

From mouth fresheners to erotic perfumes: The evolving socio-cultural significance of nutmeg, mace and cloves in South Asia

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1. Introduction

This enquiry presents facets of the historical geography and cultural history of nutmeg, mace and cloves, as a chapter in the broader and hitherto neglected discourse of the role of aromatics in the pursuit of a sophisticated and sensuous life style in South Asia. I will be exploring here how and when a select group of fragrant plant products arrived on the Indian subcontinent from the far reaches of the Indo-Malay archipelago, eventually to be sought after in the royal courts and celebrated by Sanskrit poets.

While some crop plants were translocated across the Indian Ocean from as early as the Bronze Age (Fuller *et al.* 2011), nutmeg and clove trees remained restricted to their narrow native habitat well into the colonial period, while their products became the epitome of an exotic commodity in South Asia and beyond. Much has been written about how in European mediaeval discourse ‘spices’² rose to objects of intense fascination and desire, but far less explored is the ascent in esteem and consumption of domestic and imported aromatics in South Asian culture. Addressing this void, the present study covers the time period from the earliest records available through early mediaeval India (circa 1200 CE), by which time Moluccan aromatics had left an indelible mark in both actual practices and their literary representation across the Indian sub-continent.³

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²I generally avoid the term ‘spices’ throughout this paper, since it primarily evokes images of the culinary use of plant products as condiments, and instead I prefer the term ‘aromatics’.

³The upper chronological limit of this study broadly coincides with a highpoint in the elaboration of courtly practices concerning material culture, e.g., exemplified by the sumptuary manual *Mānasollāsa*, ‘Delight of the Mind’, of around 1130 CE (Arundhati

After introducing some essential facts about the botany of nutmeg and clove trees, I will begin by discussing their linguistic treatment in Indo-Aryan and Dravidian languages, followed by some comparative data from the Austronesian language family. This will not only uncover patterns of exchange, linguistic as well as material, but also shed light on the associations these aromatics evoked in the indigenous imagination. Archaeobotany, to the degree that it is available, but more so textual evidence, will form the foundation for exploring how, quite literally, the aroma of nutmeg, mace and cloves increasingly pervaded different aspects of Indian culture, south and north. Finally, I will explore the resonances which nutmeg and cloves evoked as they were integrated into the repertoire of refined Sanskrit poetry.

2. Basic botany of nutmeg, mace and cloves

Nutmeg and mace are both the product of the evergreen, up to 20 meter tall tree *Myristica fragrans* Houtt. (Myristicaceae).⁴ When ripe the fleshy pericarp (husk) of the peach-like fruit splits and reveals the soft and lace-like aril, the mace of commerce. It is carmine in colour when fresh, but eventually dries to an orange colour in the sun. Mace envelopes the testa (seed coat), and only within this shell rests the actual nutmeg (For illustrations see Figs. 1 and 2 on pp. 40-41). Besides fixed (non-evaporating) oils, the so called ‘nutmeg butter’, nutmegs contain about five percent essential oils of complex composition.⁵ Notably, nutmeg and mace are decidedly psychoactive and toxic at higher doses, though the mechanisms of this action remain unresolved.⁶

1994, see also below). The changes that eventually re-articulated these practices in the wake of the ascent of the Muslim ruler of the Delhi Sultanate from the early thirteenth century onwards, are no longer within the ambit of this study. Occasionally, sources beyond the chronological boundary of circa 1200 CE were utilized, e.g., in the discussion of linguistic details.

⁴Hence the Sanskrit form *dvidhātmaka* ‘being of two kinds’ for nutmeg; Monier Williams 1990, 505.

⁵Warburg’s exhaustive monograph (1897) and Ridley (1912, 94-154) discuss all aspects of nutmeg and mace, albeit from a colonially coloured perspective.

⁶Rätsch (2002, 371-375) gives a useful overview. For a recent psychopharmacological study with further references, see El-Alfy *et al.* 2009.

Cloves are the unopened flower buds of the pyramidal, evergreen tree *Syzygium aromaticum* (L.) Merr. & L.M. Perry (Myrtaceae) that grows to about 10 meter tall. Its flower buds are ready to be harvested and dried as they turn colour from green to yellowish to red (For illustrations see Figs. 3 and 4 on pp. 42-43).⁷ Cloves are valued for the scent of their essential oils, which amount to almost twenty percent of their dry weight and consist primarily of the phenyl-propene eugenol. The actual fruits of the clove tree, so-called ‘mother cloves’, are less aromatic and were historically of little commercial significance.

While both plants are botanically unrelated, their natural habitat is in relative proximity in the Moluccas (or Maluku Islands), east of Sulawesi and north-east of Timor. The clove tree is native only to a few islands, namely Ternate, Tidore, Moti, Makian and Bacan, adjacent to the larger island Halmahera. The centre of cultivation for *Myristica fragrans* Houtt. has long been on a group of small islands south of Seram, collectively known as the Banda Islands. Both clove and nutmeg trees thrive in the year round rainfall of the insular climate that dominates these volcanic islands. The environmental preferences of both trees vary slightly, and it is said that nutmeg trees must be able to smell the sea, whereas clove trees must be able to see it (Ridley 1912, 105).

Until a few hundred years ago, the translocation and naturalisation of nutmeg and clove trees in a westerly direction across the Indo-Malay archipelago was naturally impeded by the trees’ exacting requirement in terms of climate, soil and growing altitude, combined with active, economically motivated efforts to restrain their dispersal during colonial times. With their cultivation so restricted, gaining access to these products outside their limited habitat in the Moluccas necessarily required long-distance trade through many hands. In light of increasing demand, this turned them into valuable commodities.

3. Linguistic explorations

3.1. Nutmeg and mace - the ‘jasmine-scented seed’ and its ‘flower’

3.1.1. Indo-Aryan terminology

In classical Sanskrit *jātī* of unclear etymology is the name of the Large-flowered Jasmine (*Jasminum grandiflorum* L., Oleaceae). This shrub, which is native to South Asia, forms the basis of much of the terminology for *Myristica*

⁷More about the clove tree in Ridley (1912, 155-196) and Tidbury (1949).



Fig. 1. This image of a nutmeg tree comes from the rare, circa 1498 edition of the herbal *Le grant herbier en françois* (p. 95, with a similar one depicting nutmeg on p. 102) whose text was to a large degree derived from Platearius's *Liber de simplicibus medicinis* (1497, also known as *Circa instans*) of the Salernian school. Owing to the fact that no one from the west had seen an actual nutmeg tree before the sixteenth century, the illustration of the tree is generic. However, mace surrounding the structure that contains the nutmeg is accurately depicted. Drawing on a parallel familiar to the French reader, the text likened the relationship between mace and nutmeg to that between the hazelnut and its husk.

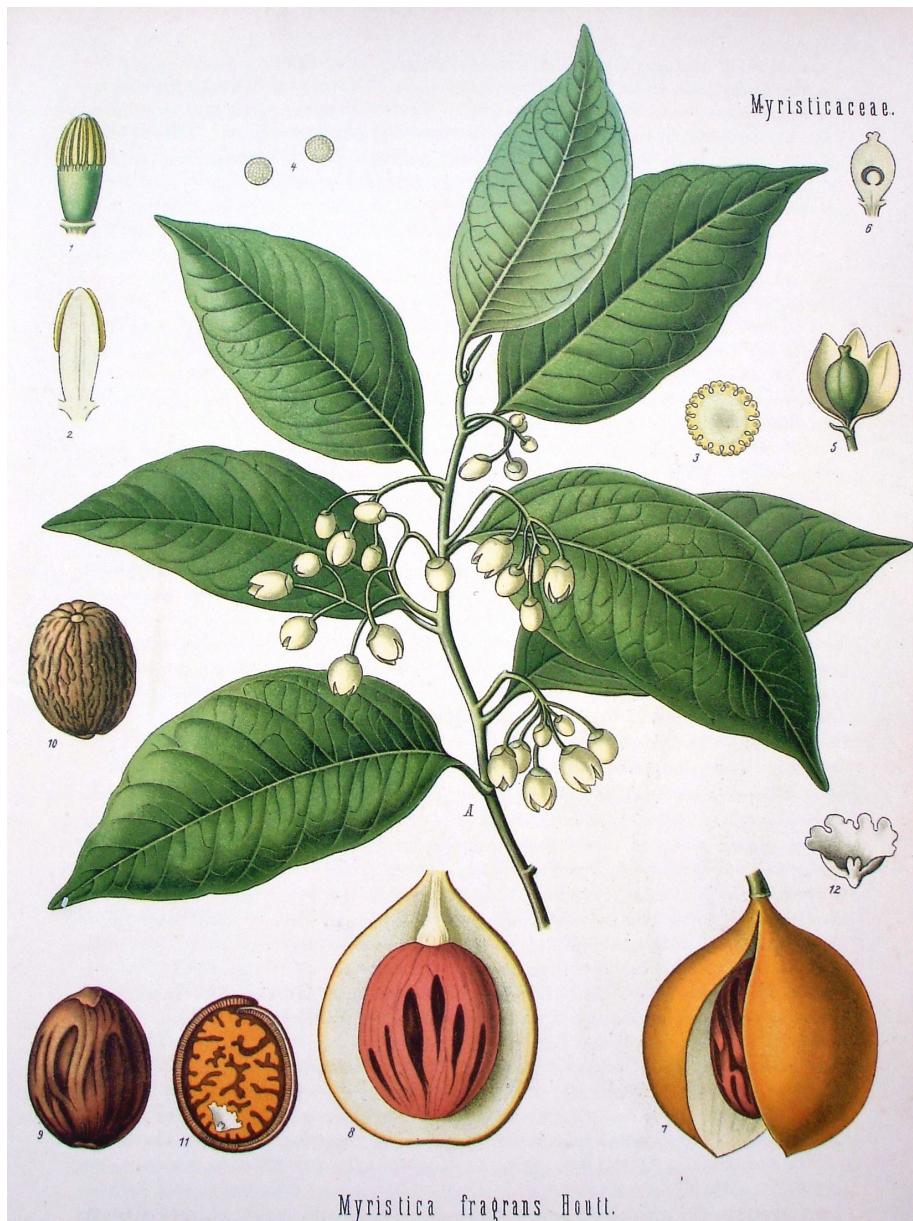


Fig. 2. A botanically accurate drawing shows a flowering twig of a nutmeg tree with male blossoms, surrounded by various details, including a split open fruit as it naturally occurs (7), a seed surrounded by the aril (9) and the same without the aril (10). Note that the nutmeg of trade separates during drying from its shell and can be obtained by cracking open and discarding the seed coat visible in (10). The image is reproduced from *Köhler's Medizinal-Pflanzen*, perhaps the most lavishly illustrated handbook of medicinal plants of the late nineteenth century (Pabst 1883-1914, 2, instalment 132).



Fig. 3. An image from the circa 1498 edition of *Le grant herbier en françois* (p. 69) shows cloves on a generic tree. The accompanying text describes them erroneously as the fruit of the clove tree.



Fig. 4 . A flowering twig from a clove tree is shown with numerous unopened flower buds, which become the cloves of commerce once dried (Pabst 1883-1914, 2, instalment 125). Amongst the detail drawings is a clove fruit ('mother clove', 6).

fragrans Houtt.⁸ The only apparent connection between jasmine and nutmeg is their distinct and strong scent. One might speculate that when nutmegs were first encountered in India, their fragrance, though clearly different from jasmine, led to a description of a nutmeg as a ‘jasmine-scented seed’, *jātīphala*.⁹

Even some of the earliest Indian references draw a clear distinction between nutmeg and mace, while at the same time recognizing their shared origin from the same plant. If nutmeg was the ‘seed of jasmine’, mace for its shape was described as its ‘leaf’ or ‘petal’, *jātipatra*.¹⁰ Another synonym for mace, *jātikośa*, where *kośa* means ‘sheath’, indicates that the physical relationship between nutmeg and mace was understood.¹¹ This was explicitly stated in a later medical work:

‘The bark of *jātīphala* is known as *jātipatra* by the learned physician.’¹²

The description of mace as a flower, *jātipuṣpa* (jasmine/nutmeg flower),¹³ alludes not just to its similarity to flower petals, but also to the fact that some mace may have been thought to be the actual flower of the nutmeg tree.¹⁴

⁸ Also as *jāti*, though not to be confused with the etymologically unrelated *jāti* ‘birth’; Turner 1966, 285–286; Mayrhofer 1986–2001, I, 567–568; III, 209.

⁹ *Phala* typically references ‘fruit’, though it is clear that ‘seed’ or ‘kernel’ is the correct rendering here; Monier Williams 1990, 716. On *phala* see also Turner 1966, 508; Mayrhofer 1986–2001, II, 201–202.

¹⁰ *Arthaśāstra* 14.1.16; Kauṭilya 1960–1965, II, 496, discussed in detail below. Also in similar forms, such as *jātipatrī* (*Aṣṭāṅgasamgraha*, *Sūtrasthāna* 12.77; ca. 600 CE; Meulenbeld 1999–2002, IA, 493) or *jātipattrikā* (*Aṣṭāṅgahrdayasamhitā*, *Uttarasthāna* 22.93; 600–700 CE; Meulenbeld 1999–2002, IA, 649).

¹¹ *Carakasamhitā*, *Cikitsāsthāna* 26.210; 28.152, for the date see below; Meulenbeld 1999–2002, IA, 134.

¹² *Bhāvaprakāśa* 1.6.3.56; Bhāvamiśra 1998–2000, I, 214, by Bhāvamiśra, ca. 1550–1590 CE; Meulenbeld 1999–2002, IIA, 246. However, readily obfuscating their relationship, the preceding section (1.6.3.54) lists *jātikośa* as a synonym for *jātīphala*.

¹³ *Bhāvaprakāśa* 3.1.76; Bhāvamiśra 1998–2000, II, 853. In Pāli *jātipuppha* is attested, though rarely, for ‘nutmeg’ or ‘mace’, but rather for ‘jasmine flower’, as in *Dipavāmsa* 13.51; Rhys Davids and Stede 1921–1925, 282; Law 1959, 211.

¹⁴ This idea lived on as late as the fifteenth century in western herbals (e.g. *Le grant herbier en francois*, ca. 1498, 95) and is reflected in a word formation for ‘mace’ which is frequently encountered in European languages, e.g., Danish *muskatblomme*, French *fleur de muscade*, German *Muskatblüte*.

Jātī by itself may at times refer to nutmeg rather than jasmine, giving rise to potential confusion in technical writings¹⁵ or allowing for word play in poetry.¹⁶ Further complicating matters, in the Indian *materia medica* the products of *Myristica fragrans* Houtt. and the leaves of *Jasminum grandiflorum* L., while never considered interchangeable, were used in similar contexts¹⁷ or even the same prescription.¹⁸ The Indian literature also has composites based on *sumanas*, meaning ‘flowers’ and specifically ‘Large-flowered Jasmine’.¹⁹ *Sumanahphala*²⁰ references ‘nutmeg’, whereas *saumanasyāyani*²¹ and *sumanahpatrikā*²² stand for ‘mace’. *Mālatī* is another synonym for jasmine²³ and appears less frequently in the analogously formed *mālatīphala*, meaning ‘nutmeg’.²⁴

A synonym of particular interest is *madaśauṇḍaka*, a composite of *mada*, ‘intoxication’ as well as ‘sexual desire’, and *śauṇḍa*, ‘drunk’ or ‘intoxicated’. Its use for nutmeg and mace may allude to their psychotropic properties as well their potential to make one ‘intoxicated with passion’, which will turn out to

¹⁵E.g., repeatedly in *Bṛhatsaṃhitā* 77, middle of the sixth century C.E.; see Varāhamihira 1865 and the discussion below.

¹⁶The homonyms *jāti* ‘jasmine’, ‘nutmeg’ and ‘birth’ could form the basis for bi-textual passages in some Sanskrit compositions

¹⁷*Carakasaṃhitā, Cikitsāsthāna* 187-214, treatment of diseases of teeth, oral cavity and throat; Sharma 1981-1994, II, 447.

¹⁸*Gadanigraha* 3.5.149: the paste of *jātī* (jasmine) leaves and nutmeg is pounded with water to be applied to the face for treatment of dark spots (Sharma 1996, 150-151), by Soḍhala, around 1200 CE; Meulenbeld 1999-2002, IIA, 219.

¹⁹*Amarakośa* 2.4.73; Amarasiṃha 1971-1983, I, 259; see also Turner 1966, 778; Mayrhofer 1986-2001, III, 516; in Pāli *sumanā* ‘jasmine’; Mahāvamsa 5.86; Geiger 1958, 33, but in Sinhalese *sumana* ‘nutmeg’ vs. *sumanā* ‘jasmine’; Clough 1892, 697. The *Amarakośa* from around the sixth century CE (Vogel 1979, 309-310), lists the perhaps most popular aromatics of the time, including cloves, nutmeg and mace (*Amarakośa* 2.6.125, 2.6.132)

²⁰*Suśrutasaṃhitā, Sūtrasthāna* 46.495cd; Murthy 2000-2001, I, 448.

²¹*Carakasaṃhitā, Vimānasthāna* 8.135, *Kalpasthāna* 4.16, but nowhere in the *Suśrutasaṃhitā*; Meulenbeld 1999-2002, IA, 102; Meulenbeld 1999-2002, IB, 175. On the widely used suffix *-syāyanī* ‘descended, derived from’, see *Aṣṭādhyāyī* 4.1.110; Pāṇini 1987, 385.

²²Şadrasanighaṇṭu 5.44, by Şadrasa, between ca. 1000 and 1400 CE; Meulenbeld 2004, pers. communication.

²³E.g., *Amarakośa* 2.4.73; *Aṣṭāṅgasamgraha, Sūtrasthāna* 12.80cd; Meulenbeld 1999-2002, IA, 493; Syed 1990, 498-502; Mayrhofer 1986-2001, III, 402.

²⁴*Bhāvaprakāśa* 1.6.3.63; Bhāvamiśra 1998-2000, I, 214.

be important characteristics of these aromatics. *Madaśauṇḍaka* is most prominently found in the lexicon *Abhidhānacintāmaṇināmamālā*, compiled and commented on by the Jain Hemacandra in the twelfth century,²⁵ and also in a number of other, often medical works from the same period.²⁶ Perhaps referring to the trade origin or the (at the time imagined) origin of nutmeg trees is the synonym *samudrānta*, primarily referencing the ‘seashore’, but also ‘nutmeg’.²⁷

The majority of Sinhalese terms for nutmeg and mace mirrored those in Sanskrit, such as *jātip(h)ala* ‘nutmeg’, *jāti(ka)patra* ‘mace’, *sumana* ‘*Myristica fragrans* Houtt.’ (Clough 1892, 193, 697, 789; Carter 1936, 318), but some meanings shifted. *Jāti* means ‘mace’ in addition to ‘Large-flowered Jasmine’ and ‘nutmeg’, and *jātikōsa* becomes ‘that which has mace for its covering’, i.e. ‘nutmeg’ (Clough 1892, 193). Notably, the Sinhalese lexicon has a number of terms, primarily *sādikkā*,²⁸ but also *dṛdhavṛnda*²⁹ and *dhāwana*,³⁰ which specifically identify the ‘true’ nutmeg tree as opposed to indigenous *Myristica* species.³¹ While this may suggest the presence of true nutmeg trees on the island, evidence for their cultivation in significant numbers only dates to the first half of the nineteenth century.³²

²⁵ *Madaśauṇḍaka* in commentary to verse 643 of *Abhidhānacintāmaṇināmamālāni*; Hemacandra 1975/1976, 144; *śauṇḍa* in Hemacandra’s *Nighaṇṭuśeṣa* (237), an appendix to the same lexicon that only discusses plant names; Meulenbeld 1999-2002, IIA, 178-179; Meulenbeld 2004, pers. communication.

²⁶ *Madaśauṇḍaja* in *Ṣaḍrasanighaṇṭu* 5.44; *madaśauṇḍaka* in *Sodhalaṇighaṇṭu*, *Nāma-saṃgraha* 388, by Sodhala, ca. 1200; *madaśauṇḍa* in *Kaiyadevanighaṇṭu*, *Oṣadhivarga* 1326, by Kayadeva, composed ca. 1400-1450; Meulenbeld 1999-2002, IIA; Meulenbeld 2004, pers. communication.

²⁷ Only attested as a lexical item in Sanskrit, see Böhtlingk and Roth 1855-1875, VII, 729; but also in Sinhalese; Clough 1892, 666.

²⁸ Clough 1892, 676; of unclear etymology, also referencing ‘nutmeg’; Carter 1936, 318.

²⁹ Clough 1892, 264; *dṛdha* ‘hard, firm’, *vṛnda* ‘multitude’, perhaps ‘bearing a multitude of firm [nuts]’.

³⁰ Clough 1892, 271; of unclear etymology.

³¹ *Malaboda* likely refers to *Myristica ceylanica* A. DC. (Myristicaceae) which is endemic to Sri Lanka; Clough 1892, 465.

³² According to Warburg (1897, 256) *Myristica fragrans* Houtt. was introduced in Sri Lanka in 1802, and some moderate success was accomplished in its commercial cultivation.

3.1.2. Dravidian terminology

The Old Tamil term *naraikkāy*, literally ‘fragrant fruit’ for nutmeg,³³ is a local innovation of Dravidian origin. However, Dravidian terms for the products of *Myristica fragrans* Houtt. are most commonly constructed similarly to those in Indo-Aryan languages, through a combination of direct borrowing and partial substitution with Dravidian forms. In Malayalam ‘nutmeg’ is *jādi* (Gundert 1872, 405), in Kannada ‘nutmeg, mace, *Jasminum grandiflorum* L.’ are *jāji*, *jāyi*, *jādi* or *jā* (Kittel 1968-1971, II, 683), in Tulu ‘nutmeg’ is *jājikāyi* and in Telugu *dzājikāya*.³⁴ In Tamil ‘mace’ is *cā(ti)pattiri*, *cātippu* or *mālatipattiri*, all displaying obvious Indo-Aryan influence.³⁵ There is no elaborate terminology for nutmeg trees which are simply referred to as *cātikkāymaram*, literally ‘nutmeg tree’, and this form also refers to the local ‘jungle nutmeg tree’ (University of Madras 1924-1936, 1367).³⁶

3.2. Clove - the ‘divine flower’

3.2.1. Indo-Aryan terminology

Sanskrit *lavaṅga* denotes both cloves and the clove tree, with similar forms such as *lavaṅgaka*³⁷ or *lāva*³⁸ in less frequent use. *Lavaṅgikā* appears occasionally as a name for a female in Sanskrit literature³⁹ and, in fact, is used as a girl’s

³³ From *Tirumurukārruppaṭai* (Guide to Lord Murugan), part 5.1-3.; first half of first millennium CE; Chelliah 1962, 353, see also below. *Narai* ‘fragrance, spice’, *kāy* ‘unripe fruit’; University of Madras 1924-1936, 875, 2188. Perhaps nutmeg was associated with an unripe fruit because of its hardness, unless *kāy* is to be understood as ‘seed’ here.

³⁴ Tulu *kāyi* ‘unripe fruit, seed’; Männer 1886, 244-245.

³⁵ Tamil *pū* ‘flower’; University of Madras 1924-1936, 1368, 1373, 2819, 3176.

³⁶ Warburg (1897, 375-383) discusses the products of the ‘Malabar nutmeg tree’, which were of little commercial significance, except as an adulteration of true nutmeg and mace. I have been unable to ascertain the botanical identity of this *Myristica* sp. in current nomenclature.

³⁷ *Aṣṭāṅgasaṃgraha*, *Sūtrasthāna* 12.77; Meulenbeld 1999-2002, IA, 493.

³⁸ *Gandhasāra* 12.6; 22.8, by Gaṅgādhara, ca. 1200 CE; Meulenbeld 1999-2002, IIA, 176; IIB, 200.

³⁹ E.g., in an apparent pun in a seventh century romantic prose: ‘Lavaṅgikā, throw pieces of *pippalī* [*Piper longum* L., Piperaceae] leaves into the cages of the *cakoras* [partridges]’ (*Kādambarī* 356; Bāṇabhaṭṭā 1991, 184; more on *Kādambarī* below). A girl named Lavaṅgikā is one of the characters in Bhavabhūti’s play *Mālatīmādhava* (1983) com-

name in India to this date.

The *Amarakośa* (or *Nāmalingānuśāsana*), Amarasiṁha's thesaurus, listed *devakusuma* and *shṛīsamjñā* as synonyms of *lavaṅga*.⁴⁰ *Devakusuma*, *devapuṣpa*⁴¹ and *gīrvāṇakusuma*⁴² all reference cloves as the 'divine flower'. Not only are cloves thought to be 'of divine odour' (*divyagandha*; Monier Williams 1990, 479), but they are also, explained in the *Amarakośa* by the synonym *śrīsamjñā*, 'named after śrī', i.e. Lakṣmī. In other words, cloves are the 'flowers of Lakṣmī', *śrīpuṣpa* and *lakṣmīpuṣpa* (Monier Williams 1990, 893, 1099). Hence the qualities of the goddess who is not just a symbol of beauty, but, more importantly, represents fortune and surplus, were associated with cloves, a luxury commodity. Equally telling as a name for cloves is the form *śṛṅgāra* (Monier Williams 1990, 1087), referencing 'sexual passion' and 'desire', which, as I will discuss below in more detail, came to be associated with cloves.

Other synonyms for cloves listed in lexical works reflect the special relationship of cloves with the ocean, presumably both in their growth and in their sourcing from trans-oceanic trade. *Vārisambhava* or *vārija* means 'produced from water' or 'arising from the ocean', whereas *toyadhipriya* stands for 'fond of the sea' and hence 'produced in maritime countries' (Monier Williams 1990, 453, 943).

Sinhala forms for cloves generally follow Sanskrit,⁴³ but the close association between the Moluccan aromatics leads to a cross-over in meanings, as is occasionally observed elsewhere, too. In Sinhala *lawaigapuṣpi*, 'clove flower', becomes 'mace', whereas *mādana* in the sense of 'inciting passion' references cloves rather than nutmeg (Clough 1892, 454, 478).

posed around the eighth century. The title of this work, which deals with the love between Mālatī and Mādhava, is also a play on the name of two fragrant flowering plants, jasmine (*mālatī*) and the liana *Hiptage benghalensis* L. Kurz (Malpighiaceae; *mādhavī*, also known as *mādhavavallī*; Monier Williams 1990, 808; Abdul Kareem 1997, 74).

⁴⁰ *Amarakośa* 2.6.125; Amarasiṁha 1971-1983, I, 441; repeated in *Bhāvaprakāśa* 1.6.3.58; Bhāvamiśra 1998-2000, I, 215.

⁴¹ *Kāśyapasamhitā* 8.92, 8.134, by Kaśyapa, ca. seventh century CE; Meulenbeld 1999-2002, IIA, 40-41. Also *devapuṣpi* in *Cikitsāsamgraha* 22.268, by Cakrapānidatta, third quarter eleventh century CE; Meulenbeld 1999-2002, IIA, 93.

⁴² Attested in lexical use, from *gīrvāṇa* 'whose arrow is speech', 'god'; Monier Williams 1990, 355.

⁴³ As in *lawaiṅga*, but there is also *karābu*, a colloquial term for 'clove (tree)' loaned from a Tamil source, see below (Clough 1892, 109, 546).

3.2.1.1. Connecting with the eastern archipelago

Identifying the source of the Sanskrit form *lavaṅga* has been the source of considerable interest (e.g., Gonda 1932; Mahdi 1994, 188; de Casparis 1997, 22; Mayrhofer 1986-2001, III, 439), since *lavaṅga* might be a loan from an Austronesian speaking source, given the path of the clove trade and the Gestalt of the word with a final velar nasal (+ *a*).

Indeed, in the Old Javanese *Rāmāyaṇa Kakawin*⁴⁴ the word *lawanya* is encountered in the description of Mount Suvela on Laṅkā (Sri Lanka):

‘*lāwan lawanya maneden ya wijah makembaj*’

‘And the clove trees were in bloom, blossoming luxuriously.’⁴⁵

An analysis of concordances (Hooykaas 1955, 47, 61; Zoetmulder 1974, 226-230) reveals that the Old Javanese author had access to a Sanskrit work of the sixth or seventh century, namely Bhaṭṭī’s *Rāvanavadha* (‘Death of Rāvaṇa’), commonly referred to as *Bhaṭṭikāvya* (‘Bhaṭṭī’s Poem’). The latter work contains a parallel passage to that in the *Rāmāyaṇa kakawin* which extolls the beauty of Mount Suvela:

‘[Rāma’s host scaled Mount Suvela] where there was [...] a fine dazzling brightness of the young shoots of the *lavaṅga* trees.’⁴⁶

Since Old Javanese *lawanya*, as attested in the *Rāmāyaṇa Kakawin*, was evidently a direct loan from Sanskrit,⁴⁷ and, at any rate, the *Kakawin* composition dates to no earlier than the ninth century CE,⁴⁸ the source of Sanskrit *lavaṅga* needs to be sought elsewhere.

The Austronesian languages of western and central Indo-Malaysia do not show evidence of a borrowed *lawanya*, but instead reflect **buja laway* to de-

⁴⁴ *Kakawin* is a genre of long, narrative poems composed in Old Javanese with metres derived from Sanskrit; see Zoetmulder 1974.

⁴⁵ *Rāmāyaṇa Kakawin*, 16.18.2; Santoso 1980, II, 394; translation courtesy of Tom Hunter.

⁴⁶ *Bhaṭṭikāvya* 13.39; Bhaṭṭī 1972, 135. The same canto (13.29) also mentions *lavaṅga* as perfuming the shoreline. There is no corresponding passage in Vālmīki’s *Rāmāyaṇa* (see discussion below).

⁴⁷ Wojowasito 1980, 476; Zoetmulder 1982, I, 994. Van der Tuuk, too, notes the Sanskrit origin of *lawanya*. However, he glosses it incorrectly, referring to different trees (*langsat lutung, poh*); van der Tuuk 1897-1912, III, 721, 728.

⁴⁸ Presumed to belong to the Central-Javanese period ending ca. 930 CE; Zoetmulder 1974, 231.

note ‘cloves’. Examples reach from Balinese *wuja laway* (Van der Tuuk 1897-1912, III, 720; de Clercq 1909, 232) and Malay *buja laway*⁴⁹ to Acehnese *bujoj laway* (Djajadiningrat 1934, I, 911). Another set of cognate forms for ‘clove’ can be found close to the home of *Syzygium aromaticum* (L.) Merr. & L.M. Perry in the Central Moluccas, e.g., Hitu *pualawane* and Asilulu *pukalawane* on the island Ambon or *pualawanjo* on Nusa Laut east of Ambon for ‘clove’ (de Clercq 1909, 232).⁵⁰

In 1861 van der Tuuk was the first to propose that the terminology of cloves in the Indo-Malay region was derived from an indigenous root as he considered the Batak word *labay* ‘iron nail’ the source of the Malay composite *buja laway*, ‘nail flower’, i.e. ‘clove’.⁵¹ Van der Tuuk’s Old Javanese (‘Kawi’)-Balinese-Dutch dictionary again noted the etymological connection between Batak *labay* and Balinese *wuja laway*.⁵² However, the principal terms for ‘nail’ in the Indo-Malay region are reflexes of the Austronesian form **páku?*.⁵³ The use of the word *labay* for ‘nail’ is restricted to only a few languages in central and northern Sumatra.⁵⁴ Rather than lying at the root of the terminology of cloves, *labay* ‘nail’ might have been derived in Batak Toba relatively late from *laway*.

⁴⁹ ‘Clove, mace’, the latter meaning presumably acquired later; Wilkinson 1932, I, 166.

⁵⁰ On Ternate and Tidore, which were formerly the main clove-producing islands, West Papuan languages are spoken. Ternate has a Austronesian loan *buwah lawa* for ‘clove’ (de Clercq 1909, 232), while Tidore has perhaps the ‘only genuinely native name’ (Crawfurd 1820, I, 498) for cloves, *gomode* (Rumphius 1741-1755, II, 3).

⁵¹ ‘... so that the Malay name would mean ‘nail flower’; van der Tuuk 1861, 469, 474. Reflexes of Proto Malayo-Polynesian **bungah* ‘flower’ are widely represented in the Indo-Malay region; Tryon *et al.* 1995, III, 228-229; Zorc and Ross 1995, 1165.

⁵² Van der Tuuk (1897-1912, III, 720) does not give the source of his quote attesting *wunga laway*, and the word is not to be found in Zoetmulder’s Old Javanese dictionary. It was probably taken from a text of Balinese *kidung* poetry (in Javanese as opposed to Sanskrit meters) of the fifteenth century or later (T. Hunter 2004, pers. communication). The case for **labay* ‘nail’ as the ultimate source of the terminology of cloves is argued by Mahdi (1994, 188).

⁵³ Reconstructed as Proto Malayo-Polynesian; Tryon *et al.* 1995, III, 351; Zorc and Ross 1995, 1174.

⁵⁴ E.g. Batak Dairi, spoken north of Lake Toba; Batak Toba, spoken around the southern region of Lake Toba; van der Tuuk 1861, 469; van der Tuuk 1864-1867, 14; Warneck 1977, 133. Acehnese; Djajadiningrat 1934, I, 846. In Minangkabau, spoken in western central Sumatra, *labang* means ‘to hammer (metal)’; van der Toorn 1891, 347. In Gayo, spoken in the mountain region of northern Sumatra, the use of *labang* ‘nail’ was a late introduction from Aceh; Hazeu 1907, 426.

Toba Batak does not permit ‘w’ between vowels and therefore replaced it to form *labay* ‘nail’ and *laoay* ‘clove’ (van der Tuuk 1864-1867, 13-14; Warneck 1977, 133). In other words, *labay* ‘nail’ was likely derived from *laway*, with nails being named on the basis of their similarity to cloves.

The issue is further complicated by the fact that many Austronesian language show forms cognate with *lawan(g)* (as compounds or non-compounds) to denote a kind of cinnamon. This is first attested in the *Swarawayāñjana*, a lontar (palm leaf) treatise on grammar and orthography from Bali, which glosses *lawanya* as *kulit laway*.⁵⁵ In Malay *kulit laway* refers to ‘cinnamon trees from Amboyna and other parts of the Moluccas’ whose bark have the fragrance of cloves.⁵⁶ Gayo *laway* denotes a tree whose bark is chewed for its clove-like taste (Hazeu 1907, 444), and Acehnese *kulet laway*⁵⁷ as well as Minangkabau *laway*⁵⁸ have similar meanings. These glosses strongly point towards *Cinnamomum cultilawan* J. Presl (Lauraceae), the only *Cinnamomum* species indigenous to the Moluccas, where, e.g. on Nusa Laut it is known as *kau lawan* (de Clercq 1909, 199). Its bark smells distinctly and more so than other *Cinnamomum* species of cloves, due to its high content in eugenol (Burkill 1935, I, 550), and this bark was traditionally traded in the Moluccan islands of Ambon and Seram with Indo-Malay merchants (Schrieke 1966, I, 227).⁵⁹

To summarise, the widespread use of the form *lawan(g)* or cognates thereof in the Indo-Malay region, where cloves were traded alongside clove-scented cinnamon bark, provides a plausible source for a loan into Sanskrit. The ultimate home of the etymon, while difficult to determine, might need to be sought in the Moluccas, the only place where both the clove tree and a cinnamon tree with ‘clove-scented bark’ were endemic and from which both were traded.

It is instructive to briefly contrast the Austronesian terminology for cloves with that for nutmeg and mace. The strongest traces of an indigenous Austronesian terminology are again found in the Moluccas, where on Ternate *gosora* is recorded for ‘nutmeg’ (Rumphius 1741-1755, II, 16). However, in an eastward

⁵⁵ Van der Tuuk 1897-1912, III, 721, giving no exact reference. The identity of the author of the *Swarawayāñjana* is unknown, so is the date, though it derives undoubtedly from a period of either direct contact between Bali and India or indirect contact via Java; Rubinstein 2000, 191-222.

⁵⁶ Malay *kulit* ‘bark’; Gimlette 1939, 130.

⁵⁷ ‘Cinnamon tree whose bark smells and tastes like cloves’; Djajadiningrat 1934, I, 911.

⁵⁸ ‘Name of a tree whose blossoms and bark serve as a medicinal’; van der Toorn 1891, 357.

⁵⁹ The meaning of *laway* did not remain restricted to the Moluccan species of cinnamon, but encompassed similar, lesser *Cinnamomum* sp. in different compounds; de Clercq 1909, 199; Wilkinson 1932, II, 29.

dispersal a loan from an Indo-Aryan, presumably Sanskrit source, dominated the terminology across most of the Indo-Malay archipelago. *Jātīphala* became *pala* or closely related forms that were often prefixed by *buah* ‘fruit’ to specifically indicate ‘nutmeg’, or *buja* ‘flower’ to reference ‘mace’.⁶⁰

3.2.2. Dravidian terminology

Returning to the terminology of *Syzygium aromaticum* (L.) Merr. & L.M. Perry, Dravidian languages borrowed the Austronesian form, presumably via Sanskrit. Examples are Kannada and Tulu *lavaṅga* (Kittel 1968-1971, IV, 1435; Männer 1886, 590), Telugu *lavaṅgamu* (Brown 1903, 1106) or Tamil *ilav(ank)am* (University of Madras 1924-1936, 343) for ‘clove (tree)’, sometimes in compounds with *pū* ‘flower’ (Burrow and Emeneau 1984, 384). In reference to the ‘clove flower’, one finds Telugu *lavaṅgapu* (Dymock 1891, II, 20) or Tamil *ilavaṅkappū* (University of Madras 1924-1936, 342).

These terms can also cover different kinds of cinnamon trees or their products,⁶¹ which is an association that apparently never made it into the repertoire of Sanskrit,⁶² but is well represented amongst Dravidian speakers. In fact, the Tamil form *karuvā*, primarily denoting, ‘*Cinnamomum zeylanicum*’ can also reference the clove tree,⁶³ and Telugu *karavappu*, literally the ‘cinnamon flower’, refers to cloves (Nadkarni 1954, I, 835). Certainly the local presence of different *Cinnamomum* spp. trees and perhaps frequent interactions with Austronesian speaking merchants facilitated the adoption of this parallel terminology of cloves and cinnamon.

Another cognate set denoting ‘clove (tree)’, namely Malayalam *karāmpu* (Singh and Singh, 1983, 231) and Tamil *kirāmpu* or *karāmpu*⁶⁴ appears to be

⁶⁰E.g., Malay *buah pala* ‘nutmeg fruit’, i.e., ‘nutmeg’, *buja pala* ‘nutmeg flower’, i.e., ‘mace’; de Clercq 1909, 287; Burkill 1935, II, 1524-1525.

⁶¹*Ilavaṅkam*, also ‘*Cinnamomum zeylanicum* [Blume, Lauraceae]’, ‘wild cinnamon, *Cinnamomum iners* [Reinw. ex Blume, Lauraceae]’; University of Madras 1924-1936, 343. Telugu *lawanga puttā* ‘cinnamon’; *patta* ‘bark’; Brown 1903, 699, 1106.

⁶²Among the dozens of synonyms which Abdul Kareem (1997, 36-37) lists for *Cinnamomum* spp., not a single one also refers to *Syzygium aromaticum* (L.) Merr. & L.M. Perry.

⁶³University of Madras 1924-1936, 765. The roots and root bark of *Cinnamomum zeylanicum* Blume were a source of camphor in south India and Sri Lanka (Donkin 1999, 90), see also below.

⁶⁴University of Madras 1924-1936, 745, 926. Interestingly, there is also a Tamil form *kirāmpāṇi* denoting a ‘nail resembling a clove’, though it is formed as a composite of *kirāmpu* ‘clove’ and ‘āṇi’ ‘nail’; University of Madras 1924-1936, 223, 926.

entirely of Dravidian origin. While it is not widely enough represented across the Dravidian language family to draw any conclusions about its antiquity, its significance in the past is attested to by the fact that it was borrowed by a number of non-Dravidian languages. It appears in Sinhalese as *karābu* (Clough 1892, 109, 546), and on mainland Southeast Asia as far as the coastline of Vietnam, where it became Chamic *kō'rbu* and Khmer *krampu* (Aymonier and Cabaton 1906, 76).

3.2.2.1. Connecting to the west

It is quite likely that a Dravidian form, such as *karāmpu*, became the source of Greek *καρυόφυλλον* for cloves. Literally meaning ‘nut leaf’,⁶⁵ the word is not descriptive of cloves, but appears to have been formed by folk etymology to emulate the Dravidian source. *Καρυόφυλλον* was not transmitted in any classical Greek writings, but appears as a loan in Latin in Gaius Plinius Secundus’s *Historia Naturalis* of around 70 CE:

‘Est etiamnum in India piperis granis simile, quod vocatur *caryophyl-*
lon, grandius *fragiliusque*. tradunt in India *loto* id gigni; advehitur odoris
gratia.’⁶⁶

In this first and, in fact, lone occurrence of *caryophyllon* in Latin classical literature,⁶⁷ Plinius’s description is overall compatible with actual cloves, ex-

⁶⁵ *καρυόν* ‘nut’, *φυλλόν* ‘leaf’. Over the years various Sanskrit forms have been suggested as a source for *καρυόφυλλον*, though none that are attested in the meaning ‘clove’ which makes these argument less than compelling.

⁶⁶ ‘In India there is also a pepper-like grain, called the *caryophyllon*, but larger and more fragile. It is said to grow on the Indian *lotos* [tree]; it is being imported because of its scent.’ *Historia naturalis* 12.30; Plinius Secundus 1977, 30-31. *Lotos* had a number of meanings to Plinius. Here he cannot mean the aquatic lotus, *Nelumbo nucifera* Gaertn. (Nelumbonaceae), whose origin he placed in the Euphrates and with whose fruit he appears to be familiar (*Historia Naturalis* 13.107-110), nor is he referring to the jujube-bearing lotus tree from Africa, *Ziziphus lotus* Lam. (Rhamnaceae; *Historia Naturalis* 13.104-106), or the *lotos herba*, the melilot (*Melilotus* sp., Fabaceae; *Historia Naturalis* 13.107; Plinius Secundus 1977, 286-287; André 1985, 147-148). Orth (1910, 1354) suggests ‘*loco*’ (‘in India *loco*’) as an emendation of *loto* to resolve the issue.

⁶⁷ *Caryophyllum* reappeared in the early fifth century in a passing note of a medical text ascribed to a Pseudo-Theodorus (Theodorus Priscianus 1894, 408). In a culinary context, *kariofilum* is well-attested in two recipes (3 and 16) in *De observatione ciborum*, a letter on dietetics which Anthimus presented to Theuderic, King of the Franks, in the

cept for the purported origin from the Indian ‘lotus tree’. However, this apparent error is readily explained by the fact that at the time of Plinius’ writing, merchants who encountered cloves in India or the traders that acquired them further east would never have come across an actual clove tree.

Caryophyllon made its way into Arabic as *qaranful*,⁶⁸ and is, e.g., attested in a number of prescriptions of al-Kindī’s *Aqrābādhīn* (‘Medical Formulary’; al-Kindī 1966, 315) of the ninth century CE. Eventually, reflexes of *qaranful* became widely represented in the lexicons of south-east Europe and East Africa (Donkin 2003, 85). Al-Kindī’s *Aqrābādhīn* also references mace as *bisbāsah* (Al-Kindī 1966, 242), and, again, within the wider Arabo-Persian trade sphere cognate forms are attested (Nadkarni 1954, I, 830). Rather than considering *basbāsa/bisbāsa* a purely Arabic word (Donkin 2003, 87), a genetic relationship with a South Indian or the Sinhalese language ought to be given consideration. Either Tamil *vacuvāci* for mace, in part derived from *vāci* ‘to emit fragrance’ (University of Madras 1924-1936, 3462, 3579) or Sinhalese *wasāwāsi*, related to *wāsa* ‘to perfume’ (Clough 1892, 585) might be the source of the Arabized form *basbāsa*.

4. Tracing Moluccan aromatics across the South Asian cultural landscape

While the terminology of Moluccan aromatics gives ample evidence of the complex trade networks, in which these botanicals partook through the centuries, it leaves unresolved the time and circumstances of their arrival on the Indian subcontinent. Archaeobotany can be a decisive tool for tracing the dispersal of plants, if sufficient reliability in identification and dating of the relevant remains is accomplished. By the same token, spurious evidence can introduce considerable confusion into any chronology of plant transport and trade. For nutmeg and cloves the archaeobotanic record is scant and, indeed, illustrates both the benefits and pitfalls of such data.

The key resource for following the aromatic trail that nutmeg, mace and clove left across the South Asian cultural landscape, will be the deep literary tradition of the region that stretches back beyond the middle of the second millennium BCE. Even though dating the older texts is challenging and the evidence is weighted towards northern India, sources discussed here provide the

early sixth century (Anthimus 1963; 1996).

⁶⁸Modern Greek *καρεφύλλι* ‘clove’ in turn is considered a re-loan from Arabic; Maidhof 1920, 11.

basis for framing a chronology of the ascent in appreciation for nutmeg, mace and clove across India and Sri Lanka. More importantly, textual evidence will demonstrate how their pattern of consumption expanded from being a treasured luxury item and an exotic addition to betel quids, to eventually becoming a key ingredient of the perfumed world of the pleasure seeking courts of early mediaeval India.

4.1. Archaeobotanical evidence

There is no archaeobotanical evidence regarding cloves from early India, but based on a purported finding of cloves, it has been claimed, and often repeated since, that over 3,500 years ago cloves were traded well beyond India to the heart of the Fertile Crescent. Were cloves really a condiment in the kitchen of ‘middle class’ inhabitants of the ancient city of Terqa on the banks of the Middle Euphrates river (today’s Syria) in the second millennium BCE? The claim sounds intriguing, but, upon closer inspection, turns out to be insufficiently documented and almost certainly a case of mistaken identity.⁶⁹

A far better case can be made for the early presence of nutmegs in north India. Remains of a nutmeg (Fig. 5) have been found at Khadirah in eastern Uttar Pradesh (Ballia district; 26.167 N, 85.858 E) where an Iron Age site is located on the southern bank of the Sarayu (or Ghaghra) river, a tributary of the Ganges. The carbonized nutmeg was stratigraphically assigned to the early phase of the Northern Black Polished Ware Culture (700-200 BCE) and was discovered together with remains of other medicinally valuable plants, such as fruits of *harītakī* (*Terminalia chebula* Retz., Combretaceae) and *āmalakī* (*Phyllanthus emblica* L., Phyllanthaceae) as well as fruit shells of *priyāla* (*Buchanania lanzan* Spreng., Anacardiaceae; Saraswat *et al.* 1990, 122-123; Saraswat pers. comm., 2004). Taking a conservative stance on the dating would place nutmeg

⁶⁹While excavating a domestic unit ascribed to the Khana period (1750-1550 BCE), a small, upside down jar with vegetal remains ('seeds and possibly spices' in the first report; Buccellati and Kelly-Buccellati 1977, 30, plate IX) was found. The room with the jar was later tentatively described as a pantry area, and part of the vegetal remains were eventually identified as 'some cloves' (Buccellati and Kelly-Buccellati 1983, 54; Chavalas 2003, 154). The date of the discovery is unusually certain due to cuneiform tablets in the vicinity, which also identify the owner of the residence as a man of moderate means engaged in real estate dealings. However, detailed archaeobotanical studies were never conducted, and a paper by K. Galvin 'The botanical remains', mentioned in 1983, as well as the full excavation report were both said to be 'forthcoming' (Buccellati and Kelly-Buccellati 2004, pers. communication), but were never published.

Fig. 5. This carbonized nutmeg from an Iron Age site in Khadirah in eastern Uttar Pradesh was stratigraphically assigned to the early phase of the Northern Black Polished Ware Culture (700-200 BCE).



in the time period of around 400-300 BCE into the Gangetic plain. Northern Black Polished Ware was the hallmark of Mauryan pottery, associated with the Mauryan empire centred on Pāṭaliputra, near the present city of Paṭnā in Bihar state. Khairadi lies along an ancient travel and perhaps trade route that led from Pāṭaliputra to the Piprahwa-Lumbinī area in today's Nepal. Perhaps along this route nutmegs reached Khadirah from Pāṭaliputra, a more central point trade, during the rule of Mauryan emperors.

Another archaeobotanical finding originated at the site of Sanghol in Punjab (Ludhiana District; 30.783 N, 76.383 E.), where a carbonized nutmeg (Fig. 6) was found in the ashy deposits inside the altar of a religious complex of the Kuṣāṇa period (100-300 CE). The site gave the overall impression that the diverse botanical materials recovered were the remnants of ritualized fire sacrifices (Saraswat and Pokharia 1997-1998, 158, 169). Quite possibly nutmegs were used in Sanghol in the broad context of fire rituals, though neither the relevant *Purāṇas* nor the context of the excavation site have provided any specific details on the conduct of such rituals involving nutmegs.

4.2. Textual evidence

4.2.1. *Rāmāyana*

The earliest Indian texts which were composed in the Northwest of the subcontinent in archaic Indo-Aryan (Vedic Sanskrit), roughly spanning the mid 2nd to the mid 1st millennium BCE, were by no means silent about scented pastes, unguents and powders, but make no mention of aromatics or any other plants from the eastern archipelago.⁷⁰

⁷⁰ Majumdar 1945; Prasad *et al.* 2008, 33-34. Unconvincing arguments for Vedic evidence of betel chewing have repeatedly been made (e.g., Bhat and Rao 1962, 14; McDonell and

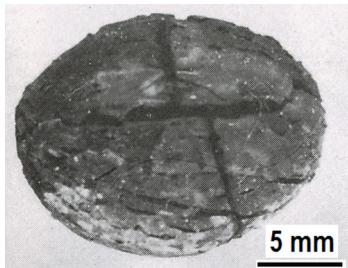


Fig. 6. A carbonized nutmeg from the ashy deposits inside the altar of a religious complex of the Kuṣāṇa period (100-300 CE) at the site of Sanghol in Punjab.

Subsequently, Vālmīki's *Rāmāyaṇa* portrays a culture in which different scents and tastes had begun suffuse urban life, as in this description of Ayodhyā, the capital of the kingdom of Kosala:

'There was no one who was dirty or whose body lacked for ointments or perfumes.'⁷¹

Perfumers, incense merchants and bath attendants (*dhūpika*, *gandhopajīvin*, *snāpaka*; *Rāmāyaṇa* 2.77.12-15) were recognized trades, and various condiments, flavouring powders and spices (*niṣṭhāna*, *vāsacurna*, *upadāṇśa*, e.g., *Rāmāyaṇa* 2.85.62-63, 5.9.19) had found their way into the kitchen. Especially in the juxtaposition of the courtly life of the Pāṇḍavas versus the debauchery in Rāvaṇa's palace the realms of the gustatory and olfactory became associated with erotic imagery (Goldman 2001).

'A breeze was blowing there, bearing in all directions a varied fragrance of cool sandal paste and sweet-tasting rum, of various garlands and blossoms. Thus a fragrant and overwhelming aroma of sandal for the bath and incense wafted through the Puṣpaka palace.'⁷²

Chandana, sandalwood, differing in shades from white (*Rāmāyaṇa* 2.86.68-72) to 'red as boar's blood' (*Rāmāyaṇa* 2.14.6-7) is frequently encountered throughout the *Rāmāyaṇa*. The red sandalwood can be traced back to the wood of a tree native to Tamil Nadu,⁷³ whereas the source of the 'fragrant, cool white

Keith 1967; Agrawala 1977), partially based on the erroneous notion that betel chewing was of Indian origin (Zumbroich 2008, 116).

⁷¹*Rāmāyaṇa* 1.6.10; Vālmīki 1984-2009, I, 136; all subsequent references to Goldman's edition.

⁷²*Rāmāyaṇa* 5.9.26-30; Goldman 2001, 113.

⁷³*Rakta chandana* is the coloured, but inodorous wood of *Pterocarpus santalinus* L. f.;

sandalpaste' (*Rāmāyaṇa* 5.9.29) was almost certainly the unrelated semi-parasitic *Santalum album* L. (Santalaceae) tree. The latter is not considered native to India, but rather to the drier parts of Indonesia, especially Sumba and Timor. Unlike sandalwood, however, neither nutmeg, clove or other potentially imported aromatics, such as camphor, can be reliably detected in the *Rāmāyaṇa*.⁷⁴ This raises the question of the extent of material exchange with the Indo-Malay archipelago during the time of composition of the *Rāmāyaṇa*.

The *Rāmāyaṇa* reflects in its archetypical form the time period between 750 and 500 BCE before the rise of Buddhism, but became subject to significant additions and interpolation into the first centuries CE (Vālmīki 1984-2009, I, 14-23). Indeed, much of what has been quoted to indicate a precocious knowledge of the islands to the east, seems to be based on material interpolated into the *Rāmāyaṇa* at a relatively late date, perhaps closer to the beginning of the common era.⁷⁵ Before the middle of the first millennium BCE regular trading voyages across the Bay of Bengal, or even beyond, likely did not occur yet (Fuller *et al.* 2011, 548), and this may explain the lack of access to and knowledge of Moluccan aromatics. If, however, as early as 700 BCE⁷⁶ the northern part of

Fabaceae); Burkill 1935, II, 1832-1833.

⁷⁴ Some previous authors have differed on this. Shastri erroneously listed 'clove tree' as the meaning of *chandaka* (*Rāmāyaṇa* 4.1.40; Vālmīki 1952-1959, II, 167, 530) where other text versions read *chandana* in a list of trees, which is, at any rate, a likely interpolation (Vālmīki 1984-2009, IV, 57, 202). Purported references to mace and nutmeg in the *Rāmāyaṇa* by Mahindru (1982, II, 24) and Om Prakash (1987, II, 197) appear to be based on flawed translations. A further example is discussed below.

⁷⁵ An example is the often cited elaborate geographical 'description of the [four] directions' (*Rāmāyaṇa* 4.39-42) given to the monkeys to guide their search for Sītā. In the east they are dispatched to 'yadvīpa [yava 'barley', dvīpa 'island'] rich in jewels, splendid with its seven kingdoms' and 'suvarṇarūpyaka [suvarṇa 'gold'; rūpyaka 'silver'] ornamented with gold mines' (Vālmīki 1984-2009, IV, 142, 301). *Yadvīpa*, somewhere in the neighbourhood of Java, though not necessarily including the island itself, and *Suvarṇarūpyaka*, the island of gold and silver, both point towards a notion of the riches in the Indo-Malay archipelago (Wheatley 1983, 268, 334-335, summarises the voluminous literature on this issue). However, the *sargas* in question (4.39-42) are of contested origin and probably date from the time around the beginning of the common era (Vālmīki 1984-2009, IV, 29-35).

⁷⁶ Further evidence for this dating is perhaps provided by the *Nirukta*, the oldest Indian treatise on etymology of ca. 700-500 BCE (Yāska 1920-1927, 54; 'doubtlessly older than Pāṇini', Winternitz 1927, I, pt. 1, 60). It has a brief notice on *candana*, sandalwood, whose etymology Yāska (probably incorrectly) connected with the verb *cand*, 'to shine'

the Indian subcontinent was well-supplied with the scented wood of *Santalum album* L., one may plausibly assume that human-mediated translocation had introduced the plant to India some time before that. Based on evidence for naturalized stands of sandalwood in the southern Deccan,⁷⁷ the harvested wood must have then transported north to urban centres which readily embraced the new scents and flavours domestic trade had to offer.⁷⁸

4.2.2. Arthaśāstra

The *Arthaśāstra*, traditionally ascribed to Kauṭilīya,⁷⁹ was composed as a detailed manual of politics and administration at the court of Candragupta Maurya. According to legend, Kauṭilīya became instrumental in destroying the power of the previous dynasty, the Nandas, and, around 321 BCE, helped to place Candragupta on the throne of the Magadha kingdom with its capital Pāṭaliputra (Kauṭilīya 1960-1965, III, 59; Scharfe 1968, 85-86).

While primarily a treatise on statecraft and economic policy, the *Arthaśāstra* offers a (perhaps yet ethnobotanically underutilized) wealth of information on

(Sarup 1967, 170-171; Mayrhofer 1986-2001, III, 178). Even though this indicates that the form *candana* was present at an early date, we cannot be certain that it referred to the product of *Santalum album* L.

⁷⁷Recent phylogenetic analysis based on molecular data supports an origin of the genus *Santalum* in Australia. *Santalum album* L. appears to have moved between Australia and Indonesia on the one hand, and then long-distance by human agency to India (Harbaugh and Baldwin 2007, 1036). *Santalum album* L. is easily propagated by seed, does not require a host plant for the first three months after germination and has a broad range of potential hosts. However, its ecological requirements are quite specific which explains its restricted range. There is archaeobotanic evidence for the early physical presence of *Santalum album* L. in the southern Deccan. Findings of wood charcoal, identified as *Santalum* and belonging to the latest phase of the southern Neolithic level (around 1300 BCE) of Sanganaikallu (Bellary district, Karnataka; Asouti and Fuller 2008, 117, 135) strengthen the argument for human-mediated translocation of the sandalwood tree by this time. In the *Rāmāyaṇa* the ‘description of the [four] directions’ places ‘heavenly sandalwood forests’ geographically accurately on the banks of the river Tāmaparṇī near the Mālaya mountains, though, as noted above, this passage is of a late date (*Rāmāyaṇa* 4.40.17-18; Vālmīki 1984-2009, IV, 145, 305).

⁷⁸While I do not analyse the *Mahābhārata* here, it is worth noting that essentially the same conclusions hold true regarding the kinds of aromatics represented in either epic.

⁷⁹Also known as Kauṭalya, Cāṇakya or Viṣṇugupta in the Indian tradition; Scharfe 1968, 82-83.

natural products and trade items. Aromatics featured among the ‘Precious articles to be received into the treasury’, side-by-side with fabrics and gemstones, as an important class of often exotic luxury items.⁸⁰ The author begins by describing different kinds of aloeswood and sandalwood, which were the aromatics *par excellence*, at least throughout the time period when the two great epics were composed. He elaborates on three different types of *aguru* (aloeswood or eaglewood)⁸¹ as well as sixteen *candana* varieties of different colours, likely including the red, but inodorous wood of *Pterocarpus santalinus* L. f. and that of *Santalum album* L. ‘coloured like a parrot’s feathers’ (*haricandana*, ‘yellow sandalwood’; Kauṭīlīya 1926, 110). For one of the kinds of *candana* the domestic source were the Malaya mountains, the southernmost extent of the Western Ghāts in south-west India (*Māleyaka*; *Arthaśāstra* 2.11.49), whereas one of the types of aloeswood was imported ‘from beyond the sea’ (*pārasamudraka*, *Arthaśāstra* 2.11.59).

In the subsequent section, yet another group of aromatics is enumerated. These essential oil producing plants (*tailaparṇika*) appear to include references to products from the eastern archipelago.

‘*Bhadraśrīya* from beyond the *Lauhitya* is of the colour of nutmeg [*jātīvarṇa*]; that from *Antaravati* is of the colour of vetiver root [*uśītra*]⁸² and both have the smell of putchuk [*kuṣṭha*].⁸³ *Kāleyaka*⁸⁴ from *Svarṇabhūmi* is yellow and unctuous; that from the Himalayas is reddish yellow.

⁸⁰ *Arthaśāstra* 2.11.43-72; all subsequent references are to Kangle’s edition, Kauṭīlīya 1960-1965.

⁸¹ *Aguru* is the resinous, diseased wood of *Aquilaria malaccensis* Lam. as well as other *Aquilaria* and *Gonystylus* spp. (Thymelaeaceae). A domestic source of aloeswood was *Aquilaria khasiana* Hallier f., growing in the hills of eastern India, a locale identified here as *Kāmarūpa*, Assam. For more on aloeswood, see, e.g., Dalby 2000, 68-71.

⁸² Light to dark brown, fragrant root of *Vetiveria zizanioides* (L.) Nash, Poaceae; Singh and Chunekar 1972, 54; Abdul Kareem 1997, 143.

⁸³ Known to the classical world as *costus*, the root of *Saussurea costus* (Falc.) Lipsch (Asteraceae) originated in the mountains of Kashmīr and was a heavily traded commodity; Abdul Kareem 1997, 123; Dalby 2000, 85-86.

⁸⁴ *Kāleyaka* or *kālīyaka* are possibly *Coscinium fenestratum* Colebr. (Menispermaceae), a yellow, bitter wood native to southern India and Sri Lanka and sometimes referred to as ‘tree turmeric’; Abdul Kareem 1997, 44.

Such are the objects of high value. Capable of [retaining fragrance when] pasted, boiled or smoked, not losing colour, and amenable to mixing; and qualities similar to those of sandalwood and aloeswood, these are their excellences.’⁸⁵

To decisively render the descriptor *jātīvarṇa* as ‘nutmeg-coloured’,⁸⁶ one would need to positively identify *bhadraśrīya*, which has long been unclear to commentators.⁸⁷ It is worth pointing out that one possible meaning of *bhadraśrīya* is ‘cloves’, an interpretation that is congruent with the description as ‘nutmeg-coloured’.⁸⁸ Unfortunately, the purported origin of these botanicals does not help any further with their identification. *Lauhitya* was in ancient times the name of the whole length of the Brahmaputra river, and *Antaravati* refers to a country on the bank of this river in Assam (Chandra 1940, 88; Sensarma 1998, 46; Meulenbeld 1999-2002, IIB, 604-605). As a whole, much of the information in this difficult passage remains elusive, in particular with respect to matching the tentatively identified aromatics with their stated region of origin. However, the reference to the ‘gold-producing land’, *S(u)varṇabhūmi*, the unspecified source of wealth in the Indo-Malay archipelago or the Malay peninsula (Wheatley 1983, 267), indicates that at least some aromatics were imported from further east. Oceanic shipping was well-developed and controlled by the king, whose boats took on merchants who did not have their own vessels.⁸⁹

⁸⁵ *Arthaśāstra* 2.11.66-72; amended translation of Kauṭilīya 1960-1965, II, 102.

⁸⁶ Kangle (Kauṭilīya 1960-1965, II, 102) leaves ‘*jātī*-flower’, whereas Shama Sastry (Kauṭilīya 1929, 81) and Mayrhofer (1986-2001, III, 209) have ‘nutmeg-coloured’ rather than a reference to the bright white colour of jasmine.

⁸⁷ Commentators have suggested camphor, *takkola* (*Illicium verum* Hook f., Schisandraceae; the source of star aniseed; Abdul Kareem 1997, 76), *śrivāsaka* (*Pinus roxburghii* Sarg., Pinaceae; a wood providing resins useful in perfumery; Abdul Kareem 1997, 1287) and red sandalwood (Kauṭilīya 1960-1965, II, 102). Of these, *Pinus roxburghii* Sarg. seems to be the most plausible candidate, though it is nowhere else referred to as *bhadraśrīya*.

⁸⁸ This according to Sharma (1981, 143). The more typical rendering of *bhadraśrīya* as *Santalum album* L. in later works (Abdul Kareem 1997, 122; e.g., *Bhāvaprakāśa* 1.6.11-13) does not fit the context here, since sandalwoods were discussed in a prior passage, and the qualities of the substances discussed here are said to be ‘similar to those of sandalwood and aloeswood’; *Arthaśāstra* 2.11.66-72.

⁸⁹ On ‘Controller of shipping’, see *Arthaśāstra* 2.28.4; Kauṭilīya 1926, 197-198; Ray 2003, 51.

Nutmeg might have been an ingredient of a fermented and spiced drink (*Arthaśāstra* 2.25.18). A liquor named *prasannā* was made with water, flour, fermenting agent, the bark and fruit of *putraka*, an unidentified tree, and ‘the requisite nutmeg [*jātisambhāra*]’.⁹⁰

Finally, a direct and unambiguous reference to mace exists in the extensive instructions on ‘Secret practices for the destruction of enemy troops’, where the author put his knowledge of botanicals to work in the service of statecraft. Displaying his knowledge of the toxic effects of larger doses of mace, whether as an emetic or even as a psychoactive drug, the author includes it in a string of more or less noxious natural products:

‘A mixture of the roots of barley and *sāli* rice,⁹¹ the fruit of mountain pomegranate [*madana*],⁹² mace [*jātīpatra*]⁹³ and man’s urine, mixed with the roots of *plakṣa*⁹⁴ and the giant potatoe [*vidārī*]⁹⁵ mixed with a decoction of sedge [*mustā*],⁹⁶ *udumbara*,⁹⁷ intoxicating Kodra millet,⁹⁸ or mixed with a decoc-

⁹⁰This according to Meyer (Kauṭīlya 1926, 186), whereas Kangle (Kauṭīlya 1960-1965, II, 154) renders *jāti* as ‘class’ not ‘nutmeg’.

⁹¹A variety of rice ripening during late autumn or winter (Mādhavakara 1974, 509).

⁹²*Catunaregam spinosa* (Thunb.) Tirveng. (Rubiaceae), a large thorny native shrub whose fruit was the emetic *par excellence* in the āyurvedic tradition, see *Carakasaṃhitā*, *Kalpasthāna* 1; Singh and Chunekar 1972, 291-292; Abdul Kareem 1997, 33.

⁹³Meyer (‘Blätter des Muskatbaumes’, Kauṭīlya 1926, 641), Shamasastri (‘leaves of *jāti* (nutmeg?)’, Kauṭīlya 1929, 443) and Kangle (‘nutmeg leaves’, Kauṭīlya 1960-1965, II, 496) are only partially right in their translations. The Hindi translation by Gairolā (Kauṭīlya 1962) correctly identifies *jātīpatra* as *jāvitrī* ‘mace’.

⁹⁴*Ficus lacor* Buch.-Ham. (Moraceae) or other *Ficus* spp.; Singh and Chunekar 1972, 51; Abdul Kareem 1997, 64.

⁹⁵*Ipomoea mauritiana* Jacq. (Convolvulaceae) with a purgative action; Burkill 1935, II, 1248-1249; Singh and Chunekar 1972, 370; Abdul Kareem 1997, 78.

⁹⁶Meyer (Kauṭīlya 1926, 641) and Shamasastri (Kauṭīlya 1929, 443) have *mustā*, *Cyperus* spp. (Poaceae; Abdul Kareem 1997, 50) which is mentioned as a poisonous forest product (*Arthaśāstra* 2.17.5; Kauṭīlya 1926, 152) and an ingredient of an intoxicating drink (*Arthaśāstra* 2.25.29; Kauṭīlya 1926, 188), whereas Kangle has *mūka* of unknown identity.

⁹⁷Presumably the author refers to the edible fruit of *Ficus racemosa* L. (Moraceae) or *Ficus* spp.; Singh and Chunekar 1972, 51-52; Abdul Kareem 1997, 65.

⁹⁸*Madanakodrava*, *Paspalum scrobiculatum* L. (Poaceae) is host to the highly toxic ergot fungus, *Claviceps paspali* Stevens and Hall; Singh and Chunekar 1972, 119; Abdul Kareem 1997, 105.

tion of *hastikarṇapalāśa*⁹⁹ is an intoxicating preparation [madanayoga].'¹⁰⁰

While parts of the *Arthaśāstra* seem to reflect an Ur-text of the late fourth to the early third century BCE, perhaps identified by containing Kauṭilīya's maxims on statecraft, a significant portion of the text seems to be of later origin. The two chapters (*Arthaśāstra* 2 and 14) that contain the evidence on aromatics belong to the later layers of the work (Brooks and Brooks 2003), even if narrowing down the time of their composition is difficult. A *terminus post quem* for these layers is tentatively set by a reference to trade in 'China-cloth from the land of the Chinese' that would post-date the Chhin unification of 221 BCE.¹⁰¹ Based on the evidence of this trade in China-cloth (Scharfe 1968, 334) and corals (*Arthaśāstra* 2.6.4; Scharfe 1968, 317-320), a composition some time after 100 BCE has been suggested for the chapters in question.¹⁰²

The *Arthaśāstra* vividly illustrates that a flow of new, exotic natural products had reached the north-east of India, partially as a consequence of the expanding traffic across the Bay of Bengal (Ray 1996, 354). While firm evidence on cloves is tentative, the author(s) of the *Arthaśāstra* appear to have been familiar with the products of the nutmeg tree, corroborating archaeobotanic evidence (see above) that places nutmegs in the vicinity of the Mauryan capital Pāṭaliputra during the time of Candragupta's reign. The fact that many toponyms and other details about aromatics in the *Arthaśāstra* remain enigmatic, also reflects a measure of uncertainty in the author's discourse on these precious articles. Despite being eagerly accumulated and evaluated in the treasury, the understanding of the origins and useful qualities of some of the rare botanicals was still at an early stage.

⁹⁹ *Butea monosperma* (Lam.) Taub., Fabaceae, or *Butea superba* Roxb., both sources of the highly astringent 'butea gum' or 'Bengal kino'; Burkill 1935, I, 384-385; Abdul Kareem 1997, 25; Meulenbeld 1999-2002, IB, 451.

¹⁰⁰ *Arthaśāstra* 14.1.16; amended translation of Kauṭilīya 1960-1965, II, 496.

¹⁰¹ *Cīnapatīś ca cīnabhūmijāḥ*; *Arthaśāstra* 2.11.114; Scharfe 1968, 322; Trautmann 1971, 177. One cannot entirely exclude the possibility that goods emanating from the north-west state of Chhin might have been so identified already before the unification.

¹⁰² Others see the evidence more in favour of a later origin of the *Arthaśāstra*, e.g., Ali (2004, 71-72) argues for a late pre-Gupta date in chronological proximity to the *Kāmasūtra* (see below).

4.2.3. Early āyurvedic treatises

The numerous treatises transmitted on Āyurveda provide ample material to follow the progress in the medicinal uses of nutmeg and cloves. Here my primary concern are the earlier traces these exotic aromatics left in the medical corpus rather than a exhaustive discussion of their diverse medicinal applications.

The first preserved *Samhitas* of Caraka and Suśruta present full-fledged systems of medicine which were in all likelihood preceded by earlier, no longer extant medical texts. The earliest preserved Sanskrit manuscript on medicine and as such a unique collection of recipes based on medical writings antedating Caraka and Suśruta is the Bower manuscript from the third or fourth century CE.¹⁰³ It includes the *Nāvanītaka* which contains ‘the foremost formulas of the Maharishis’ (*Nāvanītaka* 1.1; Hoernle 1893-1912, I, 77) and was perhaps originally composed two or three centuries before the manuscript was prepared (Meulenbeld 1999-2002, IIA, 11-12). While certain aromatics like sandalwood or camphor were incorporated in some prescriptions, no references to nutmeg or clove have been convincingly documented in this collection.¹⁰⁴

The older layer of the *Carakasaṃhitā*, an āyurvedic compendium with a particular focus on general and internal medicine was the first to mention nutmeg, mace and clove. It does so, when elaborating the recommended daily regimens (*mātrāśitīya*; *Carakasaṃhitā*, *Sūstrasthāna* 5; Meulenbeld 1999-2002, IA, 13-14) for well-being and hygiene, such as the application of collyrium, smoking, snuff, teeth-cleaning, tongue-scraping and keeping fragrant substances in the mouth:

¹⁰³ Named after Lieutenant Hamilton Bower who obtained it in 1890 in Kuchā, one of the principal oases of Eastern Turkestan along the ancient caravan route; Meulenbeld 1999-2002, IIA, 1-6.

¹⁰⁴ Hoernle’s translation and index mention nutmeg and cloves, though in both cases apparently in error. *Nāvanītaka* 2.2.129 reads *phalam* which Hoernle translates as ‘nutmeg’ (1893-1912, I, 92). This is most likely a scribe’s error and the correct reading is ‘*phalgu*’ (*Ficus hispida* L. f., Moraceae; Abdul Kareem 1997, 64). In his index Hoernle (1893-1912, II, 315) also interprets *lāvarasa* (2.14.1116) as an infusion of *lava* which he took to mean *lavaṅga* (or *lāmijaka*, *Cymbopogon jwarancusa* (Jones) Schult., Poaceae; Abdul Kareem 1997, 49). However, in the text (1893-1912, II, 179) it is rendered as ‘the broth of quails’, which appears to be the correct interpretation (Meulenbeld 2004, pers. comm.).

'One desiring clarity, taste and good smell should keep in his mouth nutmeg, musk seed [*kaṭuka*],¹⁰⁵ areca nut [*pūga*],¹⁰⁶ cubeb [*kakkola*],¹⁰⁷ small cardamom [*sūksmailā*]¹⁰⁸ and clove, fresh betel leaf [*tāmbūla*]¹⁰⁹ as well as the exudate of the camphor tree [*karpūra*¹¹⁰].'¹¹¹

In essence the passage describes a betel quid without powdered lime that is flavoured with six different aromatics.¹¹² Although the author literally refers to the fruits of the clove tree ('mother cloves'),¹¹³ a later commentator explains that the 'stalks of the flower', actual cloves, are meant.¹¹⁴

The *Carakasamhitā* also mentions mace (*saumanasayāyanī*) in a long enumeration of emetics led by *madana*.¹¹⁵ The suggested usage here is reminis-

¹⁰⁵The seed pods have a sweet, heavy fragrance akin to animal musk which is the secretion of the preputial gland of the musk deer, *Moschus* spp. The pods are derived from the native *Abelmoschus moschatus* Medik. (Malvaceae), a close relative of okra, *Abelmoschus esculentus* (L.) Moench (Ainslie 1826, II, 72-73; Abdul Kareem 1997, 1).

¹⁰⁶The seed of *Areca catechu* L., Arecaceae; Abdul Kareem 1997, 14; Zumbroich 2008, 92.

¹⁰⁷Cubeb (or Tailed Pepper for the short stalks appending to the fruit) are the unripe fruit of *Piper cubeba* L.f. (Piperaceae; Abdul Kareem 1997, 109), a plant native to the Indo-Malay archipelago where its trade originated.

¹⁰⁸The seeds of *Elettaria cardamomum* (L.) Maton (Zingiberaceae; Abdul Kareem 1997, 58), most famously grown in southern India and Sri Lanka and commonly referred to as 'green' or 'true' cardamom.

¹⁰⁹*Piper betle* L., Piperaceae; Abdul Kareem 1997, 109; Zumbroich 2008, 94-96.

¹¹⁰In India there were a number of potential sources for camphor, some domestic, e.g., *Cinnamomum zeylanicum* Blume, some from abroad, such as *Cinnamomum camphora* (L.) J. Presl. (Lauraceae) or *Dryobalanops aromatica* C.F. Gaertn. (Dipterocarpaceae). Donkin (1999, 90-95) provides an illuminating discussion of this complex issue.

¹¹¹*Carakasamhitā*, *Sūstrasthāna* 5.76cd-77; translation based on Sharma 1981-1994, I, 39.

¹¹²While the author omits lime from this description of the betel quid, lime was almost certainly part of it, see, e.g., *Suśrutasaṃhitā*, *Cikitsāsthāna* 24.21cd-23. For a historical discussion of the betel quid in South Asia and further references, see Zumbroich 2008, 113-120.

¹¹³With the exception of betel leaf and camphor, the passage refers to all products as *phala* 'fruit/seed'.

¹¹⁴In doing so, *Cakra(pāṇidatta)* in his commentary *Āyurvedadīpikā* of the 3rd quarter of the eleventh century uses the somewhat misleading term *vṛṇta* 'flower stalk' instead of *kalikā* 'flower bud'; Sharma 1981-1994, III, 75; Meulenbeld 1999-2002, IIA, 93.

¹¹⁵*Catunaregam spinosa* (Thunb.) Tirveng.; *Carakasamhitā*, *Vimānasthāna* 8.135; Sharma 1981-1994, III, 386-387; Meulenbeld 1999-2002, IA, 34.

cent of the passage from the ‘Secret practices’ of the *Arthaśāstra* (14.1.16, see above), adding evidence to the suggested use of mace as a potent emetic in the *Arthaśāstra*.

Dṛḍhabala’s later chapters (see below) of the *Carakasamhitā* show evidence of expanded use of complex mixtures of aromatics in therapeutic formulations that include nutmeg, mace and cloves. One example¹¹⁶ is a preparation of camphor (16 parts) combined with cloves, mace (*jātikosā*), shell perfume (*nakha*)¹¹⁷ and cubebs (four parts each) together with about thirty other, mostly fragrant components (one part each) in a matrix of catechu¹¹⁸ and *arimeda*.¹¹⁹ The resulting pills (*khadirādiguṭikā*) or oil (*khadirāditaila*) were to alleviate loose teeth, stomatitis, halitosis, dryness of the throat and to serve as a ‘good resort in all diseases of teeth, mouth and throat’ (*Carakasamhitā, Cikitsāsthāna* 26.206-214; Sharma 1981-1994, II, 447).

The *Suśrutasamhitā*, a somewhat more systematic and scientific work than the *Carakasamhitā*, did not add more therapeutic applications of nutmeg, mace and clove, but further detailed the properties of these ‘fruits of pungent taste’:

‘These are bitter and pungent, mitigate *kapha*,¹²⁰ are easily digestible, relieve thirst, remove moistness and bad smell of the mouth.’¹²¹

¹¹⁶ Another use of nutmeg is in ‘pearl powder’ (*muktādyacūrṇa*), a mineral based formulation to treat hiccup (*hikkā*) and shortness of breath (*śvāsa*; *Carakasamhitā, Cikitsāsthāna* 17.125-128). Nutmeg, mace and cloves are also among the over forty ingredients of *balātaila*, an oily preparation dominated by the extract of *balā* (*Sida cordifolia* L., Malvaceae) to treat wind disease (*vātavyādhi*; *Carakasamhitā, Cikitsāsthāna* 28. 148cd-157ab; compare *Suśrutasamhitā, Cikitsāsthāna* 15.28cd-39).

¹¹⁷ The operculum (lid) of certain marine gastropods, used ground up in perfumery for the preparation of incense or in liquid preparations. It is frequently mentioned in the perfume recipes of *Bṛhatsamhitā* 77 (Varāhamihira 1981-1982, I, 704-718), discussed in detail below.

¹¹⁸ An aqueous extract of the wood of *khadira*, *Acacia catechu* (L. f.) Willd. (Fabaceae; Abdul Kareem 1997, 2), which has an astringent taste due to its high content of polyphenols (tannins).

¹¹⁹ As for catechu, an aqueous extract of the wood or bark of *Acacia leucophloea* Willd., Fabaceae; Abdul Kareem 1997, 2

¹²⁰ Since *kapha* was understood to increase directly after the consumption of food, chewing nutmeg or cloves, e.g. as part of a betel quid, was recommended post-prandially to help re-establish the desired equilibrium; *Suśrutasamhitā, Sūtrasthāna* 46.494-496.

¹²¹ *Suśrutasamhitā, Sūtrasthāna* 46.202-203ab; amended translation of Murthy 2000-2001, I, 403.

The identities of the authors and the dates assigned to these early āyurvedic works have been subject to vigorous debates. Indian scholars have unconvincingly tried to establish a chronology by attaching them to authorities they assigned to as early as the 3rd millennium BCE for the *Suśrutasamhitā* and the first millennium BCE for the *Carakasamhitā*. Regarding the latter work, it does appear that the author Dr̥ḍhabala, a historical person active around 300-500 CE, preserved and incorporated part of an older treatise. But critical analysis suggests that this author Caraka, to whom Dr̥ḍhabala ascribed the work, cannot have lived much earlier than 100 BCE and not much later than 150-200 CE, so that a date of around 100 CE for the older layer of the *Carakasamhitā* appears most plausible.¹²² Since Dr̥ḍhabala apparently made use of the *Suśrutasamhitā*, thus establishing a *terminus ante quem*, the *Suśrutasamhitā* can be placed around 200 CE (Meulenbeld 1999-2002, IA, 349). Little detail is known about the geographical origin of the early āyurvedic works, but for the *Carakasamhitā* the north-west of India, possibly the Kashmīrī region, seems a plausible place of origin (Meulenbeld 2011, pers. communication), which would put the work into the broad historical context of the Kuśāṇa empire.

By around the first century CE, medical authorities had endorsed nutmeg, mace and cloves in their *materiae medicae*. Many of the recommended uses for Moluccan aromatics reveal more or less direct points of contact with betel chewing, whether as a means to perfume the breath or to treat other afflictions of the oral cavity. This suggests betel chewing as a significant, if not primary way of consuming these aromatics, when they were introduced on the subcontinent.

4.2.4. *Caṅkam* poetry and Tamil epics

Regarding the chiefdoms in the far south of India, one of the early sources of historical information on the significance of imported botanicals is a corpus of literature, collectively known as *caṅkam* ('Academy [of poets]'). These poems were composed in Old Tamil and date from circa 150 BCE to 400 CE with the earliest extant poems from about 100 CE.¹²³ Further testimony to the wide-spread utilisation of aromatics during the first half of the first millen-

¹²²This argument is presented in much detail in Meulenbeld 1999-2002, IA, 105-115.

Meulenbeld (2010) presents evidence that all of the extant *Carakasamhitā* is due to Dr̥ḍhabala's hand, though plausibly based on an older work by a 'Caraka', and this precursor might itself have been a composite.

¹²³The dating follows Zvelebil (1975); Hart and Heifetz (1999, 3) place the corpus into the first three centuries CE.

nium CE provide the twin epics *Cilappatikāram* ('The Tale of the Anklet') and *Manimēkalai* ('The Jewel Belt').¹²⁴

The lone specific reference to a Moluccan aromatic occurs in a devotional poem of late date that notes nutmegs (*naraikkāy*) as one of the fragrant adornments on a wreath for the war god Murukan.¹²⁵ More revealing about the practical uses of Moluccan aromatics are frequent references to betel chewing and the uses of perfumes. In prosperous Madurai, the capital of the Pandya kingdom, the smell of sandalwood, aloes, musk, civet¹²⁶ and other perfumes was said to be so strong that the wind carried the scent to an approaching traveller before being able to see the town (*Cilappatikāram* 13.144-149; Parsatharathy 1993, 135). Sellers of perfumes, incense and scented powders roamed the streets of Puhār, especially during the annual celebration of Indra's festival when the roads were decorated with branches of areca palm.¹²⁷

Betel chewing, especially after a meal, had become ubiquitous across society,¹²⁸ with the degree of elaboration of the betel ritual indexing social status.¹²⁹ Ready made betel quids were sold on Madurai's streets and detailed as follows:

¹²⁴ *Cilappatikāram* in the transmitted version was composed ca. 450 CE, but is thought to reflect an oral tradition dating back to the second century CE. *Manimēkalai* builds on the narrative of its twin and is somewhat posterior in its composition, maybe of the sixth century CE, but also represents a far older tale; Zvelebil 1975, 113-114; Parsatharathy 1993, 6-7.

¹²⁵ *Tirumurukārruppaṭai* (Guide to Lord Murugan), part 5.1-3. The date could be as early as 250 CE or, according to historical dating, as late as 450-600 CE as discussed by Zvelebil 1975, 103-110.

¹²⁶ Civet is the secretion of perianal glands of various cat-like mammals belonging to the Viverridae. Since 'civet cats' were native to South India, their fragrant product was a less precious alternative to musk obtained from deer living in higher altitude regions in northern India and beyond; Ainslie 1826, II, 328-239.

¹²⁷ Puhār or Kāvirippaṭinam, the 'City of the Estuary' at the mouth of the Kaveri river, was the seat of the early Chola kings that was, according to legend, destroyed by a tsunami caused by the sea goddess Maṇimēkalai; *Cilappatikāram* 5.16-19; Parsatharathy 1993, 46; *Manimēkalai* 1; Cāttanār 1989a, 3.

¹²⁸ Kaṇṇaki, the impoverished heroine of *Cilappatikāram* offers betel leaves and areca nuts to Kōvalan after his last meal, before he goes off for his fatal attempt to sell her anklet; *Cilappatikāram* 16.54-56.

¹²⁹ The king might present a golden betel case to a favoured courtesan as a gift, and a betel set valet was part of the entourage of nobles and royalty; *Cilappatikāram* 14.159; 20.18; Parsatharathy 1993, 145, 186.

‘ [...] betel leaves that grow on creepers tall
and areca nuts with sweet paste mixed; some lime
prepared by burning shells.’¹³⁰

While the ingredients of the aromatic paste mixed into the betel quid are not revealed, a clue is given in the description of the betel sellers in Vañci, capital of the Cēral kingdom on the Malabar coasts: They are the ‘merchants of betel and the five aromatics’, which were said to include cloves (*ilavañikam*), nutmeg (*cātikkāy*), cardamom (*ēlam*), camphor (*karpuñram*) and cubeb (*takkōlam*).¹³¹

The appeal of the ‘five aromatics’ was such that they were not only cherished for their taste and the fragrance they imparted to the mouth, but also as a perfume for the rest of the body.

[The courtesan] [...] Mātavi
rubbed her fragrant, black hair
with perfumed oil made of ten astringent lotions,
the five aromatics and thirty-two varieties
of herbs soaked in fresh water.¹³²

The availability of exotic goods, including nutmeg and cloves, in the region can hardly surprise. Access to maritime trade and control over major ports and their profits was an important factor in the consolidation of political power in the hands of the ruling dynasties in southernmost India. Madurai was a centre of trade where merchants ‘buy the produce of the hills, the plains and the sea, and other things of wealthy lands’ (*Maturaikkañci* 552, Chelliah 1962, 259). The *Cilappatikāram* relates that in the spring¹³³ aromatics including camphor, cubeb, nutmeg and cloves¹³⁴ were sent with the east wind on board a fleet of broad ships from *Toṇti* to Madurai. If *Toṇti* is tentatively identified with a locale

¹³⁰ *Maturaikkañci* (‘The Good Counsel given to the King at Madurai’) 436-438; amended translation of Chelliah 1962, 253; ascribed to Māṅkuṭi Marutanār, ca. 200-215 CE; Zvelebil 1975, 95.

¹³¹ *Maṇimēkalai* 28; Cāttanār 1989a, 142. In his comment on this passage (Cāttanār 1989b, 276), Pandian enumerates the five aromatics, without indicating the source.

¹³² *Cilappatikāram* 6.81-85 in a scene from *Kāvirippattinam*; amended translation of Ilāṅkōvaṭikal 1993, 60.

¹³³ *Pariṇuni*, 12th month of the Tamil year, March-April.

¹³⁴ The latter two not named in the text, but by an anonymous commentary and a later one by Atiyārkkunallār (twelfth to thirteenth century CE) who listed *jātikkāy*, *lavaṅgam* as well as *takkōlam* and other items among *vācam*, ‘spices, perfumes’; Shastri 1944, 27.

in the Indo-Malay archipelago,¹³⁵ it would testify to the regular linkages with Southeast Asia that would bring nutmeg and cloves from the east to South India in the early first millennium CE.

4.2.5. Buddhist narratives

I will briefly divert to Sri Lanka for which the *Mahāvāṃsa* ('The Great Chronicle')¹³⁶ recorded events beginning with the legendary arrival of the Indo-Aryan prince Vijaya on the day of the demise of the Buddha. The *Mahāvāṃsa* provides details surrounding the construction of the *Mahāthūpa* (Great Stupa) in Anurādhapura during the reign of King Duṭṭhagāmaṇī (161-137 BCE). The king's benevolence toward the workers was illustrated by the rewards lavished on them, which included 'the five perfumes for the mouth'. These are explained in a commentary as betel with additional aromatic ingredients.¹³⁷ While the composition of the 'five aromatics', which we already encountered above, was not fixed, nutmeg and cloves were typically among them (e.g., Monier Williams 1990, 577). Assuming these events in the middle of the second century BCE were relayed authentically,¹³⁸ the passage constitutes the earliest reference anywhere to betel chewing in conjunction with flavourings that perhaps included Moluccan aromatics.

Evidence from a different genre of Theravāda Buddhist texts redirects our geographic focus to northern India. A *Jātaka* tale ('Stories about Past Births of Buddha') about King Mahāsīlava of Vārāṇasī enumerates the protocol of royal

¹³⁵ *Cilappatikāram* 14.134-137. It remains unresolved where the *Tonti* of this passage is located, but given the reference to the east wind, the *Tonti* mentioned here could not be the *Tonti* on the west coast (the *Tívndīṣ* of the *Periplus Maris Erythraei* 54; Casson 1989, 297). Cāminātaiyar in his *editio princeps* of *Cilappatikāram* (Ilaṅkōvatikal 1892, 375; Parthasarathy 2004, pers. communiction), and subsequent editors (Ilaṅkōvatikal 1978, 232; Ilaṅkōvatikal 1993, 144, 382) equate it with the *Tonti* on the east coast in the Chola dominion (Ramnad District). Shastri (1944) argues that it was to be found somewhere in the Indo-Malay archipelago. The type of boat, the time of year and wind direction given are consistent with ships sailing towards the coast of India from further east with the north-east monsoon (Ray 2003, Fig.1.2, 21).

¹³⁶ Composed around the fifth century CE; for a detailed discussion of its textual history, see Guruge 1989, 175-192.

¹³⁷ Pāli *mukhvāśakapañcaka*; *Mahāvāṃsa* 30.18-19; Geiger 1958, 235; Guruge 1989, 932. The commentary is the *ṭīkā* of the eighth or ninth century CE; Guruge 1989, 298-304.

¹³⁸ Geiger (1960, XXII), considers this a time period for which the *Mahāvāṃsa* is generally historically reliable.

toilet that the king maintained, even under adverse circumstances. It involved the elaborate preparation of a post-prandial betel quid which was refined with the ‘five fragrant requisites’.¹³⁹ Unfortunately, given the number of layers and redactions in *Jātaka* tales, attempting to date an incidental detail as this one with any degree of accuracy proves futile. At best it can be placed into a time period before, and perhaps much so before the year 500 CE (Appleton 2010, 8-9).

Even if date and details cannot be fixed with great certainty in these texts, their portrayal of exotically flavoured betel quids as a distinctly royal privilege points our enquiry towards the increasingly sophisticated courtly culture and its urban sphere that emerged in the course of the first millennium.

4.2.6. The scented world of the élite in early mediaeval India

Bāṇabhaṭṭā’s historical prose *Harṣacarita* (‘The Deeds of Harṣa’)¹⁴⁰ details in profuse Sanskrit the life in and around the court in Kannauj (in today’s Uttar Pradesh) of the Buddhist King Harṣavardhana (circa 606-647 CE). In Bāṇabhaṭṭā’s representation, the high social prestige associated with valuable aromatics, including those sourced from the Moluccas, was expressed in a two-fold manner. On the one hand, aromatics were displayed as signs of opulence and wealth for guests of the household, as during the elaborate preparations for the wedding of the king’s son. These involved making

‘[...] garlands of cloves mingled with cubebs, also containing nutmegs, and large bright lumps of crystalline camphor threaded in between.’¹⁴¹

The esteem ascribed to far-traded Moluccan aromatics was also affirmed by the fact that ‘sprays of cubebs, clusters of cloves, and bunches of nutmegs’¹⁴²

¹³⁹ Pali *pañcasugandhikaparivāra*; Fausbøll 1877, I, 266; Cowell (1895-1913, I, 132) simply translates this as ‘fragrant’ [betel]. Monier Williams (1990, 577) explains Sanskrit *pañcasugandhaka* as being comprised of, e.g., ‘cloves, nutmeg, camphor, aloe wood and Kakkola’.

¹⁴⁰ The court poet Bāṇabhaṭṭā died (after 650 CE) while composing the romantic prose story *Kādambarī* subsequent to the *Harṣacarita*, and *Kādambarī* was completed post-humously; Bāṇabhaṭṭā 1991, ix.

¹⁴¹ *Harṣacarita* 4.158; amended translation of Bāṇabhaṭṭā 1897, 124.

¹⁴² *Harṣacarita* 7.243; Bāṇabhaṭṭā 1909, 292, amended translation of Bāṇabhaṭṭā 1897, 214.

Although the text reads *lavaṅgapuṣpa*, it may be better to render it here, where it refers to the physical product, as ‘cloves’ rather than ‘clove flowers’.

were included in the wide-ranging display of the material goods and paraphernalia which an envoy of a north-eastern kingdom (Assam?) presented to King Harṣavardhana. Here the exotic and valuable nature of the gifts served to acknowledge the elevated rank of the king as a recipient of these tributes.

While Bāṇabhaṭṭā's narrative highlights the social aspect of aromatics in courtly culture, he also alludes to their practical uses. It was in perfumery, and frequently so to scent and refresh the mouth, where they found their application, as in Bāṇabhaṭṭā's description of the sage Dadhīca:

‘His mouth exhaled a fragrance of mangos, camphor, cubebs, cloves and flowers of Night-flowering Jasmine¹⁴³ and resounded with the buzzing of intoxicated bee swarms...’¹⁴⁴

A similarly elaborate mouth perfume involving cloves is enumerated in the exuberant description of Darpaśata, the King's state elephant (*Harṣacarita* 2.73; Bāṇabhaṭṭā 1897, 53). In giving details of such perfumes, Bāṇabhaṭṭā's demonstrates his familiarity with the flourishing courtly tradition of *gandhayukti*, perfume blending.

This art and technology of perfumery received its first detailed treatment in the sixth century by Varāhamihira in the *Bṛhatsaṃhitā* ('Great Compendium'),¹⁴⁵ a wide-ranging text much rooted in astronomical and divinatory knowledge. For a Night-blooming Jasmine (*pārijāta*) perfume for the mouth, Varāhamihira's recipe instructs to choose four aromatic ingredients out of a matrix of sixteen possible ones, to then reinforce the smell with nutmeg, musk as well as camphor and to finish off the perfume by adding honey mixed with a fragrant variety of mango (*Bṛhatsaṃhitā* 77.25-27; Varāhamihira 1981-1982, I, 714-715).

Varāhamihira located the discourse of perfumes, literally and figuratively, within the wider framework of dealing with erotics, with the section on

¹⁴³ *Pārijāta* may refer to Night-flowering Jasmine, *Nyctanthes arbor-tristis* L. (Oleaceae), or the coral tree, *Erythrina variegata* L. (Fabaceae; Abdul Kareem 1997, 60, 99). While both species have fragrant flowers, the jasmine is the more plausible candidate for perfume production.

¹⁴⁴ *Harṣacarita* 1.24; Bāṇabhaṭṭā 1897, 17.

¹⁴⁵ *Bṛhatsaṃhitā* 77; Varāhamihira 1981-1982, I, 704-718. See Chandra (1940) for an older overview of Indian toilet. The perfumery section in the *Bṛhatsaṃhitā* is discussed in Shastri (1996, I, 232-235) and Krishnamurthy (2001, 47-97). There have been recent efforts to recreate some of Varāhamihira's perfume formulations (Mandavgane *et al.* 2009).

perfumery framed between that on aphrodisiacs and sexual union. Elsewhere (in the chapter on ‘Planetary Rulership’), Varāhamihira provided a revealing sequence of associations with an equally sensual/sexual overtone: Fragrant things, flowers, unguents, young men, young girls, aphrodisiacs, those who enjoy sumptuous food, lovers, and different aromatics, including nutmeg and (perhaps) cloves - all these belonged to the realm of Venus.¹⁴⁶ Indeed, in his discussion on betel chewing (subsumed under perfumery), Varāhamihira emphasized that proper preparation of betel quids could stimulate pleasure, love and passion and that by adding certain flavourings, such as nutmeg and cloves, it was possibly to particularly incite amorous ardour.¹⁴⁷

This points our enquiry towards the genre of *kāmaśāstric* literature that was concerned with the practices that fostered the attainment of *kāma*, comprising not just sexual, but aesthetic pleasure in the widest sense.¹⁴⁸ Texts on *kāmaśāstra* present an opportunity to explore concerns with material culture and, particularly, the pursuit of exotic commodities that arose from such strivings for *kāma*.

Vātsyāyana’s *Kāmasūtra*,¹⁴⁹ the oldest extant Hindu treatise on the subject, presents its instructions in the context of an urban, cosmopolitan social world, which is exemplified by the *nāgaraka*, the educated, wealthy ‘man-about-town’.¹⁵⁰ To the *nāgaraka* the use of the betel quid as a general social mediator had penetrated a wide range of interactions. While betel had become an essential part of hospitality for friends of the household (*Kāmasūtra* 4.1.36;

¹⁴⁶ *Bṛhatsaṃhitā* 16.26-30. In this long sequence, of which I have only given a brief selection, Varāhamihira names nutmeg as well as *triphalā*, which might include cloves, as noted by Bhat in his translation; Varāhamihira 1981-1982, I, 199.

¹⁴⁷ *Bṛhatsaṃhitā* 77.35-37; Varāhamihira 1981-1982, I, 717-718. The text (77.37) lists *kak-kola*, *lavalīphala* and *pārijāta* as the prescribed additions to the betel quid, and the tenth century commentary by Bhāṭṭotpala explains the latter two as cloves and nutmeg. While it is plausible to equate *lavalīphala* with *lavaṅga*, as I will discuss below, the equivalence between *pārijāta* and *jātīphala* is unique and surprising.

Possibly the significance of nutmeg and cloves in sexual contexts went beyond symbolic notions and was underwritten by objective activity as an aphrodisiac. Recent animal studies have hinted at this much (Tajuddin *et al.* 2004 and 2005), but I am not aware of any studies in humans.

¹⁴⁸ For a broad perspective on the discourse of the world of *kāma* in mediaeval India, see Ali 2011a.

¹⁴⁹ It was certainly written after 225 CE and most likely pre-Gupta; Vātsyāyana 2002, xi; Ali 2004, 72.

¹⁵⁰ *Kāmasūtra* 1.4.1-2, discussed in Ali 2004, 61.

Vātsyāyana 2002, 96), often its connotations were of a far more intimate nature. Transferring betel directly into the mouth of a loved one in lieu of an affectionate kiss could gain the trust of a virgin (*Kāmasūtra* 3.2.11-12; Vātsyāyana 2002, 79). In fact, the townsman kept the ingredients for a betel quid handy around the bed in preparation of his sexual pleasures, for offering betel marked both the beginning of his sexual advances as well as their conclusion (*Kāmasūtra* 1.4.4; 2.10.5; Vātsyāyana 2002, 17, 70).¹⁵¹

While perfumed pastes, incense and cooling sandalpaste were essential to the pleasure seeking *nāgaraka*, the *Kāmasūtra* is surprisingly silent about exotic aromatics, both in general and also when it comes to the preparation of a betel quid. This, even though such aromatics must have been known when the author of the *Kāmasūtra* distilled a number of earlier sources some time after 225 CE, perhaps in Pātaliputra or somewhere in the Northwest (Vātsyāyana 2002, xi-xii). The less than encyclopaedic style of the text and the incorporation of older sources might have something to do with the silence on imported aromatics, but perhaps the concern with such botanicals, e.g. in conjunction with betel chewing, also had not yet decisively penetrated pre-Gupta society much beyond the confines of the courts.

Separated by a considerable chronological gap from the *Kāmasūtra*, the next earliest extant *kāmaśāstric* text after Vātsyāyana's work is Padmaśrī's *Nāgarasarvasva* or 'Complete Townsman', composed between 800 and 1300 CE.¹⁵² It represents in an encyclopaedic fashion the wealth of knowledge the *nāgaraka* required to become a realized cosmopolitan. It is important to note that the line between urban and courtly culture in early mediaeval India was

¹⁵¹The connotations of sexuality and fertility associated with the betel quid and its constituents were multi-faceted and can only be summarized here. Besides the sexual overtones of orality during consumption of betel, its visual symbolism was coded in shape (betel leaf as *yoni*, areca nut as *līlīgam*), spatial arrangement (areca nut [seed/fruit] resting in the leaf [vulva, placenta]) and colour (lime as semen, red saliva as female sexual discharge/menstrual blood) and growth habits of the source plants (betel pepper vine entwining/embracing the palm trunk, discussed below). The transfer of betel chew from man to woman, as, e.g., encouraged in the *Kāmasūtra*, metaphorically evoked images of the exchange of sexual fluids. The visual similarity between whole as well as transected areca nut and nutmeg plausibly helped to extend some of the sexual associations of areca nut to nutmeg. On some aspects of the betel chewing symbolism, see Moser-Schmitt 1981.

¹⁵²There is no convincing evidence to fix the date of the *Nāgarasarvasva* within this broad range, see Ali 2011b, 42. The *Brhatsamhitā*, which contains much material relevant to *kāmaśāstric* pursuits, falls chronologically between *Kāmasūtra* and *Nāgarasarvasva*.

porous (Ali 2004, 60-68), and this can be demonstrated particularly well for the world of the *Nāgarasarvasva*. His portrait shows a much greater preoccupation with courtly practices which included, e.g., covert systems of signification, as well as courtly material culture (Ali 2011b, 52).¹⁵³

This focus on material commodities is reflected in a chapter on the preparation of perfumes (*gandhādhikāra*), which Padmaśrī considered important inflamers of sexual arousal (*madanapradīpaka*) worthy of study by a lover (*Nāgarasarvasva* 4.1; Padmaśrī 1994, 15). Nutmeg and cloves, among other aromatics, were incorporated into various complex formulations, such as mouth perfumes (*mukhavāsa*), betel nut water (*pūgavāsa*) and perfume powder (*cūrṇa*; *Nāgarasarvasva* 4.7, 4.8, 4.11, 4.15; Padmaśrī 1994, 16-18). To covertly express the details of one's love interest in another person, diverse signs or hints (*saiiketa*) were employed. Besides speech and bodily gestures, these signals could take a number of different material forms, such as clothing, small bundels (*potali*) and betel quids (*bitaka*). As a sign of particularly passionate love one would pass a bundel of scented ingredients, including nutmeg and cloves together with cardamom, which were wrapped in red thread and sealed with wax.¹⁵⁴ Whether in preparation of romantic trysts or to incite passion, for the *nāgarasarvasva* Moluccan aromatics now carried an increasingly erotized image.

Toward the end of the first millennium, the growth of cosmopolitan culture, spurred by mutual intellectual diffusion between court and 'urbane' men of the city, had increased demand for luxury commodities and, it appears, also their availability. In the markets of seventh century Kannauj aromatics were for sale at the betel sellers' who 'had stores of *lavalī*,¹⁵⁵ cloves, cardamom, cubebs and nutmeg prepared',¹⁵⁶ ready to be added to betel chews, and there is evidence that the same held true in other urban centres across India.¹⁵⁷ However, the

¹⁵³ Beyond the link with a courtly tradition of oblique signification, the use of secret signs was conceptually rooted in tantric Buddhist traditions, as Ali (2011b, 54-55) has pointed out.

¹⁵⁴ *Sūksmailā jātīphalalavaṅgaka*; *Nāgarasarvasva* 7.1; Padmaśrī 1994, 24.

¹⁵⁵ *Phyllanthus acidus* (L.) Skeels, Phyllanthaceae, or *Luvunga scandens* (Roxb.) Buch.-Ham. ex Wight & Arn., Rutaceae, see discussion below.

¹⁵⁶ *Kādambarī* 186; amended translation of Bāṇabhaṭṭā 1991, 93.

¹⁵⁷ A description of the merchants quarters in the royal city Kalyāṇa (in today's Karnataka) noted the presence of 'much nutmeg' among other aromatics (Someśvara 1966, 15; translated in McHugh 2011, 78). The *Vikramāñikābhuyudayam* relates events of the eleventh century, but was composed around 1130 CE at the court of King Someśvara III whose Western Cālukyan kingdom extended across the western Deccan.

fact that the *nāgaraka* could define himself through his consumptive habits of certain material goods, points towards limitations in the degree to which these exotic aromatics had percolated into the lower ranks of society beyond wealthy merchants and city men.

There is little doubt that the monastic class, too, partook in the consumption of exotic aromatics. Certainly, the use of flavoured betel quids had at some point become part of Buddhist monastic life. The Chinese pilgrim Xuanzang travelling India from 629 to 645 CE noted that his daily provisions at the Nālandā monastery, about 90 kilometers east of Pañnā, included twenty areca nuts, the same number of *dou kou* (most likely cardamom rather than nutmeg) and an ounce of camphor, the latter probably imported.¹⁵⁸ Nutmeg and cloves likely reached temples and monasteries also as gifts for personal consumption and for use in decorating and perfuming icons, though in the context of divine worship other aromatics seems to have been more favoured.¹⁵⁹

5. Aromatizing poetry

The production and recital of literary texts became an integral part of the aesthetized lifestyles of the courts from around the Gupta period for the next millennium. *Kāvya*, the codified repertoire of ornate Sanskrit poetry in verse and prose, celebrated the material culture of the courts, and poets readily integrated aromatics into their compositions to scent and flavour the atmosphere of the scenes they painted for their audiences.¹⁶⁰

¹⁵⁸ Beal translated *dou kou* in Hwui-Li (1911, 109) as ‘nutmeg’, even though *dou kou* is primarily a collective term for a kind of cardamom, *Anomum* spp. (Zingiberaceae). In later sources ‘nutmeg’ is *rou dou kou*, ‘fleshy cardamom’. Further, the consumption of twelve nutmegs per day would likely have a fatal outcome. The association and conflation between cardamom and nutmeg, linguistic and otherwise, was common in early Chinese accounts; Schafer 1963, 184–185; Donkin 2003, 22.

¹⁵⁹ See, e.g., Sensarma (1989); Donkin (2003, 58). Here I do not take up an analysis of the devotional uses of aromatics, e.g., in Hindu ritual, nor the discourse of aromatics in the pursuit of *dharma*.

¹⁶⁰ See Banerji (1980) and Syed (1990) for surveys, Ingalls (2000) and Rājaśekhara (2000) for many examples of aromatics in *kāvya*.

5.1. The embrace of *lavaṅga* and *lavalī*

Lavaṅga, the clove tree and *lavalī*,¹⁶¹ a creeper, often shared a close association in the imaginary landscapes of Sanskrit poetry, whether being gently moved in unison by southern breezes or forming shining groves in the Vindhya forest.¹⁶² It was the strong connection between *lavaṅga* and *lavalī* vine that also lent the Sanskrit name *lavaṅgalatā*, ‘clove creeper’, to the plant *Luvunga scandens* (Roxb.) Buch.-Ham. ex Wight & Arn. (Rutaceae).¹⁶³

On a formal level, one of the roots of this association lay in the alliterative and prosodic similarity between the two forms *lavaṅga* and *lavalī*, which encouraged their use side by side or made them interchangeable in enumerations of plants. An example of the latter can be found in the *Rāmāyaṇa* in a passage describing the plants viewed by *Rāma* as he marched towards the southern sea. All manuscripts of those few that contain the passage in question read *lavalī* except one, in which *lavalī* was replaced by *lavaṅga*.¹⁶⁴

However, such literal and figurative attachments between tree and vine were a more commonly encountered trope, e.g., described in a variation for the Ma-

¹⁶¹The botanical identity of *lavalī* is ambiguous. In some texts it is identified as *Phylanthus acidus* (L.) Skeels (Phyllanthaceae), a small tree with a gooseberry-like, tart fruit, widely grown in humid and tropical regions of India and so popular with parrots that it was rendered as ‘parrot plum’ (Vidyākara 1965, 169, 498-499; Ingalls 2000, 230, 342). However, the frequent references to the perfumed blossoms and climbing nature of *lavalī* point to *Luvunga scandens* (Roxb.) Buch.-Ham. ex Wight & Arn., a fiercely thorned creeper with strongly scented flowers whose home was in the foothills of the Himalayas and eastern Bengal; Nadkarni 1954, I, 755; Abdul Kareem 1997, 87.

¹⁶²*Subhāśitaranakoṣa*, poem 1132, Ingalls 2000, 230-231; *Kādambarī* 79; Bāṇabhaṭṭā 1991, 39; also see *Harṣacarita* 2.73; Bāṇabhaṭṭā 1897, 235 and *Kādambarī* 186, 253; Bāṇabhaṭṭā 1991, 93, 129.

The Vindhya forest can be broadly located in the Vindhya mountain range that divides the Indo-Gangetic plains and the Deccan region.

¹⁶³Abdul Kareem 1997, 87. The Latin botanical name is an almost literal rendering of ‘clove vine’ with *scandens*, ‘climbing’.

¹⁶⁴This manuscript of the Bengal recension was essentially published as Gorresio’s *Rāmāyaṇa* edition (1843-1858, verse 6.74.5. While Gonda (1932, 326) was therefore technically correct in asserting that *lavaṅga* is mentioned in the *Rāmāyaṇa*, it is named only in one manuscript of a single sub-recension which is probably of a fairly late date; Goldman 2004, personal communication.

Another example of such an exchange between *lavaṅga* and *lavalī* occurs in *Brhatsamhitā* 77.37, as noted above.

laya mountains ‘where the sandal trees are embraced by cardamom creepers and where areca palms are encircled by betel vines’.¹⁶⁵ From as early as the *Rg Veda* (Siegel 1978, 204) to the *Kāmasūtra*¹⁶⁶ and beyond, a vine wrapped around a tree had been a metaphor for sexual embrace and union. In particular the (female) betel pepper entwining the (male) areca palm became part of the extensive sexual symbolism that surrounded betel chewing rituals and their ingredients.

Analogously, the connection between *lavalī* and *lavaṅga*, would come to reflect an embrace and often specifically a sexual embrace in a symbolism that became part of poetic convention. The dramatist Bhavabhūti used this trope as he compared two lovers separated by destiny with a *lavalī* vine intertwined with a clove tree, which had been blown apart by a storm (*Mālatīmādhava* 10.3; Bhavabhūti 1983, 93). Most famously, Jayadeva immortalized *lalita lavaṅgalatā*, the ‘lovely clove creeper’, in his twelfth century poem about Kṛṣṇa’s and Rādhā’s union, separation and re-union, when the clove creeper was touched by the tender Malayan wind as a tell-tale sign of the amorous spring-time.¹⁶⁷

5.2. Seductive scents from the Malaya mountains

In Sanskrit poetics *rasa* emerged as a core concept to describe the mood or sentiment which a scene elicited while it was savoured by a *rasika*, a connoisseur of tastes.¹⁶⁸ As such *rasa* characterized both the objective quality of the tasted object as well as the subjective experience of the taster (Siegel 1978, 42, 46-37; Miller 1978, 13). In fact, the gustatory metaphor could be directly applied to

¹⁶⁵ *Raghuvamśa* 6.64; amended translation of Kālidāsa 1971, 181-182. See also *Kādambarī* 39, 79; Kālidāsa 1985, 20, 39. For the first phrase, the poet took considerable poetic license, since cardamom, a ginger plant, was neither a creeper nor would it grow freely in the same habitat as sandalwood trees, but *Piper betle* L. and *Areca catechu* L. were actually co-cultivated from an early date, and such intercropping of (betel) pepper with areca or coconut palms is still practised in India today; Raghavan and Baruah 1958, 325.

¹⁶⁶ *Latāveṣṭitaka* ‘winding [embrace] of a creeper; *Kāmasūtra* 2.2.14-15; Vātsyāyana 2003, 40-41.

¹⁶⁷ *Gītagovinda* 3.28; Siegel 1978, 245, 290. See also *Kāvyamīmāṃsā* 4; Rājaśekhara 2000, 76. The Malayan wind itself might represent (the scent of) cloves, too, as I will discuss next.

¹⁶⁸ While in the *Rg Veda* the term *rasa* described a fluid, particularly the sap of plants, or the essence of anything, it eventually came to mean ‘flavour’ or ‘taste’ as an essential quality.

illustrate how ‘literary spices’ and ‘poetic condiments’ were shaping the aesthetic experience.¹⁶⁹ Aromatics, operating in the inseparable sensory realms of taste and smell, were inherently suited to convey specific moods, and nutmeg and cloves, the latter themselves sometimes referred to as *śṛṅgāra*, became closely associated with *śṛṅgārarasa*, the erotic mood.

Around the late fifth century CE, Bhartṛhari¹⁷⁰ described in his *Śṛṅgāraśataka* (‘Passionate Encounters’) how nature conspired with Kāma, the God of Love, to create yearning in men:

‘Dressed like a girl in fiery passion,
diffusing the fragrance of *jātīpuṣpa*
and bearing heavy swollen clouds,
autumnal rains arouse any man’s lust.’¹⁷¹

The ambiguity inherent in *jātī* as ‘jasmine’ or ‘nutmeg’ could evoke in the listener multiple sensations. These were both memorized and imagined, like the scent and image of the well-known jasmine flowers, but also those of the imaginary flower of the nutmeg tree as well as the flavour of mace.

In Kālidāsa’s narrative poem, the *Raghuvamśa* (‘The Dynasty of Raghu’), we encounter the fragrance of cloves as an essential ingredient of the erotic mood:

‘O princess, amuse yourself with the king¹⁷² on the seashore,
where groves of palm trees whisper and rumble,
and where your beads of perspiration will be removed
by the breezes carrying the scent of clove flowers [*lavaṅgapuṣpa*]
from distant islands [*dvīpāntara*].’¹⁷³

Kālidāsa’s reference to ‘distant islands’, where clove trees were thriving, was perhaps, as has been argued, an attempt at a geographical placement by using

¹⁶⁹ *Nātyaśāstra* 6.31-38, ascribed to Bharata, in its transmitted version of the seventh to eighth century CE; Siegel 1978, 47; Bharata 1986, 38.

¹⁷⁰ Bhartṛhari was a philosopher of the fifth century CE and the legendary author of the *Śatakatraya*, a tri-fold collection of Sanskrit poetry about politics, erotic passion and renunciation; Miller 1978, 3, 23-24.

¹⁷¹ *Śatakatraya* 141; amended translation of Miller 1978, 80.

¹⁷² Hemāṅgada of Kaliṅga.

¹⁷³ *Raghuvamśa* 6.57; amended translation of Kālidāsa 1971, 178. Little is known about Kālidāsa, but the time of his flourishing is typically placed around the fifth century CE.

a broad regional designation for the archipelago that included the Malay peninsula (Gonda 1973, 603–604; Wheatley 1983, 167–168). Alternatively, though, the poet might have simply chosen to locate the origin of clove aroma in the realm of far away, exotic lands, which he formed in his imagination.¹⁷⁴ Others, like the seventh century poet Māgha, a native of Gujarat, associated the scent of cloves more generally with the ocean: To weary soldiers the ocean provided wreaths of clove blossoms, coconut milk and fresh areca nuts.¹⁷⁵

Elsewhere, in Kālidāsa's *Kumārasambhava* ('Origin of the young God'), Śiva's and Pārvatī's nights of love in a series of locales across India were the culminating moments of the poem to complete the image of cosmic union. In southernmost India the scents of sandalwood and cloves permeated an amorous atmosphere:

‘And once when he was loving on Mount Malaya,
the south wind, smelling of sandalwood branches
and filaments of clove blossoms [*lavaṅgakesara*],
like a lover with sweet words,
took all tiredness away from his beloved.’¹⁷⁶

A literal reading would suggest that around the fifth century CE clove trees were thriving in southern peninsular India (Donkin 2003, 53), but Kālidāsa's poetic expression was perhaps again inspired by a broad association of cloves with southern ocean breezes. Indeed, the spring breezes blowing from the south, especially from the Malaya mountain or from the banks of the Kāverī river, were legendary ‘scent-bearers’ (*gandhavāha*; Ingalls 2000, 229). These gentle winds, with a sensuous quality of their own, were typically ‘decked with sandalwood perfume’¹⁷⁷ and other scents:

‘The breeze blows slowly from the south,

¹⁷⁴The passage is therefore noted in *Kāvyamīmāṃsā* 4.4, by Rājaśekhara (2000, 45) as an example of a poet's imagination (*pratibhā*), as he describes a geographically distant place without having personal knowledge of the same. For more on Rājaśekhara see below.

¹⁷⁵Śiśupālavadha ('The Slaying of Śiśupālava') 3.81; Māgha 1926, 34.

¹⁷⁶*Kumārasambhava* 8.25; amended translation of Kālidāsa 1985, 120.

¹⁷⁷Quotes from *Subhāṣitaranakoṣa*, poem 1126 by Vasukalpa, ca. 950 CE; Ingalls 2000, 230. The *Subhāṣitaranakoṣa* is an anthology of Sanskrit poetry of the period 700–1050 CE, assembled by the Buddhist scholar Vidyākara at the monastery of Jagaddala in East Bengal in the second half of the eleventh century CE; Vidyākara 1965; Ingalls 2000.

fluttering the groves of *lodhra*,¹⁷⁸ *lavaṅga* and *lavalī*,¹⁷⁹
and shaking the *karañja*.¹⁷⁹

To poets the Malaya mountains became the quintessential storehouse of aromatics,¹⁸⁰ and this was codified around 900 CE by Rājaśekhara in his *Kāvyamīmāṃsā* ('Dissertation on poetry').¹⁸¹ In the course of reflecting on the distinctions of different geographical regions, Rājaśekhara listed the characteristic products associated with the Malaya mountain in the southern region. While in the foothills camphor trees bloomed, the higher reaches were said to be the 'birthplace' of sandalwood, cardamom, nutmeg and black pepper (*Kāvyamīmāṃsā* 17.19; Rājaśekhara 2000, 261), even though neither nutmegs nor most of the camphor¹⁸² actually originated in southern India. Rājaśekhara quite appropriately grouped aromatics which either grew in the south, required a 'southern' climate or, if traded, would frequently enter India through southern ports. In doing so, he constructed a part realistic, part imaginary landscape that gave a home to some of the most valued botanicals.

In painting his aromatic landscapes, Māgha's contemporary Bāṇabhaṭṭā took even greater liberties and had cloves growing abundantly in various locations across India. The trembling blossoms of clove trees scented the banks of a lake in the Himālayas, travellers could rest on beds of clove blossoms in the Vindhya forest in the central mountain range, and the sun bruised the foliage of clove trees at the foot of the Rising Mountain, apparently somewhere on India's eastern shoreline, perhaps in Orissa (*Kādambarī* 114; Bāṇabhaṭṭā 1991, 20, 56, 129). Nutmeg trees, on the other hand, gave animals a place of refuge

¹⁷⁸ *Symplocos racemosa* Roxb. (Symplocaceae), a small, white flowered tree, also known as *tilaka*, since the bark yielded the red dye used to mark the forehead; Abdul Kareem 1997, 133.

¹⁷⁹ *Karañja* is a widely growing ornamental tree with fragrant flowers, *Derris indica* (Lam.) Bennet (Fabaceae; Abdul Kareem 1997, 53). The passage is from *Subhāṣitaranakoṣa*, poem 1132, with the author and date unknown (Ingalls 2000, 230-231).

¹⁸⁰ E.g., *Mālatīmādhava* 3.13-14; Bhavabhūti 1983, 32.

¹⁸¹ Rājaśekhara was the teacher and court poet of the Pratihāra kings Mahendrapāla and his son Mahipāla of Kannauj in Gujerāt; Rājaśekhara 1946; Rājaśekhara 2000.

¹⁸² As I have alluded to above, the roots or the root bark of *Cinnamomum zeylanicum* Blume were a potential domestic source of camphor in the Malabar region, but this was probably neither a sufficient source nor the source *par excellence* to satisfy the demand for camphor in India (Donkin 1999, 90-93). Rājaśekhara appears to have had a particular fascination with camphor as demonstrated by his Prakrit play *Karpūramāñjarī* ('Camphor cluster'; 1901) that is replete with word plays based on camphor.

in the Vindhya forest (*Harṣacarita* 8.264; Bāṇabhaṭṭā 1897, 235). When around the eleventh century Sōmadeva Bhaṭṭa, the court poet of a Kashmīrī king, located clove and other fragrant trees far to the north in King Nararvāhanadatta's pleasure garden along the banks of the Mandākinī river,¹⁸³ these plants provided a backdrop to the the sensual atmosphere in the garden where the king with his wife and consorts enjoyed the spring.

6. Discussion

Founded on what is somewhat of a jigsaw puzzle of evidence, this paper elaborates on India's fascination with aromatic plant products, and specifically with nutmeg, mace and cloves. To begin with, their terminology hints at the vivid imagery that played out especially in Indo-Aryan lexical descriptions, as a repertoire of synonyms evolved across the Indian subcontinent. For nutmeg and mace, the association with scented jasmine superseded any indigenous names the trade products had arrived with, whereas for cloves the primary designation in Indo-Aryan languages was likely borrowed from Austronesian speaking source(s).

Besides numerous loans of Indo-Aryan forms, Dravidian languages show vestiges of an independent terminology for cloves and perhaps also for nutmeg. A Dravidian term for cloves was significant enough to be carried, possibly by way of Tamil traders, as far as the Southeast Asian mainland, where it survived as a loan word. Overall, for Moluccan aromatics the cross-currents of trade and associated linguistic influences eventually led to a complex pattern of loans, re-loans and dispersals, through inevitable contact with Austronesian speaking merchants from the Indo-Malay archipelago to the east and the increasingly active role of Graeco-Roman and Arabic seafarers in the north-west part of the Indian Ocean.

For South India the lack of textual evidence from before the second century CE limits the exploration of the appearance of Moluccan aromatics in the region, but other pertinent information can be adduced to constrain the chronology. Across the Palk Strait, in Sri Lanka, the *Mahāvamsa* noted flavoured betel quids, plausibly containing nutmeg and cloves, as a royal favour in the second century BCE. Plinius's use of the term *caryophyllum* also implies a trade corridor for Moluccan botanicals which connected the Graeco-Roman world by way of Dravidian speaking South India with the far reaches of the Indo-Malay

¹⁸³In the middle Ganges region in Uttar Pradesh; *Kathāsaritsāgara* 9.111; Penzer 1927, 95-97. Sōmadeva Bhaṭṭa compiled his vast 'Ocean of Stories' in the late eleventh century.

archipelago around the beginning of the common era. Archaeological data (e.g., Bellina and Glover 2004, 72) and (later) literary evidence provide ample evidence for the linkages throughout the South Indian and Sri Lankan trading regions in the course of Indo-Roman trade which extended into the three centuries before the common era. The presence and use of Moluccan aromatics in South India and Sri Lanka during this period is therefore a likely scenario.

To the north, archaeobotanical evidence indicates that at least nutmeg was present close to Pāṭaliputra a number of centuries BCE in the context of Northern Black Polished Ware. There is increasingly solid evidence that by the time the Mauryans flourished, overland and maritime trade routes had evolved considerably. In particular the eastward linkage across the Bay of Bengal, the ‘Bay of Bengal metal age corridor’, was fostered by developing urban sites in both India and Southeast Asia (Bellina and Glover 2004, 69; Fuller *et al.* 2011, 548). With the supply of Moluccan products limited, notions about these and other exotic botanicals were initially vague, as detectable in the *Arthaśāstra*. Over the course of the first millennium CE, the discourse became more sophisticated, illustrating a spectrum of modes of consumption as well as an expanding repertoire of connotations.

From as early as the times of the *Rāmāyaṇa* certain aromatics, such as black pepper and cardamom, were used in culinary compositions. For nutmeg, mace or cloves I know of no compelling evidence indicating their use as spices in a true culinary sense, until well into the second millennium CE and possibly as late as the Mughal period.¹⁸⁴ Perhaps closest comes a recipe that involves cloves to flavour water intended for royal consumption which is described in the encyclopaedic *Mānasollāsa* (‘Delight of the Mind’ or *Abhilāṣitārthacintāmaṇi*, ‘The Magical Stone that fulfils Desires’) at the height of sophistication of courtly culture in the early twelfth century.¹⁸⁵ This ‘perfume powder [water]’ (*cūrnāvāsa*) was composed of ground cloves, cubebs and vetiver root¹⁸⁶ as well as camphor,

¹⁸⁴ Summary works on Indian food by Mahindru (1982), Om Prakash (1987) and Achaya (1994) provide some relevant information and references, but have to be used with some caution regarding stated chronologies. To what degree Arabo-Persian practices inspired the later culinary use of Moluccan aromatics in South Asia remains to be explored. Crawfurd (1856, 304) notes that they were never used as ‘condiments’ in the Moluccas.

¹⁸⁵ The *Mānasollāsa* was composed around 1130 CE at the court of King Someśvara III whose Western Cālukyan kingdom extended across the western Deccan with the capital at Kalyāṇa, in today’s Karnataka. It contains a substantial collection of culinary recipes (Arundhati 1994, 113-129). For the *cūrnāvāsa* recipe, see *Mānasollāsa* 3.14.1623; Arundhati 1994, 131.

¹⁸⁶ *Ūsira* is the root of *Vetiveria* (or *Chrysopogon*) *zizanoides* (L.) Nash (Poaceae), see also

all added to water. However, by choice of name and spectrum of ingredients the recipe was firmly rooted in the art of perfumery rather than a culinary tradition. Unlike, e.g., black pepper whose appreciation in the kitchen was an important determinant of demand in India and beyond, for nutmeg, mace and cloves the incorporation into the addictive practice of betel chewing was the primary catalyst that elevated them from obscurity. Neither areca nut palm nor betel vine were native to South Asia, but both probably originated in island Southeast Asia. From there humans translocated them to South India, perhaps as early as the middle of the second millennium BCE and around the same time that sandalwood is thought to have arrived. Being highly adaptable, areca nut and betel vine eventually spread through the subcontinent, and by the later half of the first millennium BCE the first traces of betel chewing can be detected in North India (Zumbroich 2008). Unlike these plants providing the basic ingredients of the betel quid, the Moluccan trees that produced its flavourings could not be as readily translocated to India. With demand increasing, a steady supply had to be long distance shipped along an approximately 7,500 km trade connection to India.

Was the addition of these exotic aromatics a practice introduced to India by the Austronesian speaking seafarers, traders and middlemen who were bringing these products to Indian shores, or was it an Indian innovation? This question is difficult to answer, because information on early betel chewing practices in the Austronesian speaking world is scarce. In the late seventh century the Chinese Buddhist scholar Yijing observed first-hand how Buddhist monks in Śrī Vijaya, somewhere in the vicinity of present day Palembang in Sumatra (Wheatley 1983, 239), concluded their meal: They chewed *Pin-lang* fruit (areca nut) with nutmeg,¹⁸⁷ clove and *Baros*¹⁸⁸ camphor (Yijing 1896, 48). Other Chinese documents from the Tang dynasty (618-906) mention that among Khmer in Cambodia (Chen-la) guest were offered areca nuts with camphor and ‘other perfumes’ (Rémusat 1829, I, 84; Schafer 1967, 175). While this is suggestive evidence, one might argue that by then this could reflect an adoption of South Asian practices, perhaps introduced by Tamil traders. Much later, in 1544, the

above. Tamil *vettivēr*, from *vetti* ‘to dig, hatch up’, *vēr* ‘root’, hence ‘the root that is hatched up’ (University of Madras 1924-1936, 3770) accurately describing the harvesting of the extensive root system of this grass to collect its fragrant oil which is still widely used in today’s perfumes.

¹⁸⁷I presume here that Takakusu’s translation does not conflate cardamom with nutmeg, see above.

¹⁸⁸Barus, a port on the northwestern coast of Sumatra, that gave its name to a region which produced the most famous high-quality camphor; Donkin 1999, 83, 94.

Portuguese administrator António Galvão reported from the Moluccas on betel chewing and the utility of nutmeg the following:

'They use it [*betele*] so continuously that they never take it from their mouths; therefore these people can be said to go around always ruminating.

In these islands its [the nutmeg tree's] fruit is sparse and wild; they eat it with the *betele* and make no other use of it.'¹⁸⁹

If early transoceanic voyagers were already in the habit of enhancing the taste of their betel quids with nutmeg, clove and other aromatics, this would provide a compelling rationale for how these products reached the Indian shores. In this case, the date for the first arrival of Moluccan aromatics in India might also need to be sought closer to the time of the introduction of the betel quid.

There are a number of plausible reason which help account for the rising popularity of Moluccan aromatics. Very early the practice of adding them to betel quids was underwritten by the foremost medical authorities who highlighted the medicinal benefits to be derived from such embellished quids. The ostentatious display and gift exchange of Moluccan aromatics in courtly contexts affirmed their value as luxury items, conferring social prestige and power. Perhaps most importantly, their exotic origin from an unknown, distant locale across the ocean, their heavy scent and the intoxicating nature of nutmegs, all predestined them as paraphernalia of the erotic experience. This was further reinforced through their long-standing use in conjunction with the practice of betel chewing, itself an act of pronounced orality, which over time would be considered nearly a prerequisite to sexual union. Nutmeg and cloves evolved into favoured ingredients of perfumes of the mouth and eventually became incorporated into numerous other perfume formulations.

Around the same time the material culture of aromatics displayed by the courtly and urban élite was systematically codified in the genre of literature concerned with the attainment of *kāma*. The world view that made exotic scents an essential ingredient in the pursuit of pleasure was embodied by court poets through their *kāvya*, in which the aroma of nutmeg and cloves, growing in imaginary landscapes abroad (or sometimes in India), came to be further eroticized. In turn, such literary expressions had the effect of magnifying the

¹⁸⁹ Galvão probably wrote the *Tratado* between 1543 and 1545 in Lisbon, based on notes taken while he resided on Ternate as 7th Portuguese captain (*capitāe*) of the Moluccas from 1536 to 1539; Galvao 1971, 2-17, 43, 57.

appetite for Moluccan aromatics, which would lend their alluring scent and flavour, literally inside and out, to the body of the sensual, if not sexual connoisseurs of early medieval South Asia.

7. Conclusions

The prominence which nutmeg, mace and cloves had reached on the Indian subcontinent by the end of the first millennium CE not only preceded their ascent in appreciation in Europe, which only gained force around that time, but it was also sparked by a mode of consumption of uniquely South and Southeast Asian characteristics. In this study, betel chewing emerges as the key catalyst sparking the enthusiastic incorporation of Moluccan aromatics into the canon of favoured aromatics in South Asia. The socio-cultural significance which nutmeg, mace and cloves eventually acquired, was founded on both their material properties and their representational content. It was the synergy between, on the one hand, a complex make-up of uniquely scented volatile and fixed oils, the psychotropic properties of nutmeg and mace, their visual appearance (as ‘flowers’ for mace and cloves), perhaps even objective aphrodisiac qualities, and, on the other hand, their exoticism, luxury value and their sensual, oral and erotic overtones which made this trinity of aromatics indispensable to the South Asian epicure.

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