

Research Paper. Extended Version of a talk given at the Workshop “The Use of Herbs in Yemeni Healing Practices,” Halle, September 25–26, 2009
Preprint, in: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

The Value of Agarwood

Reflections Upon Its Use and History in South Yemen.¹

Dinah Jung²

- | | |
|------|--|
| I. | Introduction: The Natural Product Agarwood |
| II. | South Yemeni Perfumery and Products |
| III. | The Use of Agarwood and Refined Products |
| IV. | The Value of Agarwood |
| V. | Today’s Challenges |

I. Introduction: The Natural Product Agarwood

Agarwood³ is an aromatic substance and a key material of everyday life in Yemen. It is derived from heartwood produced by a number of mainly *Aquilaria* species. The prominent species

¹ This paper is based on anthropological fieldwork that was carried out in ‘Adan and the surrounding area during 2002–2004 with additional field data from Southeast Asia from 2009. Photos were provided by the author. Copyright remains solely with the author.

Many aspects that are briefly indicated in this article have been presented before in greater detail. Furthermore, bibliographic references are generally not repeated in this paper. See primarily: Jung, *An Ethnography*.

The author thanks her friends and informants in Yemen and Southeast Asia; the organizers of the workshop for their kind invitation and remarks; Prof. Dr. Lothar Ledderose and her colleagues; and Kellie Erickson and Sonya Isaak for their editorial work.

² Postdoc at the Institute of East Asian Art History, University of Heidelberg. Email: jung@uni-heidelberg.de.

³ Agarwood is also known by many other names, such as eaglewood, gaharu, agila wood, aloeswood, garoo wood, calambac, and oud. The names reflect the diverse cultural background of the people who participated in its supra-regional trade, and who often interpreted foreign names according to their own understanding. Later, these names were adopted and became common in English and other languages.



Figure 1: *Aquilaria* trees in Southeast Asia (2009)

include *Aquilaria malaccensis*, *A. crassna*, *A. hirta*, and *A. Agallocha*, which are evergreen trees that are – concerning the overall botanical family – native to East India and the Indo-Malayan region (nowadays also to be found in the surrounding region as far as South China and Papua New Guinea). From there, agarwood has been imported to Yemen. The transport even over long distances has been relatively simple, as the trade good is usually of small size. Though the trees themselves grow up to 40 meters tall and 60 centimetres in diameter over the decades, the valuable piece that is considered the agarwood is usually just a small fraction of a tree, a particular kind of heartwood that has aromatic qualities.

The formation of this scented heartwood is special, and characterized due to pathological and/or other processes. The healthy heartwood itself is odourless when freshly cut, soft, even-grained, and of low density with a yellow-whitish colour. Only under specific conditions, and when a tree has been infected or wounded, is the scented agarwood formed. Current research suggests that certain fungi cause an immune reaction in the wood that leads to the production of an oleo-resin. The area of wood charged with this natural substance grows with irregular patches of streaks. Occasionally, dark fibres at the tree's surface hint at the existence of resin-impregnated sections in the inner wood. In most instances however, there are no external indicators to signal changes in the tree. Only when a trunk has been cut is it clearly determined whether the heartwood harbours the resin with the valuable essential oil. It is identifiable because the resinous sections are considerably darker and heavier than the healthy areas of the wood.⁴

⁴ Burfield, and Kirkham, 'The Cropwatch Files', no pagination. Barden et al. *Heart*, 2. The reasons for the formation of agarwood are still object of scientific research. Considering the diversity and often, the vagueness of bibliographic information, the following conclusion may be drawn up to now: "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

Naturally, not all types of agarwood are of the same character and quality. It depends on the region of origin, the botanical species, the age of the specific tree, as well as on the section of the tree where the piece of agarwood stems from. As a consequence of these factors, agarwood pieces contain varying amounts of the essential oil and its molecular components differ, leading to different olfactory nuances. Professional perfumers describe the overall fragrance as a “highly complex accord” based on many constituents, mainly distinguished by a combination of “oriental-woody” and “very soft fruity-floral” notes. The incense smoke is also characterized by a “sweet-balsamic” note and “shades of vanilla and musk” and ambergris.⁵

As is typical of essential oils, the oil of agarwood is ascribed medical qualities and has been used in medicine for hundreds of years. In Islamic medicine, agarwood has been recognized as a minor drug since the early times of *ḥadīth*, as seen in the following example:

Narrated Um Qais: that she took to Allah’s Apostle one of her sons whose palate and tonsils she had pressed because he had throat trouble. The Prophet said, ‘Why do you pain your children by getting the palate pressed like that? Use the Ud Al-Hindi (certain Indian incense) [i.e. agarwood] for it cures seven diseases one of which is pleurisy.’⁶

Long before this time, agarwood was already established in Indian and Chinese medicine as an important remedy. The Indian Council summarizes the properties of agarwood as follows: “Agarwood is considered stimulant, antiasthmatic, carminative, tonic, aphrodisiac and astringent. It is used in diarrhoea, dysentery, gout, rheumatism and paralysis. It is also used as a

agarwood formation.” (Barden et al., *Heart*, 2. Barden et al. refer to Ng, L. T., Chang, Y. S., and Kadir, A. A., ‘A review on agar (*gaharu*) producing *Aquilaria* species’, in *Journal of Tropical Forest Products*, 2 (2), 1997, 272–85).

Oleo-resins are botanical substances that consist of essential oil(s) and resin; often they are simply called “resins.” The resin of agarwood develops as deposits in the tree cell structure. The specific impregnation of the resin varies considerably in the case of agarwood (Barden et al., *Heart*, 2; Council of Scientific & Industrial Research, ‘*Aquilaria*’, 328–9).

⁵ Kaiser, *Meaningful Scents*, 63–4. Another description of agarwood fragrance is found in Burfield and Kirkham, ‘The Cropwatch Files’, no pagination (citing Burfield, T., ‘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.”

⁶ MSA-USC Hadith Database, *Ṣaḥīḥ al-Bukhārī*, Vol. 7, Book 71, No. 613.

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'
In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

liniment in various skin diseases.”⁷ The Cropwatch Organisation similarly lists acknowledged 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.”⁸

These beneficial medical qualities have doubtlessly contributed to promoting the use of agarwood in Yemen. However, currently, agarwood is rarely implemented as medicinal in its strict sense. People need not be ill to make use of it; they apply agarwood as a perfume in everyday life. It even represents the key material in today’s perfumery arts of South Yemen. This role deserves more attention, since other perfumery raw materials are known for their medical qualities too, and they have not taken on such a prominent role. Neither does the specific olfactory note of agarwood explain its preference over other perfumery materials that are equally characterized in their potential to become a fine olfactory phenomenon in incensation or in other perfumery methods.

In order to elucidate the special value of agarwood, the Yemeni perfumery arts and specifically the production of refined products based on this wood will be introduced first (Part II). This knowledge will serve to gain a better insight into the traditional use and choice of perfumes in Yemeni life (Part III). Having introduced the context of using agarwood, the paper will discuss the factors that make agarwood so precious for South Yemeni people (Part IV). A few remarks will finally hint at topical issues concerning its consumption (Part V).

II. South Yemeni Perfumery and Products

Unlike its popular understanding in the modern English language, “perfume” here signifies a type of material that could be (and often is) used to award an olfactory note to an item or a location. Defined as such, perfumery practices have a millennia-long tradition in Yemen. Since ancient

⁷ Council of Scientific & Industrial Research, ‘Aquilaria’, 329.

⁸ Burfield and Kirkham, ‘The Cropwatch Files’, no pagination (based on diverse medical sources).

times, aromatics were transported to South Arabia by land and sea trade, where they were used for religious worship. However, according to historical sources, it is unlikely that agarwood was known at that early moment.⁹ The situation has changed considerably. Nowadays, drug sellers and modern perfumery stalls and shops supply a wide range of agarwood pieces and mixed products.¹⁰

Specifically the production of such refined perfumery products has been a part of the local perfumery culture from early on. It appears that the production of mixed products presented a common part of daily cookery until it became its own craft.¹¹

Currently, agarwood is implemented in South Yemeni perfumery by several means. Sometimes, the wood is chopped into sticks or splinters to be used in incensation without any further processing in order to appreciate the exclusive agarwood fragrance.



Figure 2: Sticks of agarwood (2009)

Another method is distillation. This method allows people to enjoy the pure essential oil of agarwood. The distillation

Scientific knowledge about the medical qualities of agarwood in Western medicine is poor. Wabner and Beier present an overview of the limited research. Therapeutic experience however, gives reason to consider the validity of the various beneficial properties cited above (*Aromatherapie*, 248–50).

⁹ Sima researched inscriptions of approximately three dozen censers extant from pre-Islamic times. The names of up to four aromatic substances were inscribed per cuboid censer, and so provide information about the substances that were obviously implemented as incense. Nine of the thirteen substances have been widely identified. Interestingly, four were imported from abroad. Despite the undeniable existence of supra-regional trade, agarwood was seemingly not among the imported aromatics. Its name was not found on these censers. (Sima, *Tiere, Pflanzen, Steine und Metalle*, 265–79.)

¹⁰ Concerning the popularity of agarwood in Yemen beyond 'Adan and its local surroundings, see e.g. Schönig, *Schminken*, 61, 63–5, 172, 288, 318: This author reports on products consisting of agarwood among other ingredients on sale in perfume markets (primarily) in North Yemen.

¹¹ Consider cookery traditions of Babylonian times or medieval Arabian cultures. Interestingly, an institutionalized perfume market existed in 'Adan at the latest in Ayyūbid times (12th–13th century CE; Serjeant, 'Handel', 161), exemplarily indicating the historical development of the local perfumery craft.

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'

In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

product is not produced in Yemen, but imported from abroad. Special distillation plants have been established in India and Southeast Asia. Also, current Western perfume industries produce agarwood oil. The technique is always identical and requires the extraction of the essential oil from the wood. Usually, wood of lesser quality and harbouring only a small amount of oil is used for distillation purposes, as it would make up only incense of minor quality. However, sometimes agarwood of highest quality is used for producing oil. Depending on the source, varying amounts of oil can be obtained from one tree, and the oil is characterized by a lighter or darker note, offering specific olfactory nuances. Typically, the oil is sold in Yemen in very small amounts, in flacons the size of half or a quarter of a *tūla*, meaning a few millilitres. Many people enjoy using the oil in this pure form. Alternatively, the agarwood oil is used as a component for blends. Mixing several perfume oils in order to create a new oil composition has become an art in its own right in Yemen, practised by both private people and professional perfumers. An individual blend is seen as an expression of personal identity and understood as personal property, with agarwood oil often being a favoured component. Furthermore, the oil may be used in combination with other perfumery materials, such as creams. Due to its exceptional tenacity, the oil of agarwood enhances the quality of the overall product, and as before, the agarwood note is esteemed as part of its olfactory bouquet.

The production of composed perfumes has been typical of the Yemeni perfumery arts for centuries where diverse techniques have been implemented. The simpler variations are wood sticks that have been soaked in perfume oil while more complex incense compositions are based on a wider variety of ingredients, such as agarwood, spices, musk, ambergris, oils, and others. These ingredients are melded together in a syrup in order to produce a cohesive aromatic amalgam. There are no limits to one's creativity in producing a new perfume. It is only necessary to consider the natural chemical reactions. Some ingredients develop unfavourably strong or sharp scents when mixed with other substances, or they dominate over others, and in this case should be added only in small quantities. Highly volatile substances are preferably combined with tenacious ones in order to achieve a favourable olfactory harmony over a longer course of time. For all these perfumery products, agarwood serves well as a base, while other aromatics may contribute supplementary properties to the mixture.

III. The Use of Agarwood and Refined Products

The specific choice of components and production methods employed depends primarily on practical concerns. The diversity of perfumes is analogous to the diversity of occasions on which they are used. It is important to draw a distinction between men and women, as they not only use different products, but also spend their time separated from each other. Even with this separation, their reasons for using perfumes are similar, to express devotion, humility, and respect towards the Almighty, and consequently, to show respect towards the community. Perfumes provide a possibility to enhance the cleanliness of a location or an object, which is highly demanded and cherished according to Islamic ideals.

Prayer practices clearly demonstrate this perfumery aspect in South Yemen. People enjoy burning incense during prayer, whether in the mosque, parishioner halls, or at home. People also prefer to use fragrant objects in prayer, such as prayer beads. If they cannot be made from agarwood, then beads of a less worthy wood are rubbed with the agarwood oil. Similarly, men prefer wearing perfumed clothes when attending the prayer in the mosque.



Figure 3: Funerary utensils in 'Adan (2004)

representing either dry camphor or a scented unguent that consists exclusively of camphor or a mixture with *dharīra* (a powdery mixture of several aromatics), musk, sandalwood, and possibly other aromatics. It may be applied directly to the body, between the burial clothes, or also on the bier.¹² The funerary practices specifically of 'Adan are distinguished by the special role of

Funerary practices further underline the importance of perfumes in Islamic life. According to Islamic precepts, a corpse must be buried within hours after a person's death. To prepare its interment, the corpse is washed thoroughly several times. Generally in Islamic cultures, various essences are added in water for the last cycle of washing before the corpse is embalmed with *ḥanūṭ* ('embalming'),

¹² Bousquet, 'GHusl', no pagination; Tritton, 'Ḥināṭa', no pagination.

agarwood.¹³ Its oil is used to perfume the corpse, along with rose petals, solid musk, and the oil of musk. The final step involves the corpse wrapped in a shroud that has been smoked with the agarwood incense. Before draping the cloth, the *shahāda* (Muslim creed) is written on the forehead with agarwood oil to assist the deceased in passing through the threshold of the afterlife. On the ninth day after the death, the mourning community gathers in the house of the bereaved family for a funerary ritual. A *mawlid* is performed, commemorating the Prophet's life with recitation of poems and prayers. The joint performance serves to express grief and to plead for Divine mercy for the deceased person. The atmosphere is characterized by a mood of humility and obedience that is preferably strengthened by the continuous burning of agarwood and bunches of *rayhān* (basil), which may be handed to the guests.

As in funerary rituals, the delightful gatherings carried out by women are accompanied by gestures of perfuming. These female gatherings may be ritual ceremonies in celebration of childbirth or the recovery from a severe illness. The ritual procedure has comparable qualities to the funerary ritual. The community of women commemorates the life of the Prophet by reciting biographical poems and prayers. The recitation is accompanied by the burning of agarwood or incense mixtures, and the women are additionally welcomed with rose or other perfume waters. After the ritual ceremony has been completed, the women are offered a selection of perfumes as a sign of respect and hospitality. These may include incense, oils, or creams, depending on the hostess.

Exceptional perfumes are similarly offered during marriage festivities. Women celebrate the marriage with the bride during a special women's night. The guests gather and wait for the bride to arrive in a procession. She might be accompanied by assistants who carry censers with burning agarwood. The smoke will quickly fill the air, lending a special atmosphere to the moment and suffusing the bride's future with good luck. The guests may also be endowed with perfume oils, depending on the preferences and means of the inviting family. Such offerings of perfumes may likewise be made during all other minor gatherings, when female relatives or acquaintances meet in friendship and camaraderie.

¹³ Schönig describes the ritual preparation of the corpse in Ṣan'ā' in North Yemen that similarly includes the use of perfumes. However, the importance of agarwood is not necessarily as prominent there as in 'Adanī funeral practices ('Der jemenitische Drogenhändler', 178–9).

Altogether, it is expected that the hostesses or the prayer devotees select the best perfumes. Rare perfumes of exceptional quality reflect respect that a person attaches to the spiritual encounter or to the guests. Agarwood, considered the worthiest of perfume materials, is therefore favoured. Either sticks of outstanding wood quality or mixed products based on agarwood are preferably presented. Depending on the possibilities, the individual preferences, and the moment, other kinds of perfumes may be used in addition or as an alternative.

Special perfumery dishes serve to grace the presentation. Sprinklers have become famous in the Islamic world for the ritual use of rosewater. Even more important in Yemen is another item, the censer for burning agarwood or incense mixtures. The worthiest ones have been imported from abroad, and are distinguished by fine metal carvings. Most people however, have traditionally used simpler censers. The fabrication of these censers is considered a local handicraft in the region around 'Adan and led to the development of typical styles – censers made



Figure 4: Modern flacons from abroad (2004)

from either dried or burned clay, often coloured, and decorated with applications.

Another item is the flacon for perfume oils, such as agarwood oil. To meet the rising expectations in recent years concerning design, professional designers from abroad have developed small bottles in the shape of mosques and minarets, as well as worthy flacons with ornamental embellishment that are used on special occasions, such as marriage festivities.

IV. The Value of Agarwood

The ethnographic examples indicated illustrate the importance of perfumes and specifically agarwood in South Yemeni culture. This natural product constitutes a key component of many local perfumery products. People take great care and efforts to have agarwood and its refined products on hand for the most important and outstanding occasions, such as religious and social ceremonies, offerings, and the presentation of devout commitment, respect, and care for the

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'
In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

community. Two characteristics of agarwood mentioned above doubtlessly contributed to the distinguished role it would take up in South Yemeni culture – its beneficial medical effects on the body and mind and its delicate olfactory note. However, other aromatic materials are also special in these two regards. Thus, these two characteristics alone do not yet explain the aesthetical process that describes the history of agarwood in South Yemen.

There were obviously more factors that allowed agarwood to become such an important perfumery good in South Yemeni culture. Towards the end of the first millennium CE, the new knowledge of the foreign product fell on a fruitful basis given by Islam.¹⁴ Agreeable scents have been highly regarded in Islam from the very beginning; their esteem has been established by the Qur'ān. Numerous verses (including commentaries) describe the Paradise with its fine air and greenery. It is hardly possible to draw a distinction between the odoriferous environment and spiritual energy. One example is provided in the following verses of sūra 56, that describe the Paradisiacal garden. The quoted *rayḥān* may equally refer to the “ease” as well as to a variety of “fragrant herbs” – the fragrant plants that were known in the Arabian world already at the time of the Prophet.

Then, if he be of those brought nigh the Throne,
there shall be repose and ease [*rayḥān*], and a Garden of Delight; [...].¹⁵

The understanding of agreeable scents as a (re-) presentation of Divine qualities supported the pursuit of perfumery in the following centuries. The *ḥadīth* give abundant hints about the existence of a productional craft already at the time of the *ḥadīth*'s origin. Often the *ḥadīth* include

¹⁴ The Islamization of Yemen started during the Prophet's lifetime (7th century CE).

Agarwood arrived on the Peninsula in the first millennium CE. It may have first been mentioned in the Bible, and thus would have been known in the Peninsula's North even before the time of the Common Era (Sima, *Tiere, Pflanzen, Steine und Metalle*, 279–81). However, scholars have translated the Biblical passages differently as even Sima notes. Moreover, the history of the northern interior does not indicate an identical contemporary knowledge at the southern coast of the peninsula. The first historical arrival of agarwood there is unknown so far. Islamic manuscripts testify to the knowledge of agarwood in the overall Islamic world for the 9th century CE at the latest (consider e.g. references of agarwood in the *ḥadīth* - MSA-USC Hadith Database; Tibbetts, *A Study of Arabic Texts*, 27). Since 'Adan was a notable part of the Islamic culture due to its geographical location, the knowledge of agarwood must have arrived there within time.

¹⁵ Sūra 56: 87–8.

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'

In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

citations of perfumery products that were used.¹⁶ They also provide a report on the value of perfumes, for example, as a respectable object to be offered to others, as stated by al-Bukhārī:

Anas said: The Prophet used not to reject the gifts of perfume.¹⁷

The reward for perfuming is expressed in the following *ḥadīth*:

The Prophet (p.b.u.h) said, 'Whoever takes a bath on Friday, purifies himself as much as he can, then uses his (hair) oil or perfumes himself with the scent of his house, then proceeds (for the Jumua [Friday] prayer) and does not separate two persons sitting together (in the mosque), then prays as much as (Allah has) written for him and then remains silent while the Imam is delivering the Khutba [Muslim sermon], his sins in-between the present and the last Friday would be forgiven.'¹⁸

Over the centuries, the early Islamic ideal of cleanliness became associated with the concept of agreeable scents (re-) presenting Divine qualities, gradually making it an ethical obligation to apply perfume in honour of the Almighty and the Muslim community, as distinctly formulated in medieval manuals on codes of etiquette. In the beginning, only royal circles – including people entering into an audience with the prince – were asked to perfume themselves. Later on, it was recommended that urban citizens do so as well, and perfumery became a matter of *adab* ('civility, courtesy, refinement') – a precondition and an expression of a cultured way of life and erudition. Accordingly, the perfumery craft became a notable object of scholarly work. Medieval encyclopaedias bear witness to the historical efforts of explaining and elaborating the techniques and materials of the perfumery craft. The manuscripts composed by Rasūlid (13th–15th century CE) kings provide reports on the perfumery-related efforts, specifically at the Islamic courts in Yemen and in Yemeni society.¹⁹

¹⁶ See the frequent quotation of perfumery products in the various *ḥadīth* collections.

¹⁷ MSA-USC Hadith Database, *Ṣaḥīḥ al-Bukhārī*, Vol. 3, Book 47, No. 756.

¹⁸ MSA-USC Hadith Database, *Ṣaḥīḥ al-Bukhārī*, Vol. 2, Book 13, No. 8.

¹⁹ E.g. Varisco and Smith, *The Manuscript of al-Malik al-Afḍal*, 46; Varisco, *Medieval Agriculture*, 198–201, 219; Varisco, 'Rasūlidische Landwirtschaft', 305.

Obviously, the value of perfumery was well-grounded within the establishment of Islam. Notwithstanding this frame, the integration of agarwood into the local perfumery is special. The integration of this natural product lacked a theological basis that would be comparable with one of the other perfumery raw materials highly cherished and promoted in Islamic culture(s), such as musk and camphor. In contrast to these materials, agarwood is not mentioned in the Qur'ān and only rarely in the early *ḥadīth*, so that other reasons must have influenced the rise of agarwood in later times to become an item and sign of a preferred Islamic way of life in South Yemen.

As a matter of fact, the adaptation of agarwood in the overall Islamic culture was originally lagging (Ummayyad times, 7th–8th century CE), according to the report by al-Nuwayrī.²⁰ Nevertheless, from almost obscurity in the very beginning of Islam, agarwood was considered in the list of declared perfumery raw materials and became regarded as one of the few “basic” (*aṣl*, here in the sense of ‘the most important’) ones (ca. 9th–10th century CE).²¹ Later on, agarwood became worthy of detailed descriptions (ca. 11th–13th century CE).²² At this time, agarwood had

²⁰ Wiedemann and Grohmann, ‘Benutzte Drogen’, 35.

²¹ For example, Māsawayh (d. 857 CE) included agarwood in his list as one among twenty-eight substances. Agarwood is cited as one of the five basic substances, together with musk, ambergris, camphor, and saffron (Borrmann, *Moschus*, 26, 28–9).

Mas'ūdī (9th/10th century CE) similarly wrote about five “hauptsächliche Parfüms (*tīb*)” – musk, camphor, agarwood, ambergris, saffron – extended by the main 25 further “aromatische Substanzen (*afāwīh*)”. (Wiedemann, ‘Über Parfüms und Drogen’, 329).

²² Still al-Kindī (d. 870 CE) gives – in comparison with musk, ambergris, saffron, and camphor – relatively little advice on how to make use of agarwood or how to fake it. It is noteworthy that its use is recommended for enhancing and faking *other* raw materials (al-Kindī, *Kitāb Kīmiyā' al-ʿIṭr*, 1, 33, 36, 38, 39, 47, 49–50, 56, 58, 60, 66, 67, 71, 80, 91, 101, 103).

The knowledge about agarwood grew considerably. According to Borrmann, Ibn Kaysān (d. 990) distinguishes between different types of agarwood. He mentions agarwood as one among the four basic materials, next to musk, ambergris, and camphor (Borrmann, *Moschus*, 41–3).

Strikingly, al-Bīrūnī (973–1050s CE) seemingly included only little information about agarwood in his book on perfumery, possibly because he did not complete his book. (Consider Meyerhof, ‘Vorwort zur Drogenkunde’, 15).

Al-Nuwayrī (1279–1333 CE) offers a detailed report on the countries of origin and the different kinds of agarwood. However, their botanical source, local origin, and trade are still shrouded in mystery (Wiedemann and Grohmann, ‘Benutzte Drogen’, 33–4). The best quality agarwood is known under the name *al-hindī* (‘from the Indian world’, while “India” in historical sources referred to a vast and indistinct

become an item of great interest, while knowledge about it was still limited and interwoven with myths. The fascination with the exotic product resulted in further research, as mirrored in the geographical reports by Arab travellers and traders. Their accounts supply historical testimony of the trade with agarwood that had grown in connection with the shift of attention toward the Eastern neighbourhood in 'Abbasid times (the dynasty established in the 8th-9th century CE)²³ and the expanding sea trade and exchange with Southeast Asia in the following centuries.²⁴ South Yemenis were especially concerned by these changing international constellations. Due to various international circumstances, the network and exchange among coastal populations along the Indian Ocean Rim increased enormously, especially from the 13th century onwards. South Yemenis established notable relationships with people of Gujarāt and even with Southeast Asia

area along the Indian Ocean Rim and from South Asia up to Southeast Asia)/(al-mandalī). There are three known agarwood sub-groups – the *qāmurūbī*, the *samandūrī* (also called *rayḥān al-ʿūd*), and the *al-qamārī* (34–5), thereby indicating regional origins within the vast area of "India." (Consider the history of the West Asian discovery of Further Asia – see especially Tibbetts, *A Study of Arabic Texts*. *Qāmurūbī* may refer to Assam, *qamārī* to Cambodia. *A Study of Arabic Texts*, e.g. 75. However, even if agarwood exists in these areas, and these agarwood types are generally valued, such geographical hints should be taken with caution; the historical quotations may not be identical with our current geographical understanding. First, West Asian geographical knowledge was only developing at the time when those sources were written, second, long-distance trade and cultural exchange was characterized by – often multiple – resale and mediation, third, geographical knowledge was interwoven with legends and imaginative ideas, fourth, the identification of agarwood samples is generally extremely difficult and requires decades of personal experience, and fifth, geographical labels may have been used for heightening prestige or promoting business). Various additional types of agarwood are known, like *al-qaqūlī* [*al-qāqullī*; associated with the Western coast of the Malaysian peninsula], *al-ṣanfī* [affiliated with the region of today's North Vietnam], *al-ṣandafūrī*, *al-ṣīnī* [associated with South China] (*al-qaṭaʿī*), and a few more of minor importance (Wiedemann and Grohmann, 'Benutzte Drogen', 36–8. Consider the historical West Asian conception of Southeast Asia – see especially Tibbetts, *A Study of Arabic Texts*). However, the specific quality of especially these minor kinds of agarwood in comparison with each other is a matter of discussion (and perfumery taste!), according to the often incongruent information provided by different informants. (Al-Nuwayrī bases his encyclopaedic information on the notes by several earlier authors).

²³ Wiedemann and Grohmann, 'Benutzte Drogen', 35.

²⁴ Tibbetts presents the history of growing knowledge about Southeast Asia in West Asia according to sources written in Arabic from the 9th to 14th centuries CE. Agarwood was clearly a noteworthy trade item for the West Asian authors in those times. The sources include information about the origin, availability, and quality of various kinds of agarwood, and thus mirror the great interest in acquiring

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'
In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

directly. As a result, they not only entered the international agarwood trade centres, but also came in direct contact with local Chinese and Japanese members and other Asian communities. In addition, Yemen received visits from representatives of cultures as far away as China in those years, and it was also a destination for Muslim pilgrims from afar. The resumption of Yemeni exchange with Southeast Asia in the 18th-19th century rekindled these centuries-old relations.²⁵

The multicultural contacts have been significant for the history of agarwood in South Yemen.²⁶ Yemenis have been personally involved in the cultural and economic exchange, and have necessarily been stimulated by the demand for agarwood in other cultures. Agarwood had been highly appreciated among East Asian people since medieval times; its consumption in East Asia was sophisticatedly based and interwoven with philosophical-religious ideals and noble culture. This linkage, in turn, was connected with and had resulted from the (South-) East Asian tradition of paying royal tribute by tendering agarwood as a primary item.²⁷

Inevitably, the value of agarwood and the aesthetic sublimity ascribed to its fragrance heightened the prestige of both possessing and consuming this natural product in (South-) East Asia as well as



Figure 5: Locally produced censers from the area of 'Adan (2004)

knowledge about agarwood, as well as the mythical ideas that had been connected with it. (*A Study of Arabic Texts*, 27, 29, 30, 33, 37, 38, 40, 41, 42, 43, 53, 55, 56, 59, 60, 61, 64, 65, 165, 217, 223).

²⁵ Concerning the Yemeni trade with agarwood and exchange with the East: Jung, *An Ethnography*, 37–8, 61–2, 149; e.g. Feener and Laffan, 'Sufi Scents', 204; Watson Andaya and Ishii, 'Religious Developments', 169–81, 214–5; Reid, 'Economic and Social Change', 126, 135, 137–8, 150. Consider the history of Muslim communities in East and Southeast Asia, and the history of Muslim pilgrimage, in general.

²⁶ Note: Not only the material, agarwood, is identical. Methods of incensation, the tradition as such and the ritual procedure of tendering perfumes courteously in ceremonial gatherings, are also similar in several regards in South Yemen and East Asian cultures.

²⁷ Details are presented in: Jung, 'Agarwood in East Asia'.

their surroundings, and within all levels of society. The commercial demand for this product accelerated, developing into a growing competitive international business,²⁸ also effecting its importation to the Yemeni coast. In this region, agarwood became connected with the erudition and elegance that were associated with the cultures of other Indian Ocean Rim coasts. Due to the economic, courtly, and religious legacy of their centres as perceived in South Yemen, these regions' Islamic traditions were notably considered in South Yemen.²⁹

In summary, the generally high regard for agreeable scents in Islamic theology supported the integration of agarwood into the local perfumery. However, its rising aesthetical value is intrinsically connected with the cultural history of the coastal community. In the increasing exchange with the Eastern world of Islam and the Indian Ocean Rim, agarwood became both a key sign and expression of Islamic values and noble culture, as locally defined in the scholarly and cultural exchange with abroad. Due to the select use of agarwood, knowledge about the special value of this aromatic wood is taught to every child. As a result, experiencing the agarwood fragrance supports the awareness of a refined and erudite origin which has been an Islamic ideal

²⁸ The trade activities with agarwood of East Asian traders in Southeast Asia are well documented. (For details, see: Jung, 'Agarwood in East Asia'). Necessarily, all other traders were in the same way concerned by growing trade volumes and rising prices as were East Asian people, since all of them bought agarwood on the same markets. I myself observed in Southeast Asia how members of different cultures stimulate each other in the consumption of agarwood nowadays. The members are stakeholders of the same perfume market, and they meet each other when stocking up their supplies. The vendors are interested in promoting their sales among all their clients of diverse cultural origins.

²⁹ The multicultural character, courtly splendours and Islamic heritage of societies over the course of the centuries in Southeast Asia and South Asia have been well-researched, so that I omit bibliographic references. Concerning their connections with abroad and specifically with South Yemen, and examples of their influence on the various Fine Arts in South Yemen, see: Jung, *An Ethnography*.

Feener and Laffan give an overview of the interconnections between South Yemen and Southeast Asia, and Ṣūfī scholarship at both sites, and the import of aromatics. It resulted in the "integration of the Indonesian archipelago into the intellectual, not to say economic, vistas of the Arabian peninsula in the medieval period" ('Sufi Scents', 188). Of importance were "small-scale family ties" (193). Fragrances – and especially the scent of agarwood – became used as a poetic metaphor of piety, as for example in the following verse by the 'Adan-born al-Yāfī'ī: "their [i.e. outstanding Ṣūfī scholars] fragrant scents were of the virtues I was granted"; and a certain Ṣūfī from Southeast Asia "was a fragrance most precious to him [i.e. al-Yāfī'ī], and as priceless as the finest aloes ('ūd) [i.e. agarwood] from distant Jāwa" (197).

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'
In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

since its beginning. Specifically in South Yemen, using agarwood reinforces and represents such feeling of noble Islamic identity.³⁰

V. Today's Challenges

The exceptional esteem of agarwood has resulted in the overexploitation of this natural resource up to the most remote areas of its growth. Clearly, the immense demand for agarwood is not merely due to its use among Yemenis. As indicated above, agarwood has been valued among several people from Asia, and currently, it is a sought-after commodity in many Asian areas and beyond.³¹ Levels of agarwood consumption are still growing due to various factors – the global migration of consumers, global trade facilities and business aims, professional marketing strategies, media, the decisive constellation of increasing poverty in source countries, and the growing affluence of consumer groups abroad. In addition, the global perfume industry has become interested in the product, and agarwood has also caught the interest of esoteric circles of non-Asian societies.³² As a result, agarwood has become the most expensive perfumery raw material in the world, also surpassing the value of gold.³³ The economic dimension of its global trade is inestimable, while wild resources have diminished and are nearly extinct. Several agarwood species were listed in the Red List of Endangered Species as vulnerable or critically endangered. The secretariat of the United Nations-related CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) has reacted to this warning. Agarwood is now listed in CITES Appendix II, which means the international trade of agarwood is monitored

³⁰ Hansen gives a lively report of the esteem of agarwood and the special aura it has for Yemenis and other Muslim and Asian populations. Notable efforts are taken to get a few pieces of it; its use is rewarded with social respect ('Hidden History', 4, 5, 10).

³¹ Consider e.g. the origin of the work by Barden et al., *Heart*.

³² Personal observation on perfume markets in Europe, West Asia, and Southeast Asia. See also: Barden et al., *Heart*, 8. Persoon and van Beek, 'Growing 'The Wood'', 250.

³³ For example, one kilogram of highest-quality oil exceeds the price of 110,000 Euros, according to the Cropwatch Group. Burfield, and Kirkham, *The Cropwatch Files*, no pagination.

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'
In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

through a licensing system.³⁴ However, stopping wild harvesting and illegal trade remains a continuous task.³⁵

To ensure agarwood's availability in the future, it will be necessary to raise public awareness of the threat of extinction of this natural resource. Furthermore, there must be a significant improvement in the identification of agarwood species and refined products on sale, in order to understand their materiality and origin. Lastly, support should be provided for the sale and purchase of certified agarwood from monitored wild resources and cultivation projects.³⁶ Only if sustainable management of this natural resource is achieved will agarwood be available to be appreciated for its cultural value and beneficial properties in Asian countries and beyond.

References

Barden et al., *Heart of the Matter: Agarwood use and trade and CITES implementation for Aquilaria Malaccensis* (no date)

http://search.atomz.com/search/?sp_a=sp1003bbd0&ap_q=agarwood&sp_p=all&sp_f=ISO-8859-1, accessed January 28, 2008.

Borrmann, Kai, *Moschus im Tintenfaß. Düfte in der islamischen Literatur* (Würzburg: Ergon, 2004).

Bousquet, G. – H. 'GHusl', in *Encyclopaedia of Islam. Second Edition* (Leiden: Brill, 1965, CD-ROM Edition, 2003).

³⁴ Further information: CITES, <<http://www.cites.org>>. See also: Barden et al., *Heart*.

³⁵ Persoon and van Beek proclaim, "[...] a large part of the trade takes place illegally. The CITES requirements are often not fulfilled. [...] As yet there is no certification system for agarwood comparable for instance with a Forest Stewardship Council (FSC) certificate for sustainably produced timber" ('Growing 'The Wood...'', 249, see also 258).

³⁶ Cultivation projects number many nowadays, carried out by local communities, individuals, enterprises, governments, as well as scientists and foreign businessmen, and based on such diverse methods as artificial wounding or inducing certain chemicals (personal observation in Southeast Asia). The changing circulation of profits and its effects on the economy of the local, forest-dwelling communities and on the global supply with agarwood, as well as the effects of these cultivation projects on local ecosystems deserve further research (see also: Persoon and van Beek, 'Growing 'The Wood...'', 259–60).

- Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.' In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011).
- Burfield, Tony, and Kirkham, Kendra, 'The Cropwatch Files – The Agarwood Files' (2005). <<http://www.cropwatch.org/agarwood.htm>>, accessed September 10, 2009.
- The CITES Secretariat
<<http://www.cites.org>>.
- Council of Scientific & Industrial Research, 'Aquilaria', in *The Wealth of India. A Dictionary of Indian Raw Materials & Industrial Products*. Vol. I (New Delhi, Council of Scientific & Industrial Research, 1985), 328–30.
- Feener, R. Michael, and Laffan, Michael F., 'Sufi Scents Across the Indian Ocean: Yemeni hagiography and the earliest history of Southeast Asian Islam', in *Archipel*, 70 (Paris: Société pour l'Étude et la Connaissance du Monde Insulindien, 2005), 185–208.
- Hansen, Eric, 'The Hidden History of a Scented Wood', in *Saudi Aramco World*, Vol. 51 No. 6 (Houston: Aramco Services, 2000), 2–12.
- Jung, Dinah, *An Ethnography of Fragrance. The perfumery arts of 'Adan/Lahj* (Leiden: Brill, 2011).
- , 'The Ritual Use and Significance of Agarwood in East Asia' (Unpublished manuscript. Talk given at the conference 'Sensory Meetings', Brussels/Liège, September 27–29, 2010).
- Kaiser, Roman, *Meaningful Scents around the World. Olfactory, Chemical, Biological, and Cultural Considerations* (Zürich: Helvetica Chimica Acta, Weinheim: Wiley-VCH, 2006).
- al-Kindī, Ya'qūb b. Ishāq, *Kitāb Kīmiyā' al-'Iṭr wat-taṣ'īdāt. Buch über die Chemie des Parfüms und die Destillationen* (Leipzig: F. A. Brockhaus, 1948).
- The Koran Interpreted*. Transl.: Arthur J. Arberry (London: George Allen & Unwin, New York: The Macmillan Company, 1955).
- Meyerhof, Max, 'Das Vorwort zur Drogenkunde des Bērūnī', in *Quellen und Studien zur Naturwissenschaften und der Medizin* (Berlin: Julius Springer, 1933), 1/157–52/208.
- MSA-USC Hadith Database
<<http://www.usc.edu/dept/MSA/fundamentals/hadithsunnah/>>, accessed May 2005.
- Persoon, Gerard A., and van Beek, H. Heuveling, 'Growing "The Wood of the Gods": Agarwood Production in Southeast Asia', in Snelder, Denyse J., and Lasco, Rodel D. (eds), *Smallholder Tree Growing for Rural Development and Environment Services. Lessons from Asia* (no place: Springer Science + Media B.V., 2008), 245–262.
- Reid, Anthony, 'Economic and Social Change, c. 1400–1800', in Tarling, Nicholas (ed.), *The Cambridge History of Southeast Asia. Volume Two. From c. 1500 to c. 1800* (Cambridge: Cambridge University Press, 1999 [1992]), 116–63.

Jung, Dinah, 'The Value of Agarwood. Reflections upon its use and history in South Yemen.'

In: HeiDOK, <http://www.ub.uni-heidelberg.de/archiv/> (May 30, 2011)

Schönig, Hanne, *Schminken, Düfte und Räucherwerk der Jemenitinnen. Lexikon der Substanzen, Utensilien und Techniken* (Würzburg: Ergon, 2002).

–, 'Der jemenitische Drogenhändler und seine Ware: Medizin, Magie, Ästhetik', in Deimel, Claus (ed.), *Jahrbuch der Staatlichen Ethnographischen Sammlungen Sachsen Band XLIII* (Berlin: LIT Verlag, 2007), 171–80.

Serjeant, Robert, 'Handel im Jemen in frühislamischer Zeit und im Mittelalter', in Daum, Werner (ed.), *Jemen. 3000 Jahre Kunst und Kultur im glücklichen Arabien* (Innsbruck: Pinguin & Frankfurt: Umschau, 1987), 160–4.

Sima, Alexander, *Tiere, Pflanzen, Steine und Metalle in den altsüdarabischen Inschriften. Eine lexikalische und realienkundliche Untersuchung* (Wiesbaden: Harrassowitz, 2000).

Tibbetts, G. R., *A Study of the Arabic Texts Containing Material on South-East Asia* (Leiden and London: E. J. Brill, 1979).

Tritton, A. S., 'Ḥināṭa', in *Encyclopaedia of Islam. Second Edition* (Leiden: Brill, 1971, CD-ROM Edition, 2003).

Varisco, Daniel, 'Rasūlidische Landwirtschaft und traditionelle Almanache', in Daum, Werner (ed.), *Jemen. 3000 Jahre Kunst und Kultur im glücklichen Arabien* (Innsbruck: Pinguin & Frankfurt: Umschau, 1987), 303–5.

–, *Medieval Agriculture and Islamic Science. The Almanac of a Yemeni Sultan* (Seattle and London: University of Washington Press, 1994).

Varisco, Daniel, and Smith, G. Rex, *The Manuscript of al-Malik al-Afḍal al-‘Abbās b. Dā‘ūd b. Yūsuf b. ‘Umar b. ‘Alī Ibn Rasūl (d. 778/1377)* (Warminster: Aris & Phillips, 1998).

Wabner, Dietrich, and Beier, Christiane, *Aromatherapie. Grundlagen - Wirkprinzipien - Praxis* (München: Elsevier, 2009).

Watson Andaya, Barbara, and Ishii, Yoneo: 'Religious Developments in Southeast Asia, c. 1500–1800', in Tarling, Nicholas (ed.), *The Cambridge History of Southeast Asia. Volume Two. From c. 1500 to c. 1800* (Cambridge: Cambridge University Press, 1999 [1992]), 164–227.

Wiedemann, Eilhard, 'Über Parfüms und Drogen bei den Arabern', in *Beiträge zur Geschichte der Naturwissenschaften LVI* (Erlangen: Max Mencke, 1918), 329–39.

Wiedemann, Eilhard, und Grohmann, Adolf, 'Über von den Arabern benutzte Drogen', in *Beiträge zur Geschichte der Naturwissenschaften XLIX* (Erlangen: Max Mencke, 1918), 1–60.

Summary

Agarwood is a scented heartwood produced by a number of mainly *Aquilaria* species. It has been highly valued among various populations of Asia. Specifically in South Yemen, agarwood presents the key material of the current perfumery arts; it is the ingredient of many products, and people take great care to have it on hand for the most special occasions. The paper discusses the factors which turned agarwood from an originally uncommon good of minor interest into such a significant and cherished one. The olfactory character and medicinal qualities of the resinous product do not yet provide a satisfactory explanation for this aesthetic development. A fruitful basis for the rising esteem of agarwood was given in the establishment of Islam, due to the general attention to perfumery matters in the holy literature. Specifically, agarwood became important in South Yemen with the expansion of the operating range of the coastal population. Experiencing the fragrance of agarwood supports an awareness of Islamic values and noble origin, as they were defined in the cultural exchange with the Eastern world of Islam and the Indian Ocean Rim over the course of the centuries. In order to maintain availability of this coveted good, sustainable management of the threatened natural resource is requisite.