H. Hinzler
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H.I.R. HINZLER

BALINESE PALM-LEAF MANUSCRIPTS

1. Introduction

This article deals with a particular kind of writing material that was and still is being used in Bali and the western part of Lombok which is inhabited by Balinese. It is made of leaves, usually the fan-shaped leaves of the lontar palm tree (Borassus flabellifer or flabelliformis, or Palmyra), and is still being used for rendering texts, particularly texts which are important to the owner because of containing information concerning his family, religious practices, privileges, profession (for example, priest or exorcist) or the deeds of his Indian ancestors. For this reason, lontar are kept and venerated by many Balinese. Another palm tree, the gebang (Corypha gebanga), sometimes called 'wild lontar' (Ginarsa 1975:92), is also mentioned in connection with writing material (for instance in the introductory prayer of a wayang puppet performance by North Balinese dalang). However, the gebang was, at least in the 1930s, very rare in Bali, whereas lontar palms grew abundantly in the dry areas (Cox 1931:189). In Lombok the situation was the reverse: there, lontar palms had to be cultivated (Cox 1931:189). In the more remote eastern parts of the Lesser Sunda Islands, however, lontar palms were abundant (Cox 1931:189). Another plant fibre, the bract of the pudak (the flower of the pandanus shrub), may also serve as writing material.

I wish to thank Ida I Déwa Catra from Karangasem and the late I Gusti Ngurah Ketut Sangka from Krambitan for their valuable information and support.

The spelling of Balinese words in this article follows the conventions established by the Indonesian Department of Education and Culture in 1974. In order to avoid mispronunciation of the /e/, I have marked it by means of accents /él and /è/ and I represent the shwa by an unmarked /e/, as in the second edition of the Kamus Bali-Indonesia (Warna et al. 1991). The names of persons, but not their titles, I have indicated in the old spelling when it is still used by the relatives of the person in question. Thus, I write Djlantik instead of Jelantik. For Old Javanese words and terms I have used the spelling from Zoetmulder's Old Javanese-English dictionary (1982).

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material, but only for short notes. Leaves of the gebang and lontar palms were also used as writing material on other islands (Java, Madura and Sulawesi, for instance), but their production and social importance in these areas will not be discussed in this paper.

Most of the information collected for this article dates from the end of the nineteenth or the beginning of the twentieth century. The main sources are the Balinese palm-leaf manuscripts now in the collection of Leiden University Library; the Kawi–Balinese–Dutch dictionary (KBNWB) compiled by H.N. van der Tuuk between 1870 and 1894; articles by Ch.J. Grader and Ch. Hooykaas (1941; based on data from Karangasem and North Bali, respectively) and by two Balinese authors from North Bali, I Ketut Ginarsa (1975) and I Ketut Suwidja (1979). More recent data are based on my own fieldwork trips between 1972 and 1992 in North, Central and South Bali. I collected information with the help of the late I Gusti Ngurah Ketut Sangka from Puri Gedé in Krambitan (Tabanan) and Ida I Déwa Gedé Catra from Puri Kanginan in Sidemen (Karangasem). The latter is involved in a palm-leaf manuscripts project and processes the leaves for this project himself.

Up until now, not much has been written about Balinese palm-leaf manuscripts and their production in the nineteenth and early twentieth centuries. Nor is much known about the production of palm-leaf manuscripts before the nineteenth century.

Questions that should be asked include the following.
1. Who produced writing materials, and why did they do so?
2. What kinds of technical skills and tools are involved in transforming palm leaves into writing material?
3. What specific terms does Balinese have for tools, writing materials and writing?
4. Are traditional writing materials still produced in Bali today?
5. Is there any relationship between the content or nature of the text and the sort and size of the writing material used?
6. What is the oldest evidence in Bali of writing in general and writing on palm leaf in particular?
7. In what collection is the oldest Balinese palm-leaf manuscript kept?
8. What kinds of alphabets and languages are involved when palm leaf is used as the writing material?
9. What was the value of palm leaf as writing material compared to other writing materials?
10. Who was able to write and read?
11. Is there a tendency to replace old-fashioned writing materials by new materials, in particular paper?

In the following sections I shall try to answer these questions. I shall address the technical aspects of the processing of leaves; the production of manuscripts; writing, script and spelling; and the copying of manuscripts. First, however, I shall give some background information on Bali, its literature and literary life.
2. Background information on Bali

The island of Bali is situated in the Indian Ocean between Java and Lombok. There are presently 2,782,038 inhabitants (census of 1985), the majority of whom are Balinese. Of these, 93 per cent are Hindu. Chinese, Madurese, East Javanese, Buginese, Sasak, Indians and ‘westerners’ (Europeans, Australians, Americans) form a minority.

Since the end of the ninth century there have been Hindu and Buddhist realms on Bali. It is possible that Hinduism and Buddhism were introduced directly by Indians. Around the end of the tenth century there was a great deal of contact and intermarriage between Balinese and East Javanese courts. On at least two occasions, Bali was vanquished by the East Javanese: in 1284 by King Kertanagara of the Singhasari Dynasty and in 1343 by General Gajah Mada on behalf of King Hayam Wuruk of the Majapahit Dynasty. Following this conquest, Bali became a vassal state of Majapahit and the religion of Bali was streamlined after the East Javanese example. This resulted in a syncretism between Hinduism and Buddhism combined with strong Tantric elements. Samkhya, Jñānasiddhanta and the veneration of the god Siwa as Surya, combined with a more ancient, indigenous ancestor cult, became the characteristic elements of the religion of Bali. Starting in the 1950s, there has been a renewal of direct contacts between Bali and India. Balinese students of religion have come under the influence of the ideas of Gandhi, Vivekananda, Sivananda and Sai Baba and have incorporated these into their religious writings (Bakker 1993).

From the end of the sixteenth century, Bali was ruled by royalty who styled themselves satria dalem. The main rulers, the Dalem, referred to as Déwa Agung, resided in Gèlgèl until 1700 and have lived in Klungkung in eastern Central Bali since 1710. Appanages were held by wésia, entitled aryia, who, up to about 1700, recognized the Déwa Agung as the sole ruler of Bali. In the course of time, these aryia became more and more independent of the Déwa Agung. They ruled over their own territories as ‘kings’ and even began to call themselves satria. By the nineteenth century, there were nine such realms on Bali (Bulélèng and Banjar in the north, Karangasem, Bangli and Gianyar in the centre, Badung, Tabanan and Mengwi in the south and Jembrana in the west) who to only a limited extent recognized the Déwa Agung in Klungkung as their central authority. After Karangasem vanquished and occupied the western part of Lombok in 1750, it became a Hindu realm as well. All these petty kingdoms have developed their own variety of Hinduism and Hindu culture. In the second half of the nineteenth century (1868) the Dutch entered Bali. At first, it was only Bulélèng, in the north, that was affected but, starting in 1906, the Dutch vanquished and occupied South Bali as well. They then divided the island into eight parts (Banjar and Bulélèng were united and Mengwi no longer existed because it had been vanquished by Badung and Tabanan in 1890 and its territory divided between them). As a result of this, western ideas entered Bali. Since
1918, tourists have been visiting Bali and, over time, it has become well
known as the ‘Island of the Gods’, the ‘Last’ or ‘Ultimate Paradise’.

3. Literature and literary life

The language and religion, the arts (architecture, sculpture, painting, draw-
ing, theatre, dance) and the literature of Bali were influenced in an early pe-
riod by contacts with Hindu–Buddhist–Tantristic Java. Bali’s culture was
also influenced by contacts with India, through Java, dating from at least
the end of the tenth to the sixteenth century. From the sixteenth to the end
of the nineteenth century, contacts with Muslims from Java (in particular
Blambangan in the east), Lombok (the Sasak) and Sulawesi (the Buginese
also frequently sailed to Lombok) have left their mark as well. Contacts
with the Dutch – in particular with civil servants who were specialists in
languages, ancient history and religion – created a Dutch-educated Balinese
elite at the beginning of the twentieth century. These Balinese were not
only versed in the traditional ways of thinking but also in western, analyti-
cal science. As a result Bali now has a rich literature in many languages and
with loanwords from numerous sources (Sanskrit, Old Javanese, Old Bali-
nese, Modern Balinese, Sasak, Malay and Indonesian and some Dutch).

Balinese literature encompasses ancient Javanese literary texts based on
the Indian epics Ramayana and Mahabharata as well as poems and prose
texts on related subjects. It also includes religion and local history com-
posed in Java between the tenth and sixteenth centuries. These texts were
transferred to Bali and are still being used and copied. In Java, however,
when the people rejected Hinduism and Buddhism in favour of Islam, the
majority of their ancient texts disappeared or received a new, Muslim var-
nish. From the sixteenth century until recently, the Balinese composed a lit-
erature which is their own, although it is largely based on the ‘classics’
from ancient Java. The language of the classical works is Old Javanese,
which has many Sanskrit loanwords; Balinese is used for folk tales and
translations of classical works. Ever since Indonesia’s Independence in
August 1945, the national language, Indonesian, has been widely used for
literary works as well as for communication.

Starting in the 1840s, Balinese specialists and Dutch scholars have oc-
cupied themselves with Balinese literature and the division of Balinese lit-
erature into genres. In 1928, this division became an important issue when a
library – the Lontar Foundation Kirtya Liefrinck-Van der Tuuk, named after
the two most famous Bali scholars at that time, F.A. Liefrinck (1853-1927)
and H.N. van der Tuuk (1824-1894) – was founded in Singaraja in the re-
gency of Buleleng by the Dutch in cooperation with Balinese advisers.
They divided Balinese literature into six groups according to ‘genre’ (Kad-
jeng 1929:19-40), as follows:
1. **wéda**: texts on religion, ritual, holy formulas (languages: mainly Old Javanese with many Sanskrit words and phrases; Balinese is used only in later, twentieth-century texts)

2. **agama**: law codes, rules of behaviour for children and royalty (*niti-sastra, sasana, putra sasana*), village regulations (languages: Old Javanese and Balinese)

3. **wariga**: handbooks on horoscopes, soothsaying, calendars, technical literature, science, instruction (*tutur, upadésa*), grammars, magical texts (*kanda*), medicine, cock fighting, how to keep horses, doves, etc. (language: mainly Old Javanese)

4. **itihasa**: prose versions of the *Mahabharata* (*parwa*), versions of the *Ramayana* and *Mahabharata* in verse (*kakawin* with Indian metrical schemes), stories, in verse, situated in ancient East Java or India (*kidung* with Javanese metrical schemes) and their modern versions in verse (*parikan, geguritan* with Javanese/Balinese metrical schemes) and prose (*satua*) (languages: Old Javanese, Balinese, Sasak, Malay)

5. **babad**: chronicles, historical stories, genealogies (languages: mainly Old Javanese, sometimes Balinese)


Kadjeng does not state that this division into genres is hierarchical or that texts on religion and religious philosophy (*wéda, agama*) have a higher status than versions of the Indian epics *Mahabharata* and *Ramayana* (*itihasa*) or fables (*tantri*). The division had a practical purpose, namely to catalogue books and texts from a library according to subject matter. Edict No. 10, written by the rulers of Karangasem (see Liefrinck 1915), also lists the literature of Bali. It begins with *kidung, kakawin*, continues with *sasana, tutur, wariga*, then the *Astadasaparwa* (versions of the *Mahabharata* in prose and poetry), the *Brahmandapurana*, the *Sarasamuscaya* (titles of texts), the *Astakanda* (versions of the *Ramayana* in poetry and prose), *tattwa, purwaka, wéda, mantra* and ends with *swaréka*. Metrical schemes, genres and titles of texts are enumerated. There is no fixed criterion for the division of this list into genres. It is more likely that the ruler used this list to express his opinion about the hierarchy of the texts.

Kings, princes and local royalty stimulated the arts and literature. In North Bali (Bulèlèng) and South Bali (in the regencies of Karangasem, Klungkung, Bangli, Badung and Tabanan) kings, princes and princesses were themselves also authors of poems and historical works. Brahmans, who served the royalty as their religious specialists, were also well known as authors of *kakawin*, religious and historical treatments and genealogies.

According to the *Kidung Pamancangah*, a chronicle composed in verse by Ida Pedanda Gedé Rai (Tinggen 1982:69) in 1785, the rulers Dalem Batu Renggon (ca. 1550) and Dalem Bekung (1580) of Gèlgèl employed scholarly clerks and authors (*manghuri, panulisan*; see Berg 1927:27-46). These were not only Balinese noblemen and clergymen of brahman descent...
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(Kyai Dauh Balé Agung, Ida Talaga), but also Javanese brahmans who most probably had fled from Java and settled in Bali (Dang Hyang Nirartha). Little is known about the literature composed between the Klungkung period, which began in 1710, and the beginning of the nineteenth century. It is probable that, after the fall of Gèlgèl around 1700 – which resulted in the founding of eight petty kingdoms – many chronicles (including the Pancacangah) and genealogies (babad) were composed which stressed ties with the former Hindu-Buddhist realm of Majapahit in East Java (Hinzler 1986: 124-165). It is quite possible that the authors of these works were brahmans who were employed by the new rulers and the local nobility of Bali. Brahmanas were chosen because they were specialists in Old Javanese, the language in which these works had to be written. These new rulers created a kind of literary court life, following the example of the rulers of the previous Gèlgèl period.

Apart from poems with Indian metrical schemes (kakawin), poems (kidung) with intricate, indigenous metres were composed from the Gèlgèl period to the end of the nineteenth century. These were fables and stories that dealt with love and court life in twelfth- to fifteenth-century East Java.

By the end of the eighteenth century a new literary genre had developed: the poem in the Balinese language and in new Javanese/Balinese metrical schemes, the geguritan or pepparikan. This genre deals with Balinese folk tales, love stories, adaptations of Indian epics and Old Javanese poems (kakawin), and family history.

I Gusti Putu Djlantik (old spelling), a member of the North Balinese nobility, gained much influence as adviser to the Dutch, who were beginning to establish their power in Lombok and Bali. Becoming a punggawa (official), this man travelled with the Dutch army during the conquest of South Bali (Badung and Tabanan in 1906, Klungkung in 1908). During his travels, he collected manuscripts from palaces which had been vanquished by the Dutch (Mataram, Cakranegara, Badung, Tabanan, Klungkung), thus compiling an enormous library in Puri Gobraja, his own palace in Singaraja. Until his death in 1945, he copied and composed works himself and also commissioned others to make copies of manuscripts for his collection. He was one of the founders of the library in Singaraja – the Kirtya Liefstrinck-Van der Tuuk – in 1928, and he was the first to offer manuscripts from his collection to be copied for the library.

4. The lontar palm tree and its leaves

The leaves of the lontar palm tree provide better writing material than those of the gebang tree (Grader and Hooykaas 1941:23; personal communication Catra 1990, 1991).

The best lontar palm leaves are those that have been cut (petik) in the months of Kartika/Kapat (September/October), Kasanga/ Kadasa (March/
April) and before the full moon (purnama) (personal communication Catra 1991, 1992). Leaves that are cut in other seasons are either not yet fully developed or too old; sometimes the surface layer of the leaves has become speckled, making them imperfect. Such leaves cannot be used as writing material for holy texts.

I Ketut Suwidja, head of the Yayasan Gedong Kirtya (the present name for the pre-war Lontar Foundation Kirtya Liefrinck-Van der Tuuk) distinguishes three types of lontar (also called rontal, ental and ntal): ntal taluh (egg-type) with fine filaments and long, broad leaves; ntal goak (crow-type), with less fine filaments and long, broad leaves; and ntal kedis (bird-type) with fine filaments but small leaves, and therefore not so suitable (Suwidja 1979:4). However, what he does not mention is whether or not these terms are used for subspecies of the Borassus or simply for the difference in sizes of leaves caused by cutting them off too early or too late in their development.

When he was controller of the regency of Karangasem in 1939, Ch.J. Grader made notes on the processing of lontar palm leaves used for writing material (Grader and Hooykaas 1941:23). He mentions that the trees which provided the best quality of leaves were concentrated in the regency of Karangasem, particularly in the areas of Culik, Kubu and Tianyar. These villages lie in the dry northern part of the regency in the foothills of Mt. Seraya, Agung and Batur, not far from the coast. Palm trees with leaves of an inferior quality grow in the wet area of Selat, on the uphill slopes of the Gunung Agung, to the west of the former royal centre of Amlapura. Grader visited Gria Pendem in 1939 in order to observe the production of writing material. This gria, a complex of buildings inhabited by members of the highest caste, the brahmans, is located in the town of Amlapura. His informant, Ida Bagus Somija (old spelling), originated from a family of scribes and manufacturers of writing material. Ida Bagus Somija even showed him a number of tools that were used by his grandfather. Grader reports that writing material is also made in Gria Pidada, which is probably located in Amlapura, although there are also gria by this name in Sidemen, Selat and Klungkung. Grader also mentions a brahman family from Glumpang as producing writing material. He does not mention whether brahmans or Balinese from other castes were involved in the production of inferior writing material from trees in Selat. By the end of the nineteenth and the beginning of the twentieth century, brahmans were the most common manufacturers of lontar palm leaves for manuscripts. However, Catra (born in 1935), a member of the second caste, the satria dalem, told me that he learned this skill from his father, the late Cokorda of Sidemen (personal communication Catra 1990, 1991).

Palm leaves from Culik, Kubu and Tianyar, considered best for the processing of writing material, were bought by the manufacturers in Amlapura. Grader says that the leaves from Gria Pendem were also processed commer-
According to Ida Bagus Somija, Grader's informant, the royalty of Sukawati, Abian Basé (in the regency of Gianyar), Badung, Tabanan, Klungkung and Bangli ordered processed leaves for writing material 'in the days when the kings were still ruling over Bali' (Grader and Hooykaas 1941:23). By this he must mean the period before 1906. This implies that the royalty of the various petty kingdoms south of Karangasem placed orders for processed leaves and employed their own scribes to produce manuscripts. It is striking that Grader's informant does not mention the realm of Bulélèng. I Gusti Putu Djlantik was, as mentioned above, an avid collector of manuscripts and, as is apparent from the colophons of his manuscripts on palm leaf and paper, he also personally wrote and commissioned many text transcriptions. At present, the manuscripts of his collection – and copies on paper – are kept in the Pusat Dokumentasi Kebudayaan Bali in Denpasar, in the Yayasan Gedong Kirtya in Singaraja and in Leiden University Library. It is probable that he also obtained leaves from the areas of Cúlik, Kúbu and Tíanyar, but had them processed by local specialists in Singaraja (Banjjar Pakètan, Banjar Liligundi, Bratan, Sukasada).

In the series of photographs illustrating Ginarsa’s 1975 article on the processing of lontar palm leaves, the late Ida Pedanda Madé Kamenuh, a brahman priest, is portrayed engaged in processing and inscribing these leaves. At that time, he was living in a gria close to Djlantik’s palace. At the beginning of this century, the members of this gria served the Puri. According to my informants from South Bali, the Tabanan and Krambitan royalty also used leaves of moderate quality from trees in Jadi, in the mountainous area of North Tabanan.

Grader remarks that, even before the subjugation of Balinese royalty, the demand for lontar as a writing material was never great (Grader and Hooykaas 1941:23). As a result, the number of specialists processing the leaves was small. However, one has to bear in mind that leaves of the Borassus flabellifer were also in demand by Balinese women, who used them for their plaited offerings. Offerings made of dried, yellow lontar palm leaves were considered more sophisticated, more exquisite than those made of the young, green busung (coconut palm leaves). Moreover, the sap of the stalks of the lontar palm fruit was – and still is – tapped and used for the production of palm wine (tuak) and sugar (gula). According to Catra (information 1993), the leaves of such lontar palm trees are underdeveloped, which means that the lontar palm did grow in areas other than the aforementioned, but the quality may not have been good enough for processing into writing material. Even at present, it is not difficult to obtain dried lontar palm leaves in the village and town markets where ritual accessories are sold.

In the 1930s, the Lontar Foundation in Singaraja stimulated the processing of leaves and the production of manuscripts. The idea behind the Foundation was to preserve Balinese literature, to make inventories of all the
manuscript collections in Bali and to make copies of important manuscripts for the library of the Foundation. The proposals (Berg and Goris 1929:11) listed the salaries of four scribes (fl. 960 per year) and the cost of leaves and other tools (fl. 180 per year). Between December 1928 and July 1941, the Foundation collected 2,263 *lontar* manuscripts, most of them newly made. Although there was a decline in the processing of palm leaves for writing material in the whole of Bali after 1941, it has increased again since the beginning of the 1970s. These days processing is done mainly in the area of Amlapura–Boda Kling–Pipid–Sidemen and in Tenganan Pagringsingan in the regency of Karangasem. The main impetus for the recent rise in processing leaves is the tourist trade in small manuscripts, particularly the illustrated manuscripts sold to travellers visiting the famous ‘Law Court’, the Kreta Gosa, in the town of Klungkung and the so-called ‘Bali Aga’ village of Tenganan Pagringsingan in the regency of Karangasem. The main impetus for the recent rise in processing leaves is the tourist trade in small manuscripts, particularly the illustrated manuscripts sold to travellers visiting the famous ‘Law Court’, the Kreta Gosa, in the town of Klungkung and the so-called ‘Bali Aga’ village of Tenganan Pagringsingan. The *lontar* project, which drs I Wayan Wara of the Department of Education and Culture (Dinas Pendidikan Dasar) in Denpasar started in 1982, was also involved in the revival of the processing of *lontar* palm leaves. Important texts from famous private collections were copied on palm leaf and deposited in the Office of the Department in Jalan Melati in Denpasar. In 1988, the Documentation Centre (Pusat Dokumentasi Kebudayaan Bali) in Sanglah, founded in 1986, received this collection and, until the end of 1991, continued the practice of copying important manuscripts. The project had to be stopped due to financial problems. The leaves used for all these copies originate from the area of Tianyar and were processed in Amlapura by Catra (personal communication Catra 1990, 1991).

5. Processing the leaves of the *lontar* palm tree

Palm leaves cannot be used as writing material in their raw state: they first have to be processed. The processing of the leaves has two main objectives: to end up with leaves that are dry, without sap, as such leaves last longer; and secondly, to protect the leaves from being eaten by insects, particularly termites (*bubuk/klander*). The Balinese terms for the processing or conservation of the leaves are: *mubad, masipat, mawilah* (KBNWB), all of which mean ‘treated with a herbal remedy’.

The most extensive treatment is given to leaves on which important texts are to be written, e.g. Old Javanese versions of chapters of the *Mahabharata*, in particular the *Adiparwa* and the *Bharatayuddha*. For this, the best, broadest and longest leaves are chosen. These leaves, which have the shape of a fan and can be folded along their ribs like an accordion, are about 1.15 m long with each section about 6 to 7 cm wide at the base and 2 to 3 cm at the tip. The leaves are first cut lengthwise in such a way that one rib with
two sections of leaf remains. Then the ribs are removed, so that one ends up with long and rather thin pieces of leaf.

For texts of lesser importance, such as notes, calendars, IOUs, letters and village regulations, leaves with ribs are generally used. One ‘page’ consists of two sections of leaf connected along the long top edge by the rib. Such leaves are usually just soaked in water in order to straighten them, after which they are bleached and dried in the sun. Because manuscripts made of such leaves are often kept in the kitchen and even hung over the fireplace where they are exposed to smoke, the ‘pages’ become very hard, as if they were made of wood (see and smell LOr 22.998, Pambayon, dated 1829, or LOr 22.999, Tutur Pawacana, and LOr 23.000, Wariga, from the same period from Tenganan Pagringsingan). Moreover, insects do not like the smoked leaves, so they are very durable.

Grader describes how, in the Karangasem area, the leaves without ribs are dried (Grader and Hooykaas 1941:24). Fresh, green leaves are selected, which are rather broad at the base (about 6 cm) and narrower at the tip (about 2 cm), broader ones being preferable. They are then bundled with their tips bound together, so they can be hung out and dried in the sun (majemuh) for, according to Ginarsa (1975:92), a period of two or three days. After they have turned yellowish, the leaves are soaked in water for three to four days and dried again. Catra (personal communication 1992) prefers a soaking period of a week to ten days. He puts the leaves in a plastic bucket with water and covers them with a large, flat stone to prevent them from floating. Grader (Grader and Hooykaas 1941:24) mentions yet another process: in this method the leaves are planed (nyutsut) with the hairy bark of the coconut. Then, when the leaves are dry, the spines are removed and the smaller tips of the leaves cut off. The leaves are bound together in small bundles and rolled up in order to be boiled (malablah) in a pan of water to which herbs have been added. According to Ginarsa (1975:92), the following herbs are used in North Bali: bark of the intaran tree (Azadirachta indica), bark of the book tree (Dracontomelon), root of the sikapa tree (Dioscorea hispida), the bud of the coconut and the temitis plant (Curcuma xanthorrhiza). Suwidja (1979:5) lists the following: leaves of the liligundi (Vitex trifolia), leaves and shoots of the Uncarica gambir (not too many, otherwise the leaves are coloured too red) and kunyit warangan (Curcuma longa). Van der Tuuk (KBNWB) mentions the following herbs as used to process lontar palm leaf: tengeh, the reddish bark from the tingi tree (Bruguiera parviflora); bejadi, a kind of santen (coconut milk) from which the oil has been removed; the bark from the intaran tree; and palapah borèh, an ointment consisting of kesuna (garlic), isèn (langkwas root) or isin rong (Alpinia galanga). Moreover, he uses palapah as a general term for the plants, pieces of bark, and herbs which have to be added to the water in which the leaves are boiled in order to make them hard and strong. There are various recipes for this herbed bath. The leaves are rolled up and immersed in the herbed water and boiled for one night. In
the morning the leaves, which have now become pliant, are taken out of the
pan, washed with cold water, rubbed dry, and placed on the ground in order
to be dried and bleached in the sun. At this point, as long as they have not
been written on, the leaves are called pepesan (Karangasem); an inscribed
leaf is called lempir (KBNWB).

Ginarsa (1975:92-93) describes how to smooth out wrinkled leaves. In
the afternoon, such leaves are moistened by sprinkling water over them. The
damp leaves can then be easily smoothed out and, the next day, collected,
bundled and placed in a press (pamlaghagan Karangasem, Buleleng, or pa-
mepepesan Buleleng). A wooden slat (panyelah Karangasem) is inserted be-
tween each bunch of leaves in order to distribute the pressure evenly. The
top layer of leaves is also covered by such a slat (panggal Karangasem).
Finally, two bamboo wedges (lait Karangasem; pamagekan KBNWB) are
hammered between the top slat of the press and the slat covering the top
bunch of leaves. Grader reports that the leaves are taken out of the press
briefly every ten days in order to clean and rub them, after which they are
again placed in the press. This process is continued for one or two galunan
periods.3

Ginarsa writes that the leaves have to be pressed for only fifteen days.
Catra (personal communication 1990, 1991) says that the quality of the
leaves as writing material depends on the length of time they have been in
the press. The longer they are pressed, the higher the proportion of plant
juices that will have disappeared. Catra prefers a period of two years of 360
days per year. When the leaves are sufficiently pliant and smooth (asah
Karangasem), they are cut to the right size. There is a special kind of cutter
(panyangkan) for this task, but a small knife can be used as well.

The next task is to make holes (song Karangasem) in the leaves. Bali-
nese lontar manuscripts made with ribbed leaves have a single hole (3 to 4
mm in diameter) on one side (the left-hand side, where the writing starts).
Leaves without ribs are provided with three holes of 3 mm in diameter, one
at either side and one – just off centre – in the middle. In order to mark
the position of the holes on the leaves, a piece of wood with three little holes
(sukat Karangasem) is used. There are various measuring sticks with three
holes for different sizes of leaves. The positions of the holes are marked on
the leaf by means of charcoal or – if available – pencil. As already men-
tioned, the hole in the ‘middle’ of the leaf is slightly eccentric. For a leaf of,
for instance, 45.5 cm width, the positions of the holes are usually at 2, at 22
and at 43.5 cm. This means that the distance between the central hole and
that on the right-hand side is 1.5 cm longer than that between the central

3 Galungan is celebrated once in 210 days. It takes place in the week Dungulan
of the wuku calendar. There are two galungan festivals per Gregorian year. The
first festival takes place between February and April and the second between
September and November. I have already mentioned that the periods recom-
manded for picking the leaves are March/April and September/October.
and the left-hand hole. A small instrument, the *pamiretan* (Karangasem), *pamiritan*, *cempurit* (Buleleng) or *pangirikan* (KBNWB), is used for punching the holes. It consists of a kind of wooden stylus ending in a sharp pin, like one leg of a compass. A small, sharp knife, which is pressed onto the leaf, is tied against the pin. The hole is made by turning the instrument around.

Grader (Grader and Hooykaas 1941:25) describes the mass production of small ribbed leaves (*pipil*) for the registration of land leases on Lombok. In the 1930s, many thousands of these leaves had to be processed. This took place in the yard of the Sedahan Agung (the land-tax collector) in Amlapura. For this purpose, a slicer for quickly cutting the short sides of the leaves and a kind of chopping block for cutting the long sides were designed. The mechanism of an old gramophone was adapted for punching the holes. Recently, I have seen people using a perforator to punch the holes. Once the leaves have been provided with the proper holes, they are again put in a press – this time a smaller one (*pangaduhan* Karangasem or *pangandun* KBNWB). The top and bottom slats are sometimes provided with two, but more often with three wooden pins that pierce the holes in the leaves. These slats with pins are called *agum* (Karangasem). The leaves are pressed tightly together by placing wedges between the *agum* and the pair of slats covering the bunch of leaves. If such slats are not used, iron bands are strung around the slats (*agum*) of the press. The pins punched through the holes keep the leaves tightly together. This is necessary in order to plane the long sides of the bunch of leaves carefully (*serut* Karangasem, Buleleng, KBNWB). They are then smoothed with pumice (*batu kembung* Karangasem) and sandpaper (*ampelas* Karangasem) and the long sides may be coloured – preferably red – if desired. The best and most expensive red is made of the *kincu* powder which is imported from China (see LOr 22.981, *Purwagama*, dated 1899, from Singaraja). Today a black or, more often, a rather coarse glossy red varnish is used. Manuscripts from royal courts (Buleleng, Karangasem, Lombok) may be coloured with gold leaf or red with scroll ornaments in gold (LOr 22.972, *Kakawin Anyang Niarthra Marti*, dated 1842, and LOr 23.002, *Aji Krakah*, dated 1911, both from Singaraja). There are numerous examples of such manuscripts in Leiden University Library dating from the end of the eighteenth century up to the 1930s. Finally, the short sides, which are not usually coloured, are cut and smoothed out. At this point, the leaves can be taken out of the press.

To facilitate writing, horizontal lines are drawn on the surface of the leaves (*nyipat* Karangasem, *ngorès* KBNWB). Various instruments are used to make such lines (*panyipatan* Karangasem), the simplest consisting of two pieces of wood or bamboo 7 to 10 cm long which are connected by pieces of white thread (*benang*). The length of the thread varies according to the length of the leaves. A more sophisticated tool is made from a slate of about 7 x 65 cm, sometimes provided with little legs. Two small pieces of wood are mounted at the outer ends of the slate and the pieces of thread are...
fastened with pins onto these little pieces of wood. The manuscript usually contains four lines of a text in one language (Old Javanese or Balinese). If it is a manuscript in Old Javanese with a Balinese translation, there are usually only three lines, and these are at a relatively great distance from each other. The original text in Old Javanese is written under the second line and the translations or paraphrases in Balinese are written under the first and the third lines (see LOr 22.972). Texts on medicine and magic may also have three lines per leaf (see LOr 22.978, Usada; LOr 22.989, Pangléakan). Only in very rare cases does one encounter manuscripts with five lines per leaf (LOr 3675:1, Geguritan Jayèngpatra).

The lengths of thread are dyed with a mixture of ink (mangsi) and leaf sap. Sap of the leaves of the delungdung (a kind of Erithrina) is preferred in Karangasem but one can also use sap of minced leaves of the kayu sugih (KBNWB). The freshly dyed threads are pressed against the palm leaf so that bluish or greenish lines become visible. Later, when the leaves are inscribed (the letters are incised under the lines), the lines can easily be removed by rubbing with a piece of wet cotton. Nowadays, wooden and plastic rulers are used and the lines are drawn with pencil. Sometimes a leaf is provided with vertical lines at the outer ends, which serve as margins and always fall inside the outer holes of the manuscript. There is also a margin on either side of the central hole. These vertical lines may be drawn with plant sap or may be incised, and there is room in the margins for notes to be engraved or written in ink (mangsi).

6. Manuscripts

A manuscript consists of a bunch of leaves of the same size held together by a piece of string or cord (tali). The general names for a manuscript are lontar and rontal (abbreviated ntal), because it is made of the leaves (ron) of the tal (Old Javanese term) tree. Rontal becomes lontar because r and l are often interchanged in Balinese.

A piece of string about 10 cm long is strung through the holes of a manuscript with ribbed leaves and knotted in order to keep the leaves together. A manuscript made of leaves without ribs is kept together by a much longer piece of string (about 50 cm) laced through the central hole. This string will be wrapped around the manuscript when it is not being used. If one holds the finished lontar manuscript by the piece of string running through the central hole, the manuscript should slope to the right so that the topmost leaf is the page where the manuscript begins. If the manuscript slopes to the left, one is holding it upside down, and should take the other end of the cord. The pages of a manuscript are marked by writing a numeral on the back left-hand side of a leaf. If one wants to mark a leaf containing a passage of interest to the reader, one may knot a little piece of string in the outer hole.
Stringing the leaves together is called nyuluh (KBNWB) and one has to take care that the leaves of a manuscript are strung in the right order (nuptupang Karangasem). Reading a book in the wrong way – for instance, from back to front – may lead to serious personal and social disturbances. The Old Javanese story of Calon Arang may serve as an example of this (Poerbatjaraka 1926:126, 158-159). In Chapter V, the Widow (Rangda) of Girah owns a book (pustaka). She uses parts of the texts as spells and charms to harm the people of the realm of King Airlangga. When the book is shown to the sage Bharadah, he comes to the conclusion that after all its contents are positive, leading to accomplishment. Because, however, the Widow read the book in the wrong way, it caused the spread of epidemics and death.

In order to facilitate threading, the leaves are placed on top of each other (milpilang ental KBNWB). The most precious type of string is made of human hair. In the palaces of the highest royalty (puri), the members of a royal household and their loyal, lower-class subjects would ‘offer their hair’ (masataia rambut), from which strings would be made, when an important member of the royal family had died. This happened in Puri Kanginan in Karangasem (personal communication Catra 1990, 1991). Less precious materials used for the strings are plant fibres (particularly duk), cotton (particularly benang and the ready-made strings used for the bodices of elderly ladies, tali béha), blue or green plastic cord (tali plastik) and shoelaces. Gold or silver knobs sometimes inlaid with rubies (anabhirañta, binusan- manik, mamodré mirah KBNWB), Chinese coins with holes in the centre (kèpèng, kètèng), Dutch Indies coins with holes in the centre, beads, and sometimes shirt buttons may all be tied to the ends of the strings. Untying the string and removing the leaves is called ngembud (KBNWB). This must be done very carefully, as mixing up the leaves of a manuscript (gebur, ngebur KBNWB) is very dangerous and may cause all kinds of misfortune.

The first leaf of a manuscript often consists of two leaves that are sewn together with gold, silver, iron or cotton thread. This is called jerejet (KBNWB). The holes at the upper left and right of the first leaves of many of the manuscripts processed for the Kirtya Liefrinck-Van der Tuuk between 1929 and 1941 are reinforced with iron laces. In many manuscripts from the Kirtya collection, there are three holes with such laces on either side.

7. Size of leaves and manuscripts

A manuscript written on a leaf 40 to 62 cm long and 3.5 to 4 cm wide – at least if it is an older one written before the Revolution – can be expected to contain a kidung (poem in Javanese verse, in particular the Kidung Malat), a kakawin (poem in Indian verse in most cases based in the Indian Maha
Fig. 1. *Lontar* palm leaf, *embat-embatan* type.
Balinese palm-leaf manuscripts

bharata and Ramayana), a parwa (prose translation of the Indian Mahabharata) or a purana (commentary on the Indian Mahabharata). 4

Didactic texts (sasana), texts on medicine (usada), texts on horoscopes and calendars (wariga), poems in Balinese (parikan, geguritan), genealogies (babad, silsilah) and incantations (mantra) are written on smaller leaves, usually 25 to 39 cm long. The width varies, usually 3 to 3.7 cm. 5

Texts on magic, particularly black magic (kaputusan, kawisesan), are 11 to 25 cm long and 2.8 to 3 cm wide. 6

Manuscripts with drawings form a separate group, which can be divided into three types: one with a series of drawings separated by vertical bars and provided with stanzas from a poem or lines from a prose text; one with only drawings; and one with texts interspersed with one or two drawings. Manuscripts of the first two types are rare; they are 45 to 65 cm long and 4.2 to 4.5 cm wide. 7 Manuscripts with drawings belonging to the third type contain texts on magic. These very common manuscripts are usually 25 cm long and 3.5 cm wide.

Manuscripts on ribbed leaves are longer – up to 85 cm – and the leaves in a single manuscript may vary in length and width. The text usually starts on the broadest side of the leaf, which is approximately 6.5 cm wide, while the right-hand side is only about 3.5 cm wide. Calendars, which use a great deal of space, are to be found on the larger leaves, up to 85 cm long. 8 Parts of kakawin with interlinear translations in Balinese, kidung and village regulations, regulations on dams, cockfights, etc., may also be written on large leaves, varying from 50 to 76 cm long. 9 Poems in Balinese are often written on ribbed leaves of a smaller size, 30 to 40 cm long. 10 Letters, even those from a nobleman, are on smaller sized ribbed leaves 16 to 20 cm long. An example is a letter, 18.8 x 4.1 cm, from I Gusti Ngurah Kesiman and I Gusti Ngurah Pamecutan, members of the royal houses of Kesiman and Pamecutan in Denpasar, to Pan Marasana (LOr 3061.1). Still smaller leaves are used

4 For instance Kidung Malat (LOr 2280) is 58.5 x 4 cm. Kakawin Siwaratrikalpa (LOr 3745) is 56.5 x 3.5 cm. Kakawin Sutasoma (LOr 3716) is 51.5 x 4 cm. Kakawin Bhamantaka Marti (LOr 3569) is 47.5 x 3.5 cm. Wirataparwa (LOr 3133) is 49 x 4.5 cm. Anggasyaparwa (LOr 3711) is 54 x 3.5 cm. Brahmandapurana (LOr 3730) is 53 x 4 cm.
5 Examples are: Usada (LOr 5161), 28 x 3 cm. Wariga (LOr 3672(2), 26.7 x 3.6 cm. Geguritan Luh Raras (LOr 3687), 25.5 x 3.7 cm. Babad Kaon Sibetan, 45 x 3.5 cm. Astramantra (LOr 5163), 34.5 x 3.5 cm.
6 Examples are: Alis-alis ijo (LOr 3636), which is 25 x 3.5 cm. and Tunjung Puthi (LOr 3776), which is 16.5 x 3 cm.
7 Examples of type 1 are: Kakawin Arjunawiwha (LOr 22.750), 42.5 x 4.5 cm. Adiparwa (LOr 22.759), 44 x 4.2 cm. An example of type 2 is Dampati Lelangon (Pleyte 1912), 40.5 x 4 cm.
8 For instance LOr 22.746, LOr 22.747 and LOr 22.748 with a length of 85 cm.
9 For example Kakawin Ramayana Martii (LOr 3747), 76 x 3.5 cm. Kidung Undakan Pangrus (LOr 3753), 71 x 3.5 cm. Awig-awig Tetajen (LOr 3740), 50/50.4 x 3.4/4.7 cm.
10 Examples are: Geguritan Nyalig (LOr 3658), 30.2/30.5 x 3.5/3.6 cm. Geguritan Limbur (LOr 3661), 36.9/40 x 3.3/4 cm.
Fig. 2. *Lontar* palm leaf, *lempiran* type, with four writing lines and Balinese script.
for notes, captions of texts, and cards with names to be used at the celebration of a baby's third month (LOr 3061.3). A note on the cost of paint may be as small as 9.3 x 2.5 cm. Young girls used to write love poems or messages for meetings on small pieces of ribbed palm leaf 2 to 2.5 cm wide and 10 cm long that are rolled and worn in the earlobe. They would leave them behind in the pleasure garden for their (secret) lovers.

There seems to be a close relationship between the size of the leaf and the character of the text that is written on it. The general rule for manuscripts written on leaves both with and without ribs is: the longer the leaf, the higher the status of the text and the greater the likelihood that the language will be Old Javanese. Large palm leaves are rare; such rare leaves, in particular those without ribs, are only used for the most revered texts and for texts ordered by members of the highest royalty.

In the list of manuscripts in the above-mentioned Edict No. 10, there is remarkable agreement between the size and quality (both ribbed and not ribbed) of the manuscripts and the order of the texts. This makes it all the more plausible that the size of leaves used for a manuscript is determined by the hierarchical status of the text. It is not surprising that the hierarchical status of the texts and manuscripts on ribbed leaves, which are easier to process and thus cheaper and more readily available, is lower than manuscripts of writing material requiring more elaborate processing (non-ribbed leaves).

8. Names for types of manuscripts

I know of no specific names for particular sizes of manuscripts. It seems that the outward appearance, in most cases, and the character and purpose of the leaves and manuscripts, in other cases, determine the term used. There are specific names for manuscripts with ribs: the larger ones are called embat-embatan (KBNWB; see Fig. 1) and the smaller ones, pipil (KBNWB). A pipil with the title of a text inscribed on it can also be attached to a lontar manuscript, and pipil with personal names are attached to little sticks used in a baby's name-giving ceremony. Pieces of ribbed lontar that are rolled and worn in the earlobe are called subeng and layang (KBNWB).

Manuscripts on leaves without ribs or boards may be called lempiran (see Fig. 2). In many cases, the manuscripts are provided with a pair of boards (cakep, papan, KBNWB) which can be made of various materials and are called cakepan (KBNWB). The light and dark brown speckled leaf base of the jaka palm tree (pugpug KBNWB) is often used, although insects are fond of this type of board. Catra (personal communication 1990, 1991) prefers bamboo that has been used to roof a kitchen because it is so strong that insects cannot get through it. Carved wooden boards are used as well. Reddish camphor wood (kapur), black wangkal (a kind of Mimosa) and white kewarditan wood are preferred. These boards have one hole, just
off centre, so that the cord keeping the leaves of the manuscript together can be strung through it.

It is evident that the more expensive and elaborate the boards, the higher the status of the text of the manuscript.

So far, I have found two names for manuscripts with drawings. Manuscripts in which the drawings are illustrations of a story are called prasi, a term which is not mentioned at all by Van der Tuuk, who uses the terms rajah (lines) and rerajahan (figures). Thus, a lontar rerajahan is a manuscript with drawings. This term is still used for drawings of any kind in Karangasem, Klungkung, Badung and Tabanan and is also used by those who produce illustrated manuscripts. The oldest reference to prasi is by P.V. van Stein Callenfels (1925:50) in an article he wrote in 1919. Later references can be found in Hooykaas (1942, 1968) and Suwidja (1979). Nowadays, it is used by Balinese and western scholars as a general term for manuscripts with drawings. Rerajahan refers to the drawings that inter-sperse texts on magic and are put on amulets. It is probable that the term prasi was used in one particular area which was visited by Van Stein Callenfels. According to Oudheidkundig Verslag 1918:146 and 1919:1, during a trip to Bali to collect Balinese manuscripts he took photographs (nos. Oudheidkundige Dienst 3696-3712) of an illustrated manuscript of the Kakawin Arjunawiwaha. The drawings were made by Ida Pedanda Ketut Jero from Sawan in Northeast Bulélèng. It is difficult to determine – especially since the appearance in 1979 of the widely read booklet by Suwidja – whether the term prasi was already so well known in North Bali in 1918.

There are special terms for putting more than one text in a manuscript: jinapit tunggal (KBNWB) is used when one manuscript is made from two; the combination of two manuscripts with a close resemblance to each other is called mangkepan (KBNWB); sanak (KBNWB) means the combining of various completely different texts and duang sanak (KBNWB) is used when two completely different texts are combined. The process of putting two different kidung together is called makèmpèlan (KBNWB). Putting three texts together, each separated by one empty leaf, is called panta (KBNWB). A lontar tigang rancit (KBNWB) consists of three bunches of leaves, tied to each other by a separate cord and not strung into one bundle. A thick manuscript consisting of many pages is called samah (KBNWB).

A manuscript without boards (lempiran as well as embat-embatan) can be kept in a small cloth bag (ules KBNWB), preferably of white and yellow cloth, because these colours are associated with holiness, with aspects of the god Siwa. In the villages around Amlapura (Pidpid, Tenganan Pangringsingan, Boda Kling), manuscripts containing the village regulations (on leaves with and without ribs) are kept in a bamboo tube (bungbung) with a bamboo lid and a piece of string attached to the top. The secretary and scribe (panyarikan) of the village council has to bring the tube with the manuscript to each meeting, or else he is fined (personal communication Catra 1990, 1991).
Balinese palm-leaf manuscripts

Very important manuscripts, such as those of the Adiparwa or manuscripts from a royal collection, are often kept in lidded wooden boxes (kropak KBNWB) carved from a single piece of wood. Such manuscripts are also called kropakan or kropak (KBNWB). A box for a manuscript containing many pages (the Kakawin Ramayana, the Adiparwa, the Kakawin Bhomantaka, the Kidung Malat) may contain two compartments (see LOr 2200 and LOr 2202, Kakawin Ramayana), although the majority of the boxes have only one compartment. Wood from the jati tree (dark brown, black), the intaran tree (yellowish) or, sometimes, ironwood or ebony are used for such boxes. A kropak may also be decorated with paintings (see LOr 2202, scenes from the Kakawin Ramayana) or carvings (see LOr 22.718, Tantri scenes).

9. Storage of manuscripts

The specific term for the storage of manuscripts is sepel (KBNWB). A manuscript that has been stored for a long time and not been read or publicly displayed during a ceremony – for example, the name day of Saraswati or a clan temple festival – is called buuk di pasepelan (worn because it has not been taken out for a long time). It is dusty and damaged, which indicates that the owner has not taken proper care of it. A collection of lontar manuscripts is often stored in a large, rectangular basket (sok) or box, and several of these containers are sometimes stored in a kind of loft (tutumbu, langgatan KBNWB) made in an open pavilion (balè) or a sleeping house (umah meten). Cloth bags holding manuscripts are usually provided with a wooden hook and are attached to, or hung up on, the plaited bamboo ceiling (bedèg) of the pavilion. In palaces where the royalty had close connections with Europeans, manuscript owners had copies made of wooden European chests (lemari) in which to store their lontar collection. The manuscripts of I Gusti Putu Djlantik from Puri Gobraja in Singaraja were preserved in this manner.

10. Treatment of manuscripts

Manuscripts became holy because of their contents and because, as will be discussed later, the Balinese script is sacred, as well. They have a vital force (idup KBNWB) and cannot be sold or thrown away when damaged. They can, however, be given on loan (maletas KBNWB). They also have a guardian deity, Saraswati, and on her name day (Saturday Manis of the week Watugunung) all the manuscripts from a collection are taken out and exhibited in a pavilion. They are then cleansed and sprinkled with holy water by a priest performing the Puja Saraswati. Starting on the Friday evening, one is not allowed to read until the following day, when the water is...
sprinkled over the manuscripts. Anyone who wishes to read manuscripts regularly needs to undergo a consecration (mawinten, madiksa KBNWB), which must be performed by a brahman priest.

There is, at present, a renewed tendency among the elderly Balinese to copy texts written on paper onto palm leaf. The texts copied deal with religion, the soul and its release, medicine, ancestors and classical literature in Old Javanese. Thus, it may happen that a text which was written on palm leaf (in Balinese script) at the end of the nineteenth century, and was transliterated in Latin script and typed on paper in the 1970s, is copied again on palm leaf in the 1990s. These elderly gentlemen copy texts in order to earn a proper seat in heaven, which can only be realized by leading a proper life, by the proper religious conduct. Thus, they have a tendency to turn to a more traditional, conventional life-style in which much time is devoted to religious practices: prayer, meditation, visits to temples and religious festivals and the study of literary and religious texts. They feel that the study of such texts on paper is inconsistent with their purpose. Studying a text on palm leaf – the traditional writing material – will bring them closer to tradition and, thus, to heaven (personal communication Catra; Sangka; dalang I Pasek Wayan Riyeh from Krambitan).

On the other hand, as early as the end of the nineteenth century there was a need to produce a number of copies of a text quickly and cheaply in Balinese script. The Landsdrukkerij in Batavia had lead type of Balinese script made for Van der Tuuk’s dictionary in 1894 and this type was also used to print Balinese textbooks published by this Government Printing Office between 1902 and 1916. Stencilled books and booklets with handwritten texts in Balinese script have been published in Bali since the 1920s.

At present, the Pusat Dokumentasi Kebudayaan Bali in Sanglah has a lontar preservation project, in cooperation with IBM, to scan the existing lontar manuscripts. Their goal is to convert the handwritten, scanned letters of the texts to typefaces that can be printed and to provide these texts with an Indonesian translation in Latin script. The project has just started and the results are not yet acceptable. Both Balinese and western scholars have their doubts about the feasibility of this project.

11. The oldest manuscripts

To date, the oldest known text on palm leaf from Bali that is in Europe is thought to be in Oxford, England. It is a leaf with three lines of script, in the Laud Collection in the Bodleian Library (manuscript Laud Or. Rolls a.1), and it dates from before 1635, when it was donated to the Library by William Laud (1573-1645). However, upon close examination of the script and the text, it is clear to me that neither the script nor the text are Balinese. The script indicates Madura and the language is half Malay and half Madurese.
There is a manuscript in Leiden with a prose version of the *Calon Arang* (LOr 5279) which has a colophon dated 1462 Saka, (AD 1570). There are also two early seventeenth-century manuscripts ascribed to Dang Hyang Nirartha in a *gria* in Karangasem and I have seen a *Tutur Angkusprana* by Mpu Siwamurti with a colophon dated 1537 Saka (AD 1615) in North Bali. The exact locations of these manuscripts cannot be mentioned here, as the owners fear that their manuscripts, which they regard as sacred heirlooms, will be confiscated and taken to the National Library in Jakarta. As yet, no research has been done to indicate whether or not the manuscripts with sixteenth- and seventeenth-century colophons really date from these periods. One must always take into account that one may be dealing with an eighteenth- or nineteenth-century copy of an older manuscript and that the older colophon was copied too. However, I have noticed that when a scribe makes a copy of a manuscript these days, he adds a new colophon of his own and does not copy the older one. According to Catra (personal communication 1991) this is the customary practice, at least among scribes in the regency of Karangasem. The majority of the ‘old’ manuscripts now in private and library collections in Bali and abroad date from the early nineteenth century.

12. Owners of manuscripts

In the nineteenth century there were restrictions on the possession, selling and reading of certain genres of literature in Bali – at least in Karangasem – and in Lombok. In Edict No. 10 in Liefriick’s *Landsverordeningen* (1915), Agung Gedé Ngurah Karangasem, a ruler from Lombok, forbade the selling, pawning and exchanging of manuscripts written or composed by priests (brhamans) and learned men. The following texts and genres fell under this prohibition: *kidung, kakawin, agama, sasana, tutur, wariga, Astadasaparwa, Brahmandapurana, Sarasamuscaya, Astakanda, tattwa, purwaka, wédá, mantra* and *swaréka*. If one wished to possess such a text, one had to order a copy from someone who was entitled to write it (namely a brahman), and it had to be paid for. If one was unable to pay, one had to make the copy oneself, but in accordance with the rules.

The members of the three higher castes (*triwangsa*) were, in principle, allowed to possess any kind of text. Members of the lowest cast, the *jaba*, however, were allowed to have *kakawin* and *kidung* only if they had been given them by brahman priests. The *jaba* were also allowed to possess manuscripts with texts on consecrations (*mawinten*, *mana behaturan*, *usada* (on medicine) and *saha* (holy formulas of a less important type) with illustrations (*rerajahan*), and to receive texts on ‘their own rituals, festivals and cremations’ from brahman priests. Not only brahman priests but also any member of the *triwangsa* were prohibited from giving the forbidden texts to members of the lowest caste. If the *jaba* wished to know the contents of the
forbidden texts, for instance the chapters of the *Mahabharata*, they could
go to the houses of the members of the higher castes and listen when such
texts were chanted. According to the edict, the above restrictions were for
the jaba’s own good. It was feared that, if they possessed forbidden texts
and read them, they would become haughty, or might even endanger them-
selves by an incomplete understanding of these texts. It appears that the
statement in the edict is not pure fiction. I checked the names of owners of
manuscripts collected for the Balinese Manuscript Project between 1979
and 1992 (Nos. 2480-5684). Of the 227 manuscripts of the *kakawin* genre,
the owners of 203 of them are brahmans and noblemen. Only 24 belong to
members of the lowest caste and fifteen of these are from the collection of
one person, Ni Ketut Menuh from Jadi. She inherited them from her father,
who was attached to the court of Krambitan as a scribe (personal communica-
tion Sangka).

13. Script and writing

The script used both in Bali and in Java originates from a South Indian
script and is a semi-syllabic (*aksara*) script. Each syllable consists of a
combination of a consonant and the vowel *a*, but other vowels can be repre-
sented by writing signs above, below, or beside these syllables, while clus-
ters of consonants can be represented by hanging (*gäntung*) or sticking
(*gèmpel*) syllables together. In Balinese literature and theatre, especially the
*wayang* puppet theatre, use is made of two alphabets and two orders of enu-
merating consonants and vowels. These alphabets are used for writing Sanskrit (in the Indian Nagari script) and Old Javanese.

In Bali, script – in particular Indian script – and the alphabet are sacred.
Writing was given to humans by God. By learning the alphabet and reciting
it in the proper order, people can help keep the cosmos and cosmic pro-
cesses stable. This is expressed in the opening recitation of the North Bali-
inese puppet player (*dalang*) before he begins to perform (see Sugriwa 1963
and also Ginarsa 1975). The *dalang* first stresses that the performance is
based on the holy Sanskrit texts *Mahabharata or Ramayana*, which have
become known by writing the texts with ink on leaves of the *gebang*. He
then enumerates the combinations of ten, five, three and two holy syllables
and the all-encompassing syllable *ong*. He continues with the short and
long vowels (*a, i, u, e, o, au*), and the consonants (*ka, kha, ga, gha, nga*,
etc.). This is the order of the Indian alphabets.

The Old Javanese and Balinese alphabet and the order of the syllables
are stressed in the Balinese *sasana* literature (‘rules’), in particular in the
*putra sasana* (‘rules for children’). Here, a father usually has a conversation
with his son, explaining the ideal life. ‘You have to take care that you be-
come a real human being. This is only possible if you study. You have to
study the holy literature (*sastra*). You have to study in order to know your
inner self and to make your parents happy. If you do not study and do not know the holy literature, your parents are blamed. They do not receive a place in heaven after their death, but are punished in hell. The Kidung Ana-
caraka (LOr 3609.1) is an example of such a text. Anacaraka means alphabet and the term contains the first five letters of the Balinese alphabet: ha, na, ca, ra, ka. A brahman father tells his son: ‘Study the alphabet continually, only then can you become a real human being. Concentrate on the letters of the alphabet. Don’t be afraid, for Saraswati, the goddess of wisdom, will seat herself on your tongue and enter your mind. Don’t be afraid, study every day, study the holy literature. The best texts are from ancient Java and are written by famous authors. Copy these texts, learn how to write and spell. But, when doing this, you have to pronounce the words and the letters aloud one by one. If you make a writing error, you have to eliminate (pati, to kill, by writing the i-kara (i) above and the suku (u) underneath) the wrong letter and write it anew. You are not allowed to make mistakes. Moreover, when the communication between your mind and your hands is in order, you cannot make writing errors.’

The main implement used for writing is a rather large, coarse iron knife, the pangutik or pangrupak (KBNWB, Buleleng, Karangasem). It consists of a flat piece of iron, about 15 cm long and 2 cm wide, with one end slanting and sharpened. The other end is provided with a curly ornament (North Bali), but in Karangasem a figure in wayang style is often cast at the top – King Kresna or Twalèn, the fat servant of the ‘good side’ in a theatre and puppet play. A wooden grip may be attached to a knife with a plain end, and it may have a figure representing Twalèn – or another suitable person, such as Saraswati, the goddess of wisdom – carved on it. A sheath of plaited bamboo is often used to protect the sharp end of the knife. See Fig. 3.

The knife is held between the thumbs and index fingers of both hands – or between the right and left thumbs and the right index finger of the scribe – and pressed against the surface of the palm leaf. This surface consists of almost invisible horizontal ribs. If the knife is ‘caught’ in such a rib, there is a chance that it may slip and then the horizontal stroke of the letter would become too large. In order to prevent this, the scribe has to make the strokes of the letters as vertical or as round as possible.

According to Suwidja (1979:4) who, as mentioned above, differentiates three types of lontar palm leaf, the surface layers of natal taluh (egg-type) and natal kedis (bird-type) are so fine that the knife need not be pressed upon the leaves with force and the scratching hardly makes any noise at all. However, if natal goak (crow-type) is used, the knife has to be pressed hard and writing makes a rather loud scraping noise.

The scribe needs both hands to write. He takes a bundle of four to five leaves, which are held together at the ends by means of rings made of plaited bamboo or cow’s horn, and holds it between the middle and ring fingers of both hands, while holding the knife with his thumbs and index fingers. A knife that has become blunt is called suntik (KBNWB).
Balinese has an extensive terminology for writing and script (see the Appendix). There are many technical terms for writing in general, special terms for bad handwriting that causes illegible texts, as well as terms for corrections. This is further evidence of how important proper writing is for the Balinese.

The script in old (eighteenth century and early nineteenth century) manuscripts is often small (2 mm high) and upright. In more recent manuscripts (since the 1920s), the script is also upright, but larger (3 mm high) and broader. The script of the aforementioned manuscripts with sixteenth- and seventeenth-century colophons is large (3 mm). Palguna (1993:4, 16), writing of a Kakawin Dharmasunya manuscript with a colophon dated 1536 Saka (AD 1614), states that the use of a Javanese patén (V-shaped vowel-cancellation stroke) and a short stroke instead of a long one at the right-hand side of the ra, are characteristic of seventeenth- and eighteenth-century script. There may be other characteristics as well, but no research on this subject has yet been done.

When the letters have been inscribed on the surface of the leaves, they are only slightly visible and must be blackened. Candlenuts (tingkhi, Aleurites moluccana) are burned, crushed, mixed with oil (lengis) and rubbed fine and then the black paste is rubbed into the grooves of the letters and over the whole surface of the leaves (tingkhi matunu; ningkhih, nyipatin, mawilah KBNWB). A coarser type of paste is obtained by burning and crushing dry coconut meat and mixing it with oil. With a piece of dry cotton (gamet KBNWB) the leaves are wiped (ngwilahin KBNWB) so that, in the end, only the black of the letters is visible. If, after some time,
the leaves become dusty, they can be cleansed with a piece of wet cotton (ngludin KBNWB).

14. Spelling

Until the end of the nineteenth century, there were no textbooks with precise rules for spelling (uger-uger). The author of the first Balinese printed book on spelling was I Ranta (1874) and the book was printed in Batavia in Javanese characters, because Balinese type did not yet exist. I Ranta was educated at the Teachers’ College in Bandung. The first printed textbook for Balinese characters and their transliteration in Latin script was by a Javanese schoolteacher in Singaraja (North Bali), Mas Niti Sastro, and I Gusti Putu Djilantik. It was printed in Balinese type in 1911.

These printed spelling rules reflect rules that had always been orally transmitted. The correct spelling used in kakawin in Old Javanese is of great importance. For example, two rules valid for prose texts and poems of the kidung and geguritan genres cannot be used in kakawin. The first rule is matengenan majalan: if the final consonant of one word is the same as the first consonant of the next word, the consonant need only be written once. The second rule is: skipping the r when it is followed by ya, ka, ta, but writing double yya, kka, tta instead. It is beyond the scope of this article to deal with the various spelling rules in greater detail.

15. Corrections

There are many terms for crossing out syllables, and for correcting and replacing syllables or words that are wrongly spelled or omitted. There are four methods commonly used for making corrections. The most frequently used method is to write a small cross at the top of the syllable or passage and then add the omitted characters at the top or bottom of the writing line or in the margin. For more extensive corrections, part of the surface layer is cut out and the corrected word or term is written on the layer beneath. The third method, which is considered inferior, is to simply cross out the syllable or word in question (personal communication Catra, 1990, 1991). The fourth method, described above, is to write the i-kara on top and the suku underneath the wrong syllable or syllables.

16. Copying manuscripts

The prototype of a manuscript is called mémé, tempa, ampas (‘mother’ KBNWB), ina (Karangasem, Lombok), babon (Buleleng). The copy is called panak (‘child’) or sisia (‘pupil’) and the act of copying is called ma-
nakin. The colophon of a copied manuscript states that it is a copy and, in addition, gives the name of the owner of the 'mother' manuscript. The scribe has to take care that the manuscript he has copied is complete (pepek, mepek KBNWB). However, this does not necessarily imply that the 'mother' manuscript was an autograph or was written by a scribe at the instigation of the author.

At the beginning of a poem – in particular a poem in Balinese (geguritan) – or a story (satua) in Balinese, or in the colophon of the manuscript, the author may mention the source that inspired his work (for instance a particular kakawin or prose chapter of the Mahabharata in Old Javanese). This bit of information is called nyebit. The author may also mention that he wrote his work of art 'completely in accordance with a holy text' (napak di sastrané KBNWB).

17. Scribes

There was no caste or sex restriction on learning to write. References to males and females being able to read and write are to be found in literary texts as well as in the colophons of manuscripts. Literary sources show this as early as the sixteenth century, but data in texts from the nineteenth century are the most abundant. I shall first deal with the literary sources. In the Geguritan Luh Raras (LOr 3687), dating from the second half of the nineteenth century, the male hero – a prabali belonging to the lowest caste – can do all sorts of things very well: carving, drawing, singing and reading literary texts. In the story of Pakang Raras (LOr 3701), copied in the second half of the nineteenth century, two rascals encounter a princess and when she discovers that they are illiterate, she immediately begins to teach them how to read and sing kidung. This implies that the princess, a lady of high caste, was able to read and probably could write as well. LOr 3060(4), a letter on palm leaf written before 1887, is from a lady, Ni Gadung, belonging to the lowest caste who complains that her lover, a Gusti, has not visited her for three days. 'Have you forgotten about me, or have you been bribed?' she asks him. The answer by the Gusti is scribbled on the same leaf: 'Well, I have taken note of your letter.'

Love letters and poems were written on the bract of the pudak flower. In the nineteenth-century poem Luh Cidra or Kawiswara (LOr 3693) the male hero, Kawiswara, writes a love letter on such a bract. He hides it in a bunch of flowers that he has picked for his lover, Luh Cidra, and puts the flowers on the bench in the pavilion she visited frequently. She discovers the letter, reads it and writes an answer on the small curled piece of lontar palm leaf (subeng) that she wears through her earlobe, after which she hides the piece in the garland she has made for him. It is not clear from the text to which caste they belong, but their names indicate that they are probably members of the lowest caste.
A scribe, usually a man, was a person of distinction. This is apparent from the colophons of eighteenth- and nineteenth-century manuscripts. The rulers of the kingdoms employed scribes (manghuri, panyarikan, panulis-an) not only of high-caste families, but also of low-caste families. The colophon of a translation of the Old Javanese Kakawin Arjuna wiwaha into Balinese prose (LOr 3649, fol. 50a) is an example of this. The Old Javanese text was translated and written by Pan Lengar and his son-in-law, Pan Genjang, in 1749 Saka (AD 1827) under the guidance of Gedé Ngurah Karangasem, a member of the royal family from Lombok. Pan (father of) is only used for persons belonging to the lowest caste, so it is correct to conclude that both translator and scribe were anak jaba.

Autographs are rare. LOr 3743, Geguritan Uug Gianyar, has a colophon in which we find the name of the scribe Ghora Pratoddha, which is the Sanskrit name for Anak Agung Gedé (= Ghora) Pameregan (= Pratoddha, which means ‘whip’), and it is generally known that he was the author of this poem.

It often happened that royal and brahman families had to split up and settle somewhere else. This entailed building a new palace (puri) or brahman household (gria) and setting up a library. Sometimes, an individual – quite often a royal person – became interested in a particular literary genre (perhaps kakawin or kidung), and ordered scribes to borrow texts with such poems and copy them for him. If the original version of the manuscript was damaged in such a way that it could not be repaired, it was copied and the damaged manuscript was ceremonially burned.

Secretaries (panyarikan) of a village quarter (banjar) and of a club or corporate group (seka) form another category of scribes. Each Balinese village is divided into districts (banjar) in which married males are required to participate. The regulations of a banjar were noted in palm-leaf manuscripts and the secretary had to be able to read them and to make notes himself. Corporate groups were, and still are, popular in Bali. There are music clubs, dance clubs, clubs to destroy pests, clubs to teach children, to buy and manage land, to sponsor cockfights, and so forth (see Geertz 1964:18-19). Such clubs also had secretaries who had to be able to read and write in order to keep an administration.

The names of scribes are quite often mentioned in the colophons of manuscripts; also, the reason why the text was copied and the circumstances under which this took place are commonly noted. The colophon of LOr 2200 mentions the following information. The copying of an Old Javanese Kakawin Ramayana with an interlinear translation in Balinese (LOr 2200) was completed on 6 November 1807 in Asmapringgi (by which is meant Amlapura in Karangasem) in Puri Amlaraja, by someone called Dyah Pantara Winda, a noble descendant of Arya Wandira in the village of Sandi. The manuscript was completed on the day Gedé Karang Wayan Karangasem left Karangasem, after he had been vanquished by Bagus Djlantik Lanang Paguayangan and Wayan Djlantik. Ida I Gusti Ngurah Madé Karangasem is the
name of the owner of the manuscript.

It is interesting to note that, in general, more is known about the names of the scribes of Balinese texts and the owners of the manuscripts than about the authors. An author, in particular an author of kidung and geguritan, was not considered important enough to be mentioned. What counted was the prestige of having a library, ordering a copy and making a copy for someone, not the talent to compose a text. Nevertheless, the names of some authors are known to us for one of the following reasons: allusions to their names, places of residence and descent are made in the first or final stanza of a poem or in the colophon of the text; they are mentioned in a genealogy (babad); or the descendants of an author still know the titles of the works composed by him or her.

18. Palm-leaf manuscripts and the future

The Indonesian educational system is directed towards modernization and uniformity. Traditional culture, literature and local languages are recognized and, to a certain extent, the study of these subjects is stimulated. Nevertheless, it is a fact that the younger generations of Indonesians do not show much interest in their traditional literature. Schoolchildren in Bali can hardly read and write Balinese script because attention is focused on the Indonesian language. The number of university students who study Balinese literature, both in Balinese and Old Javanese, is limited. By the time today’s specialists in traditional literature – an older generation of Balinese without formal education – have died, there will be no need to process palm leaves as writing material, except for some crudely illustrated manuscripts made for the tourist market. Therefore, the whole process, from the cutting of the leaves to the reading and writing of the manuscripts, should be thoroughly documented, preferably on film, before it is too late.

ABBREVIATIONS

KBNWB Kawi-Balineesch-Nederlandsch Woordenboek by H.N. van der Tuuk (1897-1912)
KTLV Koninklijk Instituut voor de Taal-, Land- en Volkenkunde
LOr Codex Orientalis, Leiden University Library
Or Codex Orientalis

REFERENCES

Manuscripts

Balinese palm-leaf manuscripts

Leiden University Library:

Or 2200 Kakawin Ramayana.  Or 3745 Kakawin Siwaratrikalpa.
Or 2202 Kakawin Ramayana.  Or 3747 Kakawin Ramayana Marti.
Or 2280 Kidung Malat.  Or 3753 Kidung Undakan Pangrus.
Or 3061(1) Letter by I Gusti Ngurah Kesiman and I Gusti Ngurah Pamecutan.  Or 5161 Usada.
Or 3061(3) Pipil.  Or 5163 Astra Mantra.
Or 3133 Wirataparwa.  Or 5279 Calon Arang.
Or 3609(1) Kidung Anacarakka.  Or 22.718 Kidung Tantri.
Or 3636 Alis-Alis Ijo.  Or 22.746 Wariga.
Or 3649 Satua Arjunawiwa.  Or 22.747 Wariga.
Or 3658 Geguritan Nyalig.  Or 22.750 Prasi kakawin Arjunawi-waha.
Or 3659 Bhamantaka Marti.  Or 22.759 Prasi Adiperwa.
Or 3661 Geguritan Limbur.  Or 22.972 Kakawin Anyang Nirartha Marti.
Or 3672(2) Wariga.  Or 22.978 Usada, Atmaraksa, Tingkahing Gring.
Or 3675 Geguritan Jayengpatra.  Or 22.981 Purwagama, Kerta Upapati.
Or 3693 Geguritan Luh Cedra/ Kawsawa.  Or 22.998 Pambayon.
Or 3701 Satua Pakang Rasas.  Or 22.999 Tuttur Pawacana.
Or 3711 Anggastyaparwa.  Or 23.000 Wariga.
Or 3716 Kakawin Sutasoma.  Or 23.002 Aji Krakah Krakah.
Or 3730 Brahmandapurana.  Or 23.021 Tattwa Bhairawa, kajaring Rah.
Or 3750 Awig-Awig Tetajen.  Or 23.053 Prasi Ramayana.
Or 3743 Geguritan Uug Gianyar.

Books and articles

-- and R. Goris, 1929, 'Rapport van 10 November 1928.' Mededelingen Kirtya Liefirinck-Van der Tuuk 1:4-11.
Cox, J., 1931, Monografie Bali en Lombok. [Unpublished typewritten report dated 1931].
Kadjing, T Nyoman, 1929, 'Voorloopig overzicht der op Bali aanwezige literatuurschat.' Mededelingen Kirtya Liefirinck-Van der Tuuk 1:19-40.
APPENDIX

Terms for reading, writing, script, and processing of leaves and writing material in Balinese

The following terms are mainly based on Van der Tuuk’s dictionary. Those that also occur in the latest, enlarged edition of the Kamus Bali-Indonesia (Warna et al. 1991) are marked by an asterisk. It appears that the majority of the terms do not occur in this dictionary. Even when we take into account that Van der Tuuk was particularly interested in writing materials, and therefore has put particular emphasis on terms related to this subject, and even when we assume that the Kamus Bali-Indonesia is not comprehensive, this is a clear sign that the processing of palm leaves for writing material and the reading of texts on palm leaves is on the decline.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>agal</td>
<td>coarse, clumsy (of script)</td>
</tr>
<tr>
<td>agum</td>
<td>slab with three pins in a small press</td>
</tr>
<tr>
<td>aksara*</td>
<td>letter, character in a semi-syllabic script</td>
</tr>
<tr>
<td>ampas</td>
<td>prototype of a manuscript</td>
</tr>
<tr>
<td>ampelas*</td>
<td>sandpaper, used to polish the sides of the leaves</td>
</tr>
<tr>
<td>anabhiratna</td>
<td>gold or silver knob tied to the string holding the leaves of a manuscript</td>
</tr>
<tr>
<td>anacaraka</td>
<td>alphabet (Balinese, Javanese)</td>
</tr>
<tr>
<td>anas</td>
<td>smooth (of the leaves of a manuscript)</td>
</tr>
<tr>
<td>angguan</td>
<td>a caption or letter written under a magical drawing to explain its meaning</td>
</tr>
<tr>
<td>angripta*</td>
<td>to compose</td>
</tr>
<tr>
<td>arti</td>
<td>meaning, explanation of a foreign word (Old Javanese, Sanskrit)</td>
</tr>
</tbody>
</table>
### Balinese palm-leaf manuscripts

<table>
<thead>
<tr>
<th>Term</th>
<th>Synonym</th>
</tr>
</thead>
<tbody>
<tr>
<td>atah</td>
<td>smooth (of a palm leaf)</td>
</tr>
<tr>
<td>babon*</td>
<td>prototype of a manuscript</td>
</tr>
<tr>
<td>baca*</td>
<td>to read</td>
</tr>
<tr>
<td>bacak-bacaka</td>
<td>incidental (of someone who reads only occasionally)</td>
</tr>
<tr>
<td>batu kembung*</td>
<td>pumice (used to polish the sides of the leaves)</td>
</tr>
<tr>
<td>bebed</td>
<td>too close to each other (of syllables)</td>
</tr>
<tr>
<td>bèngor</td>
<td>slanting (of script)</td>
</tr>
<tr>
<td>benyud</td>
<td>scrawling (of script)</td>
</tr>
<tr>
<td>binusanan manik</td>
<td>gold or silver knob with rubies, tied to a string holding</td>
</tr>
<tr>
<td></td>
<td>the leaves of a manuscript together</td>
</tr>
<tr>
<td>brececk</td>
<td>dirty (because of stains)</td>
</tr>
<tr>
<td>brecit</td>
<td>spidery (of script)</td>
</tr>
<tr>
<td>breneyit</td>
<td>too small (of script)</td>
</tr>
<tr>
<td>breset</td>
<td>messy, illegible (of script)</td>
</tr>
<tr>
<td>brusut</td>
<td>messy, illegible (of script)</td>
</tr>
<tr>
<td>bubuk</td>
<td>termites that eat the leaves of a manuscript</td>
</tr>
<tr>
<td>bucek</td>
<td>illegible syllables because of stains</td>
</tr>
<tr>
<td>bungbung</td>
<td>bamboo tube in which to keep a manuscript</td>
</tr>
<tr>
<td>buuk di pasepelan</td>
<td>worn (of a manuscript that has not been taken out and</td>
</tr>
<tr>
<td></td>
<td>read for a long time)</td>
</tr>
<tr>
<td>cakep</td>
<td>board, that functions as the cover of a palm-leaf manuscript, see <em>papan</em></td>
</tr>
<tr>
<td>cakepan*</td>
<td>a manuscript on palm leaf with boards</td>
</tr>
<tr>
<td>cangkuak</td>
<td>starting in the middle (because the beginning of a manuscript is missing)</td>
</tr>
<tr>
<td>cempurit</td>
<td>instrument for making holes in a palm leaf</td>
</tr>
<tr>
<td>closcos</td>
<td>dirty (because of stains)</td>
</tr>
<tr>
<td>coak</td>
<td>open space between two words or letters (because the surface layer of the leaf is damaged or speckled and thus not suitable for engraving)</td>
</tr>
<tr>
<td>compak</td>
<td>to take away the surface layer of a leaf that contains a word wrongly written or spelled and to write the correction on the layer beneath</td>
</tr>
<tr>
<td>corèk</td>
<td>to cross out (of a letter or a word)</td>
</tr>
<tr>
<td>diksa*</td>
<td>consecration (of someone who begins to specialize in reading and writing)</td>
</tr>
<tr>
<td>duang sanak</td>
<td>to put two different manuscripts together forming a single codex</td>
</tr>
<tr>
<td>durbhiksa</td>
<td>manuscript made of leaves from which the ribs have not been removed</td>
</tr>
<tr>
<td>embat-embatan</td>
<td>bad and unclear (of script)</td>
</tr>
<tr>
<td>encak</td>
<td>broken in the press (of a leaf)</td>
</tr>
<tr>
<td>ental*</td>
<td><em>lontar</em> palm tree; see also *ntal, tal, lontar, rontal</td>
</tr>
<tr>
<td>ètèng</td>
<td>clearly visible (of a syllable)</td>
</tr>
<tr>
<td>ganjil</td>
<td>a note or a gloss in the margin of a text</td>
</tr>
<tr>
<td>gebang*</td>
<td>palm tree (<em>Corypha gebanga</em>)</td>
</tr>
<tr>
<td>gebur</td>
<td>to jumble up the leaves of a manuscript</td>
</tr>
<tr>
<td>genyi</td>
<td>dirty (because of stains)</td>
</tr>
<tr>
<td>geles*</td>
<td>fine and small (of script)</td>
</tr>
<tr>
<td>goèt*</td>
<td>to cross out a syllable</td>
</tr>
<tr>
<td>gorèt</td>
<td>to cross out a syllable</td>
</tr>
<tr>
<td>gremeng</td>
<td>sloppy script</td>
</tr>
<tr>
<td>gubeg</td>
<td>stained (because the leaves have been handled too frequently); see also <em>gubig</em></td>
</tr>
<tr>
<td>gubig</td>
<td>stained (because the leaves have been handled too frequently); see also <em>gubeg</em></td>
</tr>
<tr>
<td>guèt*</td>
<td>to cross out a syllable</td>
</tr>
<tr>
<td>gulak-galik</td>
<td>swinging (of the skilful movements of the hands of an industrious scribe)</td>
</tr>
</tbody>
</table>
gumantung to correct by writing the word or syllable that needs to be added under the writing line
idup vital force of manuscripts
ina prototype of a text
jangkep complete (of a manuscript)
jerjet leaves sewn together with thread
jinapi tenggal to make one manuscript from two; compare duang sanak
jrewé spidery (of a foreign script)
kajokan with words that are skipped (of a text with many omissions because of scribal errors)
kaping untat the closing of a text or a manuscript
kèpèng* Chinese coin with a hole in the centre, often found tied to the string holding the leaves of a manuscript together; see also kètèng
kètèng* Chinese coin with a hole in the centre; see also kèpèng
kiad crooked (of leaves)
klander termite that eats manuscripts
korup mixed up (of syllables that bear close resemblance, such as ha, la, ka, ta, because they are not written clearly)
kropak* wooden box to keep a manuscript in; a manuscript kept in a wooden box
kropakan a manuscript kept in a wooden box
kucek to cross out a syllable
kumur partly illegible (because of dirt)
lait bamboo wedge in a press
langgatan loft for the storage of baskets and boxes with manuscripts
lantaran clearly written (of a letter)
layang palm leaf worn in the earlobe
layu bunga picked and fading flower (said of a manuscript consisting of several texts on leaves of different sizes, in particular if a new, not mouldy section of leaves is mounted between old and mouldy ones)
lebur the letters are wiped out (because someone has wept over them)
leg crooked (of leaves)
lemari* wooden chest that may be used for the storage of manuscripts
lempir* an inscribed leaf
let old and used with earlier writing (of a leaf)
lontar* palm tree *(Borassus flabellifer or flabelliformis or Palmyra)*; a manuscript written on palm leaf; see also rontal, ental, ntal, tal
lontar grantangan a text with glosses or musical notations
lontar marti a text with glosses
lontar tigang rancit three bunches of leaves with ribs, not strung into one manuscript, but tied to each other by a separate cord broken in the press (of a leaf)
los the letters have lost their blackening (because of age)
lutlut to start in the middle; the beginning of the manuscript is missing
macaya beautiful (of script)
madiksa* consecrated (of someone who is a specialist in reading and writing)
maganggèng dirty (because of stains)
magraniang basa provided with fringes (of a text in Old Javanese with an interlinear translation in Balinese)
majemuh to dry the palm leaves in the sun
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makamal \(\mathtt{\text{makamal}}\) \(\text{makamal}\) \(\text{illegible (because of dirt)}\)
makèmpèlan \(\mathtt{\text{makèmpèlan}}\) \(\text{to put two }\text{kidung texts together}\)
makrenyedan \(\mathtt{\text{makrenyedan}}\) \(\text{confusing (because the scribe has made many errors)}\)
makupak \(\mathtt{\text{makupak}}\) \(\text{to take away the surface layer of a leaf that contains a word wrongly written or spelled and to write the correction on the layer beneath}\)
malablab \(\mathtt{\text{malablab}}\) \(\text{to boil the leaves in a pan}\)
aletas \(\mathtt{\text{maletas}}\) \(\text{to loan a manuscript}\)
mamadu \(\mathtt{\text{mamadu}}\) \(\text{similar but hard to distinguish (of syllables that have many similarities and cannot be distinguished because of sloppy writing, for instance }\text{ha, la, ta, and nga, ba, ga)}\)
mamodré mirah \(\mathtt{\text{mamodré mirah}}\) \(\text{gold or silver knob with rubies tied to a string that holds the leaves of a manuscript together}\)
manakin \(\mathtt{\text{manakin}}\) \(\text{to copy a manuscript}\)
manghuri* \(\mathtt{\text{manghuri*}}\) \(\text{scribe, secretary}\)
mangkepan \(\mathtt{\text{mangkepan}}\) \(\text{to put two texts in one manuscript}\)
mangsi \(\mathtt{\text{mangsi}}\) \(\text{black ink}\)
mapiteh \(\mathtt{\text{mapiteh}}\) \(\text{to turn over a leaf of a manuscript}\)
marti \(\mathtt{\text{marti}}\) \(\text{provided with an interlinear translation in Balinese, of a text in Old Javanese}\)
masipat \(\mathtt{\text{masipat}}\) \(\text{to treat a manuscript with a herbal remedy; see also }\text{ma-wilah}\)
masisirig \(\mathtt{\text{masisirig}}\) \(\text{to go backwards (of Arabic script)}\)
mawilah \(\mathtt{\text{mawilah}}\) \(\text{to treat a manuscript with a herbal remedy; see also }\text{masipat}\)
mawinten* \(\mathtt{\text{mawinten*}}\) \(\text{consecrated (of a specialist in reading and writing)}\)
meck sastra \(\mathtt{\text{meck sastra}}\) \(\text{to consult the holy literature regularly}\)
meckang \(\mathtt{\text{meckang}}\) \(\text{to cross out a syllable}\)
matelek \(\mathtt{\text{matelek}}\) \(\text{carved out deeply (of a syllable)}\)
mawilah \(\mathtt{\text{mawilah}}\) \(\text{to rub black paste of }\text{kemiri into the grooves of the letters of a manuscript}\)
mémé \(\mathtt{\text{mémé}}\) \(\text{prototype of a manuscript}\)
mepek \(\mathtt{\text{mepek}}\) \(\text{copied completely (of a manuscript)}\)
milpilang ental \(\mathtt{\text{milpilang ental}}\) \(\text{to place the leaves of a manuscript on top of each other}\)
miteh \(\mathtt{\text{miteh}}\) \(\text{to turn over a leaf of a manuscript}\)
mormor \(\mathtt{\text{mormor}}\) \(\text{dirty and illegible (because of stains)}\)
mrebek \(\mathtt{\text{mrebek}}\) \(\text{eaten by white ants, with holes}\)
mrusmus \(\mathtt{\text{mrusmus}}\) \(\text{sloppy (of script)}\)
mubad \(\mathtt{\text{mubad}}\) \(\text{to treat a manuscript with a herbal remedy}\)
napak di sastrané \(\mathtt{\text{napak di sastrané}}\) \(\text{completely in accordance with a holy text}\)
ngampar \(\mathtt{\text{ngampar}}\) \(\text{to carve out slightly (of a syllable)}\)
ngebitan \(\mathtt{\text{ngebitan}}\) \(\text{to turn a leaf of a manuscript}\)
ngembur \(\mathtt{\text{ngembur}}\) \(\text{to jumble up the leaves of a manuscript}\)
ngencolin \(\mathtt{\text{ngencolin}}\) \(\text{to untie the cord of a manuscript}\)
ngetgetan \(\mathtt{\text{ngetgetan}}\) \(\text{eaten by insects, moth-eaten}\)
nglékain pepaos \(\mathtt{\text{nglékain pepaos}}\) \(\text{to produce miserable script}\)
ngleledin \(\mathtt{\text{ngleledin}}\) \(\text{to read a text repeatedly}\)
ngorès \(\mathtt{\text{ngorès}}\) \(\text{to make horizontal writing lines on a leaf}\)
ngorès* \(\mathtt{\text{ngorès*}}\) \(\text{to cross out a syllable}\)
ngremeng \(\mathtt{\text{ngremeng}}\) \(\text{to produce sloppy script}\)
ngucek* \(\mathtt{\text{ngucek*}}\) \(\text{to cross out a syllable}\)
nguèt* \(\mathtt{\text{nguèt*}}\) \(\text{to cross out a syllable}\)
ngwilah \(\mathtt{\text{ngwilah}}\) \(\text{to wipe the surface of a leaf}\)
inikihin \(\mathtt{\text{ningkiihin}}\) \(\text{to rub black paste of burnt }\text{kemiri nuts into the grooves of the letters of a manuscript}\)
norèk* \(\mathtt{\text{norèk*}}\) \(\text{to cross out a syllable}\)
ntal* \(\mathtt{\text{ntal*}}\) \(\text{palm tree, leaf of a palm tree; see also lontar, rontal, tal},\)
<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natal goak</td>
<td>crow-type palm leaf</td>
</tr>
<tr>
<td>Natal kedis</td>
<td>bird-type palm leaf</td>
</tr>
<tr>
<td>Natal taluh</td>
<td>egg-type palm leaf</td>
</tr>
<tr>
<td>Nulis*</td>
<td>to write</td>
</tr>
<tr>
<td>Nungkak lengisé</td>
<td>to be incomplete (of a manuscript)</td>
</tr>
<tr>
<td>Nupitupang</td>
<td>to string leaves together in the right order</td>
</tr>
<tr>
<td>Ngwacén*</td>
<td>to read</td>
</tr>
<tr>
<td>Nystra</td>
<td>literate</td>
</tr>
<tr>
<td>Nyipat</td>
<td>to make horizontal writing lines on a leaf</td>
</tr>
<tr>
<td>Nyipatin</td>
<td>to rub black paste of burnt kemiri nuts into the grooves of the letters of a manuscript</td>
</tr>
<tr>
<td>Nyompak</td>
<td>to take away the surface layer of a leaf that contains a word wrongly written or spelled and to write the correction on the layer beneath</td>
</tr>
<tr>
<td>Nyuluh</td>
<td>to string leaves together</td>
</tr>
<tr>
<td>Nyutsut</td>
<td>to plane the writing surface of a leaf with the hairy bark of a coconut</td>
</tr>
<tr>
<td>Oruk</td>
<td>not clear (of script)</td>
</tr>
<tr>
<td>Pabrecit</td>
<td>spidery (of script)</td>
</tr>
<tr>
<td>Paca*</td>
<td>to read</td>
</tr>
<tr>
<td>Pajeng</td>
<td>(from pahajeng) to correct (of a manuscript full of mistakes)</td>
</tr>
<tr>
<td>Palapah</td>
<td>plants, pieces of bark, herbs added to the water in which palm leaves are boiled</td>
</tr>
<tr>
<td>Pamecekan</td>
<td>bamboo wedge in a press</td>
</tr>
<tr>
<td>Pamepesan</td>
<td>press for palm leaves</td>
</tr>
<tr>
<td>Pamiretan</td>
<td>instrument for making holes in a palm leaf</td>
</tr>
<tr>
<td>Pamiritan</td>
<td>instrument for making holes in a palm leaf</td>
</tr>
<tr>
<td>Pamlagbagan</td>
<td>press (large) for palm leaves</td>
</tr>
<tr>
<td>Panak</td>
<td>copy of a manuscript; see also sisia</td>
</tr>
<tr>
<td>Panembé</td>
<td>the beginning of a manuscript</td>
</tr>
<tr>
<td>Pangaduhan</td>
<td>press (small) for palm leaves</td>
</tr>
<tr>
<td>Pangandun</td>
<td>press (small) for palm leaves</td>
</tr>
<tr>
<td>Panggal</td>
<td>top slat in a press</td>
</tr>
<tr>
<td>Pangirikan</td>
<td>instrument for making holes in a palm leaf</td>
</tr>
<tr>
<td>Pangrupak</td>
<td>knife to engrave palm leaves</td>
</tr>
<tr>
<td>Pangutik</td>
<td>knife to engrave palm leaves</td>
</tr>
<tr>
<td>Panta</td>
<td>separate group, for instance three texts put together, but each separated by one empty leaf</td>
</tr>
<tr>
<td>Panulisran*</td>
<td>scribe</td>
</tr>
<tr>
<td>Panyangkan</td>
<td>cutter for palm leaves</td>
</tr>
<tr>
<td>Panyarikan*</td>
<td>secretary, village scribe</td>
</tr>
<tr>
<td>Panyelah</td>
<td>wooden slat in a press</td>
</tr>
<tr>
<td>Panyipatan</td>
<td>instrument to make writing lines on a leaf</td>
</tr>
<tr>
<td>Papan</td>
<td>board of a manuscript; see also cakep</td>
</tr>
<tr>
<td>Pasepelan</td>
<td>place where manuscripts are stored</td>
</tr>
<tr>
<td>Pepek</td>
<td>complete, copied completely (of a manuscript)</td>
</tr>
<tr>
<td>Pepesian</td>
<td>a prepared leaf, but not yet inscribed</td>
</tr>
<tr>
<td>Pepek</td>
<td>to cut the leaves of a palm tree</td>
</tr>
<tr>
<td>Picek</td>
<td>almost invisible (of a syllable)</td>
</tr>
<tr>
<td>Pipil*</td>
<td>small, ribbed leaf</td>
</tr>
<tr>
<td>Piteges</td>
<td>translation, explanation of a text</td>
</tr>
<tr>
<td>Prasti*</td>
<td>manuscript with drawings</td>
</tr>
<tr>
<td>Pudak*</td>
<td>flower of the pandanus shrub</td>
</tr>
<tr>
<td>Pustaka*</td>
<td>book</td>
</tr>
<tr>
<td>Ra buntu tra sawanga</td>
<td>'Mr. Tail is ignorant', to be illiterate</td>
</tr>
<tr>
<td>Rajah*</td>
<td>figure, drawing</td>
</tr>
<tr>
<td>Rerajahan*</td>
<td>figures, drawings, magical drawings</td>
</tr>
</tbody>
</table>
ripta* writer, author
ron* leaf
rontal* lontar palm leaf; see also ental, ntal, tal, lontar
samah thick manuscript of many pages
sanak to add different texts to one manuscript
sastra* holy literature; see also sastra
sesek too close to each other (of syllables)
semut sadulur ‘ants in a row’ (said of the little dots in a text with
glosses that connect the explanations in Balinese to the
Old Javanese terms; and of the little dots that connect
parts of the text in an illustrated lontar)
semput unrecognizable (of a letter)
sepel to store manuscripts
serut to plane the sides of the leaves to make them smooth
sisia copy of a manuscript; see also panak
sok rectangular basket, used for the storage of manuscripts
song hole in a palm leaf
subeng leaf worn in the earlobe
suntik knife that has become blunt
tabuh the handwriting style characteristic of a scribe
tal* lontar palm tree; see also ental, ntal, lontar, rontal
tali string to hold the leaves of a manuscript together
tampak dara to add a syllable that has been skipped by placing a
cross above the writing line, referring to the syllable or
word that has been added in the margin, under or above
the writing line. This syllable or word is also marked by
a cross
tingkahan matunu to rub black paste of burnt kemiri into the grooves of
the letters of a manuscript
tampak* the handwriting style characteristic of a scribe
tasra* holy literature; see also sastra
tatar clear (of script)
tayem the leaves are mouldy (because they were cut from the
tree when they were too young)
tebel too close to each other (of syllables)
telek the depth of a syllable	
tempa prototype of a manuscript
llulahan speckled (of leaves)
tra bisa nastra illiterate
tugak incomplete (of a text in which words are omitted be-
cause the scribe inadvertently made a mistake)
tuktuk the closing of a text in a manuscript
tulang giing the translated (Balinese) text parts at the top and bot-
ttom lines of a text with glosses (lontar marti; lontar
grantangan)
tulis* letter, syllable, drawing, painting, something that is
written
tuludan with folds and dents (of a leaf); see also tuludan
tuludan with folds and dents (of a leaf); see also tuludan
uger-uger spelling rules
unteng the text in Old Javanese in the (second) line of a text
with glosses (lontar marti; lontar grantangan)
urem not clear (of script)
widi beautiful (of script)
wirupaning aksara forgiveness asked by a scribe for his bad handwriting,
usually put in the colophon of a manuscript