

Preservation and Study of South East Asian Manuscripts: The Fragile Palm Leaves Project

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Fragile Palm Leaves is a manuscript preservation project based in Bangkok, Thailand. It is curated by Peter Skilling under the auspices of the Pali Text Society (Oxford, UK). Its aim is to preserve Buddhist manuscripts and make them available through replication. The project has collected manuscripts in Pali and in several South East Asian languages, such as Burmese, Shan, Tai Khun, Tai Lue, and Mon. These manuscripts are in a variety of formats, primarily on palm leaf but also on paper and other materials. The project seeks to catalogue and preserve these manuscripts and the manuscripts of selected temple libraries in Thailand, to promote awareness of preservation, and exchange information with other projects in the region.

Research so far suggests that the digitizing of palm-leaf manuscripts poses major problems that are far from being solved. At present the project is cataloguing its own collection and the collection of one of Bangkok's major monasteries, Wat Bovornives. Today I would like to introduce you to our database, to South East Asian manuscripts and to discuss the challenges faced by the project.

Database

Two FilemakerPro databases have been designed and modified with the help of a number of people. The initial design was done by Bhikshuni Vinita Tseng of Taiwan, who is now doing a doctorate at Oxford. Modifications have been made with the help of Eric Colombel, Ed Murphy, and Jamie Lewis Zellerbach. The original database is used for the Fragile Palm Leaves collection. The second database has been modified for use with Thai libraries, such as that of Wat Bovornives.

- 1) Fragile Palm Leaves Database. Manuscripts are recorded in the database as they are catalogued. As of January 15 of this year, we have recorded 1652 titles in 1303 manuscripts. The roman script is used with the VOHD system of transliteration for Burmese.
- 2) Wat Bovornives Database. Last year a Fragile Palm Leaves team catalogued the manuscript library of Wat Bovornives, one of the major collections in Thailand, and data entry is nearing completion. As of January 15 of this year 2049 titles in 900 manuscripts have been recorded.

Some of the important fields are:

title as shown
standard title
language (Pali, Burmese, Mon, Shan, Khun, Lue, Thai)
script (Burmese, Mon, Shan, Khun, Lue, Khom, Thai)
date of manuscript (Sakkaraja era with built-in conversion to Christian Era)
special features (decorated covers, decorated sides)
physical condition (good/poor/needs urgent attention)

The database prints out standardized identification cards which are laminated and attached to the manuscripts. It produces reports as needed: by title, author, date, donor, language, need for conservation treatment, etc.

So far data have been entered in roman script. We would also like to make the data available in the appropriate South East Asian script since this would be more useful to local scholars: Shan in Shan script, Tai Khun in Tai Khun script, Burmese in Burmese script, Thai in Thai script, etc. For this we need expert advice.

We hope to initiate a project with students from AIT to convert the database to XML. This would be useful for long-term preservation and dissemination.

Materials to be catalogued and replicated

Materials to be replicated include not only the manuscripts, but also related items such as manuscript covers, woven ribbons, and manuscript chests. The materials can be broadly classed under five categories:

1. Palm leaf manuscripts

These are of various sizes and formats. Broad categories include "stack" and "bundle" formats.

- (a) "Stack" format: The leaves are arranged in one tall stack, running into hundreds of leaves. The format is used by the Burmese for both Pali and Burmese-language texts and in the Mekhong valley for Thai Noi manuscripts in Laotian language (and also in Sri Lanka for both Pali and Sinhalese works).
- (b) "Bundle" format: Text is divided into small bundles, known as phuk in Thai, some dozens of leaves each. The front and back folios of each bundle give the title of the work and other bibliographic information (total number of phuks, sequential number of phuk in question, number of leaves). This format is widely used throughout the region for both Pali and vernacular literature: by the Mon, the Khmer, the Lao, the Lanna Thai, Tai Khun, and Tai Lue, and the

Central Thai.

In both formats the inscribed text covers both sides of the leaves. The manuscript is kept between a pair of wooden covers, wrapped in cloth, and bound with specially woven ribbons.

Maximum length: Burmese format about 50 cm.; Khun/Lue format about 60 cm.

Maximum width: about 7 cm.

Leaves per volume: up to 500+ (average about 300).

2. Paper books

All South East Asian cultures use paper books for a variety of purposes. Among Buddhist cultures, the Shan use only paper books, in a unique format, and do not use palm-leaf. The books have any number of formats and sizes. Some are accordion (folding) books, others are bound at the top like a paper pad. Both can be quite thick. Some are in black letters on white paper, others in white letters on black paper. Both sides of a page are inscribed.

Accordion format: length up to 50 cm., width to 30 cm.

Pad format: height up to 50 cm., width to 40 cm.

3. Kammavaca

Kammavaca are the formal monastic acts or ceremonies prescribed in the Vinaya. The production of special and usually ornate manuscripts devoted to Kammavaca texts seems to be largely a Burmese tradition, although special Kammavaca texts are also used by the Mon and Tai Khun. The manuscripts have a number of formats, sizes, and supports (palm leaf, metal, ivory, stiffened cloth). Generally the Burmese and Mon manuscripts present the text in lacquered black "tamarind seed" lettering on an ornate gilt red and gold (or silver) background, on both sides of the leaves. The Tai Khun use black ink lettering on white paper accordion books, the covers of which have stencilled designs, often in silver and red lacquer.

Maximum length: about 64 cm.

Maximum width: about 18 cm.

Leaves per volume: about 18.

4. Sarsekyo

These are narrow woven ribbons (silk, cotton, or felt) wound around the outside of a manuscript. The weaving includes either text or patterns, or both. From the point of view of text and design, one side needs be replicated. But I do not know whether textile specialists would need to see the reverse.

Maximum length: about 500 cm.

Maximum width: about 4 cm.

5. Manuscript chests

The collection has a number of manuscript chests and panels from chests. These depict jatakas, the life of the Buddha, the Buddhist councils, or other themes. They are of various sizes.

Also to be replicated are xerox copies already made of Khom-script and Mon palm-leaf manuscripts from temple libraries in Siam.

Many of the documents are fragile, and must be handled with utmost care. Some of the palm leaves (Category 1) have become brittle or are already damaged. The gilding or lacquered coating of older gilt-lacquered Kammavaca (Category 3) texts tend to crack and flake off. Pages of the paper books (Category 2) may be torn, crumpled, or stuck together by mould. Various methods are known for repairing or preserving palm leaf and paper. I have not found a satisfactory solution for the problem of flaking gilding.

The number of manuscripts to be catalogued, entered into the database, and ultimately replicated is huge: perhaps 7000 Burmese-style palm-leaf manuscripts, plus as many bundles of Khun-style palm-leaf manuscripts, plus some thousands of paper manuscripts in various formats, plus xeroxes of some hundreds of manuscripts.

Replication options

Replication remains at a standstill since the last EBTI. The main problem is one of staff: there is no specialist to follow up or to coordinate and experiment. We have not even selected the medium to use. Some are strongly in favour of microfilming. Microfilming poses few problems for Thai, Khmer, Mon, and Tai Khun/Tai Lue manuscripts which have larger letters on a light surface. Microfilming Burmese manuscripts with their minute letters, crowded text, and dark surface (the result of the type of oil used) is more difficult, and has not always been successful.

Options involving digitization include:

1. Microfilming + scan. Some recommend that manuscripts first be microfilmed, and the film then scanned. For Burmese manuscripts this carries the previously mentioned problems for microfilming, and would double the work

2. Slide + scan Others recommend that a slide first be taken, and then scanned. This method is in practice for some of the Turfan collections. The small letters and crowded text, together with the length of the leaves, make the taking of slides difficult. As with microfilming, this would be a duplication of work. A single manuscript could need 5 or 6 hundred slides, and we have a lot of manuscripts. The money spent on film and developing; the work and time spent on collating, labelling,

and storing each slide; the space needed for storage: all would be enormous.

3. Direct digitization. Direct digitization of documents, without any intermediary processes, seems to be the most practical solution, which would avoid duplication of work and generation of extra costs. But scanning raises its own problems.

The screens of both standard A4 and even A3 flat-bed scanners are too small for most documents. The use of a digital camera is more practical since the camera can be set up with camera frame and lights, in imitation of the traditional microfilming setup. Documents would be scanned face up with less damage of wear and tear than with a flat-bed scanner. Lighting could bring out the letters sharply, and, in the case of lacquered manuscripts, avoid reflection. At the last EBTI and elsewhere I have found that most experts agree that digital cameras are not yet refined enough for this purpose. Other problems are the time taken to capture an image and the huge amount of memory required to store even a single manuscript. For the time being we wait.

It is important to remember that cataloguing will precede replication, and that not all of the catalogued manuscripts will be replicated (at least initially). As cataloguing proceeds, manuscripts will be selected for replication according to a number of criteria: age or rarity of text, request by scholars working on a text, etc.

THE CURATOR

Peter Skilling, a Canadian citizen, has lived in Thailand for over twenty years. He is preparing a three-volume study of the Mahasutras of the Mulasarvastivadin school. Volume I (a critical edition of the Tibetan texts of the Mahasutras accompanied by Sanskrit and Pali parallels) and Volume II-A (introduction to the Mahasutras) have been published by the Pali Text Society (Oxford, 1994 and 1997) in the series Sacred Books of the Buddhists as XLIV and XLVI). Volumes II-B and III are in progress.

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