

# THE BOOK BY DESIGN

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The Remarkable Story of the  
World's Greatest Invention

*Edited by*  
P. J. M. Marks  
&  
Stephen Parkin

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# THE BUDDHA'S LAST BIRTH TALE

The art of the palm leaf book

JANA IGUNMA

The earliest manuscripts in South and Southeast Asia were prepared from easily accessible natural materials like tree bark, bamboo slips and the leaves of palm trees. Books made from palm leaves were of particular importance in Hinduism, Jainism and Buddhism, and their use spread from India to Central and Southeast Asia. Although the oldest extant palm leaf books date back to the ninth to eleventh centuries CE, there is archaeological and textual evidence that oblong-shaped palm leaves, designed and bound together in book format, were used as early as the fifth century CE. By the end of the first millennium CE, large libraries holding handwritten palm leaf books had been established across South Asia.

Surviving palm leaf books originate mainly from India, Nepal, Bangladesh, Sri Lanka, Myanmar (Burma), Thailand, Laos, Cambodia, Indonesia and the Philippines. Their production declined rapidly at the beginning of the twentieth century due to the establishment of modern printing presses, which produced large numbers of books more quickly and less expensively.

Texts contained in palm leaf books cover a wide range of subjects including philosophy, religion, history, grammar, literature, music, art, cosmology, laws, mathematics, medicine and biology. Palm leaf books exist as bundles held together with a cord, as loose-leaf manuscripts and in folding book formats, often with wooden covers. The text was applied with an ink pen or incised with a metal stylus, but in the twentieth century text was also printed on palm leaves with modern presses.

Palm leaf books were illuminated or illustrated depending on the purpose and the text content. Lavish decorations were applied onto the leaves and wooden covers of religious scriptures. In the Buddhist tradition, the creation or commission of artistically outstanding objects was regarded as a meritorious act. Often custom-made cabinets, chests and wrappers were produced to protect the books from damage.

## THE BUDDHA'S LAST BIRTH TALE ON PALM LEAVES

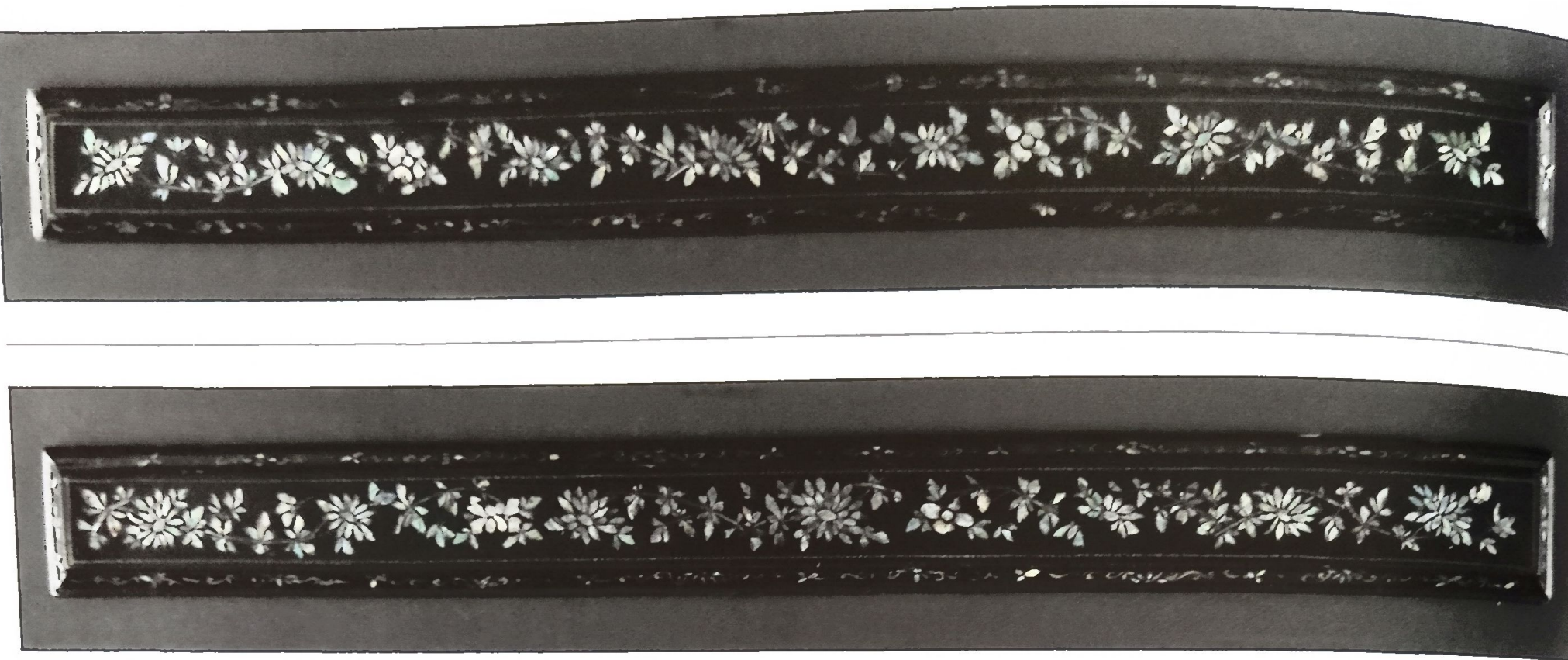
The previous lives of Gotama Buddha – the historical Buddha – are the subject of a collection known under the title Jataka ('Birth Tales') in the Sanskrit and Pali languages. There are 547 Jataka stories which show how the Buddha acquired greater virtues and moral stature from one incarnation to the other. Being among the key textual sources of Buddhism, they are attributed to Gotama Buddha himself and are included in the Pali-language Buddhist canon which is well known in the Buddhist cultures of Sri Lanka and Southeast Asia. The Buddha is thought to have narrated them during his forty-year ministry to his followers, using each Jataka to teach the values of compassion, loving-kindness, generosity, honesty, perseverance and morality. In his previous lives Gotama Buddha was incarnated in the form of human beings, various animals, benevolent spirits, or as deities residing in the heavenly realms of the Buddhist cosmos. All of the Buddha's Birth Tales are popular among Theravada Buddhists but the Vessantara Jataka is the best known.

01. *Illustrations from the last Birth Tale of the Buddha depicting peaceful scenes with animals, flowers and trees painted on gilded background on palm leaf. Vessantara Jataka, Thailand, 19th century. (Or 16753, f. 1r; Or 1245, f. 25r & f. 26v, details)*









Prince Vessantara was the Buddha's last incarnation before he was reborn as Prince Siddhattha who eventually attained enlightenment and became the Buddha. This last Birth Tale, better known as Vessantara Jataka or Great Jataka, is the most popular across Southeast Asia, symbolising the virtues of generosity and compassion. Set in a natural environment, it tells the story of Prince Vessantara, his wife and two children who set up a forest hermitage when they were exiled from their kingdom. After passing a number of tests to prove that his generosity and spirit of compassion were genuine, the family was welcomed back to the royal palace and Vessantara ascended the throne. Unsurprisingly, illustrations relating the story of Prince Vessantara depict natural scenes not only in the design of palm leaf books, but also paper manuscripts and mural paintings.

The popularity and importance of the Vessantara Jataka are not only due to the beauty of the story and its ethical meaning for practising Buddhists,

but also reflect a prediction in the Buddhist scriptures: if the Vessantara Jataka was to disappear this would be the very first sign of the departure of Gotama Buddha's teachings, or Buddhism, from the world. Buddhists, therefore, take great care to preserve this Birth Tale for future generations, be it in the form of artworks, written texts, recitations and performances, or audio-visual media.

Kings and other royals, both male and female, commissioned large numbers of Buddhist scriptures, either in the form of palm leaf books or, less often, paper folding books. One outstanding example of such commissioned Buddhist works on palm leaves is held in the Thai, Lao and Cambodian Collections at the British Library (Or 1245). It is a part of an illuminated, multi-volume copy of the Vessantara Jataka made in central Thailand, probably Bangkok, in the nineteenth century. The text in the Pali language was written on palm leaves, in Khmer script, which was used mainly for canonical Buddhist texts or other sacred texts in Thailand (whereas in Cambodia this is still the commonly used script). The beautifully illuminated bundle of this palm leaf book contains two of the standard thirteen chapters of this Birth Tale, chapters eight and eleven. The text describes one of the tests that Prince Vessantara has to pass while living in the forest hermitage: Jujaka, an old Brahmin, asks Prince Vessantara for his children to become servants of Jujaka's young wife. Vessantara realises that true generosity means to renounce much more

02. Wooden end boards with mother-of-pearl inlay showing a free-flowing floral pattern. (Or 1245)

03. Palm leaf bundle containing text from the Vessantara Jataka with the wooden covers, which are decorated with black lacquer and mother-of-pearl inlay. (Or 1245)





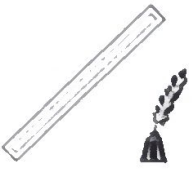
than material possessions and grants the wish. However, Jujaka loses his way in the forest and finally arrives at the palace of Vessantara's father, who recognises his grandchildren.

This palm leaf bundle (Image 3) consists of thirty-three leaves which are 580 millimetres long and 60 millimetres wide. The text is written with black ink on twenty-seven leaves, the remainder are blank. The leaves are held together by two lengths of red cord which are tied through holes in the leaves. On each leaf there are two circular markings for the binding holes and five lines of text. Six leaves are illuminated with paired miniature paintings of natural scenes. These images are seen through the eyes of Vessantara and his family, depicting what they would have seen while living in the forest hermitage – trees, flowers, animals, rocks. The embellishment of Buddhist texts with natural scenes and landscapes is not unusual in Thai manuscript and book art as they highlight the close relationship that the Buddha had with his natural environment and all sentient beings. It is believed that in the presence of the Buddha or his previous incarnations as a *bodhisattva* even fierce wild animals and powerful mythical animals become gentle and supportive of him.

In Image 1 the landscape illustrations with blossoming trees and various animals were painted with a fine brush on a gilded background. Brushes for such delicate paintings were usually made from

hair from the inside of a cow's ears. The size of the painting is 200 millimetres by 60 millimetres. Red and orange paints were made from vermilion and shellac, which was easy to obtain and therefore used lavishly. The borders in mainly red pigment and gold leaf show the popular flame- or thorn-like pattern and a lotus flower – sacred in Buddhism – in a roundel flanked by foliage on the left side. While painting styles of earlier centuries were not superseded, imported paints such as Prussian blue, synthetic ultramarine, emerald green and chrome yellow helped to develop a more realistic style that benefits from stronger and more contrasting colours.

The skills needed to incise text, illustrate, make paints and all the other decorative practices were passed on from elder monks to novices in monasteries. Similarly, such techniques were taught by secular craftsmen and women to family members and were a valuable source of income.

Specification	Scale
VESSANTARA JATAKA Thailand, 19th century 580 x 60 mm Or 1245	



## ORIGINS AND METHODS OF MAKING PALM LEAF BOOKS

Palm leaves became a popular writing support in South Asia because of their flexibility, durability and resistance to mould and insects. Often the palm leaf books themselves were objects of worship, and the tradition that they must be treated with due respect survives today.

Both the palmyra and talipot palms were used in the production of manuscripts. The palmyra tree (*Borassus flabellifer*) has an extensive growth range and is cultivated throughout most of tropical and subtropical Asia. It can often be found as a decorative tree around Buddhist temples in South-east Asia. The leaves are fibrous and of excellent strength and flexibility when fresh; however, over time the natural flexibility decreases. The leaves of the palmyra palm are rather thick compared to those of the talipot tree (*Corypha umbraculifera*). The latter are more commonly used in manuscript production, but it is actually a fairly rare tree with a growth range limited to southwest India, Sri Lanka and parts of Southeast Asia. It needs a wet climate and grows abundantly in moist coastal areas. The leaves are soft, flexible and of a light colour after drying.

Various treatments are needed to prepare the palm leaves for the application of text or illustrations. One method is to boil or soak the leaves in a mixture of water with herbs, for example lemongrass (*Cymbopogon*) or sweet flag (*Acorus calamus*), which are known to be insect repellents. Then they are dried and sometimes smoked or baked in a kiln before being pressed, cut into rectangular shapes and finally written on. If baked in a kiln, the leaves discharge some black oily liquid, which has to

be removed with a cloth or hot sand before text is applied. The size of the palm leaves can be between 200 and 600 millimetres long and 40 to 60 millimetres wide. Shorter leaves were traditionally used for secular texts whereas longer ones served for the writing of religious texts. Another method is to glue several long rectangular leaves together at the short ends and roll the resulting sheet to form a scroll. Palm leaves treated in such ways are relatively robust and can last for 500–600 years, even in humid, tropical climates. The edges of the palm leaves can be lacquered or gilded after they are cut to size, which helps to protect them from deterioration and damage by insects. One or two holes are punched through each leaf and then the leaves forming one bundle are strung together with a cotton cord. A complete palm leaf book may consist of one bundle, or more than twenty.

Each leaf contains between three and ten lines of writing, with occasional illustrations or ornaments decorating the text (Image 5). Whereas Buddhist texts and commentaries are usually in the Sanskrit or Pali languages (unless they are translations), secular works and treatises are mostly written in vernacular languages.

The writing is most commonly incised with a hard wood or metal stylus, after which soot or lampblack mixed with oil and resin is applied to the leaves and then wiped off again, leaving the black pigment only in the incisions for better visibility of the text. Other materials used for inking are mixtures of bean plant juice and oil, or pulverised burnt candle-nut and coconut oil. In rare cases, specially made black or gold ink is used to write the text onto the palm leaves with a bamboo pen or a brush (Image 4). For the writing of particularly important texts the palm leaves can be gilded or silvered before the text is written on. The scribe or copyist has to be very skilled and must take great care if the text is incised since overwriting or correction are practically impossible.

04. Incipit of the *Vessantara Jataka* in the Pali language in Khmer script, written in gold ink on red lacquer. (Or 1245b, f. 1v)

05. Fragments from a palm leaf bundle containing five protective texts with illustrations of Buddhist deities, *Pancharaksha*, Nepal, 12th century. (Or 14000)



ॐ नमो भगवते वासुदेवाय ॥ १ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ २ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ३ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ४ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ५ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ६ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ७ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ८ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ ९ ॥  
 ॐ नमो भगवते वासुदेवाय ॥ १० ॥

[illegible][illegible]

ममासः॥ ३ ॥ नमो भगवते  
सत्त्वमात्रं ॥ इहानि जयन्तः  
यश्चान्धनं गतः ॥ अथ यो  
साली मनुष्या विद्वान्ना च हन  
गच्छन्तः इह साली सल्लुङ्ग  
अथ लुङ्गमायाया विमलः ॥

[illegible]

दशमस्कन्धः । अथ विष्णुसंहिता । निरुद्ध  
 वायामिदं सन्निविष्टं न वा वायुः सन्निविष्टः  
 कुत्रापि वायुः सन्निविष्टः । अथ विष्णुसंहिता । निरुद्ध  
 उवाच विष्णुः । अथ विष्णुसंहिता । निरुद्ध  
 सन्निविष्टः । अथ विष्णुसंहिता । निरुद्ध  
 विष्णुसंहिता । अथ विष्णुसंहिता । निरुद्ध









07.

Palm leaf books are often equipped with a title indicator made from a small piece of palm leaf, wood, bamboo, ivory or cloth showing the title or contents of a book, and the names and wishes of its patrons. In the Burmese tradition long handwoven tapes known as *sazigyo* are used for this purpose. Historically, title indicators and *sazigyo* were important means of identifying texts when these were stored together in large wooden cabinets in Buddhist temple libraries, for example.

Valuable manuscripts containing important texts were protected from physical damage with two end boards, made from a variety of materials. Ivory, wooden and bamboo boards were sometimes carved with floral designs. For aesthetic reasons, or to add meritorious value, they could also be lacquered in red, black, yellow or orange colours before being painted (Image 7) or embellished with gold leaf. Lacquer was a popular material as it guarded against damage by water and humidity. It was made from the sap of the Burmese lacquer tree (*Melanorrhoea usitata*) and could be mixed with various natural substances to achieve different colours, for example cinnabar or lampblack. The glossy appearance of black lacquer was an ideal background for gold leaf. Motifs included flowers, plants and foliage, flame-like and hourglass-like designs, but also figures of deities and animals.

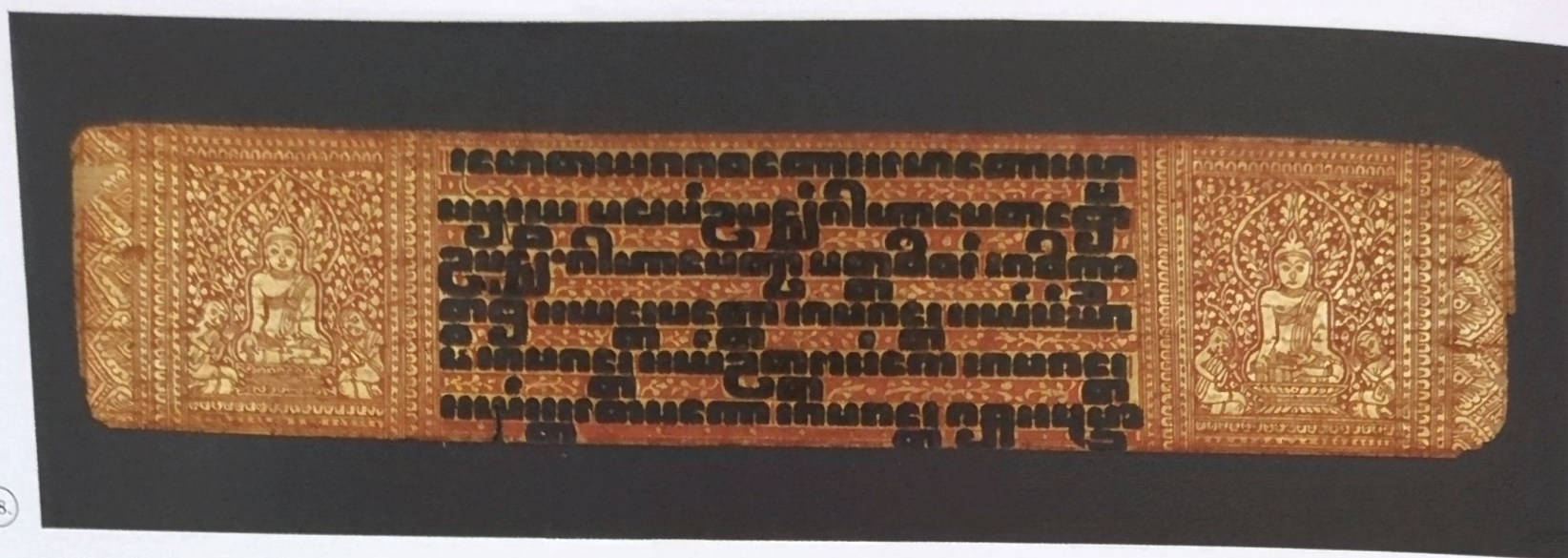
## ILLUSTRATION OF PALM LEAF BOOKS: SOOT, LACQUER AND GOLD

The long rectangular shape of palm leaves is not ideal for illustration, so various techniques had to be adopted to decorate the text. The most frequent type of illumination are miniature drawings, floral patterns and diagrams which are incised into the leaves with a stylus, and afterwards either blackened with soot (like the text) or wiped with a mixture of oil and natural substances including powdered shellac or cinnabar if different colours were required. Designs could vary, for example the South and Central Asian tradition favoured miniature paintings of the Buddha, *bodhisattvas*, Hindu gods and goddesses, protective deities, and in rare cases images of the sponsors of a palm leaf book. In Buddhist parts of Southeast Asia,

06. *Illustrated Burmese Buddhist cosmology on palm leaves sewn together in folding book format, Burma, 18th–19th century. (Or 15283)*

07. *Palm leaf book with an incised Buddhist text in Sinhalese script, title indicator made from palm leaf and illuminated wooden end boards, Sri Lanka, 18th–19th century. (Or 6600/69, ff. 1v–2r)*





the front leaves of manuscripts commissioned by royalty were sometimes embellished with red or black lacquer and gilt ornaments of royal symbols, flowers and lattice patterns. Gold paint was used to execute the text in fine calligraphy on contrasting black- or red-lacquered palm leaves.

Occasionally the texts of palm leaf books required larger illustrations for clarification of the subject, for example Buddhist cosmologies which explained and depicted the thirty-one planes of existence in Buddhist belief. For that purpose, several palm leaves were sewn together to form a larger surface upon which illustrations and diagrams were incised and blackened with soot (Image 6). These palm leaf books were then folded like concertina books, and it is thought that this is the ancestor of the paper folding book which became the preferred format for illustrated texts in mainland Southeast Asia during the eighteenth and nineteenth centuries.

08. Sheet from a Burmese *Kammavaca* manuscript made from palm leaves, with gold and lacquer illuminations of two Buddhas with two disciples each, Burma, 19th century. (Or 12010/b, f. 1r)

09. Palm leaf book consisting of multiple bundles strung together with a red cord, and two wooden boards decorated with mother-of-pearl inlay and with a silk brocade wrapper. Buddhist commentaries, Thailand (manuscript) and India (wrapper), 1824–51. (Or 5107)

10. A wooden case with gilt and lacquer decorations showing a floral design, custom-made for one Buddhist palm leaf book containing a *Kammavaca* text in Dhamma script, northern Thailand or Laos, 19th century. (Or 16893, f. 1r)

In the Burmese, Lao and northern Thai tradition larger surfaces of single folios were created by placing two or three palm leaves next to each other and covering them with several layers of lacquer. This method allows for more space to add lavish gold illuminations and illustrations next to Buddhist ordination texts (*Kammavaca*) or other sacred scriptures written in highly decorative calligraphy script (Image 8).

#### PALM LEAF BOOK WRAPPERS AND BOXES

To provide additional protection against dust and mould, palm leaf books were often wrapped in a piece of cloth, which could either be custom-made or simply an unused skirt, a handwoven shawl or an imported piece of cloth (for example, printed Indian cotton). Bespoke palm leaf wrappers were also made from local or imported silk (Image 9). These wrappers had sometimes woven-in bamboo strips to provide extra stability for palm leaf books that lacked end boards. Another method of protection took the form of a long cotton or silk bag that was sewn to fit the size of the palm leaves.

Precious palm leaf books were traditionally equipped with a custom-made wooden enclosure to keep them safe from rodents, insects and water damage. There are three types of such storage caskets: the single manuscript or book case (Image 10), the larger chest with a lid and the cabinet with hinged doors. All three are usually made from wood, often beautifully carved or decorated with lacquer and gilt, or sometimes with intricate mother-of-pearl inlay or mirror glass inlay.



