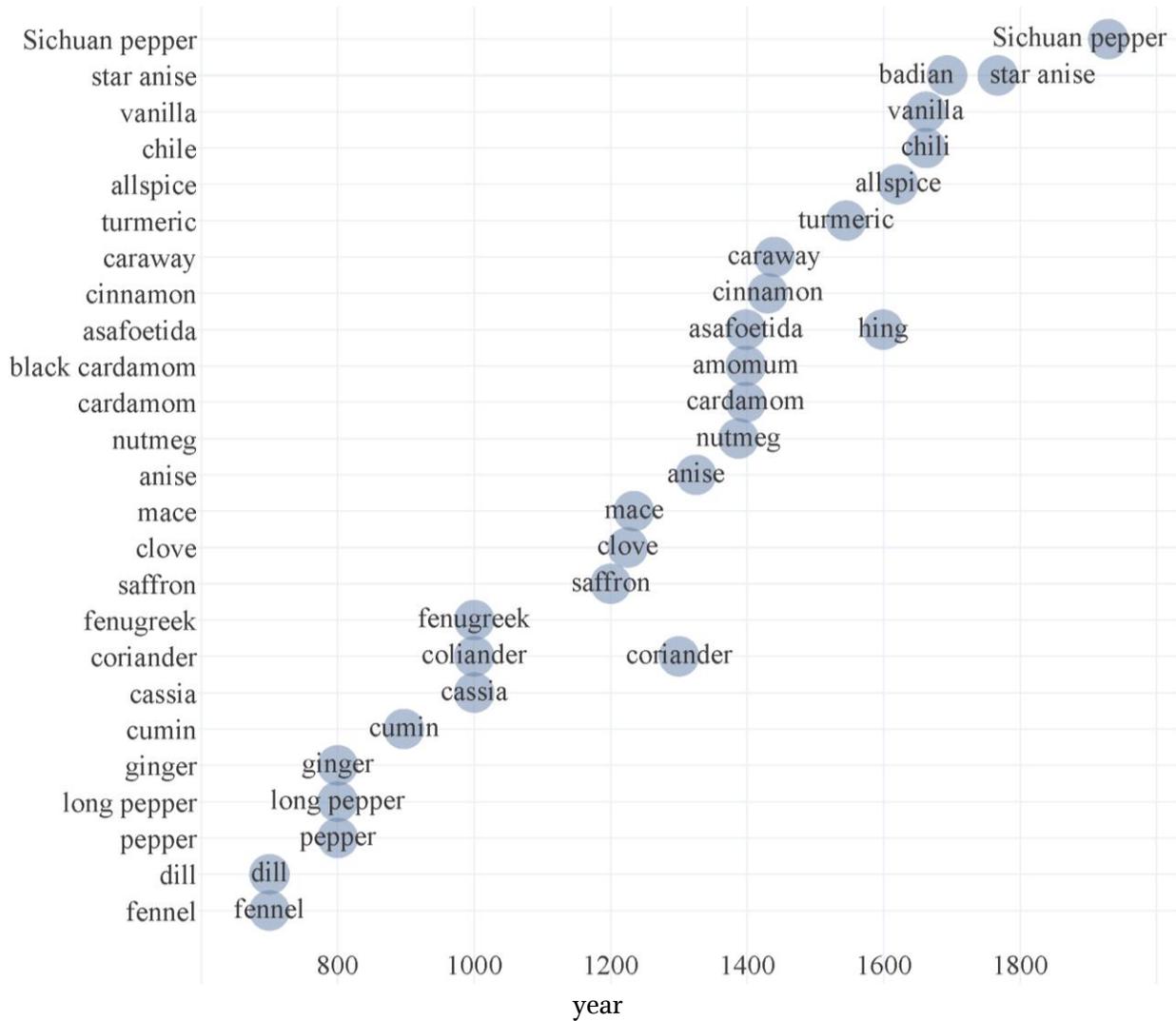


Figure 5.9 Attestation timeline for spice terms in English

Second, there is an obvious jump in the attested Arabic terms in the eighth century, which is considered the start of the Islamic golden age. During this time, science and literature flourished under the Abbasid caliph Harun al-Rashid, and in the “House of Wisdom”¹⁷⁰ in Baghdad, the largest city in the

¹⁷⁰ The House of Wisdom (Arabic: *Bayt al-Ḥikmah*) refers to a large library and/or academy famous for the voluminous translation work that produced an output of scientific literature from all sources and traditions including Greek, Roman, Persian, Indian, and the Arabic literature that built on and advanced the various sciences. Recently it has been suggested that the House of Wisdom was not an actual library but rather a metaphor referring to the active scientific community as a whole during early Abbasid dynasty. The library—if it existed—perished during the total destruction of Baghdad in 1258 by the hands of Hülegü and the Ilkhanid Mongols, thus little archeological evidence remains.

world at the time (Gutas, 1998). It is worth noting that many of these terms became part of the Arabic vocabulary certainly much earlier than the attestation dates, but since the Arabic literary tradition begins with the compilation of the Quran (shortly after the death of Prophet Muhammad in 632), we have little early documentary evidence. The earliest example would be from the *Jahiliyya*¹⁷¹ era poet Imru' l-Qays, whose poetry includes the word *fulful/filfil* 'pepper.'

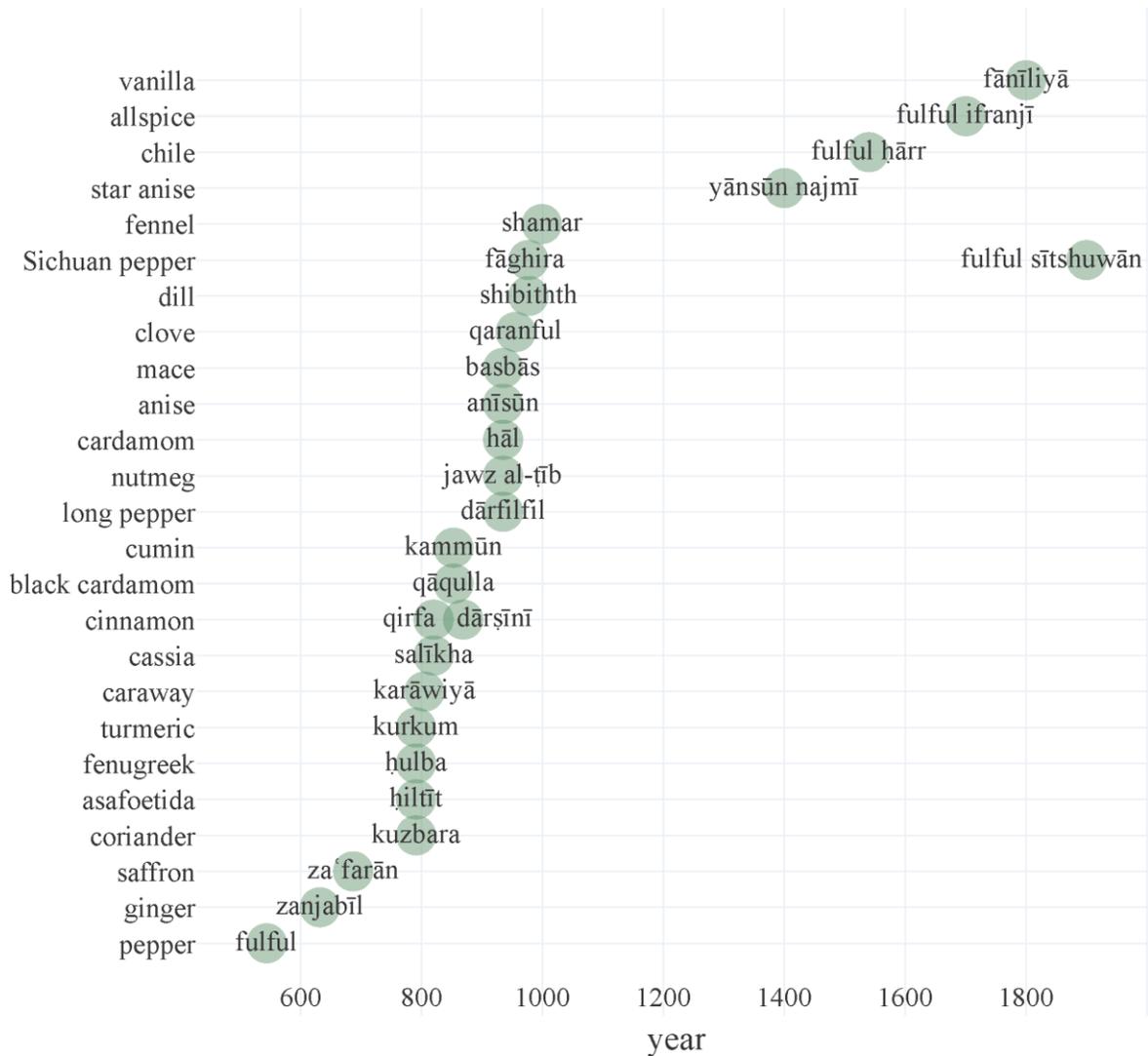


Figure 5.10 Attestation timeline for spice terms in Arabic

¹⁷¹ Literally meaning 'ignorance,' this term refers to the pre-Islamic period of Arabia.

PART I, "MAPPING THE LANGUAGE OF SPICES"

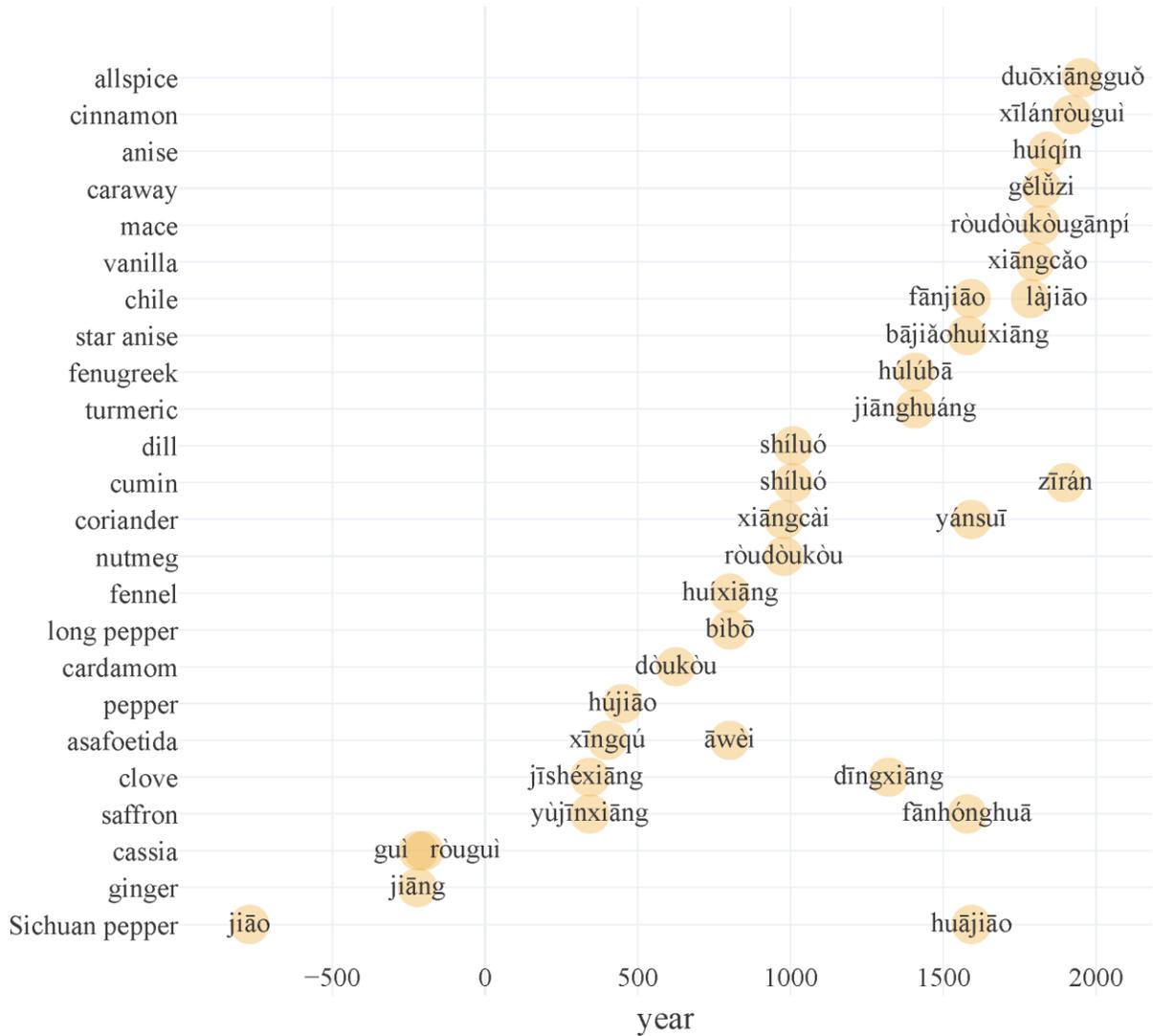


Figure 5.11 Attestation timeline for spice terms in Chinese

Third, English features a set of spices that were attested in Old English, many known to the Romans since Biblical times, such as pepper and cinnamon. But we can also see the years in which Europe became acquainted with further oriental spices after the Crusades, when Westerners who had acquired a taste for lavish Eastern flavors started to bring them home.

The next, relatively minor, step is to add the feature of borrowings to the graph, to see chronologically which terms were borrowed, and which were native inventions.

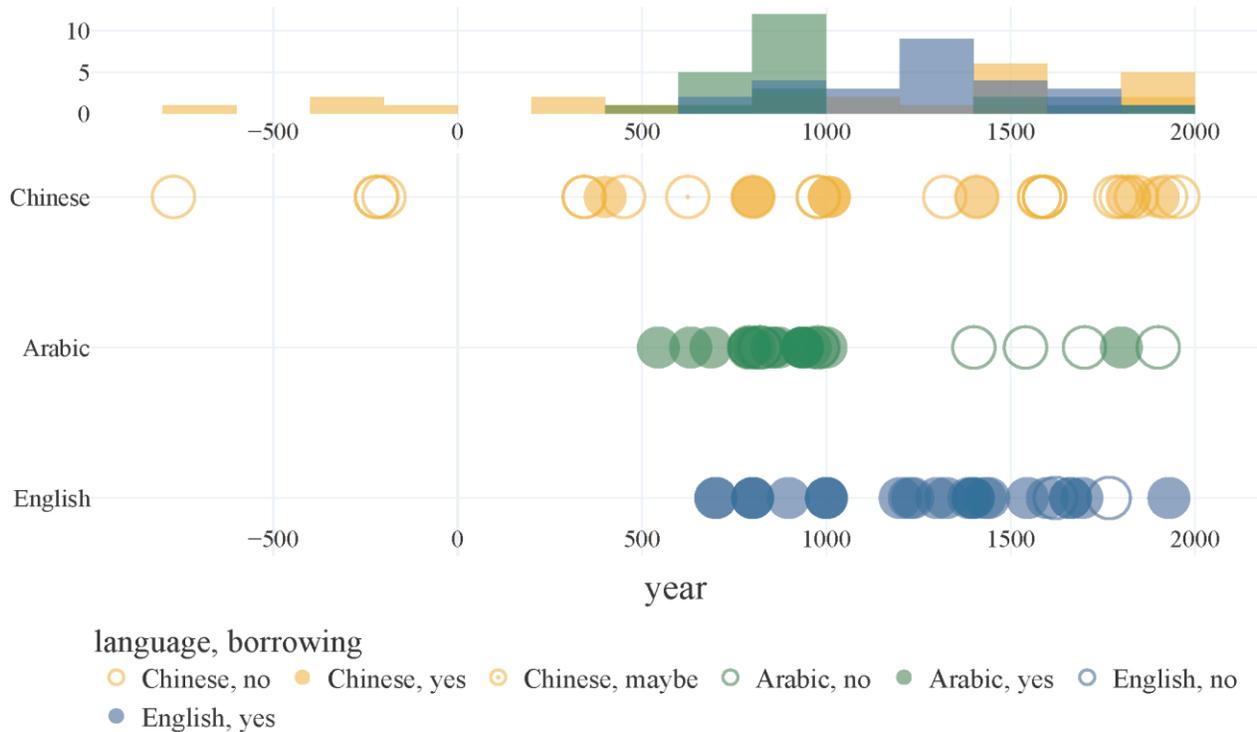


Figure 5.12 Comparative timelines for attested spice terms in English, Arabic, and Chinese, indicating borrowings. For a full interactive version, please visit https://htmlpreview.github.io/?https://github.com/partigabor/phd-thesis-viz/blob/main/attestation_and_borrowing_compact.html

5.2.4 *The Donor Languages*

So who loaned these words? Which languages and civilizations are responsible for transmitting, transmutating, and disseminating the terms of the spice domain? From the etymological dataset I have extracted the *participating* languages. In order of their frequency, they are: Latin, Sanskrit, Persian, Ancient Greek, Aramaic, French, Akkadian, Old French, Arabic, Proto-Iranian*, Unknown, Middle Indo-Aryan*, Semitic*, Dravidian*, Iranian*, Anglo-Norman, Hungarian, Spanish, English, Pali, Egyptian (Ancient), Proto-Dravidian*, Uyghur, Turkic*, West Germanic*, Romance*, Proto-Sino-Tibetan*, Old Chinese, Old Tamil, Sauraseni Prakrit, Late Latin, Old English, Middle Chinese, Hindi, Tokharian B, Sogdian, Slavic*, Serbian-Croatian-Bosnian, Japanese, Classical Nahuatl, Hellenistic Greek, Ancient Hebrew, and Mandarin Chinese. Language families/branches, and proto languages are marked by an asterisk.

To give this batch of information some meaning, I have broken down this data according to our

three reference languages, English, Arabic, and Chinese. You can consult this in Figure 5.13. This bar chart shows the top 5 languages that have played a role in *carrying* loanwords of the spice domain, at any given stage, whether they are the source or a transmitting language. Regarding source, Figure 5.14 shows the top 5 source languages of the loanwords of the spice domain.

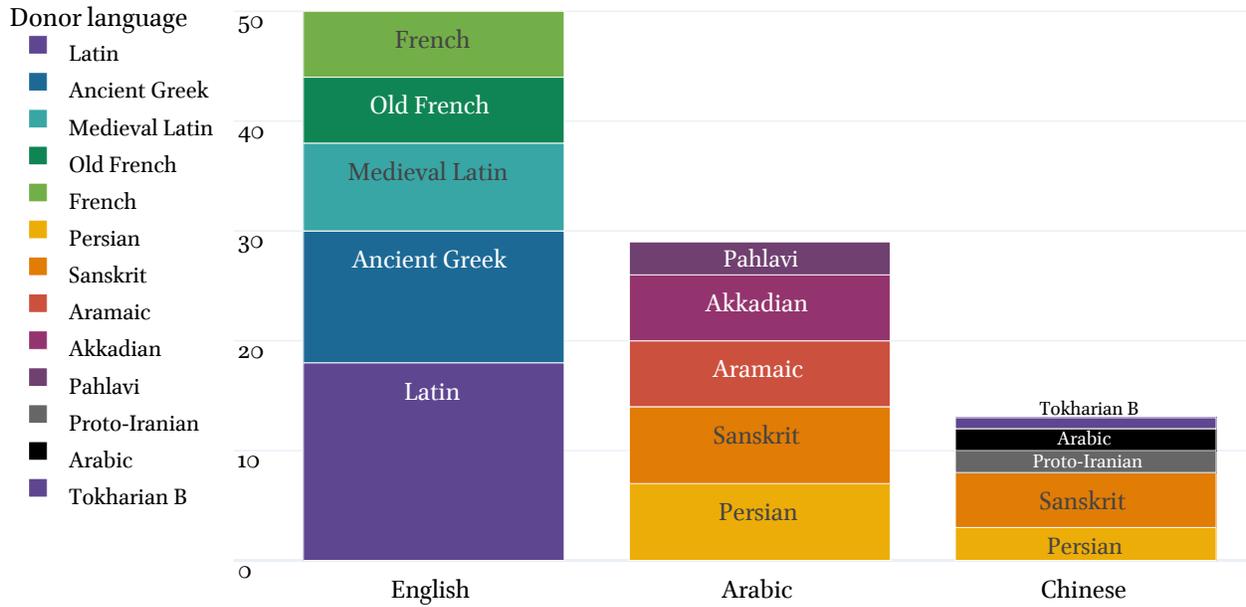


Figure 5.13 Top donor languages of English, Arabic, and Chinese loanwords in the spice domain

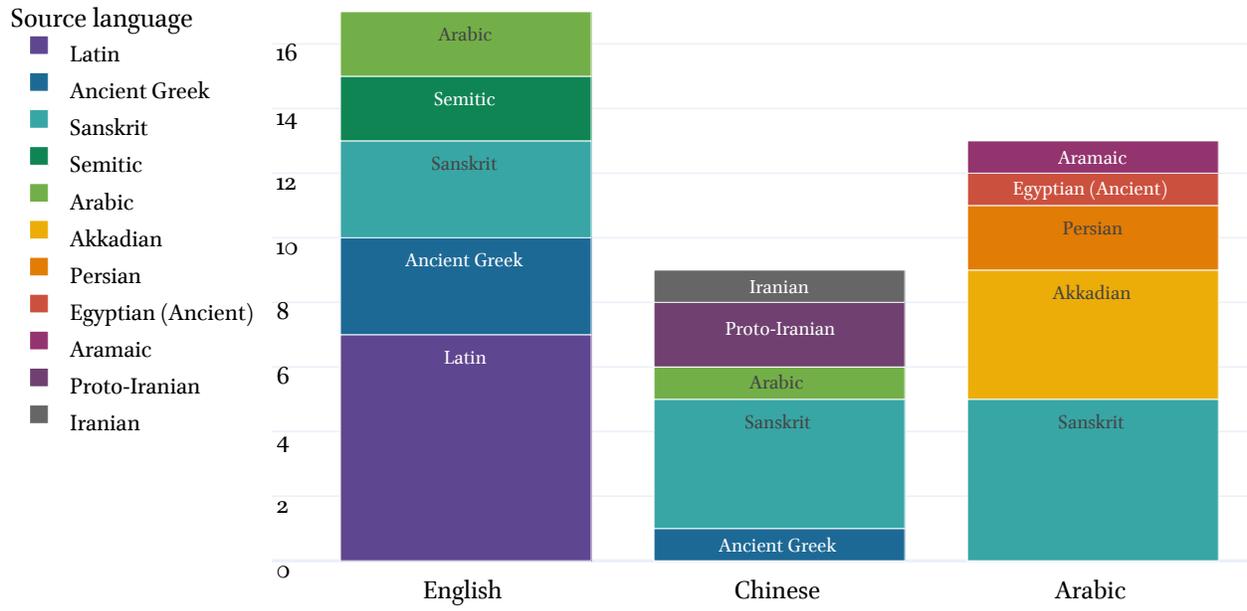


Figure 5.14 Top source languages of English, Arabic, and Chinese loanwords in the spice domain

6. THE LANGUAGE OF SPICES

Now that the detailed explanation of the diffusion of spices is complete, let us examine spice names. Throughout this chapter, I will look at the terminology comparatively, using three sets of names representing spice nomenclature in English, Arabic, and Chinese. This chapter constitutes the results and findings of my analysis of the terms of the spice domain, from linguistic-cognitive perspectives.

I will start with an overview of the data and the results in numbers, and then I will thematically introduce certain aspects of the terminology, guiding the reader from general questions of analyzability and structure toward more nuanced probings that will shed light on the composition, rationale, and motivations behind spice names. The aim of this section is to achieve an understanding of how spice names are formed, what the components of typical spice names are, and why languages use these elements. At the end of this chapter, a close look into the names of one specific spice will show how we can apply the findings.

6.1 OVERVIEW: SPICE NAMES IN NUMBERS

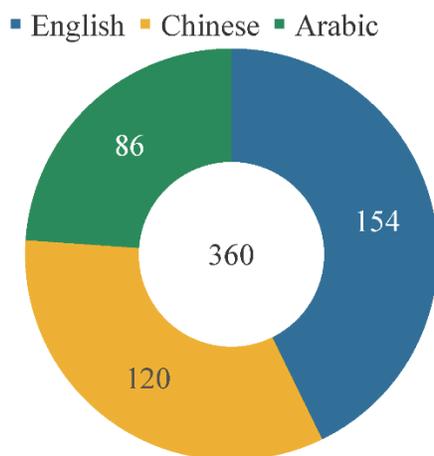


Figure 6.1 The distribution of spice names across the three languages.

As a result of the data collection set forth in chapter 4, the spice name dataset now contains 360 spice names. Of these, 154 are in English, 86 are in Arabic, and 120 are in Chinese: Figure 6.1 shows this distribution. The total number is the result of the lengthy process of carefully compiling the

nomenclature for the set of spices as defined at the beginning of the study, which consists of twenty-four different spices. The data collection methods were detailed in Section 3.2. Combing through dictionaries and the literature, I quickly realized that the vast accumulation of spice names means that there is no feasible way to compile the infinite aromatic plant products of the world, and certainly not their many names—and therefore this project is essentially endless. This can spark both stress and joy; on the one hand, I am relieved that I chose only two dozen relatively well-known spices and not more, while on the other I am excited to see that there is room to grow: there are more aromatics to include, more names to examine, and more things to learn.

On average, a spice in my dataset has 14 names, where the max is 44 (chile), and the min is 4 (fenugreek and mace). Figure 6.2 shows the top ten and the bottom ten spices that have the most and least number of names, including all three languages. Employing this figure might raise some eyebrows, regarding its legitimacy, but in fact it is a very good indicator of which spices are more complicated in their nomenclature overall, and therefore which are the most *problematic* to untangle. As we can see, spice plants that boast many names include the chili pepper, Sichuan pepper, and cassia and the so-called false cardamoms, spices that are rich in variety. On the other hand, there is also allspice, which has no variety at all but offers a confusing and unclear set of names across the three languages. These are—not incidentally—the very items that I have dedicated substantially more pages to than some of their peer spices, due to issues about their identity or the complexity and richness of their nomenclature. This seems to go hand in hand with matters of biodiversity: chile has countless varieties that have spread to faraway corners of the earth, and in fact it is now a hobby in its own right to cultivate, breed, and crossbreed hot chile cultivars. As we saw, Sichuan pepper species are used across vast regions in East Asia (mainly in China), and it can cause a headache to try to pin them down exactly, since their “boundaries” and varieties are not that well-defined—especially to those outside East Asia. It needs some explanation to untangle and isolate the various sources of cassia types as well.

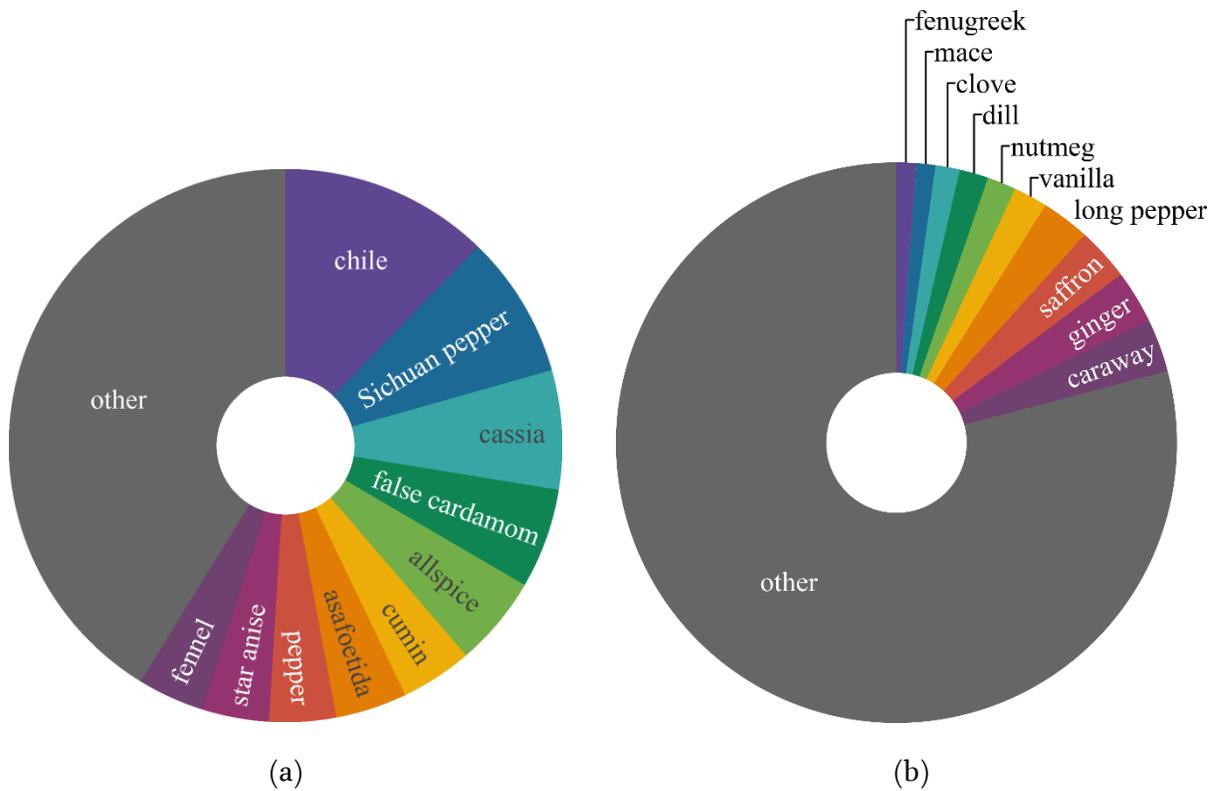


Figure 6.2 Top 10 spices with the largest number of names (a), and bottom 10 spices with the smallest number of names (b)

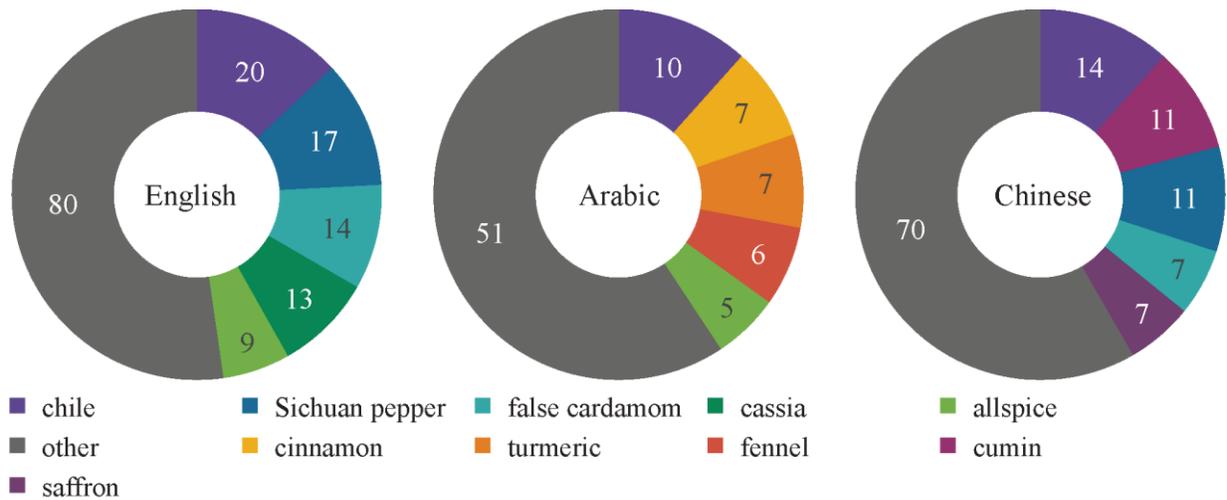


Figure 6.3 Top 5 spices with the largest number of names, by language

On the other hand, spices with the lowest number of names are presumably the most straightforward items: take, for example, cloves or vanilla. But what makes a spice “straightforward,” or, in other words, simple? In my opinion, it is its uniqueness and recognizability. Indeed, if we reflect on our investigation

on vanilla in the last section of the data chapter, we have already established that it is a rather special item: there is no other spice that is made from the fruits of an orchid, no other spice that is obtained from crystals of long dark brown beans, and no other spice that is sold in liquid form—it is unique. Or, if we think of cloves, they are unmistakable in their shape, and in many languages they are designated by their shape. These two items are also very well circumscribed in terms of their geographic origins. Although now cultivated in multiple tropical regions, vanilla is known to be from the jungles of Central America and Brazil, so there is no doubt about its origins. The native habitat of cloves is even more narrow, as it is only indigenous only to North Maluku and the “spice islands” of Makian, Ternate, and Tidore. We see nutmeg and mace as well among the bottom five items having the least number of names, and we should notice that nutmeg and its mace are also from this region: they were exclusively found on the Banda islands of Maluku, and nowhere else, until the second half of the eighteenth century. Now it makes a bit more sense to look at these same charts deconstructed by language, as seen in Figure 6.3. The most conspicuous feature of these pie charts is that chili has the most names, across every language.

6.2 THE ANALYSIS OF SPICE NOMENCLATURE

This section presents the analysis of spice names, trying to answer the main question: How do people name spices, and, specifically, new spices that they came into contact with? Immediately, we can think of two ways: languages either borrow, or conceive a name. We saw the borrowed element in the previous chapter, and now we will dive into how the naming process exactly works. What are the structural requirements and salient features that influence the creation of a name? How do languages invent and generate new names for novel materials and substances? In an attempt to give answers to these questions, I took a bottom-up approach and looked at all 360 names of the 24 spices from the data I collected to arrive at some conclusions.

So what kinds of spice names are there? What does a typical spice name looks like? Intuitively, we can instantly identify two core types of names along the lines of their structure: *basic* and *modified*. *Basic* would describe a monomorphemic or a derived word that refers to a prototype spice, without any distinguishing word, e.g., *cardamom*. *Modified* could refer to compounds and noun phrases that use a spice name as a headword, but that also have a modifier for purposes of identification and disambiguation, e.g., *green cardamom*, *black cardamom*, *true cardamom*, *false cardamom*, *Nepal cardamom*, *Ethiopian cardamom*, *round cardamom*, *lesser cardamom*, *greater cardamom*, *hill cardamom*,

etc. We can also discern the wide range of categories of the modifiers referring to color, shape, size, geographic origin, and even positive and negative evaluations of perceived authenticity. A spice term can also have a modifying word to specify the plant part as well: this can be observed most commonly for spices that are known also as plants, or other parts of which are used as well, or the same part is used in other forms (e.g., ground or powdered). In English this is usually attached after the headword, similarly to a regular suffix. Examples include: *cumin seed*, *coriander-seed*, *aniseed*, *ginger root*, etc. After consulting intuition, let us consider a more formal analysis.

6.2.1 *Analyzability and Structure*

Analyzability of words is originally an idea from the twentieth-century philological movement and method *Wörter und Sachen* (words and things, in German), which had a big influence on linguistics and ethnography. Outlined by Hugo Schuchardt and based on the titular journal *Wörter und Sachen* started by Indo-Europeanist Rudolf Meringer in 1909, it proposed the close study of the etymology of words together with the artifacts/concepts they name (Ortutay, 1977–1982). Meringer wrote in 1906: “Ohne Sachwissenschaft keine Sprachwissenschaft mehr!” (There is no more linguistics without the study of material culture!). Practically speaking, analyzability meant that the more opaque a name is in terms of morphological analysis, the longer it is assumed to be present in the language. A basic example would be *York* (monomorphemic) vs. *New York* (analyzable), which provides a potential chronology for the concepts the words signify. This approach was incorporated into historical linguistic research and philology, often studied in parallel with findings in archeology (Ortutay, 1977–1982).

Haspelmath and Tadmor (2009a, p. 12) also used the term “analyzability” in the creation of their loanword database (*The World Loanword Database* [WOLD]) as a first step in assessing a word’s loanword status, although in a purely linguistic way. I have applied a simplified version of this annotation, and indicated whether a word was (1) unanalyzable, (2) semi-analyzable, (3) or analyzable. Items are semi-analyzable if the situation is morphosyntactically complex. For example, in the case of “cranberry words” (compound words where only half of the term is semantically transparent: we can understand ‘berry’ alone, but not ‘cran’) such as *fenugreek*, where an English speaker could decipher the element *Greek*, but would be left in the dark with *fenu-*, or the Arabicized loanwords from Persian, *dāršīnī* ‘cinnamon’ or *dārfilfil* ‘long pepper,’ where both *šīnī* ‘Chinese’ and *filfil* ‘pepper’ would be understood, but Arabic speakers would not know what to do with *dār* (which coincidentally means ‘house’ in Arabic, but that is

from the Persian ‘wood’). A Chinese example could be *huluba* ‘fenugreek,’ where *hu* ‘barbarian’ is the same character that is found in *hujiao* ‘black pepper,’ pointing to its foreign origins, but the whole word itself would be difficult to decode, since it is in part a phono-semantic matching for Arabic *ḥulba* ‘fenugreek.’ Sometimes the Chinese term uses the first character 胡, which is a phono-semantic compound of *hu* ‘barbarian’ (after its sound value), and *cao* ‘herb’ for its meaning, making the loanword origin more obvious.

Table 6.1 Analyzability of words in the spice name dataset

analyzability	English	Arabic	Chinese
analyzable	111	50	99
unanalyzable	39	32	20
semi-analyzable	3	4	1

The analyzability of a word is strongly interlinked with its structure, which can be simple or monomorphemic (e.g., *hing*), compound (e.g., *stinking gum*), or phrasal (e.g., *devil’s dung*). *Asafoetida* would be considered a compound only by those familiar with either Latin or with the history and meaning of the word. Even so, *asa* is a cranberry morpheme, and *foetida* ‘fetid’ might not be immediately obvious, so it is a semi-analyzable compound.

Importantly, compounds that are coined *within* a language are not considered loanwords, even if they contain borrowed elements. Thus, while *chili* is considered a loanword, *chili pepper* is not. Of course, there are always ambiguous cases: is *black pepper* a loanword? It depends on whether it is a learned loan/semantic translation from Latin *piper nigrum*, or a genuine English invention; and for this we have to dig deep into the history of words. To sum up, we could say that, if a word is morphosyntactically complex, “it was almost certain that it was created by speakers of the language rather than borrowed from some other language” (Haspelmath & Tadmor, 2009a, p. 12).

Words that are analyzable are most often compound in their structure, but there are a few derived names as well. As English is an isolating language, it is less common to find derived words in it. Derived terms do occur in Arabic, where a handful of spice names come from verbal roots originally

referring to the method of acquisition, such as *qirfa* ‘cinnamon’ from *qarafa* ‘to peel, derind,’ or *salikha* ‘cassia’ from *salakha* ‘to pull off, strip off; skin, flay.’ Other methods of word formation for generating spice names in Arabic include the diminutive pattern: cf. the form *fulayfila* from *fulful* ‘pepper,’ equivalent to ‘capsicum.’ Another pattern forms an active participle in the feminine, as has been proposed in the case of *fāghira* ‘Sichuan pepper’ from *faghara* ‘to open,’ alluding to the half-open, mouth-like pericarps of the *Zanthoylum* species. There a few examples of phrasal names as well, such as the above-mentioned *devil’s dung*, but most often these tend to be titles of praise rather than actual names, for example *king of spices* ‘black pepper,’ *queen of spices* ‘cardamom,’ *red gold* ‘saffron,’ etc. Table 6.1 and Figure 6.4 show the trilingual distribution of the analyzability of words. Closely related to analyzability is the question of whether a term is borrowed or not, which I have already covered in the previous chapter on the diffusion of spice words.



Figure 6.4 The ratios of the analyzable words in the spice name dataset

6.2.2 Spice Term Anatomy: Prototypes and Distinguishing Words

I have already mentioned that the vast majority of analyzable spice terms are compounds, and so let us look at the anatomy of these. By far, most compounds are made up of two elements, sometimes three, but even more are possible. Based on the principle of analyzability explained above we could rightfully assume that the more elements a compound name has, the more culturally *distant* its origin is, and the more unfamiliar its referent is to the speakers of the language. We saw in chapter 5 that the earliest attested words are indeed *short* and monomorphemic in their form, such as *dill*, *fulful* ‘pepper,’ and *gui* ‘cassia.’ And in support of this theory we also saw that recently attested words are likely to be polymorphemic compounds, such as *Sichuan pepper*, *fulful ifranjī* ‘allspice,’ and *xilanrougui* ‘cinnamon.’ In short, there is an obvious tendency moving from the simple toward the complex.

Every compound element has a headword, and one (or more) modifier(s). Take for instance *sweet*

cumin, referring to ‘anise,’ where the headword is *cumin*, and the modifier is *sweet*. The use of *cumin* can be explained by the prototype theory: to the person(s) who coined this term, *cumin* was an already known, ideal prototype for anise, on account of their similarity in their appearance (indeed, the two kinds of seeds look very similar, and they are related plants from roughly similar geographical origins from the point of view of an English speaker). And so here we can determine that the rationale for use of the headword is ‘prototype similarity’ on the basis of physical appearance. In most cases, the motivation behind the creation of spice names is simply identification and disambiguation.¹⁷² Thus, a distinguishing word is needed to differentiate from the *original* *cumin*, and this word here is *sweet*. The distinguishing words or modifiers often arise from the most salient quality of the materials when compared to the prototype item: in this case, the sweetness of anise.

The final thing to point out in this example is that *sweet cumin* is not merely an alternative name of anise, it is an *alias*. Under “alias,” I am referring to the misleading quality of this name, and I would like to emphasize that the prototype words could be used in two ways: matching or not matching. For example: in the compound *white pepper*, the headword *pepper* is used as a matching prototype because the referent of the prototype matches the referent of the whole compound (i.e., white pepper is really pepper). Hence, white pepper is an alternative name that has the role of narrowing, specifying the subtype of pepper in certain situations. Contrastingly, *Jamaica pepper* is an alias, because in the real world the referent of the prototype and the referent of the compound do not match. In these cases, the prototype is used as a headword on account of its similarity—whether physical, chemical, or other.

This difference in how prototypes fill in the role of the headword (matching or not) can have serious real world implications, and it is the one single feature of spice names that can cause the biggest confusion. If I may share a personal anecdote: one of my very close friends works in the family business of importing and exporting various nuts and oil seeds. When a customer ordered a large shipment of black cumin, her boss—her sister—mistakenly ordered cumin. Now, if my friend’s sister had glanced at the report my friend made, she would have noticed immediately that black cumin (also known as *nigella*, *Nigella sativa*) and cumin (*Cuminum cyminum*) are two different spices, from different families. The mistake cost the company a lot, and a lesson was learned, but we can safely assume that this kind of

¹⁷² Another interesting type of motivation is promotion/advertisement, as in the case of *grains of paradise*, where the creation of the name was intended to make the spice more desirable for European buyers. Cf. *xiangcao* ‘fragrant-grass/herb’

mixup happens regularly. To be clear, I do not want to “fix” the usage of common names in this discussion, but rather I am simply trying to explore and explain why there is confusion between certain materials, so that I can organize and present it in a way that it one day might be useful as a trustworthy checklist or master list of spice names. For now, I believe that consulting botanical names is still the safest way avoid accidents like this.

By the way, to make things still worse, there are more than one spice that can be called *black cumin* besides *nigella*; *Bunium bulbocastanum* (a.k.a. great pignut), and especially *Elwendia persica* (*black seed, black cumin, black caraway*) is often confused with the black seeds of *nigella*. It is not uncommon for a name to be used for the products of different aromatic plants, and this is a source of confusion.

Headwords and Prototypes

When it comes to frequent headwords, we will most often find them to be spice name prototypes—both those matching and not matching the referent of the whole compound, for example, the prototype words for pepper, cardamom, cinnamon, and fennel occur in high numbers. The top most frequent headwords can be seen in Figure 6.5. There are also headwords that do not refer to spices, but rather signify other plant parts and products, such as Arabic *jawz* ‘nut’ (with the primary sense of ‘walnut’ but by extension any nut) as in *jawz al-ṭīb* [nut-of-fragrance] ‘nutmeg.’ Arguably the most salient feature of the nutmeg is its nut-like appearance, and English also testifies to this. Another example could be the words for gum, referring to the useful part of the ferula plant, asafoetida. Headwords that allude to the function, role, and usage of the substances are also present: consider the *spice* in *allspice* and *bahār* ‘spice’ in *bahār ḥulw* [sweet-spice].

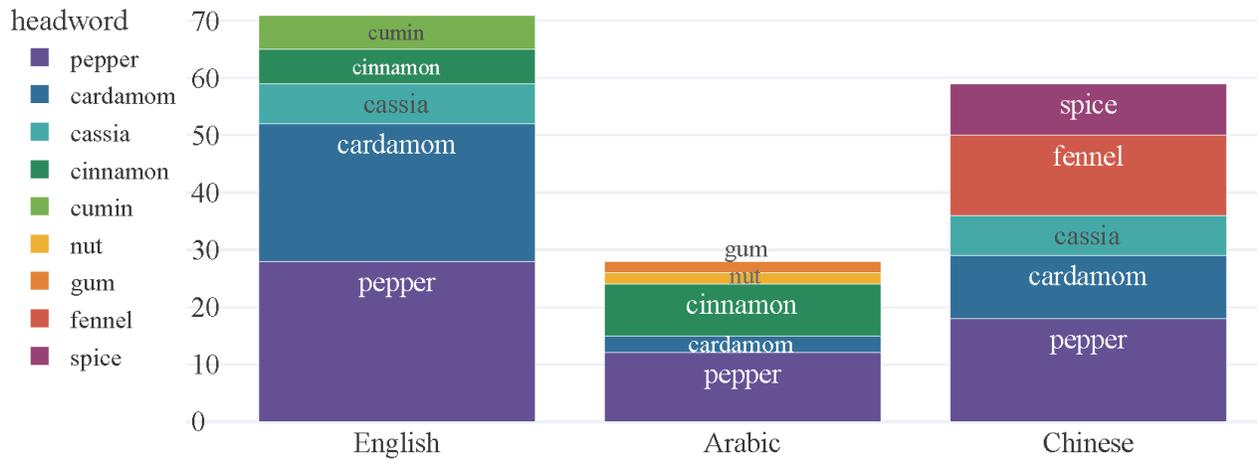


Figure 6.5 Top 5 headwords appearing in spice names, by language

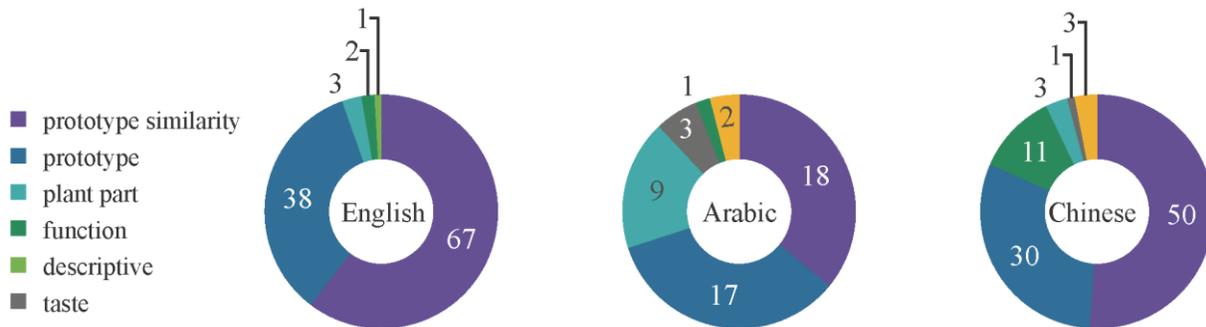


Figure 6.6 Top 5 headword types in spice names, by language

To provide a broad and complete overview of how headwords operate, I have tried to categorize them. According to the usage, most headwords are prototype words used because they are similar to the item that bears the name, followed by cases when the prototypes are used in a “matching” way. The rest are a few cases that utilize words of plant parts, function, taste, shape, and color in their headwords as the most salient elements.

Modifiers and Distinguishing Words

When it comes to modifiers, we can see that the most prominent distinguishing words are adjectives of color, taste, size, shape, but also, unmistakably, modifiers pointing to geographical origins. Names of countries, regions, cities, perceived or real sources of spices are the most prevalent category here. Figure 6.7 shows the top five modifiers across the three languages.

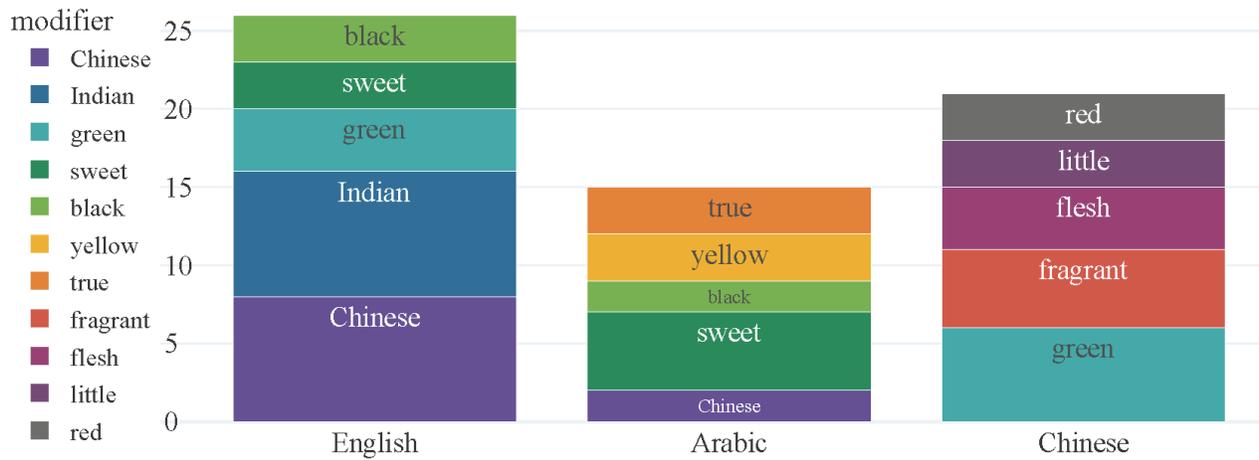


Figure 6.7 Top 5 modifiers appearing in spice names, by language

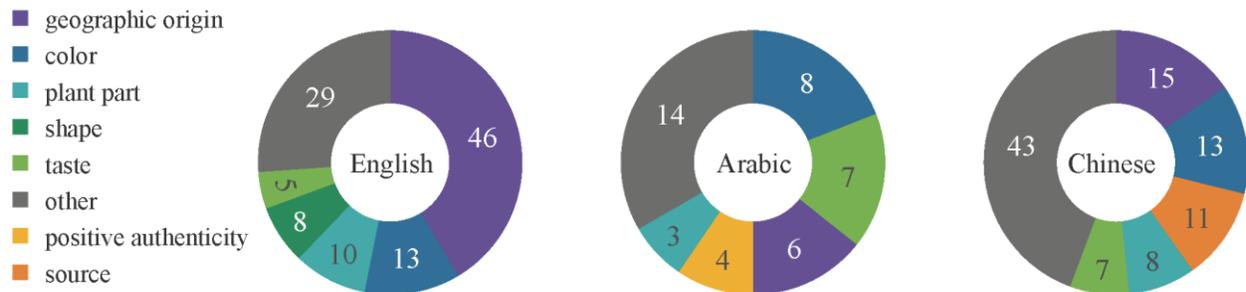


Figure 6.8 Top 5 modifier types in spice names, by language

Sensory words

Due to the highly stimulating nature of spices, sensory words often frequent the modifiers. In fact, after distinguishing spices by their geographic origin, the second most common type of modifiers is words of color. What are other salient qualities of perception when it comes to spices? It must taste and smell, right? In my analysis, I have identified and categorized sensory words according to the sensory modalities they operate in, and the results can be seen in Figure 6.9. It is clear that vision—generally accepted as being part of the “higher senses” along with hearing—takes the highest ranks, and the “lower senses” follow: words from the gustatory, olfactory, tactile, and thermal sensory domains.

Summary

The final question naturally is: What is the most common blueprint for a spice name? According to the statistics of the dataset, the most common combination is *prototype similarity + geographical origin*.

Therefore, names such as *Indian cardamom*, *Ceylon cinnamon*, and *Chinese anise* are the most typical examples for naming a spice, where the headwords point to a different item of significant similarity.



Figure 6.9 Proportion of the sensory modalities among the modifier words that belong to a sensory domain

Therefore, *Jamaica pepper*, the first example we mentioned many pages ago in the introduction, is a fairly regular spice name.

6.3 SPICE NAME ANALYSIS: THE EXAMPLE OF STAR ANISE

Let us consider the nomenclature of star anise in the three languages. In English, there is the default term *star anise*, which is a native invention, obviously after the fruit's unmistakable appearance. On a rare occasion, we have information on the exact time of star anise's arrival in England, which is dated to 1588.¹⁷³ The same inspiration for the name is found in most European languages, either influenced by sixteenth-seventeenth-century spice dealer terminology, or devised based on their own noticing its recognizable shape. I used the word "native," even though the phrase is obviously mixed from an etymological point of view: *anise* is a loanword ultimately from Greek. However, when faced with this type of phrase, I consider that at the time of the contact situation, *anise* was already part of the English lexicon—as well as *star*—therefore, this phrase was coined within English, and thus is deemed a native creation. This practice is consistent with the approach taken by the team of Haspelmath and Tadmor (2009b) at WOLD. English also has the term *Chinese anise*, which is a phrase consisting of *anise*, again, and *Chinese*, referring to star anise's geographical location and the origin of its procurement for the

¹⁷³ OUP, n.d., star anise.

English. The motivation behind this term could be due to the need to differentiate between Chinese and Japanese star anise, two very similar items. Both phrases utilize the term *anise*, which refers to the small anise seeds of the Mediterranean, used as a spice and as flavoring for liqueurs and confectionary. Why is there a connection to anise? The two plants could not be more different, they are geographically distant, and they are botanically unrelated. The only thing that connects them is their highly similar flavor profile, dominated by the volatile oil anethole; the same “nauseating” and “sweet” chemical compound that is found in fennel and licorice. And so, for the Europeans who were familiar with anise and its taste, the novel product reminded them of anise’s aroma. Hence, the names are in part inspired by taste/plant chemistry, defining anise as a prototype spice and prototype term. To avoid confusion (the existence of which will be clear to anyone who tries to do a brief search about anise or star anise), distinguishing words are used for the new material. These modifiers are attached to the headword, in one case inspired by the spice’s shape, in the other referring to its geographical origin. The existence of the name *Chinese star anise* could be explained by the fact that there is a Japanese star anise as well, a similar-looking but poisonous fruit and tree, *Illicium anisatum*, as mentioned above. In short, the two phrases use different ways to identify this spice. English also has an archaic form referring to star anise: *badian*, from French, which arrived via a land route through Persian, and that might be a phonetic loan from Chinese, but for which there is no documentary evidence.¹⁷⁴

Arabic *yansūn najmī* [star anise] was a name devised along similar lines, using a native Arabic word for ‘star,’ the prototype word is anise, and the more interesting instances are to be found in neighboring Persian. *Bādyān khatā’ī* or *khatāyī* [star anise] is star anise, while *bādyān rūmī* [Roman anise] is anise.¹⁷⁵ *Bādyān* alone could also refer to fennel.¹⁷⁶ This shows that, in Persian, the prototype word was *bādyān*.

As for Chinese, we do not find any loanword among the terms used to refer to star anise: all names are local “inventions.” The modern “proper name” for star anise is *bājiǎohuǐxiāng* [eight-horn-hui-spice], where [eight-horn] means ‘octagonal,’ and [hui-spice] is fennel, and therefore it can be translated as ‘octagonal fennel,’ or ‘eight-horned fennel.’ Another name, *dàhuǐxiāng* ‘big-fennel’ strengthens the

¹⁷⁴ OUP, n.d., *badian*.

¹⁷⁵ Hayyim, 1934–1936, vol. 1, p. 197.

¹⁷⁶ Steingass, 1892, p. 140.

assumption that, in Chinese, *huíxiāng* ‘fennel’ is the prototype. Again, the flavor profiles of fennel and anise are basically identical, hence the connection (and confusion). The formal Chinese names of star anise are not attested in historical corpora, and I assume that the vernacular name of *bājiǎo* [eight-horn] was first applied to star anise, and the formal name was modelled later, driven by the plant sciences. In modern dialects star anise is also referred to as *huíxiāng* ‘hui-spice’ (historically ‘fennel’) and *dàxiāng* ‘big-spice.’ In modern TCM, fennel is referred to as *xiǎohuíxiāng* ‘little-huispice,’ contrasting the two spices that are often confounded because of their similar taste usage, and size. In fact, the Chinese 大/小 *dà/xiǎo* ‘greater/lesser’ contrast is not necessarily a marker of size, but rather a semantic tool to convey unmarked/marked, or proper/imitator.

To summarize the points I intended to make above: first, I determined whether the words and phrases are analyzable (morphologically, syntactically, semantically), then I examined those names further, while also stating why a specific item is unanalyzable. E.g., *badian* as a loanword does not carry any useful information for an English speaker who is not familiar with the word, thus it cannot be dissected or interpreted alone. Next, I looked at the borrowed status of the names to determine if the word or phrase is borrowed, or was devised locally. E.g., the Chinese names are native lexical creations, while English and Arabic use a non-native headword (*anise/yansūn*) and a native distinguishing word (*star/najmī*). Finally, I looked at the inspirations behind these lexical inventions and identified the rationale and motivation behind them. For phrases and compound words, we can separate a headword (usually a prototype noun), and a modifier or distinguishing word (usually an adjective). In each case, we can discern the reasons that prototype word was used, and what feature of the prototype item (the referent) is the most salient. The same is true for the distinguishing word(s). For example, *star anise* is named so after (1) similarity in taste + (2) shape; and *Chinese star anise* is named so after (1) similarity in taste + (2) shape + (3) geographic origin. In Table 6.2, you can see a concise overview of the analysis of star anise terminology.

Table 6.2 Comparative analysis of the names of star anise in English, Arabic, and Chinese

Term	Gloss	Analyzability	Borrowed	Prototype	Modifier
star anise		analyzable	native	similarity in taste	shape
badian		unanalyzable	borrowed		
Chinese anise		analyzable	native	similarity in taste	origin
Chinese star anise		analyzable	native	similarity in taste	shape + origin
<i>yansūn najmī</i>	star anise	analyzable	native	similarity in taste	shape
<i>bājiǎo</i>	octagonal	analyzable	native		shape
<i>bājiǎohuóxiāng</i>	octagonal-fennel	analyzable	native	similarity in taste	shape
<i>bóhuóxiāng</i>	ship-fennel	analyzable	native	similarity in taste	shape
<i>dàhuóxiāng</i>	big-fennel	analyzable	native	similarity in taste	size*
<i>dàliào</i>	big-ingredient	analyzable	native	function	size*

From this perspective, the spice names are layered. Intuitively, the more layers a spice name has, the more distant the item is culturally from its origin. And conversely, the fewer the components a term has, the more familiarity with the substance is presumed (e.g., *anise* vs. *star anise* in English), and this reflects back nicely to the idea of the analyzability of words introduced before. Therefore, spice names' modifiers can be categorized according to what salient feature contributed the most to the naming, and in this specific case, it is star anise's distinctive shape. As we will later see, shape is just one of many properties that can distinguish/identify a spice; for others, alternative properties are salient, including color, taste, smell, and the geographical origin mentioned. Furthermore, these names reflect the materials' physical qualities, and the perception and importance of a spice for various sensory modalities in the human experience: vision, gustation, olfaction, etc.

7. CONCLUSION

Bringing my project to a close, I will now summarize what was done here and reflect on the findings and their implications. Then I will try to answer the research questions, revisit the aims stated in the beginning, and mention some of the limitations and future plans. To summarize what I did, I should start with mentioning the datasets. I have collected data in three stages: (1) on a set of spices, (2) on their names, and (3) on their related etymologies. I have done so, because from the literature it was obvious that there is a gap regarding research of spice terminology and nomenclature, which leads to chaos and confusion in the secondary sources. I hope that this work is a step forward toward a future database of spice names that can be useful for both academics and the public. The datasets are unique in that they incorporate botanical information; are rich in philological considerations regarding sources, attestation dates, and etymological stages; and accommodate three major world languages: English, Arabic, and Chinese. I have introduced six of the twenty-four spices in greater detail, discussing their significance, uses, botany, history, and names (chapter 4), with the aim of developing a deeper understanding of these specific items from a comparative perspective.

Then, the collected terms allowed for an analysis on the linguistic diffusion of spices, which I discussed in parallel with the physical diffusion of the plants and materials. I have illustrated the spatial spread of English, Arabic, and Chinese loanwords and *Wanderwörter* of the spice domain using interactive geospatial visualizations (chapter 5). For the temporal dimension, I have illustrated the attestation dates on timelines, comparing clusters of attestation dates and borrowings across the three languages.

My findings show that, beside the interest and demand, or the volume of trade at certain times, one of the most important factors in a spice's—and its name's—successful diffusion is in its ability to *survive* in new environments, alive or dead. By successful I mean widespread and long-lasting. Whether it is the enduring rhizomes of ginger and turmeric waiting to sprout on the decks of outrigger boats on the Pacific, the dried fruits of pepper capable of resisting spoilage for years in Roman warehouses, or the easy-to-grow, ever-thriving American chile that Asians everywhere so quickly learned to cultivate, it is the “ecological willingness” to adapt and persist that was crucial in the widespread diffusion of these plants and materials. I tried to describe all this with a rudimentary measure I call a spreadability index.

Lastly, I have looked into the various spice names, and the underlying mechanisms of spice name

propagation, to explain how novel substances are named in this domain. I have compared the three languages by the terms' analyzability, borrowed status, and word formation strategies, and I conducted analysis on the headwords and modifiers of compound spice terms. This yielded some insights into the motivations and strategies behind the invention and derivation of spice names, and also let us observe the influence of these substances' highly sensory natures, marked by words of color, taste, smell, shape and form (chapter 6).

The overall finding of this chapter was that, on one hand, the headword is usually a prototype spice, an item already known to the speakers of the language and similar in some ways to the novel item to be named after it. A prototype spice word can have two roles, first on account of its similarity denoting a mismatching spice (i.e., Chinese parsley is not parsley), or with a specifying modifier applied to a matching spice (i.e., true cardamom is cardamom). Prototype similarity can be based on any salient qualities of the substance: whether it is the chemical constituents resulting in a similar flavor (anise → star anise), the function/use as a pungent culinary spice (pepper → chili pepper; long pepper), or physical similarity (pepper → Jamaica pepper). Of course, these qualities are never exclusive. On the other hand, we learned that these modifiers are most likely distinguishing words that point to a source of geographic origin (e.g., Chinese, Indian, foreign), and sensory words of color, smell, or taste that disambiguate, specify, and identify different products (e.g., black, red, green, sweet, fragrant, hot, etc.). We learned that, statistically, the most typical spice name is one with the blueprint of *prototype similarity headword + geographic origin modifier*, e.g., *Jamaica pepper, Indian saffron, Ethiopian cardamom*. We might call these regular spice terms, and it is interesting to notice that at the same time, these are aliases, hiding spices with different identities behind better known prototype items. Is this the reason many of us are confused by spice names?

Answers

In Section 2.2.2, I asked some initial research question that I expected to find answers to.

Q1 was: "Does the propagation of Wanderwörter within the domain of the spice trade follow the diffusion of the materials?" The answer to this question is overwhelmingly yes; however, we found some exceptions. Notably, a few terms actually outpaced their respective referent materials and reached a language *before* the speakers were familiar with the material itself. According to my analysis of the dataset of twenty-four spices, this always happened via the dispersion of religious texts. In the West, the

best examples are *cassia* and *cinnamon*, words that appear in the Bible, and, with the wind of Christianity, these words reached places far beyond the Eastern Mediterranean, well before the actual materials did. In the East, our only certain example for this phenomenon is Chinese *xingyu/xingqu* ‘hing’ (asafoetida), which spread with Buddhist texts from the Silk Roads of Central Asia, before Chinese monks had ever seen the gum-resin. When the product arrived a century later, it came with a new name, *awei*, which was a loan from a Kuchean word. This is the name by which it is known today.

Q2 was: “Is there any underlying pattern behind the mechanisms of spice diffusion, considering both the materials and the nomenclature?” The answer was explained above, with the findings shown in “mapping the language of spices” about the diffusion of spices discussed in chapter 5. The diffusion of the words strongly correlates with the diffusion of the materials—which is not surprising, but rather expected—and the patterns show that the etymological stages reflect the prevalence of trade situated on the crossroads connecting the source of the materials and major communities having an urge to have them. The findings also show that, besides the human factor, the ecology of the plants and the materials’ resistance to damage or rot during long-haul trade have also played a great role.

Regarding Q3: “Is there any influence on the naming of spices, in terms of sensory words and synesthetic properties?” I have found that the sensory nature of spices plays a role in their names in two ways. One, compound spice names usually contain a headword that is a previously known prototype spice, on account of their physical (appearance, color, shape, form) and chemical (taste, aroma, heat, pungency) similarity; and two, distinguishing words are also frequently sensory words of vision, gustation, or olfaction, as we saw in chapter 6. However, despite the rich sensory nature of spices, the names are most typically modified with a geographic place name. This suggests that, even if spices are colorful and aromatic, nevertheless often their most salient feature is their exoticism.

Aims revisited

Overall, the aims stated in the introduction were achieved. First of all, there is a framework and a database that—although far from perfect—can be a basis for future endeavors in the research of the terminology of aromatic materials, and this can be useful and interesting for philologists, linguists, historians, or culinary professionals. I would like to highlight again that this dataset is machine-readable, and after further expansion can accommodate various statistical analytics regarding the spices, and various aspects of their names. The dataset also facilitates the detailed treatment of other spices, beyond

the six that were introduced in the data chapter (chapter 4, “The Spices”), many of which have yet to be published on from a humanities’ perspective.

The second aim was “to map the diffusion of the terms of the spice domain,” and I hope the interactive visualizations under Figures 5.6 to 5.8¹⁷⁷ are adequate to illustrate the significance of these wandering words. The visualizations are based on the etymological data collected and explained in this paper, and they are openly available in the same repository.¹⁷⁸

The third goal was to shed light on how spice names are “born,” and what the motivations and mechanisms might be for spice name propagation. I feel that the findings of chapter 6 achieves this goal, as we now know how the three languages borrowed words, and how they devised new names based on existing words, and what are the typical components in this process.

Significance and Contribution

At the beginning of this paper, I talked about the puzzle of a particular tree and its spice having different names in various languages. As we saw, this turned out to be allspice. I hope that the motivation and reasons behind its many names—*allspice*, *news spice*, *clove pepper*, *Jamaica pepper*—is no longer a mystery. Furthermore, I hope that the next time the reader is faced with the name of a novel spice term, he or she can analyze it, ponder its origins, and look up its history. I think that if we go about with open eyes and noses, we will sense the surrounding variety every day, embodied in the aromas. And the next time my grandmother in Hungary is making sausage, I can tell her that the “clove pepper” she is using is from the Caribbean, and that even if Columbus never found it, it eventually arrived to this side of the planet—only to be confused with every other spice under the sun by the many confusing ways we named it.

The significance of this study lies in its topic; spices are a ubiquitous part of our cuisine and culture. Everyone who ever had a dinner party at home—including the cooking—in a multicultural, multilingual setting knows that the nomenclature of spices and seasonings is confusing and interesting, and that each spice name carries the history of the spice. My contribution is an attempt to collect, introduce, and analyze them in a way that was not done before.

177 Hosted on <https://github.com/partigabor/phd-thesis-viz>

178 Hosted on <https://github.com/partigabor/phd-thesis-viz/data>.

7.1 LIMITATIONS

This project has a number of limitations. First, it was not possible to include more spices in this short space. I firmly believe that the more aromatic items we add into the fold, the more firm the results would be in terms of claiming something universal about the terms of the spice domain. The present study encompasses 24 spices and 360 names, and it feels to me that that is just enough to start suggesting generalizations about the diffusion and especially the naming of various aromatic substances.

I also maintain that there are some general truths that I can now claim to have shown, especially regarding the globally important and well-known items that were popular from Asia to Europe, and between the two endpoints of the Maritime Silk Road. Among these are the overwhelming East-to-West directionality, which is supported by the botanical reality (most of these spices are from tropical Asia), the historical evidence (the spice trade since antiquity, and in the Age of Discovery), and the linguistic trail (cf. the source and donor languages). My opinion, based on the data here, is that the more aromatics we add into the investigation, the proportion of the major donor languages will be similar. Words from Latin, Greek, Arabic, Persian, Akkadian, Sanskrit, Chinese, etc. and other influential languages of high culture since premodern times will “overpower” smaller regional languages from the source or path of the materials. There are always exceptions, of course, but the influence of languages of empires and civilizations with long-lasting influence is almost unquestionable.

Further limitations of my study arise from the fact that I tried to delimit my scope by focusing on words that arrived to English, Arabic, and Chinese, and disregarding other interesting and related cases.

In the etymologies, however, I ventured beyond the trilingual setting, and I believe that this kind of study should be aware of any language of contact, and especially of influential languages of the source words, e.g., Sanskrit. Beyond that, though, I believe that the trio of English, Arabic, and Chinese made for an interesting comparative glimpse into the spice domain.

I introduced the notion of an existing research gap in the beginning of the paper (Section 2.2), and now I believe it is impossible to fill that lacuna with a single work, even a book-length one. On the one hand, it is not possible to be competent in every related language, and second, it is not feasible to introduce every known spice accurately in a limited space. Maybe later, in the form of a larger book? I am convinced, that this project could be valuable and interesting with a team of experts that can help

with the curation of relevant information.

7.2 FUTURE STUDIES

For future studies, I think one valuable way to dive into the diffusion of spices, incense, perfume, and other aromatics is to focus on a specific cultural area, for example, the Mediterranean, or Southeast Asia. I have plans for a paper that tracks wandering food items—and their names—of East and Southeast Asia.

For a slightly different take, it would be interesting to dive into lexical semantics and cognitive linguistics relying on corpora and corpus linguistic tools. I have extracted words deriving from spice terms from the relevant dictionaries, proceeding to analyze their dates of coinage and grouping them by grammatical category. I wish to prove that the more familiar a culture is with a given item, the more productive the item's name is in its language. The projected study will focus on the spices' role in daily language, how spice words entered the lexicon, and what their role is in metaphors and idiomatic expressions. And, most importantly, how do we conceptualize “spicy” words? It's a topic that was recently touched upon by Bagli (2021) in English, and Dong et al. (2018) and Zhong et al. (2021) in Chinese. The goal of this question is to look at the degree in which spice terminology is used in a language, proposed to be a gauge of a spice's embeddedness in a culture, and to see how significant these are in the everyday human experience.

I also hope to expand on the attempt to collect the names for a specific spice in every significant language and plot their distributions grouped by etymon, an example of which is seen in Section 4.4.5. In a more typological view, hopefully I can compare more spices similarly to find patterns and correlations. The problem with this is that, while some products represent common and easy-to-collect word lists from existing databases (e.g., *pepper*), rarer items would be much more difficult to gather.

However, the most crucial task for me is to make this project alive and breathing. For that purpose, I have built a website to host a spice database currently named *Spice and Spice Terminology Database 1.0*, accessible at <https://partigabor.github.io/spice/>. I hope in the future this can be a useful portal for people to access information about spices and spice names. I will host the datasets and visualizations, which people can query to learn about the nomenclature, etymologies, and diffusion of spice terms. I plan to make this website a sort of philologically-focused spice directory, that is free and open-access. Hopefully this platform offers an accessible way to gradually update, correct, and expand

on the existing data. I also expect valuable input from other researchers in this area, not to mention the tips and guidance of people who are expert in a certain language or subject that I am not. I definitely plan to work on this topic for the long term, and I hope I can eventually collaborate with other scholars including linguists, botanists, historians, and even culinary experts to build a rich and useful database that supplies precise information.

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