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The myth of Javanese paper

(English only)

In old Javanese and Chinese texts there are various references made to ‘Javanese paper’. This immediately gives rise to the question of whether paper was ever actually produced in Indonesia in the distant past. In theory this is possible because from earliest times a thriving trade existed between the islands of Indonesia and both India (where paper had been made autonomously since the year 1000) and China (where paper was invented well before the birth of Christ). Yet there has never been any sign of a ‘Javanese paper’

Dutch literary theorists and linguists discovered a number of Javanese manuscripts in Oriental library collections, written on material called *dluwang*, but were unable to identify it. The entire Dutch collection of Javanese literature contains just 131 manuscripts (2.6%) written on such a material. In collections abroad the proportion rises to as much as 13%. Besides this, a few ethnographic collections in the Netherlands possess various Javanese scroll paintings executed on *dluwang*, of which the 6 paintings in the Leiden collection can be considered unique. Could this be ‘Javanese paper’? If so, was it real paper or was it the beaten inner-bark of trees – also known as *tapa* - a material that has been used for clothing in so many of the countries in the tropics since the Stone Age. As far as we know, only a few Central American peoples, such as the Maya, frequently used beaten bark as a writing material. Or was it a hitherto unknown material: a paper made from cassava as has sometimes been suggested, for example?

It was botanical identification and physicochemical analysis that provided the initial answers to these questions. Twenty five samples of *dluwang* from Dutch and Indonesian collections, spanning a period of more than 100 years, revealed unequivocally that we were dealing here with beaten bark and not paper. Further anatomical analysis indicated that the bark came from the paper mulberry tree. Nevertheless the question as to whether *dluwang* was the same as ‘Javanese paper’ had still not been answered satisfactorily.

Many more historical sources would have to be consulted, and months of fieldwork carried out before the myth of 'Javanese paper' could be unravelled*.

Javanese paper and tapa

The earliest evidence of the existence of Javanese tapa (*fuya*) was the discovery of two tree-bark beaters - one in the *desa* (rural district) of Pakauman in Eastern Java and the other near Bogor in Western Java. Although a precise date cannot be given, it has nevertheless been presumed that these beaters date from the prehistoric period. Only a few reports survive from the time of the Dutch East India Company confirming the use of beaten bark on Java as a clothing material. One of these from 1646 describes a people who moved from Eastern Java to Western Java, and were dressed in '*...white paper made from the bark of trees, of which they wrapped a piece around the head and a large sheet around the body, which is all the clothing they wear...'*. What is remarkable about this extract is the use of the word *paper*, and that it was *white*. The word *paper* could have presented difficulties with regard to interpretation had it not been for the addition of *made from the bark of trees*, which suggests that the author was probably writing about tapa. Here the word *paper* is only being used for the sake of comparison. The colour white could indicate the use of paper mulberry, which can provide a lovely white tapa. Thirty three years later, in 1679, we again encounter the word (*Javanese*) *paper* in connection with tree-bark clothing in a description of Minahassa (on Sulawesi, formerly Celebes) given by the governor of Ternate (on the Molucca Islands), Robertus Padtbrugge. In this instance the report leads one to suspect that not only a comparison between materials but also between quality is intended. The delicately thin, white *fuya* of the paper mulberry from Sulawesi in particular would have (and still would today) give many people the impression of paper. The idea that *paper* was meant to indicate the presence of a writing material on Sulawesi seems very unlikely, because only the Bugis and Makassarese peoples from South Sulawesi have developed their own writing culture, and we know of only two fragments of tapa bearing Bugis text. Another possibility could be that the material served as a writing material for the Malay settlers and traders on the coast. There is no evidence for this supposition, moreover as far as one knows there are only a few Malay manuscripts that are written on tapa (*dluwang*) on Java.

*For more specific information about the scientific tests see R.Teygeler: Van bast tot boek. Den Haag, Koninklijke Bibliotheek (From bark to book. Royal Library, The Hague, the Netherlands) - exhibition brochure, published as a KB-extra no.10, Oktober 1995 and R.Teygeler: Dluwang, a near-paper from Indonesia - IPH Congress book 1996(11), Marburg, IPH, p.134-145.

One early European eyewitness account makes reference to the fact that some Javanese were still processing tapa into clothing in the 17th century. In this report too, confusingly enough, the term *paper* is used to denote *dluwang*.

At the beginning of the colonial era, Sir Thomas Stamford, a British colonial administrator, wrote in 1817 that *dluwang* was still being used as a clothing material on Java, and that its production formed the prime activity of the clergy. We also know that in this period it was the Javanese custom to produce loincloths from beaten bark, and some reports mention their use for medicinal purposes. According to purveyors of medicine in Western Java, the beaten inner-bark of the wild breadfruit tree could be beneficial for lumbar pain. One such medicinal loincloth from Jakarta has been preserved. The bark from the breadfruit tree was also considered to be a sovereign remedy against unwanted pregnancy. In an entry made by the Dutch colonial administrator J. Knebel, it says that in ancient times the Javanese covered their nakedness with a piece of tree bark wrapped around the loins.

Javanese sources

In Old Javanese literature, the first mention of *dluwang* appears in the *Ramayana*, one of two originally Indian epic poems. In this 9th century Javanese version, the word *dluwang* is mentioned a number of times. The word next appears in three texts from the time of the court of Kediri in Eastern Java - the earliest dates from the beginning of the 12th century and the most recent from the end of it. In 1297, the *Sarwadharma* charter tells of the right of the clergy to cultivate the paper mulberry tree - undoubtedly for the production of *dluwang*. The charter is primarily about the divisions between properties of the religious orders and those of the simple peasants. It explicitly states that the religious communities were allowed to plant the paper mulberry tree in the proximity of their estates. As Shivaist priests are forbidden to carry out any manual labour, their secular neighbours would have worked the land for them. Whether the priests would have beaten the *dluwang* themselves is unclear. In the 14th century there is a reference to *daluwang* in the *Rajapatigundala* (a manuscript about ecclesiastical law), which tells us that a levy was charged for trading in *dluwang*, and that this had to be handed over to the clergy. This probably reinforced the monopoly position of the religious cast, which, as is indicated above, had had the right since the 13th century to plant the paper mulberry tree. In two poems from the Javanese-Balinese period, and in a prose version of the seventh chapter from the *Ramayana* written in Old Javanese, there are again references made to *daluwang*.

Finally an example of another form of spelling - *dluncang* - can also be found in the historical work, the *Tantu Panggelaran*, also in Old Javanese, most likely written by a Shivaist recluse in the 15th or 16th century.

Common to all the above texts from the Hindu era of Javanese history is the fact that they mention *dluwang* as being a clothing material for the clergy, especially ascetics. Moreover, these men of religion had the right to cultivate the raw material: the paper mulberry tree, and the right to exact a levy on the trade in the end product: *dluwang* or tapa. This is corroborated by a number of references in Malay documents.

Old Chinese texts

Very early on in an old Chinese text there is mention of a material that was utilized as a carrier of images. Before 1433, the traveller Ma Huan noted that the Javanese had no paper, but incised their texts with the aid of a stylus onto leaves (palm leaf). He goes on to state that there were certain men who drew things on paper, unrolled the image before the public and explained its significance. Ascertaining what this so-called paper was made of is difficult. Chinese paper seems to be ruled out, considering the repudiation of the existence of paper as a writing material on Java. The use of Arabian paper also seems unlikely because although islamization had indeed started, Java was still for the most part ruled by the Hindu-Javanese Empire of Mojopahit. Another possible material could have been 'crude tree bark'. It is known that in later periods this was used as a writing material by the Batak people of Northern Sumatra and the Lampung and Rejang peoples of Southern Sumatra. However, the Chinese text states that the image carrier was unrolled; something that would have been impossible with the untreated, often thick and stiff, tree bark. That leaves just one last possibility: tapa. The fact that people on Java were familiar with tapa at this time has already been indicated above. During Kediri rule at the beginning of the 12th century, an earlier Chinese text also mentions paper on Java that was approximately 7.5 to 10 metres long. It appears to concern a local product; would it have been untreated tree bark or tapa? This is unclear. Considering the length of the material, it's unlikely that it would have been used for a wayang beber:

the traditional Javanese scroll painting, which was almost never longer than 4 metres. In contrast, manuscripts made of raw bark could reach a length of up to 16 metres, but the use of untreated tree bark as a writing material is totally unknown on Java.

Perhaps the earlier *wayang beber* had been much longer than the ones that have survived. If this is the case we must assume that the Javanese scroll painting already existed, which is unlikely.

Image carrier

The *wayang beber* first came into existence in 1223 but it wasn't until the end of the 13th century that *dluwang* was used as a carrier of images. This yellowish paper was known as *dlancang gedog* or *dlancang Ponorogo*; Ponorogo, because it was the only region where paper was produced. In the collection at the National Museum of Ethnology in Leiden, there are six *wayang beber* that have always been presumed to be painted on *dluwang*. When inspected, it appeared that without technical analysis it would be difficult to determine whether the images were painted on *dluwang* or not, as they had been repaired innumerable times over the years. It is known that *wayang beber* were also painted on European paper, but in this case it can be confirmed that the image carrier was not paper of European origin. However there are two early scroll paintings that have been documented comprehensively: the *wayang beber* from Gedompol and the *wayang beber* from Gelaran. The first has been dated to between 1690 and 1739, and the second between 1700 and 1735. Both scrolls bear images painted on *dluwang*, and both were still in the *desas* (rural districts) of Gedompol and Gelaran on Java twenty years ago. These ancient scrolls can be termed unique, certainly considering the fact that already by the beginning of the 19th century the *wayang beber* had become very rare, and since the 20th century been regarded as having virtually disappeared. With some caution we can make the assumption that the *wayang beber* already existed at the beginning of the 15th century on Java, and the carrier of its images was *fuya*. It is not inconceivable that the *wayang beber* existed even earlier on Java, and that at the end of the 13th century *dluwang* - *fuya* from the paper mulberry tree - was used. However *dluwang* was certainly used for Javanese scroll paintings from the 18th century onwards.

Writing material

Dluwang is most renowned as a writing material. Handwritten manuscripts on *dluwang* in public collections are mainly Javanese, with one or two Malay or Madurese examples. It is not uncommon for these manuscripts to be compilations of texts in more than one language and in different scripts. There also seems to have been no inhibition about habitually binding European paper together with *dluwang* into one single book.

The oldest *dluwang* manuscript known to us is a Javanese-Islamic work from the end of the 16th century. The first Javanese-Islamic manuscripts appeared with the spread of Islam on Java during the same century. At first they were still written on palm leaf but scribes soon sought a material that was more suited to the typical Islamic book form: the codex. Palm leaf splits when folded and was therefore unsuitable, and paper didn't seem to provide an immediate solution either – in the 16th century all paper had to be imported, making it expensive. With this new book form came the introduction of pen and ink, a writing implement/medium better suited to the Arabic script than a stylus. Incising a text in the new script on palm leaf caused the leaves to split. The Malay people, who hadn't yet developed a great literary tradition, did use paper as a writing material at the end of the 16th century, although Chinese, Arabian and European papers were used indiscriminately. For want of anything better the trade-driven Malays, who mainly inhabited the coastal areas and for whom paper was readily available, had no other choice but to make use of the expensive paper for their blossoming literature. All the same one or two Malay manuscripts written on *dluwang* are known to exist. The Javanese, in contrast, were familiar with *dluwang* as clothing worn by Javanese-Hindu ascetics and as image carrier for the *wayang beber*. Therefore *dluwang* seemed to be eminently suitable as the writing material for the new Javanese religion. The step from image bearer to writing material was not great and the material was already traditionally linked with religion. Furthermore it could be produced locally and the costs were low. Although these books were bound in the form of codices, two early Javanese-Islamic manuscripts are an exception to this rule. While they are indeed written on *dluwang*, they take the form of a folding book. Perhaps during the transition from palm-leaf book to codex, the Javanese-Islamic manuscripts passed through a short interim stage in this form. In Southern Sumatra, the folding book appears as early as 1630, perhaps arriving on Java via this route. From the beginning of the 17th century, the use of *dluwang* for Javanese-Islamic manuscripts increased by leaps and bounds. Due to the increase in imports of Dutch paper in particular, the production of books written on paper grew during the next two centuries. Slowly but surely, paper became the favourite writing material of the royal courts, which could afford such an expensive product. Even when more and more people were able to make use of paper in the middle of the 19th century, the poorer Javanese continued to write on *dluwang*. As well as the use of *dluwang* and paper for Javanese-Islamic books, often palm leaf was still used for other literature up until the 20th century. Around 1900 more and more books were being printed, paper was available almost everywhere and the production of *dluwang* was becoming a dying craft.

Colonial era

Most reports about *dluwang* date from the period of colonial rule in Indonesia. Many are anonymous and only one solitary article is written by a Javanese. Interest from the colonial civil servants was limited, if requested a short account would be provided.

Even during the era of the Dutch East India Company (VOC – Vereenigde Oost-Indische Campagnie), the agents experienced a constant shortage of paper, and the short-lived existence of the Company's own paper mill (1665-1681) didn't alleviate the problem either. Paper was regularly requested from Holland. It appears from the Company's archives in Jakarta that, in the year 1790, its station in Makasar requested 20 reams of Dutch paper from the head-office in Batavia (Jakarta). When the Dutch government took over the bankruptcy affair of the VOC at the beginning of the 19th century, the scarcity of paper was more dire than ever because of great shortages on the European market. The situation necessitated the circulation of an official notice in 1809 from Semarang in Northern Java, requiring '*Javanese paper*' to be used for envelopes and Chinese paper for writing paper, a state of affairs that still existed in 1810. *Dluwang* continued to serve as the raw material for folders and wrapping paper for the Javanese as well as the colonial authorities for quite a while. Indeed the Post Office in Batavia used between 10,000 and 15,000 sheets of *dluwang* as wrapping paper in 1858, and it wasn't uncommon for the government in Madiun (in Eastern Java) to order 300 to 400 sheets from Tegalsari in the Ponorogo district at the turn of the century.

In the last quarter of the 19th century scientific research into the language and culture of 'The East' really took off. Ethnographic museums were laying down the foundations for their collections – it was then that one beater from Ponorogo ended up in an American museum – and scientific libraries were able to expand their 'Oriental sections' substantially at this time.

It was time to take stock of the production of *dluwang*. On the home front there was some interest when it was suspected that the raw material used for *dluwang* - the paper mulberry - could be a useful fibre; an idea that had also been formulated before. Interest increased even more when it was found that in Japan a legendary sort of paper was made from the same material. Yet after some research commissioned by the government further development was abandoned - export costs would be too high. However the material was considered to be suitable for the local paper industry, but still nothing came of it. As the 19th century gave way to the 20th, it became clear that the production of *dluwang* was coming to an end.

In all probability only *Javanese fuya* was still produced in Tunggilis (in the Garut region) and Tegalsari (in the Ponorogo region). A few local authorities still tried to stimulate production, as did the colonial rulers who, within the framework of 'Ethical Policy', promoted 'colonial industry'. The Department of Agriculture, Trade and Industry ordered an investigation into the material, other departments, like the Department for Popular Literature, now ordered files made of *dluwang*, and efforts were made to sell the material in the Netherlands. Although it never really caught on, it did have some success as an art paper. The two publishers P.N. van Kampen (Amsterdam) and C.A. Mees (Santpoort), in particular, took pains to use *dluwang* as a bookbinding material. As it was difficult to process, its use was reserved for de-luxe editions. In spite of all these efforts *dluwang* had practically disappeared by the time the Second World War broke out.

After the Second World War

As a consequence of the conquest of Indonesia by the Japanese, the import of cotton textiles came to a halt. This meant that the Bisri family from Tunggilis, near Garut, was compelled by necessity to make all sorts of clothing out of *dluwang* during this period. Elsewhere on Java, sheets of rubber, an industrial raw material, were converted into clothing. The Bisri family was the only producer of *dluwang* in the Garut area after the Second World War. At the instigation of Governor Mohammad Sanusi Hardjadinata (originally from Tunggilis) at the beginning of the 1950s, the West Javanese government and the Department of Forestry again started ordering *dluwang* from the Bisri family for their office files. By the end of the 1960s this source of income had dried up: orders failed to materialize. Pak Bisri and his wife Nonya Nyio Uki continued their traditional craft well into old age, and when Pak Bisri died in 1965 his wife kept up production until her death in 1980. It can be considered a small miracle that the family was tracked down from the Netherlands in 1968, when the curator of the Paperhistorical Collection of the Royal Library in The Hague wanted to get hold of 100 sheets of *dluwang* made by Nonya Nyio Uki. Going by the demonstrations I received in 1993 and 1994 in the craft of *dluwang* making, there must be a few descendants of the family who still retain mastery of the production process to this present day. Some small details in the process have changed however. Whereas Pak Bisri smoothed (calendered) the sheets with a shell, in 1994 his son Pak Ading used a marble doorknob. Unfortunately in 1994, the doorknob was lost and Pak Ading decided to dispense with the smoothing process. Whereas Pak Bisri was able to earn a great part of his income through the production of *dluwang*, his son Pak Ading is now a cobbler in Bandung.

Even if Pak Ading still wanted to make *dluwang*, he lacks the raw material. At the end of 1994 there was just one miserable tree with a couple of shoots on it still standing on a property not far from his home. According to him there was not one single *saeh* tree (paper mulberry) to be found in the vicinity. He was obviously unaware of the experiments carried out by the government between 1968 and 1975 on the cultivation of the *saeh* tree in the Garut region. It appeared that the plant was eminently suitable for both afforestation and reafforestation.

In Japan it had been proved that the inner bark produced wonderful paper, especially deluxe papers. A study by the Research Centre for Forestry Products followed in 1977; on the one hand to analyse the technical possibilities of making paper pulp from *Broussonetia papyrifera* (paper mulberry), and on the other to test the feasibility of a paper industry based on this raw material. Although there was no doubt regards technical feasibility, further development was abandoned on economic grounds.

It was already obvious before the Second World War that the production of *dluwang* in the Tegalsari *desa* in the Ponorogo area was in decline. The Ponorogo region has become so famous for its production of *dluwang* that the term 'Ponorogo paper' is often used. There must have been more places in the vicinity of Ponorogo where *dluwang* was made, but Tegalsari is the only centre known. The *desa* became famous in 1744 because of its seminary, which was revered far and wide. The traditional teaching of the Koran created a great demand for 'paper', and because imported paper was so expensive, the students had to make their own. This is how the *dluwang* industry in Tegalsari came into being. During the Japanese occupation, *dluwang* was used for clothing, including funeral shrouds. Imam Witono, who claims to be the ninth direct descendant of Besari, the founder of the village, made *dluwang* for the Department of Forestry for the last time in 1946. His grandfather Purnomo was also a master of the technique, as was Witono's nephew Suwarso. Everyone who wants to, can practice the craft. Control however, so I have been informed, remains with descendants of Besari. It is not entirely clear what this means. Possibly that anyone making *dluwang* is required to pay a levy to Besari's descendants for production rights.

When the French archeologist Guillot visited the village in 1981, there was not a single paper mulberry tree to be seen. At the end of 1994 the people were still able to show me one remaining beater, most had already been sold to tourists. The ancient craft of beating bark into an enduring writing material had died a quiet death here as well. Unfortunately the myth of 'Javanese paper', which appears to be tapa and not paper, has met a sad end.