

*The Cultural Biography of Agarwood –  
Perfumery in Eastern Asia and the Asian Neighbourhood<sup>1</sup>*

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I. PORTRAYAL OF THE AROMATIC MATERIAL.....	3
II. EARLY PERFUMERY ARTS AND EXOTIC STIMULI .....	4
III. SUPRAREGIONAL CONTACTS, LITERATI SOCIETIES, AND A REFINED PERFUMERY.....	9
IV. RITUALISED FORMS OF INCENSE APPRECIATION.....	16
V. REINVENTION OF ASIAN PERFUMERY ARTS AND NEW IDENTITIES ....	19
REFERENCES .....	21

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Concerning the perfumery heritage of Asia, see also: Jung, *Perfumery*, 2015; [www.perfumery-heritage-of-asia.net](http://www.perfumery-heritage-of-asia.net).

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Agarwood<sup>3</sup> ( [沉香] Chinese *chen xiang* / [沈香] Japanese *jinkō*) has caught international perfumery attention in conspicuous dimensions in the past years. It belongs to the most sought after perfumery raw materials in the world.<sup>4</sup> The lucrative image of its business makes international businessmen, foreign scientists, perfumers, global industry representatives, as well as locals eager to participate in its international

<sup>3</sup> Agarwood is also known by many other names (in English writing and orthography!) – in the context of discussing East Asian cultures for example, it is called jinko, calambac, garoo wood, gaharu, chen hsiang, kinam, agila wood, and oud. These diverse names developed through the intercultural exchange between producers, traders, and consumers over the course of the centuries, and reflect such various aspects as the origin of trade participants, the origin of agarwood products, and the grade of their material quality. Over the course of time, the various names were often adapted into other languages. – Concerning other names for agarwood in general and for its various subspecies in the Chinese and Japanese language, see the Chapters II–IV.

However, in my experience, botanical terminology is vague in colloquial language, often making the identity of botanical (sub-)species uncertain. Sometimes, identical names are used for similar substances, or else people are not aware of the scientific identity or taxonomic term of a sample, referring to it “incorrectly” in accordance with local habits. Regional varieties and individual ideas also influence the scientific terminology. Specifically in the case of agarwood, the identification of species is extremely demanding and requires decades of professional in-depth experience. It is unlikely that authors of earlier years and centuries generally had this level of expertise, making also historical sources and bibliographic references somewhat unreliable. In consequence, all botanical indications in the following (concerning English terms as well as Chinese and Japanese characters and transliterated terms which are especially uncertain due to the variable pronunciation and dependence on contextual meanings) should be taken with scholarly caution.

<sup>4</sup> Information from perfumery markets in Asian and European countries. Consider also Burfield and Kirkham 2005, no pagination. Of course, the value depends on the particular quality of each specific sample.

Concerning the increasingly global dimensions of the demand for agarwood, consider e.g. the statement by representatives of the international industry, “[...] number of [i.e. agarwood]-related launches over the past few months and our prediction is that this ingredient will move from niche to mainstream in the months ahead” (Fragrance Foundation Deutschland e.V. 2011, no pagination).

distribution and to improve its artificial mass cultivation and synthetic production.<sup>5</sup> Moreover, efforts transgress mere economic activities in Eastern Asia when perfumery devotees engage in historical research and perfumery experiments, or when they publish on their experiences, as well as when they establish networks with like-minded people.

Though the dimensions of this fierce interest and specifically of the global fame of agarwood are recent, the interest that agarwood arouses is not new. Agarwood has often been connected with legendary stories and myths concerning its enigmatic origin and production. It has been associated with the frequent imagination of its supremacy over other perfumery materials. In comparison, knowledge about the cultural history and value of agarwood that goes beyond illustrious ideas has remained limited. The recent publications mentioned above are mainly based on practical knowledge and on only a few historical sources. The mysterious aura further increases the interest in possessing and in using agarwood. Thus, as in prior times, today the material is associated with exclusivity and prestigious and erudite lifestyles, and is therefore well-suited as a medium to express a desirable individual and cultural identity.

Unsurprisingly, consumption is augmenting. The exponentially rising demand in both Eastern Asia and worldwide has led to the threat of extinction of this natural resource. Agarwood tree species are listed in the *IUCN Red List of Threatened Species*<sup>6</sup> and are objects of international trade regulations as defined by the *Convention on International Trade in*

*Endangered Species of Wild Fauna and Flora (CITES)*.<sup>7</sup> If agarwood shall remain available in the future, considerate consumption is urgent.

Cogitating upon this forceful role of agarwood will elucidate a two millennia-long intangible heritage of refining and appreciating this resource. Often merely associated with *kōdō* (〔香道〕 Japanese ‘the way of incense’, ritual incense appreciation) in East Asian contexts, the heritage of agarwood appreciation covers far more than this rather young tradition.<sup>8</sup> With the purpose of emphasising the cultural circumstances which made the development of *kōdō* possible, the following will only touch on *kōdō*. In its stead, especially the intra-Asian reciprocities and exchanges shall be elaborated upon, which were vital for the emergence of the various agarwood fine arts in Asia and for the overall history of agarwood.

The vantage point is anthropological experience. Field studies in Southeast Asia (2009) and Eastern Asia (2011, 2012) as well as contacts with East Asian perfumery representatives (since 2009) serve as the main basis; both in exchanges with these people and the recent flow of local publications on agarwood, which I noticed while I was there. Even if these publications contain limited in-depth historical data, they nonetheless give testimony to contemporary ideas, values, and emotions

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<sup>5</sup> Personal field knowledge with local foresters, governmental institutions, traders in Southeast Asia; environmental news; patent register information; industrial media (see also bibliography).

<sup>6</sup> IUCN 2011. The Red List was established by the World Conservation Union (later renamed the International Union for Conservation of Nature), and serves as a primary source for the evaluation of the status of plant and animal species (<http://www.iucnredlist.org>).

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<sup>7</sup> CITES is an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival (CITES Secretariat 2011). Several agarwood species are listed in Appendix II, meaning international trade is closely controlled. A program has been launched with the aim of establishing an awareness of the threat of agarwood, and discussing possible measurements (<http://www.cites.org>). The last CITES Agarwood Experts Group Meeting took place in Kuala Lumpur, with the participation of diverse stakeholders from Eastern, Central, Western, and Southeast Asia (TRAFFIC Southeast Asia 2007). The consumption of agarwood in Eastern Asia has been distinctly discussed by TRAFFIC (e.g. Compton and Ishihara, pp. 12–20; Traffic East Asia and Traffic Southeast Asia).

<sup>8</sup> The Japanese *kōdō* as such emerged only around 1500 CE (Yamada 1979, p. 70; see also the Chapters III–V).

that are often linked with historical issues, and make up anchors of heritage interpretation and modern identity.<sup>9</sup> Following up on these incentive anthropological inputs, I consulted international bibliographical knowledge in search for explanations and coherences. However, there are few modern studies and these are often based on the same initial research. Earlier in-depth elaborations are also limited, thereby indicating the biographical development of agarwood to acquire its contemporary significance only over the course of the centuries.<sup>10</sup> In consequence, primarily my field impressions of current practices made me think of possible connections between scattered oblique bibliographic hints, and allowed me to draw up a hypothesis concerning the cultural biography of agarwood.<sup>11</sup> It shall however be emphasised that the historical part of this presentation is often based on logical deductions. These are arranged in a way to suggest a coherent history that may serve as a framework for further multidisciplinary research and manuscript studies in the future.

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<sup>9</sup> Due to the number of current launches and the publications' frequent non-historical-scholarly character, I do not discuss these further and omit bibliographic references in this article.

<sup>10</sup> For his encyclopaedic work (1979), Yamada, as the author who wrote the most comprehensive history of East Asian perfumery to this day, relies on about 130 sources, of which roughly one fourth are Chinese, one third Japanese, and the remaining ones Western. The East Asian sources represent pharmaceutical, economic-historical, and geographical works, and usually include references to agarwood; however, no source is dedicated to portraying it exclusively (Yamada 1979, pp. 551–559).

<sup>11</sup> Consider the discussion following Appadurai 1988.

## I. Portrayal of the Aromatic Material

Agarwood is distinguished by its exclusive development – it can be compared with the spiritual maturation of the human self, according to East Asian notions. Within an environment of mould and decay, the originally odourless and hardly usable wood develops an aromatic character as an innate and eligible quality. The fragrance is recognised for its fine olfactory nuances, and its consumption has positive effects on the body and the mind.<sup>12</sup> The maturation in response to the demanding conditions has thus increased the wood's value in comparison with the plain wood of before, both in itself and for the social community.

Botanically speaking, the source of origin is a number of *Aquilaria* tree species<sup>13</sup> native to the wider Indo-Malayan region.<sup>14</sup> The

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<sup>12</sup> To give a few examples, Burfield and Kirkham list merits of agarwood in Asian medical praxis as “warming”, “to relieve [...] stuck energy particularly in the digestive [...] and respiratory systems,” “to alleviate pain”, and “balancing effects” on “nervous and emotional disorders” (2005, no pagination; referring to diverse medical sources).

<sup>13</sup> The *Aquilaria* Lam. is a genus of the botanical family *Thymelaeaceae* Juss., and embraces the prominent species *Aquilaria agallochum* (Lour.) Roxb. ex Finl., *A. crassna* Pierre ex Lecomte, and *A. sinensis* (Lour.) Spreng., among others. In the cases of several species, ‘*Gyrinopsis*’ is substitute of ‘*Aquilaria*’. However, it refers to the identical botanical genus (Tropicos.org ‘A World Checklist of Thymelaeaceae’ 2011, no pagination).

<sup>14</sup> The first substantial entry for *Aquilaria* in western encyclopaedic work was probably written by Burkill, director of the Botanic Gardens in Singapore from 1912–1925. He frequently emphasises the limited botanical knowledge of *Aquilaria* among western scientists. For example, agarwood “[...] is sought eagerly for trading, secretly and rather destructively, so that some of the inadequacy of the herbarium-material has come from the unwillingness of the forest folk, who collect the wood, to part with their secrets. [...] Our ignorance is too great” (1966, p. 199). Following the fascinating character of the natural product and the little knowledge about it, agarwood has often become connected with rituals, myths, and magic practices, as scholars liked to emphasise, by alluding to historical Asian sources as well as to contemporary ideas,

wood is usually characterised as odourless, even-grained, and of low density with a yellow-whitish colour. Only under specific environmental conditions, and when a tree has been infected or wounded, does agarwood form. Current research suggests that fungi which lodge with the tree cause an immune reaction which is connected with the production of an oleo-resin.<sup>15</sup> The area of wood charged with this natural substance grows with irregular patches of streaks, presenting the aggrandising deposits of the oleoresin in the tree cell structure. These parts of heartwood become increasingly dark and heavy. Naturally, the impregnation of the resin varies considerably.<sup>16</sup> The specific character of the scented heartwood results from a combination of factors, such as

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fascination, and often ignorance about this product in the West at the beginning of the 20th century. “Searchers for Aloes wood [i.e. agarwood] observe taboos upon a few words while they are searching [...]”, “[...] ceremonial of the hunt [...]” (Burkill 1966, p. 202; e.g. Schoff 1922, pp. 172–173, 178, 180, 182, 185). Possibly, Westerners were sometimes told mythical ideas about the origin and production by foreigners or by indigenous people who either did not know better themselves, or else wanted to hide this crucial knowledge so as to preserve their personal source of income.

<sup>14</sup> *Aquilaria* trees are evergreen trees that grow in a warm temperate climate and at an altitude of between 0 to 1000 meters (Burfield and Kirkham 2005, no pagination; Council of Scientific & Industrial Research 1985, p. 328). The overall botanical family was native to East India and the narrower Indo-Malayan region, from where it apparently spread to the surroundings over the course of the centuries. Nowadays, trees also grow in such regions as South China and Papua New Guinea (Tropicos.org 2011, no pagination; Needham 1974: p. 137).

<sup>15</sup> Burfield and Kirkham 2005, no pagination. Barden *et al.* 2. The reasons for the formation of agarwood are still the object of scientific research. Barden *et al.* quote Ng, Chang, and Kadir with their statement in around 2000: “The ecological interaction between the host tree and the wound and/or the fungi in order to produce agarwood is poorly understood. Other factors such as the age of the tree, differences in the tree caused by seasonal variation, environmental variation and genetic variation of *Aquilaria* spp. may also play an important role in agarwood formation”. (Barden *et al.* 2; referring to L. T. Ng, Y. S. Chang, and A. A. Kadir, ‘A review on agar (*gaharu*) producing *Aquilaria* species’, in *Journal of Tropical Forest Products*, 2 (2), 1997, pp. 272–285).

<sup>16</sup> Barden *et al.* 2; Council of Scientific & Industrial Research 1985: pp. 328–329.

the region of origin of the specific tree, its botanical species, its age, as well as the section of the tree from which the piece of agarwood stems and the amount of time that the wood has undergone the biological-chemical process. In consequence, the resinous composition differs, and the agarwood presents itself in various perfumery qualities. Its fragrance presents one of the most complex olfactory accords known in perfumery today; it is mainly distinguished by a combination of “oriental-woody” and “very soft fruity-floral” notes. Specifically the smoke arising during incensation of best quality agarwood is also characterised by perfumers as consisting of a “sweet-balsamic” note and “shades of vanilla and musk” and ambergris.<sup>17</sup>

## II. Early Perfumery Arts and Exotic Stimuli

In contemporary considerations of agarwood art history among Chinese-speaking people, the Song period (tenth to thirteenth centuries CE) clearly predominates. However, this is only partly due to historical reasons, and in part to modern views on tradition.<sup>18</sup> The valued product had already arrived in continental East Asia shortly after the beginning

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<sup>17</sup> Kaiser 2006, pp. 63–64. Another professional description of agarwood fragrance is given in Burfield and Kirkham 2005, no pagination (citing T. Burfield, ‘Agarwood Oil. Presentation to the British Society of Perfumery’, Hilton Hotel, Milton Keynes, UK, 1994), “[...] a rich woody character, having some of the dryness of vetiverol mixed with some sweetness aspects of sandalwood and guaicwood oil [...], an animalic/leathery character with notes reminiscent of castoreum & labdanum.”

<sup>18</sup> The agarwood trade and Chinese arts and culture indeed blossomed in the Song period (see Chapter III). However, perfumery was also vitally extant before and in the ensuing Yuan, Ming, and Qing dynasties (1279–1911; see Chapter III, IV), though the practices during these centuries are usually ignored and almost unknown among the public. Perfumery during the Song dynasty was not yet strongly influenced from the East, and for that reason might be more attractive for contemporary Chinese and Taiwanese in their search of their cultural identity.

of the Common Era. Clearly, the craft of perfumery had existed even before;<sup>19</sup> distinctive censers made for the purpose of incensation, or epitomising the art of incensation, had turned up in China shortly before the Common Era – the so-called *bo shan lu* (〔博山爐 / 博山炉〕 ‘universal mountain censer’). Their existence and iconography reveal historical facets of perfumery – for instance the contact with worlds of immortality during the moment of incensation – and also hint at influences from abroad.<sup>20</sup> The trans-Asia Silk Road had become more regular in those decades, and with it, the influence of knowledge, practices and trade goods like aromatics from afar became notable; these elements had a great impact on the local perfumery craft. Archeological findings from tombs attest to the use of aromatics<sup>21</sup> and suggest the hypothesis of strategic imports of foreign perfumery substances during the reign of Emperor Wu (140–87 BCE).<sup>22</sup> The title of the manuscript *Han gong xiang fang* (〔漢宮香方〕 *On the Blending of Perfumes in the Palaces of the Han*) from the second century CE indicates an interest in, and

efforts towards an art of perfumery, including technical finesse, which developed in those years.<sup>23</sup>

Thus, the new knowledge of agarwood in the third century CE<sup>24</sup> fell on fertile ground; the scented wood could quickly become integrated into extant local perfumery practices. The historical economic-aesthetical process is obliquely alluded to by Hall.<sup>25</sup> Along with the diminution of the North’s exclusive leadership, the country split up. Due to the

<sup>23</sup> Needham 1974, p. 135.

<sup>24</sup> The earliest reference to agarwood in China stems from the third century, according to Yamada (Yamada 1976, p. 185). Hall’s description of the historical process makes this date for the arrival of agarwood in China appear realistic (see below).

<sup>25</sup> Concerning the discovery of the commodity value of local Southeast Asian products, such as agarwood, Hall writes: “Originally [i.e. in the beginning of the Common Era] neither the Indians nor international traders using the ports of Fu-nan [the first known polity to emerge in Southeast Asia] were interested in Southeast Asian specialties. The traders of Fu-nan went to China in order to exchange Mediterranean, Indian, Middle Eastern, and African goods [e.g. aromatics; ...] for silk. [...; Given the opportunity,] sailors from the Sunda Strait area began to introduce their own products, beginning with those that might be construed as substitutes for products destined for the Chinese market. [...] Aromatic woods such as gharuwood [i.e. agarwood] and sandalwood [...] became important commodities [...]” (1999, p.195).

Hall continues his elaboration by explaining Chinese history: “After the fall of the Han dynasty in the third century CE, China was divided; and in the fourth century northern China was overrun by nomadic steppe peoples. This caused a massive flight of population from the north to the south. Since those who could afford to relocate were usually the more privileged, this group predominated among the refugees. [...] These people had well-established tastes for the products that came from the West [...]. Prior to 439 [CE] this southern market had been supplied, for the most part, by the overland routes. [...] after 439 [CE], this source of foreign products was completely blocked [...]. South China [...] witnessed an unprecedented commercial development. [...] it became the seat of two successful Buddhist kingdoms [...]. This China market was irresistible, and the seamen of the Sunda Strait region rose to the challenge [...]. These southern Chinese, too, developed a desire for Southeast Asian products [...] aromatic woods of the rainforest” (Hall 1999, pp.195–196).

<sup>19</sup> The early history of perfumery in ancient China is not well researched. Due to the few technical preconditions of practicing the perfumery handicraft, and its close connection with cookery and medicine, it is likely that a simple form of perfumery existed since the very beginning of ancient Chinese culture. Elisseff indicates the use of aromatics in the culinary arts, “Durant l’Antiquité, à l’époque des dynasties des Shang (v. 1500–1050 avant notre ère) et des Zhou (v. 1050–256 avant notre ère), dieux et ancêtres – grand consommateurs de parfums en Chine comme ailleurs – se nourrissaient d’abord du fumet des aliments offerts dans de riches récipients de bronze au cours de banquets solennels: ce ‘parfum’ par excellence relevait pour l’essentiel du domaine de la cuisine ou d’une gastronomie rituelle” (Elisseff 2007, p. 282). See also the remarks about perfumery in the Zhou dynasty (1050–226 BCE), in Bedini 1994, pp. 25–26, 29 (Bedini refers to other authors), National Palace Museum 1994, pp. 32–33.

<sup>20</sup> Erickson 1992, pp. 6–20.

<sup>21</sup> Buck 1975, p. 36; Erickson 1992, p. 15; see also Erickson 1992, pp. 6, 20.

<sup>22</sup> Consider Schmidt-Glintzer 2008, p. 55; Schmidt-Glintzer 1999, pp. 116–118, Needham 1974, pp. 136–138, pp. 140–143.

migration of privileged communities from the North southwards, and together with the decline of overland trade, China's South experienced an enormous economic development in the fourth to sixth centuries CE. Southeast Asia also underwent economic changes, and instead of serving merely as an *entrepôt* as it had done before, its inhabitants began to increasingly market local products among the people in China's South. Agarwood made up one local item to be more and more promoted by the Southeast Asians with the rising international sea trade. To some extent, the migrated Chinese elites already had – in Hall's words – a select 'taste' for exotic goods imported from afar, such as aromatics, so that agarwood met the demand. The exclusive quality of agarwood was beyond question among the Chinese nobility, since the aristocrats had learned about agarwood as a select tax and tribute item like gold; the product was thus associated with exclusivity and social prestige.<sup>26</sup> In addition, agarwood may have served as a substitute for western aromatics, which became more difficult to obtain in Chinese markets following widespread political upheavals.<sup>27</sup> In comparison, agarwood could be acquired more easily from the South; forest dwellers and traders in Southeast Asia actively supported the sale, which was in their own economic interest.<sup>28</sup>

<sup>26</sup> (Yamada 1979, p. 12); see also (Yamada 1976, pp. 188–193).

<sup>27</sup> Especially worthy of archeological and manuscript studies will be a comparison between the roles of sandalwood and agarwood in Eastern Asia over the course of the centuries, in order to make changes in aesthetical preferences distinct. Bedini summarises (by citing Schafer's work on the Tang dynasty in addition to a second unexplained source, i.e. especially referring to times up to Tang): "Undoubtedly, the most popular ingredient in Far Eastern incense was sandalwood (*Santalum album*)" (1994, p. 30) – which clearly does not describe the overall history of perfumery in Eastern Asia.

<sup>28</sup> The commercial interest of local indigenous people in the production and sale of agarwood might be explained by the natural living conditions they were presumably often faced with. Concise data is available for the twelfth to thirteenth centuries. Zhao Rukuo [趙汝适] wrote about Hainan, "Although they have much fallow land, there is not raised enough rice to supply food for the people [...] this is the

In addition to such economic incentives, the gradual establishment of Buddhism in China supported the promotion of agarwood, since this movement generally emphasised the positive value of fragrance(s). In China especially, the association of Buddhism with perfumery could grow in consequence to the intertwined arrival of foreign aromatics and Buddhist ideas from the West. Wandering Buddhists, among other travelers coming from and via, or trading with, the West and South have considerably strengthened the promotion of aromatics over the course of the centuries. Incense became part of liturgical and meditative practices; Buddhist-tantric movements in particular have been influential.<sup>29</sup> The esteem of aromatics among

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reason for the trade in sweet-scented woods" (Hirth and Rockhill 1964, p. 176). "As there is neither salt nor iron, fish nor shrimps (in their country), they barter for them with the neighbouring Chinese settlers with gharu-wood [i.e. agarwood] [...]" (1964, p. 183). Clearly, the forest dwellers who have always been the primary searchers of agarwood have been relatively poor in recent decades, and made an important part of their livelihood by the sale of agarwood (field knowledge).

<sup>29</sup> Bedini writes that "with the transmission of Buddhism from India, which occurred in the first century A.D. or possibly earlier, new fragrances became available for use in Chinese temples. This led to the development of new customs, which in turn supplemented the old traditions, and new beliefs about incense evolved. As a consequence, incense became an increasingly important element in the imagism, liturgical observances as well as the literature of Buddhism" (Bedini 1994, p. 44, referring to S. Wells Williams, *The Middle Kingdom. A Survey of the Geography, Government, Literature, Social Life, Arts and History of the Chinese Empire and Its Inhabitants*. (New York: Charles Scribner's Sons. 1904, pp. 188–189; see also Schafer 1963, p. 157). Tantric movements are especially considered to have been influential: "Incense is believed to have come into use in China as part of Buddhist religious rites which have been transmitted from India, following the translation into Chinese of Indian Tantric scriptures by the Indian Buddhist monk Amoghavajra [705–774 CE; Sinclair and Lang 2011, no pagination]" (Bedini 1994, p. 4). For example, the Buddhist-tantric influence supported the "development of a more sophisticated form of the 'incense clock'. The result was the 'incense seal' (*xiang yin* [香印]) which appears to have first come into being in China in the eighth century. It is probable that it was derived from part of the Tantric Buddhist ritual which originated in India" (Bedini 1994, p. 69). Notably,

Chinese Buddhists is exemplarily mirrored in the title of the manuscript *Long-shu Pu-sa he xiang fang* (〔龍樹菩薩和香方〕 *Incense blends of the Bodhisattva Nagarjuna*), attributed to the fifth century.<sup>30</sup>

Both material import and cultural input supported the elaboration of the handicraft. The practice of producing mixed incense is testified for the fifth and sixth centuries CE<sup>31</sup> and the profession of the perfumer in China also dates back to that time.<sup>32</sup> It is probable that

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agarwood was used for the production of incense seals in the following centuries (e.g. Bedini 1994, pp. 90–92, 130, 134, 143).

<sup>30</sup> (Needham 1974, p. 135), The specific role of aromatic substances in Buddhist writing affords in-depth research. However, their significant role as such is beyond question. The standard version of the East Asian Buddhist canon *tripitaka* (based on the Buddhist canon in Pali language, but having developed in China over the centuries by adapting to local East Asian matters; Muller 2011, no pagination; Schmidt-Glintzer 2008, pp. 62–65) for scholarly research, *Taishō shinshū daizōkyō*, includes several thousand references to aromatic substances, products, incensation practices, and the idea of ‘fragrance’ as such – possibly also in metaphorical or other literary usage (The SAT Daizōkyō Text Database; database research via perfumery keywords, such as 〔香水〕 ‘scent, perfume’ (2046 hits/ 2885 keyword counts), 〔白檀〕 ‘white sandalwood’ (859 hits/ 1050 keyword counts), 〔沈香〕 ‘*jinkō*’ (303 hits/ 337 keyword counts), 〔燒香〕 ‘thurification, burning incense for Buddhist ritual aims’ (2492 hits/ 3306 keyword counts). – It will be rewarding to acquire insights into the development of Buddhist sources in this regard, i.e. comparing the role of fragrances in earlier South Asian sources with the one in younger East Asian Buddhist literature.

<sup>31</sup> The moment might be dated even earlier than the fifth and sixth century CE. The National Palace Museum reports on a historical manuscript *Nanzhou yi wu zhi* (〔南州異物志〕 *Records of exotic items from Nanzhou*) describing the production of mixed incense from the third century CE (1994, 16; see also Yamada 1979, 41–42ff). Clearly, the production of incense blends became popular around 600 CE (Yamada 1976, p. 175). The majority of the original manuscripts of this time have been lost, so that knowledge about the methods of production and the usage of incense products is limited (National Palace Museum 1994, p. 17; Yamada 1979, p. 43; Yamada 1976, p. 177).

<sup>32</sup> (Yamada 1976, p. 175), (Yamada 1979, p. 41), (National Palace Museum 1994, p. 16).

agarwood already counted as one ingredient of these perfumery creations. At least five different kinds of agarwood were distinguished in the seventh century CE,<sup>33</sup> testifying to a basic knowledge of this natural material and of its perfumery quality that had necessarily been acquired before. Shortly afterwards, the more difficult production of kneaded incense blends was invented; the origin of these goods dates from the seventh and eighth centuries CE.<sup>34</sup>

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Furthermore, special perfumery manuals existed in the fifth and sixth centuries CE, thus testifying to the professional character of this practice (Yamada 1979, pp. 41–42).

<sup>33</sup> Yamada refers to the following types that were distinguished: 〔沈香〕 (Japanese *jinkō*, [Chinese 〔沉香〕 *chen xiang*]) ▪ 〔青桂〕 (Japanese *seikei*, Chinese *qing gui*) ▪ 〔鷄骨〕 (Japanese *keikotsu*, Chinese *ji gu* [*xiang*]) ▪ 〔馬蹄〕 (Japanese *batei*, Chinese *ma ti* [*xiang*]) ▪ 〔棧香〕 (Japanese *sankō*, Chinese *zhan xiang*) (Yamada 1976, p. 172). – Two of these names were used since early times, i.e. *chen xiang* and *zhan xiang* (Yamada 1976, p. 185). The names refer to natural qualities. *Chen xiang* 〔沉香〕 means ‘sinking in water’, *zhan xiang* 〔棧香 / 棧香〕 (Japanese 〔棧香〕 *sanko*) ‘floating, half-sunken’ [also: Riu 2011, p. 11], indicating the different grade of impregnation with the oleoresin. The first agarwood contains more of it, and is thus heavier and more valuable than the second. In the Tang period 〔黃熟香〕 (Japanese *ōjukukō* / *kōjukukō*, Chinese *huang shu xiang* [“yellow ripe xiang” – (Lin 2011, p. 10)]) was defined as a comparably worse quality of agarwood (Yamada 1976, p. 187). – More and more aesthetic distinctions have been set up in the following centuries (see Chapter III, IV).

<sup>34</sup> Yamada notes that Tang sources do not supply proofs, but historical knowledge – especially the common production of plum meat and honey – makes the production of kneaded incense blends during the Tang period most likely. These materials functioned as adhesives in the production of kneaded incense blends (Yamada 1976, p. 177). In addition, leaves of special plants apparently served as agglutinant. The mixture was kneaded and probably smoked (Yamada 1979, p. 43); see also (Yamada 1979, p. 59). Kneaded incense mixtures became more and more important and represented the primary perfume product [obviously concerning the times since late Tang] in China (Yamada 1979, p. 43).

At that moment, the Tang dynasty was thriving. Established in 618 CE, it was characterised by bureaucratisation and the development of a growing group of literati among the elite, involving the set-up of academies and schools and training units for state office holders. The new educational system influenced cultural life and efforts towards the creation of a national identity, as the traditional core society had to deal with the considerable immigration from the periphery and abroad. Cultural input blossomed, supporting advances in arts and sciences, along with the growth of international trade.<sup>35</sup> “[...] the array of wonderful aromatics imported from distant lands was spectacular” with embassies and caravans coming from everywhere,<sup>36</sup> the “superiority of Indochinese aromatics” acknowledged.<sup>37</sup> Canton had become a leading

international incense market,<sup>38</sup> and agarwood was regularly sent further from there to Chang-an<sup>39</sup> as a local tribute; it became one of the two “most prized” aromatics.<sup>40</sup> While “probably most of the agarwood used in China was imported”,<sup>41</sup> its inland production was however supported since the middle of the Tang period. The first agarwood production on the Leizhou peninsula<sup>42</sup> was followed by productions on the Hainan island<sup>43</sup> in the tenth century CE and additionally Haibei<sup>44</sup> and Nanhai<sup>45</sup> in the twelfth century CE,<sup>46</sup> – reflecting the growing demand in Asia as well as local interests in participating in the profitable business.

The refinement of the arts of producing and appreciating aromatic goods during the Tang period is noteworthy. The prolific use

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<sup>35</sup> (Schmidt-Glintzer 2008, pp. 70–75.) – The import constellation changed, however. The prominent pharmacopoeia *Hai yao ben cao* (《海藥本草》 *Pharmaceutical Natural History of Overseas Drugs and Sea Products*) by the Persian immigrant Li Xun (李珣) (according to Needham, one “of the most remarkable perfume-merchants in Chinese history”; see also remarks on the Chinese contacts with Islamic Asia) indicates the increasing availability and importance of Southeast Asian products, at the expense of Syrian and Iranian ones, in Tang China (Needham 1974, p. 136, 1986, pp. 276–277). Yamada similarly hints at importing and exporting in both directions, while he dates the economic-aesthetic shift from the West toward Southeast Asia only to post-Tang times, “up to T’ang, India was the chief source, but, beginning in Sung [i.e. 960 CE] the Flores Archipelago, especially Timor, supplied China with most of her imports.” (Schafer 1963, p. 310), referring to (Yamada Kentarō, *Tōzai kōyaku shi*, Tokyo, 1957, p. 405).

<sup>36</sup> “[...] especially the resins and gum-resins: sandalwood and aloeswood [i.e. agarwood], Borneo camphor and patchouli, benzoin and storax, and frankincense and myrrh” (Schafer 1963, p. 158).

<sup>37</sup> (Schafer 1963, p.158) – In another publication, Schafer elaborates on the special value and desirability of Southeast Asian products for the Chinese (and other) people in more detail: Schafer 1967. Concerning agarwood: (Schafer 1967, p. 197). However, concerning the overall Tang period, “die chinesische Kultur übernahm in jener Zeit [i.e. the beginning of Tang; ...] zahlreiche Kenntnisse sowie Handelsgüter und Kulturpflanzen aus dem Westen [...]” (Schmidt-Glintzer 2008, p. 76).

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<sup>38</sup> (Schafer 1963, p. 158) – This author lists in detail the many aromatic items that were introduced from western and Southeast Asia and became important during the Tang dynasty, among them saffron, sandalwood, frankincense and ambergris (Schafer 1963, pp. 124–126, 136–138, 155–175). However, “the Chinese produced a not inconsiderable number of perfumes and incenses from their native plants and animals. Cassia, camphor, and liquidambar [...] sweet basil [...] citronella [...] peach petals [...] civet [...] and especially musk [...]” (Schafer 1963, p. 158) – “[...] all the fabulous wealth of Canton was brought by foreigners [...] chiefly in the form of precious substances – [...] woods, drugs and incense [...]” (Schafer 1967, p. 77).

<sup>39</sup> The capital and royal residence town, today Xi’an.

<sup>40</sup> “Next to camphor, the most prized aromatic substance of the T’ang empire, both secular and religious [...] was aloeswood [i.e. agarwood] [...]. Regular supplies [...] were required of the magistrates of Canton and [...] in Annam by the emperors of T’ang” (Schafer 1967, p. 197).

<sup>41</sup> Schafer 1963, p. 164. Concerning the tributary gifts of agarwood, in addition to primarily musk, also see: (Liu 2008, p. 409).

<sup>42</sup> Southern coast of China.

<sup>43</sup> Opposite the Leizhou peninsula.

<sup>44</sup> Part of Guangzhou province.

<sup>45</sup> Coastal area in South China.

<sup>46</sup> (Yamada 1976, pp. 193, 197). Yamada writes about the collecting of agarwood as a profession on the Leizhou Peninsula and Hainan (Yamada 1979, p. 25).



of perfumes by the elite at home as well as within religious contexts<sup>47</sup> obviously supported technical advances and increased the attention given to the endeavour, so that it became worthy of mention in poetry.<sup>48</sup> In addition, archeological findings<sup>49</sup> shed light on the perfumery finesse of those centuries, which was associated with the use of agarwood.<sup>50</sup> For

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<sup>47</sup> Incense is regularly used in the capital Chang-an according to Liu, especially within the palace. The clothes of the magistrates employed in the palace distribute the fragrance when they return home at night (Liu 2008, p. 410). Schafer elaborates on the broad use and role of incense in the Tang period by romanticising, “[...] the upper classes lived in clouds of incense and mists of perfume. The body was perfumed, the bath was scented, the costume was hung with sachets. The home was sweet-smelling, the office was fragrant, the temple was redolent of a thousand sweet-smelling balms and essences. [...] The sovereign displayed his grace to his favoured vassals and honoured servants by giving them aromatic gifts. [...] Pleasant odours also entered into secular life” (Schafer 1963, pp. 155–157).

<sup>48</sup> For examples, see e.g. (Liu 2008, pp. 409–412). – Li Bai (李白) (ca. 701–762 CE), as the outstanding poet of Tang times, is one representative of using olfaction-related images (see e.g. Debon 1989, pp. 5, 245). See also (Thilo 2006, pp. 90, 262).

<sup>49</sup> For example, Liu discusses findings from the Famen Temple (Famen town, in Shaanxi province, about a hundred kilometers to the west of Xi’an). Interestingly, Liu interprets the findings, such as censers and possibly incense boxes, as Buddhist incensation paraphernalia, by referring to inscriptions and decorative images. A piece of agarwood also is among the findings, as the author explains (see Liu 2008, pp. 412–416, 419–420).

<sup>50</sup> Highly prized were mixtures, such as the *bai he xiang* (百合香) ‘hundred-blend aromatics’, see e.g. Bedini 1994, p. 29). Considering the sizable import and the perfumery properties of agarwood, it is most likely that this wood counted for an important ingredient. Needham cites “the oldest official pharmacopoeia” *Xin xiu ben cao* (新修本草) *Newly Reorganised Pharmacopoeia* from 659 CE, which distinctly refers to agarwood as one of the six “most prominent incense constituents” (Needham 1974, p. 143). An exclusive role of agarwood is however not suggested for the Tang dynasty by the bibliographic sources. The following statement by Schafer rather describes the Song dynasty, as I interpret it due to the lack of other historical indications. “[...] the importance of aloeswood [i.e. agarwood] in medieval Chinese

example, early forms of incense clocks and aromatic seals were common,<sup>51</sup> and the globe-shaped censer (〔香球〕 *xiang qiu*, 〔香囊〕 *xiang nang*) presents an especially exquisite perfumery utensil.<sup>52</sup>

### III. Supraregional Contacts, Literati Societies, and a Refined Perfumery

The Tang dynasty had been replaced by the Song dynasty (960–1279 CE) by the time the inland production of agarwood had become well established. This dynasty prospered in step with developments outside

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incenses for every sort of ritual and private purpose was enormous” (Schafer 1963, p. 164).

<sup>51</sup> ‘Incense clocks’ refer to incense products which may be used for time measurement (consider Bedini 1994, pp. 53–59), in acknowledgment of the time expenditure of their burning down. Their shape could vary from sticks to coils. The elementary forms became more developed, and led to the more sophisticated form of the ‘incense seal’ (〔香印〕 *xiang yin*). Lines of incense powder are created by the help of shaped models, representing characters or signs. Thus, while burning down slowly from the line’s beginning to its end, the incensation of the shaped incense powder presents in practical and symbolic ways a message (see e.g. Bedini 1994, pp. 69, 73, 80, 82; consider also 1994, p. 93).

<sup>52</sup> In general, East Asian art museums usually possess a number of fine perfumery objects from the Tang period, mirroring the perfumery arts and efforts of the Tang dynasty (for such examples as globe-shaped censers and sachets of dried aromatics, see e.g. Needham 1974, p. 147; Schafer 1963, pp. 160, 162). – The globe-shaped censer is made of gilded silver and consists of two interlocking hemispheres on a chain, and with two concentric rings in the hollow inner part that hold a tray for the incense. Thus, while the censer is carried around, the burning incense cannot fall out, and the fragrance is dispersed through the openwork. The filigree object and perfumery as such are so much favoured nowadays that the object has become used as a model for mass-produced tourist souvenirs (my own observation of objects marketed in museum gift shops in Eastern Asia and Europe and in East Asian tourist and antique markets).

its borders. Migrations southwards continued, as did the efforts to improve educational and bureaucratic facilities. Urbanisation led to the development of municipal societies of learned townspeople and an increasing influence of traders and craftsmen. The newly-opened access to formalised education for considerable parts of the population is connected with technical progresses in woodblock printing, encyclopedic efforts by literati, and the establishment of material arts collections. Generally speaking, the cultural-economic bloom of these centuries was of new dimensions.<sup>53</sup>

All these processes found their expression in the culture of agarwood. Its use had become prominent among the nobility, as elaborately recorded for the first time by the official and palace cognoscenti Ding Wei [丁谓]. His essay *Tianxiang Zhuan* (〔天香传〕 *Heaven Fragrance Records*) from 1022–1025 illustrates that people used the scented wood for perfumery aims, it also gives information about its treasuring, and the awareness of historically earlier knowledge of the aromatic good. His access to agarwood as a participant of court life and rituals – Ding Wei lived during a period in the Song when tribute was received frequently – and his earlier and ensuing life in the agarwood-producing areas of Fujian and Hainan let him acquire practical expertise in both the use and in the aesthetic varieties of agarwood. His distinctions of agarwood types would influence younger authors in later times,<sup>54</sup> when agarwood became more and more of a

public commodity. Indeed, the import of this natural product rose eminently. In general, the amount of produce imported from Southeast Asia surpassed the amount of western produce by that time.<sup>55</sup> The emergence of distinct business manuals was a characteristic of, a condition of and the result of sizable trade. The manuals indicate the weighty involvement of Chinese people in the Southeast Asia trade at that time, which explains how Chinese writers acquired such in-depth knowledge. The earliest extensive treatise is the *Ling wai dai da* (〔嶺外代答〕 *Vicarious answers about [the territory] beyond the [Five-] Mountains*); it was compiled in around 1178 CE by Zhou Qufei [周去非], who served as an assistant subprefect at Jing-jiang (today Guilin, in Guangxi) in ca. 1172–1178 CE.<sup>56</sup> Agarwood is listed as a tributary and trade item of several Southeast Asian polities and Hainan; its value has become equal to silver.<sup>57</sup> Shortly afterwards, in 1225 CE, another and larger account

<sup>53</sup> Schafer 1963, p. 310 (referring to Yamada Kentarō, *Tōzai kōyaku shi*, Tokyo, 1957, p. 405). – See also Hirth and Rockhill: “The annals of the Sung dynasty supply a list of the principal articles of this [i.e. Southeast and South Asia trade] trade [...] in or about 999 [CE]. They were [...] incense and scented woods [...]” (1964, p.19).

<sup>54</sup> Netolitzky 1977, VIII, p. 318.

Concerning treatises on aromatic materials from earlier (and also later) periods, see e.g.: Needham 1974, pp. 134–136. As such compilations number many (consider especially the pharmacological *bencao* [本草] anthologies), I omit further bibliographic references.

<sup>55</sup> Netolitzky 1977, pp. 30, 40, 117–119, consider also 1977, pp. 34, 36, 38, 39. This encyclopedic work reveals that agarwood was considered the pinnacle of aromatics, or [dass Agarholz] “an der Spitze der Aromatika stand” (Netolitzky 1977, p. XX). “Die chinesischen Händler [...] arbeiteten oft im Auftrag reicher Kaufleute, die eigens einmal im Jahr [...] kamen, um große Abschlüsse mit annamitischen Geschäftspartnern zu erzielen, wobei die hochgeschätzten Brokate ihrer Heimatprovinz gegen die begehrten Aromatika, besonders Aloeholz [e.g. agarwood], und anderes mehr gehandelt wurden” (1977, p. XXI). Netolitzky distinctly refers to agarwood as tributary gifts: “Bei diesem Tribut [from Annamese envoys] wurden [...] auch Dinge wie [...] Scheibchen von Aloeholz mitüberreicht” (1977, p. 30).

<sup>53</sup> (Schmidt-Glitzner 2008, pp. 87–97).

<sup>54</sup> Ding differentiates between [熟香] *shu xiang* (‘ripe incense’, indicating that the tree is already dead [and usually buried underground when the agarwood develops, or as another possibility still standing above the ground]) and [生香] *sheng xiang* (‘raw incense’, meaning the tree is still alive at the moment that the agarwood forms) (Liu 2004, pp. 146–166) also (Wu 2007, p. 72); field knowledge; additionally: (Riu 2011, p. 16). The different chemical conditions – air or soil etc. – vitally influence the character of the resinous wood (field knowledge). Ding’s distinctions are thus considered up to today (field impression).

was compiled on the basis of the earlier model, by Zhao Rukuo [趙汝适], *Zhufan zhi* (〔諸蕃志〕 *A Gazetteer of Barbarous People*). The elaborate presentation in comparison with the portrayals of other aromatics reveals the attention allotted to agarwood. The author distinguishes different types of agarwood by considering their geographical origin (e.g. Tonkin, Annam, Cambodia, Malay Peninsula, Sumatra), varying quality, appearance and fragrance, and informs his readers about their commercial availability on local markets. Participating in this commerce was obviously decisive; Chinese traders as well as governmental bureaucrats strove for it.<sup>58</sup> The information compiled served the mercantile demands in everyday business well,<sup>59</sup> as

<sup>58</sup> Hirth and Rockhill 1964, pp. 204–208. See also 1964, pp. 46, 50, 52, 53, 57, 61, 67, 68, 69, 81, 89, 158, 176, 183, 185. – Note: Yamada emphasises that the trade of aromatics was under the exclusive right of the government in the Song dynasty, due to the enormous profits (Yamada 1976, p.173). It is unclear for this author which percentage of the overall trade is made up by tributary trade (Yamada 1976, p. 174).

<sup>59</sup> The mercantile character of the compilations is obvious considering that the possible use of agarwood by the Southeast Asians themselves is not a topic; such knowledge would not have meant special profit for international trade. Only a few references perhaps allude to the local use of agarwood, and this information remains vague. Zhao Rukuo writes, “Hier steht auch ein Heiliger Buddha, zu dem der Herrscher des Reiches Srivijaya alle zwei Jahre zieht, um (vor ihm) Dufthölzer zu verbrennen (Netolitzky 1977, pp. 39, 228). The author further reports, Annamese people “perfume their clothes with fumes of various scented woods” (Hirth and Rockhill 1964, p. 47 – Is it agarwood?). “The throne on which the [Cambodian] king sits is made of gharu-wood [i.e. agarwood] [...]” (1964, p. 52 – Is this true? Healthy *Aquilaria* heartwood is too soft to be used as timber, and well resin-impregnated agarwood usually makes relatively small pieces and is not optimally suited as a material for laminated wood products. As agarwood is also expensive, it is thus uncommon in the furnishing industry, according to my field experiences). Neither do my field experiences hint at an aesthetical value of agarwood beyond its commercial worth in Southeast Asia in history. Such a constellation is not surprising, as often goods from afar are considered worthier than comparable goods of local production that appear banal and cheap in the domestic market.

it was handily arranged under five major kinds of agarwood types;<sup>60</sup> the information fulfilled all needs of supplying a refined perfumery in which agarwood meanwhile accounted for more than one third of all substances used (beginning of the twelfth century).<sup>61</sup> These arts had become more elaborated by that time,<sup>62</sup> and consumption increasingly

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Furthermore, the manuals lack botanical elaborations. Also, this knowledge would not have increased commercial profits for traders. Burkill gives insight into the situation at the beginning of the twentieth century CE: “The names [for different kinds of agarwood] used by the traders in the ports implied no knowledge on their part of the trees from whence the wood came; nor as a rule, did they have any knowledge. They developed, for trade purposes, a classification of grades, which, among the Chinese, were very minutely distinguished” (1966, p. 200).

<sup>60</sup> [沉香] *chen xiang* [sinking wood] ▪ [箋香] *jian xiang* (according to Hirth and Rockhill probably identical with [棧香] *zhan xiang* [half-sunken wood]) ▪ [速暫香] *su zan xiang*, embracing [生速] *sheng su* (“fresh [‘raw’, the tree had been alive when the agarwood formed and was won]”), [熟速] *shu su* (“ripe [the tree had been dead and its wood rot in the ground when the agarwood was won]”), and [暫] *zan* [like *shu su*, but the wood was still above the ground] ▪ [黃熟香] *huang shu xiang* (“yellow-ripe-agarwood”) ▪ [生香] *sheng xiang* (Hirth and Rockhill 1964, pp. 204–208). Note: There were more (sub-) categories known, as listed by Hirth and Rockhill under these main categories. – Apparently, Zhao Rukuo collected the various agarwood distinctions of earlier times which were obviously simultaneously used by his contemporaries. The distinctions partly count for productional features, partly for experiential qualities, and so are not congruent and yet intersect. – Note: Zhao Rukuo’s/ Hirth and Rockhill’s interpretation concerning the olfactory character and aesthetic preferences do not always resemble typical considerations of nowadays. This might be due to the individual character of each agarwood piece, fakes, individual likes, different levels of expertise, as well as misunderstandings on all communication levels. (Elaborate manual on agarwood distinctions: Lin 2011; concerning the historical development of aesthetical distinctions in Eastern Asia: see also Chapter IV).

<sup>61</sup> Yamada 1976, pp.174–176.

<sup>62</sup> The literary genre of perfumery manuals (〔香譜〕 *xiang pu*) had become important (elaborate discussion, Liu 2007) and also included recipes. The National Palace Museum presents a small selection, exemplarily mirroring royal dedications of products, the important inclusion of agarwood, and the diversity of end products, for

connected with sophistication.<sup>63</sup> In line with the rising aesthetic sensitivity, agarwood was increasingly consumed singly, without other aromatics. In order to appreciate its fragrance even more purely, a small silver plate (〔銀葉〕 Chinese *yin ye*) was innovatively used to protect the wood from the fire during incensation. Triggering the release of merely the aromatic molecules without burning the wood fibers made the creation of incomparably mild notes possible.<sup>64</sup> “‘Listening to fragrance’ (literary translation of 〔聞香〕 *wen xiang*, ‘to smell’)” became a special pastime, meaning to fully appreciate the incensation, and to pay attention to the agarwood pieces’ diverse olfactory natures.<sup>65</sup>

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example perfume powders, balls, cookies, incense seals, potpourri sachets, and aromatic objects and figures, and know-how on achieving an olfactory harmony by select blending of ingredients (1994, pp. 17–20, 29–31). Concerning specifically perfumes of powdery constitution, Yamada hints at 〔香粉〕 (Japanese *kōko*, Chinese *xiang fen*, to be sprinkled on the body), 〔佩香〕 (Japanese *haikō*, Chinese *pei xiang*, in sachets), 〔衣香〕 (Japanese *ikō*, Chinese *yi xiang*, for clothes), 〔燒香〕 (Japanese *shōkō*, Chinese *shao xiang*, incense for Buddhist and other rituals and for measuring time). For producing kneaded incense blends, 〔練香〕 (Japanese *renkō*, also *nerikō*, Chinese *lian xiang*, kneaded incense blend), honey or plum meat was added to the aromatic powder, before this was stored for a longer time and possibly smoked (Yamada 1976, p. 176; Yamada 1979, p. 47; see also Yamada 1979, p. 144).

<sup>63</sup> The fine appreciation of perfumes is a topic of the literary-poetic and visual arts of the Song dynasty; the artworks reveal their use by the nobility and others for such occasions like religious rituals and social events (see e.g. National Palace Museum 1994, pp. 20, 23–25, 30–31; Liu 2011, p. 108; Wu 2007, pp. 28–33; field knowledge from art museums in Europe and Eastern Asia). Moreover, the perfumery tools themselves were objects of fine production, for example incense seal models (Yamada 1979, p. 32; Bedini 1994, pp. 93–106; National Palace Museum 1994, pp. 21–23, 26).

<sup>64</sup> The technique was invented as early as in the Tang period (Liu 2011, p. 106); however, it became common in the Song period (Yamada 1979, p. 77). In addition to plates made of silver, plates made of mica have become common and are used today (field knowledge).

<sup>65</sup> Concerning the appreciation of exclusively agarwood, see: Yamada 1976, pp. 177, 1979, pp. 49, 60.

The international Chinese trade as reflected in these manuals had a significant impact, concerning the influence of Chinese aesthetics on neighbouring perfumery cultures. For example, grading categories of agarwood were adapted by other cultures in the ensuing decades.<sup>66</sup> Particularly the Japanese drew from the Chinese perfumery culture from early on, and adapted such recent practices as the exclusive use of agarwood (〔一木炷〕 Japanese *ichibokudaki*), the use of a protective plate (〔銀葉〕 Japanese *ginyō*), as well as the tradition of paying fine attention to fragrances (〔聞香〕 Japanese *monkō*, literally ‘listening to fragrance’), developing these notions even further.<sup>67</sup> In addition to the eastern people, West Asians were also in close contact with the Chinese from the late first millennium CE and were stimulated by the commercial and ideational value attributed to agarwood there.<sup>68</sup> The arts of

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<sup>66</sup> E.g. by the Japanese, for example: 〔沈香〕 *jinkō* (Chinese *chen xiang*, ‘sinking wood’) ▪ 〔箋香〕 *senkō* (Chinese *jian xiang*) / 〔棧香〕 *sankō* (Chinese *zhan xiang*) ▪ 〔黃熟香〕 *ōjukukō* (Chinese *huang shu xiang* (see the Japanese literature – see bibliography; concerning the Chinese terms: see Chapter III).

<sup>67</sup> See e.g. Yamada 1979, pp. 69–70, 77. Consider the overall history of Japanese perfumery history and specifically of *kōdō* (see Chapter IV).

<sup>68</sup> West Asians had a fancy idea of and “certain interest” in agarwood, when they developed a “scientific”-commercial interest in Southeast Asia (i.e. the classical time of Arabic geographical literature, ninth to eleventh centuries CE), since they included notes about agarwood in their reports (see Tibbetts 1979, pp. 27, 29, 30, 33, 34, 37, 38, 40, 42, 43, 53, 55, 56, 59, 60, 61, 64). The growing interest is not surprising; “Southeast Asia [...] was the source of a large quantity of spices and drugs used in Arabic medicine [...]” (1979, p. 3), among which was agarwood.

The knowledge and value of this commodity could have arrived in West Asia by several ways. First, possibly isolated individuals got to know Southeast Asia, including its products, and passed their knowledge on by word of mouth. Navigators coming from the Sassanian empire seem to have travelled to Southeast Asia in the early first millennium; these travels however, are obscure and were exceptional. First hand scholarly field knowledge about Southeast Asia remained rare up to the end of the first millennium CE. Tibbetts emphasises that classical Arabic authors drew their knowledge from only a few primary sources and oral reports (1979, pp. 1–5).

agarwood in West Asia became prominent over the course of time,<sup>69</sup> with decisive effects on both perfumery regions in mutual exchange up

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Second, early sources from Indian culture(s), like medical notes, were clearly known among Muslim scholars, and these sources also point to pharmaceutical qualities of agarwood. (Due to the extensive scholarship on the Indian heritage of Islamic medicine, I omit bibliographic references).

Third, the rising Chinese influence surely increased the value of agarwood in West Asia. The ancient civilisation had a fascinating aura for these people, and they were eager to get to know it (Bosworth, Hartmann and Israeli 2011, no pagination). “Trade had been established with China certainly before 750 [CE]” (Tibbetts 1979, p. 6). The first Arab embassy to China took place in 651 CE (Needham 1954, p. 179, more detailed: Bosworth, Hartmann and Israeli 2011, no pagination) – a time when agarwood was still unknown or neglected in West Asia (in contrast to other aromatics it is not named in the Qur’ān – seventh century – and rarely in the early collections of sayings of the Prophet called *ḥadīth* – ninth century onwards, see Jung, *Ethnography*, 2011, pp. 214–218; *Value*, 2011), while its use was already significant among the Chinese nobility. People from the Persian region and embassies from border-states between there and China also arrived on the East Asian continent after the wave of Islamisation at their home (seventh to eighth centuries). West Asians were present in Chang-an, and increasingly settled in Canton. There they met with members of diverse argosies from maritime Asia who exchanged among many other objects “fragrant tropical woods” (Schafer 1963, pp. 14–15, see also 1963, p. 158; see also Needham 1954, pp. 179–180; Hirth and Rockhill 1964, p. 4). Necessarily, West Asian traders became involved in the East Asian agarwood culture, as they observed tributary trade from Southeast Asia (consider e.g. the flourishing culture of West Asians in Canton, followed by the rise of Muslims as high officials in the central and provincial governments in later centuries, see e.g. Bosworth, Hartmann and Israeli 2011, no pagination, Dabringhaus 2006, p. 8). The eminent pharmacopoeia *Hai yao ben cao* (〔海藥本草〕 *Pharmaceutical Natural History of Overseas Drugs and Sea Products*) by the Persian immigrant Li Xun (李珣) in Szechuan (Southwest China) from the turn of the 9th/10th century indicates Intra-Asian flows and networks, and testifies the increasing role of Southeast Asian aromatics in international trade and consumption (Needham 1974, pp. 136; 1986, pp. 276–277; Chen 2007, pp. 241–260).

<sup>69</sup> Concerning the ensuing history of knowing, using, and refining agarwood in West Asia, see: below; Jung, *Value*, 2011.

to the twenty first century CE.<sup>70</sup> Specifically during the Yuan dynasty (1271–1368 CE) the earlier Chinese exchange with West Asian countries like Iran and Central Asia via the land route revived,<sup>71</sup> and was ensued by international long distance sea trade in the following centuries. Even governmental maritime missions were conducted by the Chinese in the

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<sup>70</sup> East Asians and West Asians meet in the perfume markets in Southeast Asia, for stocking up their agarwood supplies, while they exchange information (field knowledge, see Chapter V). Consider also the influence of Chinese-written articles, such as e.g. “Chenxiang ...” 2006.

<sup>71</sup> Schmidt-Glitzner 2008, pp. 99–103. – Dabringhaus especially emphasizes the exchange in medical sciences [which was related with pharmaceutical knowledge] between Islamic Asia and China (2006, pp. 8–9). Worthy emphasizing, trade was carried out “in nahezu alle [geographical] Richtungen” in the Yuan dynasty, often via land routes, and also via maritime connections (Schmidt-Glitzner 2008, p. 99, consider also 2008, p. 100; Dabringhaus 2006, p. 8).

The Persian-written poetic legacy of those centuries mirrors the increasing knowledge and high value of agarwood in the vast region between Eastern and Western Asia. Mystics burned agarwood during their reunions, and its fragrance was understood as a mystical sign of holiness. Moreover, the nest of the mythical bird Sīmorǧ was honored in poetry as having been made of this wood. Due to the value of agarwood, its use was practically reserved to royal and noble circles. The influence from the East is obvious; Persian literature for example reports on a Chinese emperor burning agarwood during a banquet in honor of a Persian hero (Newid 2010, pp. 159–162, 171, 165–176). It is likely that the westward transmission of the knowledge of agarwood via Asia’s interior continued in the following centuries. Conversely, the value generally attributed to perfumery in the holy Islamic literature and in West Asian culture (see especially Jung, *Ethnography*, 2011, pp. 214–218) probably encouraged the use of agarwood in inner Asia (consider e.g. the cultural exchange between Muslim immigrants and Buddhist royal circles and other local people there – Akasoy, Burnett and Yoeli-Tlalim 2011, especially 231–252. Consider also the trade of musk, and transmission of related knowledge, via the “Musk Routes” – see e.g. Akasoy and Yoeli-Tlalim 2007, pp. 217–236; Akasoy, Burnett and Yoeli-Tlalim 2011, e.g. pp. 189–208. Due to the common use of musk in combination with agarwood, the transmission of knowledge and values concerning musk was possibly accompanied with the transmission of knowledge and values concerning agarwood). Doubtlessly, agarwood has been known and used in Tibet for perfumery purposes in recent centuries (field impressions from East Asian art museums; see also Bedini 1994: 47, 50–51).

early Ming dynasty (beginning in 1368 CE). The imperial voyages led along the Pacific and Indian Ocean Rims to eastern and western countries as far as Yemen and beyond, with the participation of Muslim seamen, who personally contributed to the international economic-cultural exchange.<sup>72</sup> In between the journey, the ships called at leading

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<sup>72</sup> Schmidt-Glintzer 2008, pp. 118–125; Dabringhaus 2006, pp. 26–27, consider also 2006, p. 8.

The impact of Islam on the all-Asian history of perfumery and specifically agarwood should not be underestimated. West Asian attention to the Far East had temporarily declined after the tenth century. However, after “[...] the reorganisation of the sea trade by the Mongols and the coming of Islam to Indonesia, [...] the Muslim West shows [...] new interest in South-East Asia” (Tibbetts 1979, p. 10). Multi-polar migrations were significant, and fostered multiethnic developments and exchange. “[The earlier] trading contacts with Persia and Central Asia [had] led to the development of Sino-Muslim communities in towns along the southeast coast of China, notably Canton [...]. The involvement of Muslim Chinese in ocean-going trade in turn fostered the growth of [Muslim Chinese] settlements overseas. [...] for instance [...] most of the Chinese living in Java came from southern China, and many of them were Muslim. [...] the seal of imperial approval given to Islam by [...] Chinese] emperor[s] such as Yung-lo (1402–24) must have aided [the spread of Islamic knowledge and reputation ...]. [...] the founders of several ruling families along the north coast [of Indonesia] were Chinese Muslims [...]” (Watson Andaya and Ishii 1999, p. 171). It is likely that the Chinese participation in the global community of Islam has significantly contributed to the valuing of agarwood among all Muslims, and also to the commercial distribution of this good all over Asia. At least, East Asian Muslims stood in fair contact with the wider Muslim community who yearly met at their religious centre in Mecca for conducting the pilgrimage (Bosworth, Hartmann and Israeli 2011, no pagination). Due to the perfumery habits at their home, it may be assumed that East Asian Muslims promoted the knowledge and use of agarwood among the wider Muslim community. Unarguably, the central Islamic people learned to value the scented wood, especially for its use during religious rituals and exclusive social events (see Jung, *Value*, 2011, pp. 7–9). Possibly, the search for agarwood has been one reason for Muslims to penetrate into Southeast Asian hinterlands over many centuries (consider Schafer’s remark: “Probably, the infiltration of Islam into Champa was mainly the result of commercial activity: to the merchants of the ninth century Champa was a rich land, above all the source of the heavier-than-water aloeswood [...]”; Schafer 1967, pp. 75–76). Lin emphasises the interest of West Asians in coming to the East

Southeast Asian *entrepôts*. It may thus be assumed that royal crews received agarwood pieces as tributary gifts from local (Islamic) rulers,<sup>73</sup> and again became more deeply involved in the supra-regional trade as well as with inciting the promotion of agarwood at home in China.<sup>74</sup> Clearly, “China was the largest market for Southeast Asian goods” in 1400 CE, and stimulated the Southeast Asian commerce despite of all

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and their involvement in the international perfume trade for the first centuries of Islam; the international trade would have been dominated by them (1960, pp. 2, 7, 411–412, 416, 417). Nowadays, Arab Muslims invest into agarwood plantation and distillation facilities in Southeast Asia. – Worthy of emphasis is that in addition to their West Asian clients these Arabic entrepreneurs also serve Buddhists customers from East Asia. These in turn come to Southeast Asia specifically for visiting the Arab suppliers in order to stock up their agarwood provisions (field knowledge).

<sup>73</sup> The Chinese crew also called at the port of the leading (Islamic) Sultanate of Malacca (field knowledge), which “[...] established its supremacy [...], thereby guaranteeing control of all trade passing through the straits. [...] Melaka was the central *entrepôt*” (i.e. fifteenth to sixteenth centuries CE; Taylor 1999, pp. 175–176). Dabringhaus explicitly writes: “Die exotischen Gegengeschenke [for the Chinese royal crew] reichten von [...] Düfte und Gewürze Südostasiens [...], die alle in den kaiserlichen Haushalt überführt wurden und nicht in den Handel kamen” (2006, p. 27). – At that moment, the Southeast Asian ports had already served as supra-regional *entrepôts* for many centuries since the first millennium CE. Only the role of the Chinese grew. Following the “growing presence of Chinese shipping” during the Song dynasty, “the newly established Ming dynasty of China took an unprecedented interest in Southeast Asia”, “[...] several local ports were now able to stand independently of other Malay powers by dealing directly with the Chinese” (Taylor 1999, pp. 174–175).

<sup>74</sup> Scholars differ significantly in their interpretation of the character and aim of the royal sea expeditions at the beginning of the fifteenth century – as merely diplomatic or as clearly trade-oriented. In contrast to the cited scholars of Chinese history who elaborate on the diplomatic character of the maritime expeditions – China’s search for establishing its uncontested leadership in the supra-region (Schmidt-Glintzer 2008, p. 119, Dabringhaus 2006, pp. 26–27) – the expert of Southeast Asian commerce, Reid, emphasises the business interests of the Chinese. The dynasty “vigorously encourag[ed]; [...] lucrative ‘tribute’ missions”, as especially the “massive state trading expeditions” mentioned above, which had an “enormous effect in stimulating Southeast Asian trade and commerce” (Reid 1999, p. 120).

royal bans on private trade, which was carried out inwardly or via mediator ports or brokers.<sup>75</sup> “After 1400 [CE; ...] forest products [...; as is agarwood] were gathered in an increased scale [...]”<sup>76</sup> “The peak of

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<sup>75</sup> “Chinese state trading ceased abruptly in 1433 [i.e. after the maritime expeditions stopped], and private Chinese trade remained officially banned, but Southeast Asia’s trade to the north remained lively. There were always secluded bays on the South China coast where the imperial ban on trade was ineffective. Furthermore, the use of tribute missions to Peking [...] as a way to circumvent the ban was at its peak in the fifteenth century [...] Finally the island of Ryukyu [...] became a crucial commercial link between Southeast and Northeast Asia in the period 1430–1512, profiting from its tributary relations with both China and Japan to bring Southeast Asian products to these theoretically closed kingdoms. [...] the expansion of Chinese demand in the fifteenth and sixteenth centuries was probably the biggest stimulus for Southeast Asian commercial growth [...]” (Reid 1999, p. 120).

<sup>76</sup> Reid 1999, p. 124. – Traditionally, agarwood is searched by forest dwellers in the surroundings of their villages (field knowledge). The more agarwood became an international commodity in history, the more its production could become a substantial source of income for the local population. Already in the Song period, “the people gain[ed] their livelihood by gathering scented woods” (Hirth and Rockhill 1964, p. 50). Reid writes in concern of around 1400–1600 CE, local cultivation products “[...] were crucial in bringing wealth and shipping into the region as a whole and thereby stimulating a vast range of local trade routes which brought provisions and consumer goods to the [...; village people] and the cities” (Reid 1999, p. 125). Even if agarwood was ever far from being produced in volumes like cultivated crops, its production could be increased, by improving the efficiency of developing, collecting, and distributing agarwood.

In addition to the forest dwellers, a chain of stakeholders has traditionally participated in the profitable trade, based on custom dues, gifts, impositions, royal monopolies, and personal trade at exalted prices (consider Reid 1999, pp. 128, 140; Song heritage: Hirth and Rockhill 1964, pp. 20–23, 48). The following general ideas by Reid are worthy of attention: “[...] beneficiaries were the rulers of the port-cities which marketed these goods, the traders, and the intermediaries who financed the new frontiers of cash-cropping [or collecting wood pieces respectively?]. [...] Those who received an advance of money [...] would remain dependent on the financier, and in particular would be obliged to market their harvest through him or her” (Reid 1999, p. 126). Concerning the special case of agarwood, such intermediary trade is verified for recent decades (field knowledge, Yamada 1995, pp. 463–466), which allows to assume

the boom in Southeast Asia’s trade occurred during the period 1580–1630, as a result of [...] exceptional demand from China, Japan, [...]. [...] [The] competition for Southeast Asia’s valuable products was intense.” In 1567 CE, the Chinese emperor had lifted the Ming ban on private trade to the south.<sup>77</sup> The role of private traders grew significantly. In addition, craftsmen were decreasingly employed by the court, and services became more and more monetised. This development resulted in new business capacities and in the commercialisation of Chinese society as such. Individual merchants were eager to get involved in international trade. Since they received greater social respect and were slowly integrated into the traditional upper society,<sup>78</sup> this growing upper

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a similar structure for this specific business also in earlier centuries (consider also the historical indications by Hirth and Rockhill 1964, p. 50). – Nowadays, during treks into the forest, usually taking several days, small teams of indigenous people search for agarwood. These treks are financed by brokers – usually expatriates – who come into the indigenous camps to ask for the aromatic wood. The pieces gathered are brought out, non-fragrant parts of wood are chipped off, before the brokers check the quality and negotiate a price. They then send the agarwood downriver to the next city, where they are collected, sorted and sent to the nearest large harbour and on to a leading *entrepôt*, where the international distribution chain starts. Only in the last few years has the business network and procedure started to change fundamentally, due to mass cultivation projects, and the spread of mobile phones and international courier services, which allow for direct business even over continental distances. The local foresters do various undertakings with the aim of participating in the global business (field knowledge).

<sup>77</sup> Reid 1999, p. 123.

<sup>78</sup> In all, the ban of sea trade, the growing isolation of China, the appearance of wholesalers and bankers, and the emergence of a new middle society characterised the 15th and 16th centuries (Schmidt-Glitzner 2008: pp. 126–127). Dabringhaus elaborates in more detail on the changing identity of the growing patrician society: “Eine wichtige Folge der seit dem 16. Jahrhundert voranschreitenden Kommerzialisierung zeigte sich in der veränderten Haltung der traditionellen Oberschicht der Beamten und Gelehrten gegenüber den Kaufleuten. Ein ‘kaufmännischer Geist’ prägte die Gesellschaft der späten Ming-Zeit und führte dazu, dass die Kaufmannsschicht in die traditionelle Oberschicht integriert wurde. [...] Entwicklung eines gemeinsamen Statusbewusstseins” (2006, pp. 25–26).

class of patricians had direct access to agarwood supplies via their seafaring fellows. Necessarily, the individual traders were interested in encouraging the use of agarwood in order to augment their personal income,<sup>79</sup> as also the Chinese state was probably sympathetic to an increased consumption due to the generally copious state revenues based on customs.

However, the search for income by the diverse stakeholders was hardly the only reason for the spread of agarwood consumption. Taking up aristocratic habits is not uncommon for ascending members of a

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<sup>79</sup> After Southeast Asian trade decreased after 1600 CE in context of international developments, Chinese individuals nonetheless strengthened their position in Southeast Asia, and remained unaffected by European competition. “Chinese trade to Southeast Asia recommenced its rapid upward path in the 1680s. [...] The international trade of these states was [...] dominated by Chinese [...]. The Chinese penetrated further and further into the hinterlands of the great [Southeast Asian] emporia [...] to buy the product more cheaply at its source”, “Chinese as indispensable middlemen”, “not only industrious but peaceful”, “became valued visitors at court [...] classic cultural brokers [...] did not offer a direct threat to indigenous rulers” (Reid 1999: pp. 145, 150–153).

Even in multi “national” regards, the Chinese fostered their mediator role. “Indian and West Asian traders were among those who lost out in the crisis period. Turks, Persians and Arabs virtually ceased travelling ‘below the winds’ with the collapse of the spice route from Aceh to the Red Sea in the first two decades of the seventeenth century” (Reid 1999: 150). Only the Chinese kept their power. “As the seventeenth century advanced, these Chinese who stayed behind in the ports of Southeast Asia penetrated further and further into the hinterlands [...]. [...] Chinese [became; ...] indispensable middlemen. [...] Chinese middlemen were [...] found far in the interior of Laos and Cambodia in the 1640s [...] to buy the local product more cheaply at its source” (Reid 1999, p. 151). Consequently, West Asians bought agarwood from the Chinese mediators. – Barter trade between Chinese and Arabs became significant with the new immigration of Yemeni families to Southeast Asia in the 19th century. Yemenis received agarwood in exchange for sharks that was sought for by the Chinese (field knowledge; consider also Reid 1999, pp. 137–138, quoting Lodewycksz’s report from 1598). Up to nowadays, leading merchants in Southeast Asian agarwood trade are Chinese, organising the production and trade of agarwood from the countries’ interior up to *entrepôts* and its further distribution (field knowledge).

society,<sup>80</sup> and thus it is likely that the growing patrician society was eager to take over this prestigious habit. Consequently, its members welcomed being regularly supplied with the aromatic good which – in contrast to the earlier complaisant tributes – was newly available for everybody as long as the person had the necessary financial means.

#### IV. Ritualised Forms of Incense Appreciation

Even if there is little bibliographic data available about such a course of the agarwood culture in the Chinese world as described above,<sup>81</sup> the earlier history, paintings and antiques,<sup>82</sup> as well as the look at abroad<sup>83</sup>

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<sup>80</sup> Consider the historical development of civil societies in Eastern Asia.

<sup>81</sup> Still in 1976, Yamada chose to elaborate in detail on the *Japanese* history of agarwood arts in order to bridge the gap of knowledge concerning Chinese traditions (Yamada 1976, p. 209). Chinese scholars have tried to fill the gap in recent years (see Introduction, Chapter V, References). Nevertheless, precise data on post-Song perfumery has remained stray so far.

<sup>82</sup> The Special Exhibition on Chinese censers by the National Palace Museum Taipei in 1994 was revealing. The perfumery arts prospered in the Ming dynasty. New products were invented, like incense sticks (scholars have not yet agreed on a specific time) (National Palace Museum 1994, p. 23). In addition, distinguished perfumery sets have come up; one typical set consisting of a censer, a flask and a box, another set of a censer, two flasks and two candelabrum. Also various kinds of singly ornamented censers and utensils have been bequeathed (see e.g. 1994, pp. 158–165, 172–177, 193–204, 206–216). The emerging fine arts of appreciating perfume are mirrored by the visual and literary arts of the Ming dynasty and thereafter (see e.g. 1994, pp. 76–83, 87–89). The Taiwanese archaeologist Liu especially did scholarly research on the Chinese perfumery history later on. His publications discuss censers and other utensils as well as paintings, and backs up the hypothesis of a rich perfumery in China in recent centuries (see e.g. 2011, pp. 104–115, 126, 155–176). Specifically the practical investigation and use of agarwood reached new levels in the Ming dynasty. People installed special rooms, which were used for holding incense appreciation sessions (2011, pp. 113–116, Wu 2007, pp. 76–77). In addition, documents testify to the use of



make it generally likely. Specifically in neighboring Japan, a similar development is well documented. There, the earlier aristocratic habit of appreciating incense blends in Heian times finally developed to the above mentioned *kōdō* among the affluent, educated society over the course of the thirteenth to seventeenth centuries. Originally influenced from the Chinese culture, the prime focus on agarwood (following the practice of *ichibokudaki*) for the incense appreciation games was determined by the Zen (Chinese *chan*) ideals of simplicity and purity, in reaction to the multiplex olfactory accords of blends of before.<sup>84</sup> Moreover, the playful recognition of the aesthetic subtleties of agarwood varieties became intertwined with references to literary work, and

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agarwood in those centuries, such as the one by Zhou Jiazhou (周嘉胄), *Xiang sheng* (香乘) [*Incense manual*] (Ming dynasty), or the smaller and summarising anthology *Jingyin wenyuange sikuquanshu* (景印文淵閣四庫全書) [*Encyclopaedia of Historical Books*] (Qing dynasty) (Wu 2007, pp. 76–77). Concerning the rich perfumery arts of the Qing dynasty (1644–1911 CE), see also: e.g. National Palace Museum 1994, pp. 186–187, 217–226, 231–232, 236–247, 249–251, 254–255, 257, 260–268. Also: Personal field impressions from various East Asian culture museums in China: perfumery utensils from the Qing dynasty like censers, perfume sachets made of silk and/or precious metals, etc. Specifically agarwood was highly valued at the Qing court by emperors themselves as well as by courtwomen, as documented in the royal archives. It was more precious than other aromatic materials, and tendered to outstanding court members and royal guests as precious gifts. (I would like to thank Wan Xiufeng of the National Palace Museum Beijing for sharing this information with me).

<sup>83</sup> In several parts of Asia, the demand for agarwood had considerably increased. All of them were characterized by the growth of trade and merchant and civil societies. They probably stimulated each other in the purchase and use of agarwood. Consider e.g. Jung, *Ethnography*, 2011, pp. 61–67, 97, 113–114.

<sup>84</sup> Concerning the early exclusive use of agarwood in China, see Yamada 1979, pp. 49, 70; Yamada 1976, pp. 177–178, consider also pp. 384–385. Consider also the history of Chan (Zen) Buddhism in China. Bequeathed incense sets make the historical delight in appreciating exclusively agarwood well imaginable, due to their combination of necessary tools (field insights): see e.g. National Palace Museum 1994, pp. 227–230, 233–235.

increasingly ritualized concerning such features as social etiquettes, the purification and use of perfumery utensils, the ceremonial procedure, and the choice of poetic pieces. Evidently, finding delight in the activity does not fully describe its character; practicing *kōdō* also served to sharpen the awareness and to refine the personality. More and more members of the emerging civil society took up this pursuit over the course of the decades; it reached its peak of popularity in around 1700.<sup>85</sup> The development stood in relation with the economic ongoing. Japanese traders had settled in Southeast Asia and established supraregional commercial networks. Thus, the Japanese had best access to agarwood supplies via their expatriate fellows in the South, and could acquire profound knowledge about this aromatic.<sup>86</sup> The growing expertise is

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<sup>85</sup> Early overview on the history of the Japanese perfumery and specifically *kōdō*: Yamada 1976, pp. 353–407, Morita 1992, pp. 31–49. Historical manuscripts give detailed information about the increasing ritual etiquettes and rules, among them the *Kōdō hidensho shitchū* (香道秘伝書集註) [*Collection of the Secreties of Kōdō*], first published in 1669, originally based on notes from 1501–1575, vitally revised and completed in 1799), and the *Kōdō ran no sono* (香道蘭之園) [*Kodo – Garden of Orchids*], 1737, based on notes from the 17th century onwards (both have been recently edited and re-published on the Japanese market). *Kōdō* reached its peak of popularity in around 1700, as mirrored in the mass production of *kōdōgu* (consider Kyoto National Museum 2008, pp. 43–44, 149).

<sup>86</sup> “For Japan, the period 1570–1630 was a unique moment when [...] cities prospered as the nuclei of a flourishing international trade [...; ...] vigorous trade with Southeast Asia. Japanese vessels were still forbidden to trade directly with China, so the exchange [...] had to take place in Southeast Asian ports, notably Manila and Hōi An [...]” (Reid 1999, p. 123). The rulers of Japan “[...] issued a considerable number of ‘Goshuin-jo’ (Sealed license of overseas trade) to the wealthy merchants of the Kansai district and ‘Daimyōs’ of west and southwest Japan, encouraging them to sail on as far as Ayuthaya (Siam), Manila (Philippines) and Hōi-An [...] in order to secure the raw materials [...]. [...] a prosperous trading-market in Hōi-An.” Special expatriate quarters established in that town, housing the Japanese (and Chinese) community and their trade with Japan (Chen 13ff.), among it specifically agarwood (Chen, pp. 19, 20, 23). The Chinese end of ban of overseas trade in 1685 led to a “remarkable increase in both

reflected in the historical emergence of an aesthetical framework. The *rikkoku gomi* (〔六国五味〕 ‘six countries and five tastes’) presented four (around sixteenth century) – later on enlarged to six (seventeenth century) – agarwood categories in reference to their geographical origins as also relating to sensory-spiritual knowledge.<sup>87</sup>

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the number of visiting junks and in the amount of trade” (Chen, p. 23), resulting in a lesser significance of Japanese mediatory trade with China; Chinese junks headed to Southeast Asian ports, and abandoned the Japanese market (Chen, p. 26). See also e.g. Hall 1999, pp. 123–124, 141, 150–153, 157; Elson 1999, pp. 135–136, 170–171. Consider especially the history of the *shuinsen* (〔朱印船〕 ‘ships under the red seal’). – Worth noting, leading Japanese perfumery warehouses were founded in those decades (field knowledge).

<sup>87</sup> The *rikkoku gomi* first included the categories of *kyara* (〔伽羅〕 associated with Vietnam), *manaka* (〔真那賀〕 associated with the region bordering the Strait of Malacca), *rakoku* (〔羅國〕 associated with Thailand), and *manaban* (〔真那蛮〕 possibly referring to the Malabar Coast), and later on also *sumontaru* (〔寸門多羅〕 associated with Sumatra) and *sasora* (〔佐曾羅〕 possibly referring to Western India). The wood of each category was assigned typical olfactory qualities (Jinbo 2003, pp. 316, 353, 373, 440, 441, 425, 426; Yamada 1976, pp. 389–400). However, even if the influence of the different soils and climate of the various origin regions on the agarwood is most valuable to be considered, the categories should not be understood as fix clues. Instead of informing about the places of the agarwood’s origin, they represent (possible) *entrepôts* where the Japanese or mediating traders purchased the agarwood, according to modern knowledge. Thus, the *rikkoku gomi* primarily testify to the expansion of the Japanese network and the growth of agarwood imports as such in those decades. The local consumers of agarwood in Japan needed aesthetical tools to get along with the growing range of available wood types. The *rikkoku gomi* helped to sharpen the olfactory sensitivity and to have vocabulary at hand, to comply with the sensory tasks of *kōdō* (see also Yamada 1976, pp. 359–401; the history of *kōdō* – Chapter IV).

A vague attention to the relevance of the geographical origin on the agarwood quality stems back to earlier times of the agarwood fine arts. The Chinese loosely assigned wood characters to countries (see e.g. Hirth and Rockhill 1911, pp. 204–208. – Also the West Asian traders adapted and/ or set up relations between wood qualities

Appreciating agarwood ceremonially was also practiced in the Chinese-speaking world, as local consumers like to emphasize today. However, instead of *xiang dao* (〔香道〕 ‘Way of Incense’, mirroring the Japanese expression of *kōdō*; a Chinese expression that became popular in recent years), comparatively less ritualized practices of appreciating agarwood have been typical of the Chinese culture, (〔香品〕 *xiang pin*, ‘perfume appreciation’). At least consumers in the Chinese-speaking world conduct their pursuit in this way nowadays with the conviction of reviving their own tradition,<sup>88</sup> and also paintings of Ming and Qing dynasties give testimony to the different character of incense appreciation in the Chinese-speaking world. For example, the paintings often illustrate how the censer is used for scenting the air during

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and geographical origins (see especially Tibbetts 1979; the history of agarwood in West Asia – Chapters III and V).

*Kyara* has been considered the worthiest type of agarwood to offer the finest fragrance notes. The category is special in comparison with the other five of the *rikkoku gomi*, as the term does not simply resemble a newly learned (vague) geographical denotation. Rather, it connected to the notion of *qinan* (various possibilities in Chinese writing, depending on the historical moment and the interpretation by contemporary scholars, e.g. 〔茄蓝〕 *qie lan*, 〔棋楠〕 *qi nan*, 〔琪楠〕 *qi nan*) by the Chinese that arouse around 1200 – the moment when the appreciation of exclusively agarwood came up, thus mirroring the growing aesthetical sensitivity for agarwood varieties. Possibly the term ‘*qinan*’ emerged from Sanskrit roots which were transmitted to China during the Song or Yuan period, and after its transmission to Japan, merged with expressions denoting other aesthetical concepts and ideals that came up during the heydays of Japanese trade with Southeast Asia and specifically the coast of today’s Vietnam. (*Kyara* may also allude to issues such as “beauty”.) Like *kyara* in Japan, the aesthetical notion of *qinan* was elaborated in China in the following centuries, i.e. the Ming dynasty, and further differentiated into subcategories (Jinbo 2003, p. 316; Yamada 1976, pp. 201–204, 391; 1979, pp. 25–27; Lin 2011, pp. 7–8; Liu 2011, pp. 47–48; Wu 2007, pp. 62–66, 104–106; field knowledge; consider also Yamada 1979, p. 79).

<sup>88</sup> Field impression. Some Chinese consumers prefer to experiment completely freely, others prefer more ritualized forms, in order to find their own perfumery again. Consider also e.g. Liu 2011, pp. 21–23, 117–146, Lin 2008.

meditative moments or literati meetings. Interestingly, instead of a ritual host like in Japan, servants are responsible for replenishing the censer, and the set of perfumery tools is small in comparison with the Japanese *kōdōgu* (〔香道具〕, incense implements for display and/or factual incensation).<sup>89</sup> The Chinese perfumery antiques are in great demand in these years and hardly available on local markets anymore; they serve as impetus for the invention of a contemporary perfumery.<sup>90</sup>

## V. Reinvention of Asian Perfumery Arts and New Identities

One may wonder about the eminent role of agarwood in these years, as the bloom of perfumery was not to continue incessantly. Though of rich tradition, *kōdō* was no longer widely practiced in Japan after the Meiji Restoration (1868). Only with the commercial activities of *kōdō* adepts in the twentieth century did this practice revive.<sup>91</sup> This development was intertwined with a rising interest in *kōdō* abroad. An amount of *kōdōgu* had arrived in Europe since around 1600, culminating in their presentation at the World Expositions in the nineteenth century. From then on, the resulting demand for Japanese perfumery products in the West<sup>92</sup> has clearly increased up to the twenty first century.<sup>93</sup>

<sup>89</sup> Chinese paintings including an incensation scene are plenty from the Ming and Qing periods, so that I omit references.

<sup>90</sup> Field observation from antique markets and with perfumery professionals.

<sup>91</sup> Incense ceremonies were conducted again and the first modern books on *kōdō* published since the 1920s. (Descendants of) *kōdō* masters offered the first public classes from the 1960s onwards. Also, modern incense products were invented and commercial schools set up by the traditional warehouses. Moreover, “large associations of incense groups, each publishing its own journal” came up (Morita 1992, pp. 47–49, 120; general bibliographic research).

<sup>92</sup> European art collections testify to the arrival of and interest in Japanese perfumery tools since the seventeenth century. Most special are the Royal Danish

In recent decades, the Arabian/Muslim market has been no less impactful for the globalizing history of agarwood. The enormous growth in affluence, media and international trade activities in that region since the 1970s has resulted in an exponential rise in agarwood consumption there,<sup>94</sup> and let its price turn up on all Asian markets. As is the case with other costly products, the competitive demand and the mystery-related aura made agarwood become a medium for many individuals in various parts of the world to present their aspired personal status, refined taste, and connoisseurship.

The Chinese and Taiwanese cultures are primary representatives of this development in recent years – a phenomenon which draws attention due to the near extinction of perfumery in the frame of the Cultural Revolution (1966–1976) and its reverberations. Chinese people have only regained knowledge about their forgotten perfumery traditions in the last few years, especially through the Taiwanese; these for their part had been influenced from the Japanese heritage due to the

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Kunstkammer (concerning seventeenth century items) and Marie Antoinette’s and Burghley’s collections (concerning seventeenth to eighteenth-century items) (Kyoto National Museum 2008). Perfumery tools also sold well during the World Expositions (2008, pp. 45, 209) – the same period that the Meiji emperor sent *kōdōgu* as diplomatic gifts to the West (2008, p. 343). Furthermore, incense itself was presented at the World Exposition in Chicago 1894, according to a descendant of a Japanese incense warehouse. In consequence, “by the late 1920s [...; this company] was unable to manufacture enough cone incense to meet the demands from overseas” (Morita 1992, p. 120). Western researchers started early to study *kōdō*, but their understanding obviously remained limited (Carattini). Since the 1980s however, public classes were held by *kōdō* experts in the US and Europe (Morita 1992, p. 49; personal information).

<sup>93</sup> The source here are personal contacts in eastern Asia and impressions on western markets. See also the international websites of East Asian perfumery companies.

<sup>94</sup> Jung, *Ethnography*, 2011, pp. 189–202; field knowledge from Southeast Asia; see also the various publications by CITES and TRAFFIC on the Middle Eastern agarwood consumption.

island's occupation by the latter in the twentieth century.<sup>95</sup> The increasing encounter with international people and media has also stimulated the consumption of agarwood in the Chinese-speaking world.<sup>96</sup> Caused by the run for agarwood by the growing number of wealthy people at home and elsewhere, the price is skyrocketing, and arguments about the genuineness of unprocessed agarwood pieces and of refined objects are a daily and endless affair. The business is accompanied by cultural phenomena, indicating the special value of agarwood to search for and express identity in contemporary Chinese society. The flow of local publications mentioned in the beginning mirrors the activities by laymen, scholars, as well as aficionados.<sup>97</sup> Interest groups have established themselves who organise incense appreciation sessions and experiment with incense recipes from the Song period; sales and Buddhist fairs promote the aromatic good; and perfumers invent perfumery tools according to models from antique markets, or follow up new artistic ideas.<sup>98</sup> Specifically the art of agarwood carving reaches new heights which had been an exclusive craft and as such developed only in the Qing dynasty,<sup>99</sup> but nowadays equips

with sufficient objects to carry out public exhibitions.<sup>100</sup> The art objects are appreciated for both aesthetic and spiritual reasons. The presence of agarwood pieces is expected to stimulate the flow of *qi* (〔氣 / 气〕 ‘life energy’) – a feature that is often emphasized by Chinese-speaking consumers.<sup>101</sup> The relationship with *qi* additionally provides another possibility to distinguish the new “own” versus “other” agarwood cultures. Many members of today's various Asian perfumery cultures attach importance to such distinctions of cultural identity. This is even more important in the context of growing cultural encounters, which result in processes that local agarwood traditions adapt to. Consumers strive to create an identity to set themselves off from other agarwood cultures.

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In sum, the intangible heritage of making fine use of agarwood is a story of exceptional refinement, concerning arts and (syn-) aesthetic sensitivity, as well as a story of valuing and employing nature, commercialisation, and of the search for identity within the multicultural entanglements of Asia. Its continuation presents a challenge in business, scientific and cultural regards, a challenge that manifests itself with every *Aquilaria* tree that is cut or planted and fine wood piece irretrievably consumed, and with every new creative step that is taken, in Eastern Asia and beyond.

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<sup>95</sup> Field knowledge. Concerning the history of Taiwan: Schmidt-Glitzner 2008, pp. 204, 215–216.

<sup>96</sup> Consider e.g. the Chinese-written Singaporean newspaper article about the West Asian agarwood heritage and trade: “Chenxiang ...” 2006. The intercultural encounter and stimulation is easily observable on agarwood *entrepôt* markets in Southeast Asia. Note also that Taiwanese and Japanese companies settle and/or trade in/with China (field knowledge).

<sup>97</sup> In addition to written publications, also consider the increasing number of notes about East Asian perfumery on virtual platforms like Wikipedia, Internet blogs, and the historic-cultural information by East Asian perfumery companies on their websites.

<sup>98</sup> Field knowledge.

<sup>99</sup> Consider Chi 2010, pp. 102–103.

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<sup>100</sup> I know of a few agarwood art exhibitions in Eastern Asia in recent years, in addition to plenty of small-scale exhibits in showrooms and at fairs. Exemplary publication, Kan 2011.

<sup>101</sup> E.g. Zhang 2006.

## References

- Akasoy, Anna, and Ronit Yoeli-Tlalim, “Along the Musk Routes: Exchanges between Tibet and the Islamic World”, *Asian Medicine*, 3 (2007), pp. 217–240.
- Akasoy, Anna, Charles Burnett and Ronit Yoeli-Tlalim (eds.), *Islam and Tibet. Interactions along the Musk Routes* (Farnham and Burlington, 2011).
- Appadurai, Arjun (ed.), *The Social Life of Things. Commodities in cultural perspective* (Cambridge, 1986).
- Barden, Angela, et al., *Heart of the Matter: Agarwood use and trade and CITES implementation for Aquilaria malaccensis*, <[http://search.atomz.com/search/?sp\\_a=sp1003bbd0&ap\\_q=agarwood&sp\\_p=all&sp\\_f=ISO-8859-1](http://search.atomz.com/search/?sp_a=sp1003bbd0&ap_q=agarwood&sp_p=all&sp_f=ISO-8859-1)> [accessed Jan 28, 2008].
- Bedini, Silvio A., *The Trail of Time. Time measurement with incense in East Asia. Shib-chien ti tsu-chi* (Cambridge, 1994).
- Bosworth, C. E., M. Hartmann and R. Israeli, “al-Šīn”, in *Encyclopaedia of Islam, Second Edition*, <[http://www.brillonline.nl/subscriber/entry?entry=islam\\_COM-1080](http://www.brillonline.nl/subscriber/entry?entry=islam_COM-1080)> [accessed Mar 17, 2011].
- Buck, David D., “Three Han Dynasty Tombs at Ma-Wang-Tui”, *World Archaeology*, 7, 1 (1975), pp. 30–45.
- Burfield, Tony, and Kendra Kirkham, *The Cropwatch Files – The Agarwood Files*, <<http://www.cropwatch.org/agarwood.htm>> [accessed Sep 10, 2009].
- Burkill, I. H., *A Dictionary of the Economic Products of the Malay Peninsula* (Kuala Lumpur, 1966).
- Carattini, Amy M., *A Case Study: The Misclassification of a Japanese Incense Box* (unpublished student research paper), University of Maryland, College Park.
- Chen, Chingho A., *Historical Notes on Hô-i-An (Faijo)* (Carbondale [introd. 1974]).
- Chen, Ming, “The Transmission of Foreign Medicine via the Silk Roads in Medieval China: A case study of Haiyao Bencao”, *Asian Medicine*, 3 (2007), pp. 241–264.
- “Chenxiang mujia ru huangjin 沉香木價如黃金”, *Lianhe Zaobao 聯合早報*, October 19 (2006), p. 3.
- Chi, Jo-hsin 嵇若昕, *Uncanny Ingenuity and Celestial Feats. The carvings of Ming and Qing Dynasties. Bamboo, wood, and fruit stones* (Taipei, 2010).
- CITES Secretariat, [Website] <<http://www.cites.org>> [accessed Jul 06, 2011].
- Compton, James, and Akiko Ishihara, [ca 2005] *The Use and Trade of Agarwood in Japan*, <<http://www.uniargrow.com/PDF/X-PC15-06-Inf.pdf>> [accessed Jul 14, 2011].
- Council of Scientific & Industrial Research, “Aquilaria”, in *The Wealth of India. A Dictionary of Indian raw materials & industrial products. Raw Materials Volume I: A* (New Delhi, 1985), pp. 328–330.
- Dabringhaus, Sabine, *Geschichte Chinas 1279–1949* (Munich, 2006).
- Debon, Günther, *Chinesische Dichtung. Geschichte, Struktur, Theorie* (Leiden, 1989).
- Elisseeff, Danielle, “Le parfum en Chine”, in Marie-Christine Grasse et al., *Une histoire mondiale du parfum. Des origines à nos jours* (Paris, 2007), pp. 282–284.
- Elson, Robert E., “International Commerce, the State and Society: Economic and social change”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia – Vol. II Part. I – From c. 1800 to the 1930s* (Cambridge, 1999), pp. 127–192.
- Erickson, Susan N., “Boshanlu: Mountain Censers of the Western Han Period. A typological and iconological analysis”, *Archives of Asian Art*, 45 (1992), pp. 6–28.
- Fragrance Foundation Deutschland e.V., *Trendbericht*, <<http://www.fragrancefoundation.de/index.php?id=256>> [accessed Jul 02, 2011].
- Hall, Keneth R., “Economic History of Early Southeast Asia”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia – Vol. I Part. I – From early times to c. 1500* (Cambridge, 1999), pp. 183–275.
- Hirth, Friedrich, and W. W. Rockhill, *Chau Ju-Kua: His work on the Chinese and Arab trade in the twelfth and thirteenth centuries, entitled Chu-fan-chi* (Taipei, 1964).

- IUCN International Union for Conservation of Nature and Natural Resources, “*Aquilaria malaccensis*”, in *IUCN Red List of Threatened Species*, Version 1 (2011) <<http://www.iucnredlist.org/apps/redlist/details/32056/0>> [accessed Jul 06, 2011].
- Jinbo, Hiroyuki 神保博行, *Kōdō no rekishi jiten 香道の歴史辞典* (Tokyo, 2003).
- Jung, Dinah, *An Ethnography of Fragrance. The perfumery arts of ‘Adan/Lahj* (Leiden, 2011).
- *Perfumery in Asia. Reflections upon the natural, cultural and intangible heritage.* Heidelberg, 2015. <<http://www.ub.uni-heidelberg.de/archiv/18787>>.
  - *The Value of Agarwood. Reflections upon its use and history in South Yemen.* Heidelberg, 2011. <<http://www.ub.uni-heidelberg.de/archiv/12039>>.
- Kaiser, Roman, *Meaningful Scents Around the World. Olfactory, chemical, biological, and cultural considerations* (Zurich, 2006).
- Kan, Paul 簡文樂 (ed.), 祥和：中國香港之光：108 沉香經典御寶及相關文物珍藏集 / *Peace and Harmony. The divine spectra of China’s fragrant harbour. A collection of 108 aloes of sacred scripture and related artifacts [Xiang he: Zhongguo Xianggang zhi guang: 108 chen xiang jing dian yu bao ji xiang guan wen wu zhen cang ji]* (Trinity International Limited, 2011).
- Kyoto National Museum 京都国立美術館 (ed.), *Japan / 蒔絵 - 宮殿を飾る 東洋の燦めき / Export Lacquer: Reflection of the West in Black and Gold Makie [Japan makie: Kyūden wo kazaru Tōyō no kirameki]* (Osaka, 2008).
- Lin, Ruixuan 林瑞萱, *Xiang dao rumen 香道入門* (Taipei, 2008).
- *Chenxiang shuyu yu pingping 沉香術語與品評* (Taipei, 2011).
- Lin, Tianwei (Tien-Wai Lin) 林天蔚, 宋代香药贸易史稿 / *A History of the Perfume Trade of the Sung Dynasty [Songdai xiangyao maoyi shigao]* (Hong Kong, 1960).
- Liu, Jingmin (Liu Ching-Ming) 劉靜敏, “丁謂《天香傳》考述 / Textual Report of ‘Tien Hsiang Chuan’ by Ding-Wei [Ding Wei ‘Tian xiang zhuan’ kaoshu]”, 逢甲人文社會學報第 9 期 / *Feng Chia Journal of Humanities and Social Sciences [Fengjia renwen shehui xuebao]*, 9 (2004), pp. 145–174.
- *Songdai ‘Xiang pu’ zhi yanjiu 宋代《香譜》之研究* (Taipei, 2007).
- Liu, Liangyou (Liang-Yu Liu) 劉良佑, “唐代香文化與法門寺出土香事文物之探討 / A Probe into Incense Culture of the Tang Dynasty and Incense-related Artifacts Excavated in Famen Temple [Tangdai xiangwenhua yu Famensi chutu xiangshi wenwu zhi tantao]”, in Shanghai Museum 上海博物館編 (ed.), *Zhou Qin Han Tang wenming yanjiu lunji 周秦汉唐文明研究论集* (Shanghai, 2008), pp. 407–421.
- *香學會典 / Chinese Incense Culture [Xiangxue huidian]* (Taipei, 2011).
- Morita, Kiyoko, *The Book of Incense. Enjoying the traditional art of Japanese scents* (Tokyo, New York and London, 1992).
- Muller, C., “tripitaka”, in *Digital Dictionary of Buddhism*, <<http://www.buddhism-dict.net.ubproxy.ub.uni-heidelberg.de/cgi-bin/xpr-ddb.pl?q=%E5%A4%A7%E8%97%8F%E7%B6%93>> [accessed Mar 08, 2011].
- National Palace Museum 國立故宮博物院, 故宮歷代香具圖錄 / *A special exhibition of incense burners and perfumers throughout the dynasties [Gu gong li dai xiang ju tu lu]* (Taipei, 1994).
- Needham, Joseph, *Science and Civilization in China. Vol. 1, Introductory Orientations.* (Cambridge, 1954).
- *Science and Civilization in China. Vol. 5, Chemistry and Chemical Technology. Part II, Spagyric Discovery and Invention: Magisteries of Gold and Immortality* (London, New York and Cambridge, 1974).
  - *Science and Civilization in China. Vol. 6, Biology and Biological Technology. Part I, Botany.* (Cambridge, New York and Melbourne, 1986).
- Netolitzky, Almut, *Das Ling-wai tai-ta von Chou Ch’üfei. Eine Landeskunde Südbchinas aus dem 12. Jahrhundert* (Wiesbaden, 1977).
- Newid, Mehr Ali, *Aromata in der iranischen Kultur. Unter besonderer Berücksichtigung der persischen Dichtung* (Wiesbaden, 2010).
- Reid, Anthony, “Economic and Social Change, c. 1400–1800”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia – Vol. I Part. II – From c. 1500 to c. 1800*, (Cambridge, 1992), pp. 116–163.
- The SAT Daizokyo Text Database, <[http://21dzk.l.u-tokyo.ac.jp/SAT/index\\_en.html](http://21dzk.l.u-tokyo.ac.jp/SAT/index_en.html)> [accessed Mar 8, 2011].

- Schafer, Edward H., *The Golden Peaches of Samarkand. A study of T'ang exotics* (Berkeley and Los Angeles, 1963).
- *The Vermilion Bird. T'ang images of the South* (Berkeley and Los Angeles, 1967).
- Schmidt-Glitzter, Helwig, *Geschichte Chinas bis zur mongolischen Eroberung 250 v. Chr.–1279 n. Chr.* (Munich, 1999).
- *Kleine Geschichte Chinas* (Munich, 2008).
- Schoff, Wilfried H., “Aloes”, *Journal of the American Oriental Society*, 42 (1922), pp. 171–185.
- Sinclair, I., and Lang Chen, “Amoghavajra”, in *Digital Dictionary of Buddhism*, <<http://www.buddhism-dict.net.ubproxy.ub.uni-heidelberg.de/cgi-bin/xpr-ddb.pl?q=%E4%B8%8D%E7%A9%BA%E9%87%91%E5%89%9B>> [accessed Feb 17, 2011].
- Taylor, Keith W., “The Early Kingdoms”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia – Vol. I Part. I – From early times to c. 1500* (Cambridge, 1992), pp. 137–182.
- Thilo, Thomas, *Chang'an. Metropole und Weltstadt des Mittelalters 583–904. Teil 2: Gesellschaft und Kultur* (Wiesbaden, 2006).
- Tibbetts, G. R., *A Study of the Arabic Texts Containing Material on South-East Asia* (Leiden and London, 1979).
- TRAFFIC East Asia and TRAFFIC Southeast Asia, *The Trade and Use of Agarwood in Taiwan, Province of China*, <<http://www.cites.org/common/com/pc/15/x-pc15-07-inf.pdf>> [accessed May 18, 2012].
- TRAFFIC Southeast Asia (ed.), *Proceedings of the Experts Group Meeting on Agarwood: Capacity-building workshop for improving implementation and enforcement of the CITES listing of Aquilaria malaccensis and other agarwood-producing species. Kuala Lumpur, 14–17 November, 2006*, <[www.traffic.org/forestry-reports/traffic\\_pub\\_forestry15.pdf](http://www.traffic.org/forestry-reports/traffic_pub_forestry15.pdf)> [accessed Dec 07, 2008/ Jul 19, 2011].
- Tropicos.org. Missouri Botanical Garden (Zachary Scott Rogers, *A World Checklist of Thymelaeaceae. Monographs in Systematic Botany from the Missouri Botanical Garden*), “*Aquilaria* Lam.”, <<http://www.tropicos.org/Name/40018240>> [accessed Feb 17, 2011].
- “*Gyrinopsis* Decne”, <<http://www.tropicos.org/Name/40019485>> [accessed Feb 17, 2011].
- Watson Andaya, Barbara, and Yoneo Ishii, “Religious Developments in Southeast Asia, c. 1500–1800”, in Nicholas Tarling (ed.), *The Cambridge History of Southeast Asia – Vol. I Part. II – From c. 1500 to c. 1800* (Cambridge, 1992), pp. 164–227.
- Wu, Shibin 吳世彬, *Chenxiang wenhua de fazhan jiqi xiandai yingyong 沉香文化的發展及現代應用* (Master thesis, 2007). Fo Guang University 佛光大學, Jiaoxi.
- Yamada, Isamu, “Aloeswood Forest and the Maritime World”, *Southeast Asian Studies*, 33, 3 (1995), pp. 463–468.
- Yamada, Kentarō 山田憲太郎, *東亞香料史研究 / A Study of the History of Perfumery and Spices in the Far East [Tōa kōryō shi kenkyū]* (Tokyo, 1976).
- *Kōryō hakubutsu jiten 香料博物辭典* (Kyoto, 1979).
- Zhang, Liangwei 張良維, *Jingzuo liangqi mi fa: qi ji dao yin 靜坐練氣秘法：氣機導引* (Taipei, 2006).

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