The Sundanese Script:

Visual Analysis of its Development into a Native Austronesian Script

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Introduction

Modern Indonesia has been finally formed after WW II when independence was gained after a long history of colonization by the Dutch and occupation by Japan during the war. This nation has hundreds of ethnics with their languages still in use. Still, there is Bahasa Indonesia as a national language which is taught in schools and used in administration or the media. All of these languages are today written with the Latin alphabet. It is not widely known that several ethnics had their writing systems before Latin was adapted. Before Latin came in use, Arabic played an important role after the Islamization of large parts of the archipelago and replaced some of these scripts; since then, most of them went out of general use.

Sunda, the second-largest ethnic in the archipelago, is one of those who used writing. The Sundanese live in a region on the western part of today's most densely populated island, Java. The oldest proof of literacy on the archipelago from a kingdom named Tarumanegara has even been found in this region (modern Bekasi), and it was written in Late Southern Brahmi script.[1] The latest form of the Sundanese script around the eighteenth-century CE differs enormously from this script. Until today its archeology and paleography have not been researched as rigorously as that of Javanese. The focus of this work will be the development of the Sundanese script into this final form out of its potential precursors. How and why it differs from the Javanese script, which is much older but was still in use on the same island at the same time.

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1 This term is suggested by Griffiths and Lammerts (2015), since the term is more neutral than the former terms, namely Pallava. The term Pallava was suggested by J. Ph. Vogel in 1918, since it was used in numerous inscriptions by the kings of the Pallava dynasty. In earlier times it was also named Vengi (see De Casparis, 1975, p. 13). Griffiths and Lammerts argue that the term Pallava is inadequate, since it was neither used nor spread by the Pallava kings alone.

The scarcity of such research has political and historical reasons, into which we will have to look later, as much as the limited number of artifacts. The latest form of this script (with very few exceptions on metal plates) can only be found on perishable materials like palm leaves. These do not last long in a tropical climate and a part of the planet that is frequently hit by volcanic eruptions or earthquakes. For some general insight into steps of script development, we need to look elsewhere, at regions of the world with more favorable conditions. Traces of the steps in developing a writing system can be seen through the evidence on numerous ancient artifacts, from the Mediterranean and Asia Minor, in particular, where climatic conditions preserved far more samples. Stone, ivory, bone, copper, wood, papyrus, bark, bamboo, and palm leaf are materials that were very often used to record a message through writing. History of these regions records that different tools and techniques affect the visual style of the script.

The invention of papyrus in Egypt in 1.500 BCE and the use of a reed brush encouraged the scribes to simplify the form of signs, compared to those sculpted on stone. Not only this, but the brush made variations of the line width much easier, and this has been used for stylistic effects. Papyrus and brush also supported faster writing, in particular when writing was used not only for religious or governmental statements anymore, but also for administrative and economic purposes. (see Clair and Busic-Snyder, 2005 p. 12; Roberson, 2018) The hieroglyph cursive, or Hieratic as the Greek called it, was used by Egyptians for more than one millennium. When we look at the development of the Egyptian script, we have a documented time span that opened up processes to adapt to changes in the society, but the visual style of the script was also influenced by the creativity of the scribes. My background as a designer encourages me to try to find out to which degree such development is influenced by materials and tools and to which degree it is the socio-economical function of writing. The former should mainly influence the style of a script. The latter might more radically change the structure of signs, since the needs for faster writing and reading by a larger literate group demand both simplification and enhanced recognition, while religious restrictions to keep the shape as 'given by the gods' are lifted.

For a working hypothesis, we will assume that the development of the Sundanese script also may have at least partially been influenced by writing materials and tools. But since even at first glance Sundanese looks far more different from its precursors than Javanese, we also aim at defining the restrictions which made one so immune to changes and the factors that allowed the other to become so unique. If it was not only the physical process of writing, our thesis would be that it must have been the context of use and intensity of use in different fields of society. As the famous British typographer Eric Gill (1936, 2013 p. 25-30) notes for the development of the Roman letters, the much more frequent and often hasty use of a script during the centuries after the height of

the Roman empire, with any medium or tool which enables faster writing than engraving them on stone, has a very high impact on changes of form without this process »for the most part« being consciously perceived by the users.[2]

We need to define the use of the aesthetic terms »structure« and »style« in this research since they are used quite differently in archeology and in art history. James Sackett (1977) argues that "… that all theories of style ultimately rest upon two primitive givens: that, whatever else it may entail, style (a) concerns a highly specific and characteristic manner of doing something and (b) that this manner is always peculiar to a specific time and place." In archeology style can be and very similar in paleography 'style' is referencing a specific temporal and spatial continuum to establish assumptions, e.g., about cultural contact or consistent history. While in art history, 'style' is a description of a polythetic set of similar but varying attributes in a group of artifacts. The presence of which can only be explained by the history of the artifacts, namely, common descent from archeologically identifiable artifact-production system in a particular state or states (Davis, 1993). We lean towards the definition of Sackett in the context of this research. We are aware that the distinction between structure and style in this sense is to a considerable subjective and hope that the readers can follow such distinctions based on detailed descriptions of the single letters and their variations. For this research, we will use the following definitions: 'style' here denotes minor variations of a script, like the width of lines and minor additions of decorative features.

'Structure' will refer to the shape, to the 'anatomy' of the letterforms. Since there is no established terminology for the anatomy of the script at hand, we will use some more general terminologies, e.g., strokes, baseline, cap line, character, stem, and oblique. Nevertheless, we would avoid the terms which are established for Latin typography, e.g., ascender, descender, x-height, serif, san serif, and italic. The terminologies that we use in this study will be further explained in chapter 4. This study is describing how many strokes they have in every character if the strokes are connected or separated, in which direction they curve and some more complex differences. Consequently, a reader familiar with a script should easily be able to read a text with a variation in style, while changes in structure would need careful analysis and more profound knowledge of the context and the language to be still readable.

Only observing visual aspects of the script will not suffice. We will need to look at the cultural context of the society which used it. Almost every culture

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[2] The latter remark is very surprising given the fact that Gill himself spent most of his time consciously designing letters. We will need to ask ourselves if European writers of the seventh century CE or Sundanese people 500 years ago were not also applying a certain degree of conscious judgement and changed aesthetic details of what they were generating when writing more rapidly and with different tools and media than chiselling for eternity into stone.

considered their script itself 'holy.' Western culture too, where the monks who copied the bible applied much creativity in designing those beautiful initials and used great care in writing other letters while copying the Holy Book again and again. Nevertheless, when Latin was used for profane purposes, it took a simplified form adapted to faster writing quite early, which was not very different from modern handwriting. This research is aiming at comparable developments on Java island. To define the main object of interest, we need to define during which period in history, we may speak of a Sundanese script.

After submission of the Sundanese/Pajajaran kingdom to the Mataram Islam dynasty in the seventeenth century CE, the Javanese culture became predominant, in particular with the local aristocracy, who used the Javanese language. This period lasted about 100 years until the Priangan regencies came under the control of the Dutch. The situation found by the Dutch brought the colonial administration and Dutch scholars to the asumption that the language of Sundanese people was the same: Javanese.[3] Sundanese language itself was considered as a dialect called »Mountain-Javanese« because it was used by people who were mainly living in the mountainous areas.

The Sundanese script was hardly noticed at all by the Dutch and the British since it had already been replaced by Arabic when writing in the Sundanese language, while the Javanese script was still in use. Consequently, the Dutch found only two scripts in regular use, Arabic and Javanese. These were chosen by function: Arabic was used for everyday purposes and Javanese for official reports submitted to Mataram and later to the Dutch government.[4] This led to completely overlooking the existence of the Sundanese script by most scholars, even Coolsma wrote: »De Soendaneezen hebben geen eigen schrift, maar bedienen zich of van het Javaansche óf van het Arabische«[5]

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[3] Sir Thomas Stamford Bingley Raffles, a British statesman, who was Lieutenant-Governor of the Dutch East Indies (1811 – 1816) wrote a book, The History of Java (1817). He was the first person who noticed that the language of the Sundanese is distinct from the Javanese language. He even explains that Sundanese language is probably the most ancient vernacular language in the country. He further claims that the language is a simple and uncultivated dialect and perhaps escaped the influence of foreign innovation, from the peculiar nature of the country and the independent character of that ethnic group. It possesses a considerable portion of Maláyu words and some of Sanskrit origin. He also writes that at his time only a small amount of the population spoke it. The information from Raffles is giving us the impression that from early nineteenth century CE the Sundanese language was almost extinct. Around 1830 the attitude among scholars was changing, leading to the recognition of Sundanese as a separate language and not just a local dialect. In 1841 the first dictionary of the Sundanese language by Roorda marked this recognition in the eyes of Europeans. He was the first to state the importance of this recognition for linguistic reasons, not only for administrative ones.

[4] But while the spoken language was now respected as unique, at the time the alphabet was still considered as „borrowed" from Javanese. Written Sundanese had long disappeared from daily life by that time; it had widely been used until the sixteenth century until Arabic began to replace it. After all, Islam is encouraging everybody to learn Arabic script, if only for the purpose of recitation even if one does not know the language. So, it contributed to literacy, and it was widely adopted to write in Sundanese language too.

[5] Translates as: "The Sundanese have no script of their own, but they use Javanese or Arabic."

The situation for any research of Sundanese script is considerably worse than for the language. From the facts explained above, it can be said that two waves of colonization caused the extinction of Sundanese script: first by Mataram Sultanate, which generated a perception of inferiority among the Sundanese people in relation to the Javanese, later by the Dutch, who had their own agenda. Holle (1867) argues that without the oppression by Muslim (Mataram colonization), Sundanese society could have developed quite differently than it did, apparently assuming it to do much better.

In 1882 Holle compiled tables of scripts, which were found throughout India and Southeast Asia. His tables show every character from different kinds of artifacts (inscriptions and manuscripts) and categorize them by their origins. Twenty-nine of those tables are showing characters that were found in West Java and were written on different media. From these twenty-nine tables, fifteen are categorized as typical Sundanese. He even mentions it as »a new creation of script« found in Sunda (Holle, 1882, p. 14). In his introduction to the tables, Holle further explains that luckily, Ciburuy (a place in the region of today's administration area of Garut) at that time was a kind of exile for representatives of the old religion. He mentions that some elements (enkele brokken) of the former faith, which has been brought from India, have survived in these texts. But he already questions the idea of Indian colonization as too vague (zoo vaag verdacht, 1882). A taboo sheltered Ciburuy and its inhabitants were preserving relevant artifacts from the fifteenth until the mid-nineteenth century.

In 1975 J.G. de Casparis writes comprehensive Indonesian paleography, but he does not write much about the Sundanese script, which he calls Pajajaran script. Nevertheless, he mentions that some of the forms of the Pajajaran script seem quite peculiar. He expresses his curiosity about the striking differences to the Javanese script and offers only two explanations: either it must have developed from another predecessor, or it has undergone intense development in the intervening three centuries. De Casparis remarks that "It would seem much easier to account for the peculiarities of this script of Pajajaran descends from a much older form of script in this part of the island, contemporary with Early Kawi." (De Casparis, 1975 p. 56)

Because of a lack of detailed research into the development of the Sundanese script, generally, the development of script systems from Late Southern Brahmi script to Old Kawi script and from there to all other script systems of historical Indonesia has been assumed. In this understanding, the other regions of the archipelago have adopted Kawi and developed it further by each region. The script for which we will try to find a line of

development or proof of separate origin is today named Old Sundanese script[6] by some scholars.

The oldest sample available to us with the similarity of some characters to the fully developed script is on the Kawali inscription from the second half of the fourteenth century CE. The fully developed script can only be found on organic materials, where dating is critical since such documents were copied again and again when they started to deteriorate. Even if the colophons in some of these give a date, it is not sure if that was not copied along with the text. The latest sample, the Waruga Guru, has been dated by Pleyte as being from between 1705 to 1709. The content is a peculiar syncretism of Muslim and Hindu elements, so we can be sure that it must be from a time after Islamization of Sunda began (see Pleyte, 1913 p. 281-427). Soon after this, the script went out of use, so we can safely assume that this script, which we call Sundanese from here on, developed and was in use between fourteenth- and eighteenth-century CE.[7] It differs considerably from the neighboring scripts.

One should start to ask questions right here: did the script development really happen like described above? Or was it actually other parts of the archipelago – independent political entities at their time – such as Sunda, Lampung, and Sulawesi, which managed to develop their own script systems? Are those scripts descendants of the Kawi script, or was there another "Kawi"?[8] There are diverging theories about the development of writing systems in Sumatra and South Sulawesi. Uli Kozok argues that the Sumatra scripts are descendants of Sumatra Kawi, while Miller (2011) claims that Sumatra, South Sulawesi, and Philippine scripts are descendants of the Gujarati script. Miller even constructs a hypothetical proto script to explain the transformation of each letter from Gujarati, but no known artifacts point in this direction.

Our starting point will be the most important artifacts, in particular, the inscriptions found in the western part of Java island, which are written in different languages and different scripts.

- The earliest inscriptions, the Tarumanegara inscriptions (fifth century CE), are also the oldest inscriptions found in Java island. They are written in Sanskrit language and Late Southern Brahmi script, named after

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[6] Other than for the language, which should be written as 'Old Sundanese' we will write Sundanese for the script, since there is no 'new' Sundanese script

[7] the inscription is mentioning the son of a sundanese king who was killed in a war in 1357 (see notosusanto et al., 1990 P. 366-7)

[8] Uli Kozok, an expert on Batak script, explains that Batak script was developed from Kavi Sumatra (www.ulikozok.com/aksara-batak/sejarah-aksara-batak/ last retrieved Dec. 18th 2018 12.08 a.m).

an Indian kingdom, where it was in use.

- Then there is the Juru Pangambat inscription[9], which is written in Old Malay language and in Kawi script, a later development from Late Southern Brahmi script on Java. This inscription is telling us about giving back the throne to the King of Sunda. There is no sound explanation of why the Old Malay language was used to write this inscription. Was there any relationship with Srīvijaya, an important maritime kingdom based in Sumatra?
- Some inscriptions and other artifacts from the western part of Java island used the Old Javanese language and Kawi script, like the Saṅghyaṅ Tapak inscriptions (1030 CE), as well as the Mandiwuna inscription and Sadapaingan, a bronze cylinder (1189 CE).
- Inscriptions and artifacts which are using Kawi script[10] and are written in Sundanese language: Rumatak inscription (1411 CE), Hulu Dayeuh inscription, Batutulis inscription (1533 CE).
- Inscriptions and artifacts which are written in Sundanese, both language and script: the Cikapundung inscription (1441 CE), the Galuh inscription (1478 CE), the Kawali inscriptions, and the Kebantenan inscriptions.

Finally some old manuscripts from the western part of Java, which were written between fourteenth and eighteenth century CE (Baidillah et al., 2008 p. 45):

- Manuscripts which are written in Sundanese language and Sundanese script: *Carita Parahyangan, Fragmen Carita Parahyangan, Séwaka Darma, Carita Ratu Pakuan, Amanat Galunggung, Kawih Paningkes, Bujangga Manik, Kisah Sri Ajnyana, Naskah Ciburuy I & II* and *Kisah Putra Rama dan Rawana, Pakeling* and *the youngest text Waruga Guru.*
- Manuscripts which were written in Old Javanese language and Sundanese script: *Sang Hyang Hayu* and *Bhīma Svarga*.

Besides the diverse languages and scripts which are used in those artifacts, we also find a variety of materials in use, especially for manuscripts: *lontar* (Borassus flabellifer or Palmyra), *gebang* (Coripha Gebanga), bamboo, *daluwang*,[11] and Euro-

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[9] There is some discussion about this inscription, especially regarding the dating, «... Kavihaji pancya pasagi ...« which is translated as 854, but according to the rule of Hindu calendar reading, it must be read as 458 Saka or 536 CE. 536 was the era of Tarumanagara, but the inscription writes about the king of Sunda, a kingdom that existed around 9th Century CE (Ekadjati, 2005 p.56)

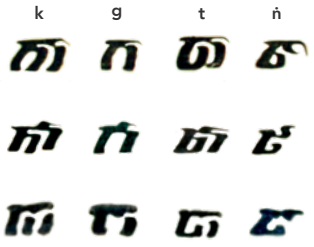
[10] We follow the definition of de Casparis, who uses the names Early and Later Kawi. Casparis is dis - cussing the terms and mentions that other authors, like Krom, used the term Old Javanese (see De Casparis, 1975, p. 28).

[11] *Daluwang* was made from the treebark of the *Saeh* tree (Broussonetia papyrifera), which was normally used for clothing by the Sundanese, but as a writing material by the Javanese (see Gunawan, 2011)

pean paper.[12] In 1853 Netscher was the first one to write about an old text written on organic material, which came from Timbang-nganten in West Java (Sunda). The people who gave it to him claimed that the text, in earlier centuries, was given to them by higher beings, with the recommendation to keep it carefully as a *jimat* (talisman) (Netscher, 1853). In 1867 Holle wrote about three Sundanese palm leaf manuscripts, which were donated to Bataviaasch Genootschap by Raden Shaleh in 1866.

Regarding materials, especially *gebang* leaves, there was a discussion about the species of plant it came from. In early research about the writing culture in Java, Holle was the first scholar who used the term *nipah* (Nypa Fructicans) leaves in 1882, and this term has been used by the scholars until recent years. Gunawan (2015), who is researching several Sundanese texts, argues that we need to reconsider the term *nipah* as one of the writing media in Sunda and Java because no old text is mentioning *nipah* as a medium for writing. On the other hand, he finds that many old texts, such as Sanghyang Śāsana Māha Guru, Bhīmasvarga and Sanghyang Swawarcinta, but also pantun (Sundanese oral culture) are mentioning gebang as one of the writing media in Sunda, this writing medium is also mentioned in Balinese wayang performances. In those sources, it is explained that the texts on gebang leaves are written by using ink, no incision. I will follow this argumentation by assuming it is gebang, without being able to verify by microscopic biological analysis. Gunawan (2015, p. 268) also explains that *nipah* palms are rarely found in Java. While *nipah* is almost unknown in West Javanese topography, gebang seems very familiar even for the names of places.

Holle claims that such texts belonged to the Sundanese writing culture and this claim is followed by recent scholars, such as Acri (2011). Even though some *gebang* texts were found in Merapi Merbabu (Central Java) collections too, Acri proves that the texts were actually of West Javanese (Sundanese) provenance. He states that there must have been an exchange of texts between West Javanese and Central Javanese *kabuyutan* (scriptoria or hermitages). The script on *gebang* leaves, even though the material looks similar to lontar, differs considerably and the tools to write are different too. Holle named the script on gebang Kawi quadratic script, while Pigeaud named it bold semi-cursive ancient West Javanese script (Pigeaud, 1968, p. 54, 1970, p.247). De Casparis describes that script as similar to the script on the fourteenth century CE copper plates from the era of Majapahit, Kadiri and Airlangga



Some examples of the characters on gebang

[12] There is an ongoing discussion about the writing medium used for Waruga Guru (KBG 74): Edi S Ekadjati (1996) and Baidillah et al., (2008) assume that the material was European paper but unfortunately the artifact is lost. Gunawan (2011) assumes, based on comparison to other manuscripts (code KBG 73, KBG 75 and KBG 76) that it was written on daluwang. I found Pleyte's explanation of the material on his footnote no. 2, he writes: "Het boekje bestaat uit dubbelgevouwen vellen Hollandsch papier, vervaardigd in een Amsterdamsclien papiermolen blijkens het watermerk, dat jammer genoeg' geen jaartal draagt. ..." (Pleyte, 1913, p. 299). So it is clear that Waruga Guru text is using European paper or, precisely Dutch paper.

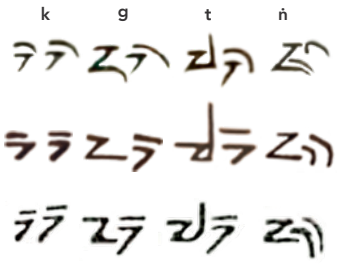
from East Java, without giving it a name (De Casparis, 1975 p. 53-54). Molen and Wiryamartama (2001) name the script *Buda* or *Gunung*, but Acri (2011, p. 48) considers this "potentially misleading, for the script that survived on West Javanese Nypas forms a variant distinct from other kinds of 'Buda' scripts found in Lontars of both West Javanese (e.g. Ciburuy) and Central Javanese provenance."

When we look at the facsimiles which Pigeaud (Pigeaud, 1970, p. 20-24) adds to show the scripts, we can see that the script, so-called *Buda* or *Gunung* script from East Java (Plate no. 23-24) and from Central Java (Plate no. 25) are different from the one which comes from West Java (Sunda) (Plate no. 22). The first three are written on *lontar* by incising, and the latter one from West Java is written on *gebang* with thick and black ink. From the style and the visual form of the script, we could consider the naming given by Pigeaud as the more precise naming for the West Javanese script style.

De Casparis argues that the changes we can perceive happened due to adaptions to the writing materials and general simplifications: "There are a number of changes in the history of script in Indonesia which can be satisfactorily explained as the result of a tendency towards simplification. The style of Later Pallava if compared with Early Pallava,[13] as well as that of Early Kawi as compared with Later Pallava illustrate this tendency." (Casparis, 1975 p. 9) He closes with the generalizing statement: "In conclusion, it can be stated that every type of script is a compromise between the primary function of communication and different tendencies such as embellishment and simplification." (ibid p. 10)

Holle (1882, p.17) is giving some information about the tools which were used to write, he explains that the ink probably was made from fine soot (obtained, among other things, from the burning of bitumen or resin of damar sela trees) and a kind of gum from the Nagasari tree (Javanese: Dewadaru or Latin: Mesua ferrea). The pen was probably the *harupat* (Sundanese), a spike from a palm tree. We do not have any clear indication of how Holle did get such information about the tools because, at that time, writing on gebang was no longer a living tradition. We tend to agree with Gunawan that perhaps in the nineteenth century, there were some locals who were still familiar with the old writing culture, and Holle may have been informed by them.

The scripts on *lontar,* bamboo, *daluwang*, and European paper from West Java look similar to each other. The script on *lontar* and bamboo was written by incision with intaglio, while the samples on daluwang and European paper are the only ones that were written in ink. The form of each letter is more angular and simpler than the script on



(top) lontar
(middle) bamboo
(below) daluwang

[13] **Late Southern Brahmi script is a neutral term as Griffith suggest**

gebang, and even at a glance, they barely resemble Late Southern Brahmi script as the origin. We will call it Sundanese script from here on. While *lontar* leaves were used as a writing medium in Javanese and Balinese tradition too, the form of Sundanese script is quite distinctive. Even Holle writes that the script on *lontar* and bamboo in Sunda is a peculiar type of script. (Holle, 1882, p. 14). One of the artifacts, that is used for this research is Saṅhyaṅ Siksa Kandaṅ Karesian, the text from early sixteenth century CE (K.F. Holle, 1867; Danasasmita et al., 1987). This text lists the 'weapons' of the Pandita (priest): *kala katri, peso raut, peso dong-dang, pangot,* and *pakisi*. The information about these tools that we have until today from personal experience is only about *peso raut* and *peso pangot*. *Peso* (knife) *raut*, a curved knife, is still used until today for bamboo crafts, it is used to smoothen or to flatten the bamboo's surface. *Peso pangot*, which is called *pengu-tik* in Balinese, is used to incise the script into palm leaves or bamboo. When personally observing the Balinese writing tradition on lontar in January 2016, which is still used until today in the Tenganan district of East Bali, we could verify that they are using burned candlenut (kemiri) oil to colorize the incised letters.

The most important point that needs to be noted here: the era from which we have artifacts on those materials (*lontar, gebang,* and bamboo) was more or less the same, namely fourteenth - sixteenth century CE (bare any carbon dating), only the text on *daluwang* and European paper would give a later reference. Even the existing variety of writing materials is described in an old Sundanese text, Saṅhyaṅ Sasana Maha Guru, which has been researched by Gunawan (2009). In this text, besides *gebang, lontar,* and bamboo as writing media, also stone, gold, silver, copper, steel, iron, and wood are listed, but the text is also mentioning the function of text on these different media. Some of the texts on such media survived until today, especially texts on stone, copper plates, and some on gold plates.[14] The information on the variety of writing media in this area should be proof to us that writing was not alien to many Sundanese at that time. This should not mean that all Sundanese were literate, but it can be said that in Sunda, same as in many other societies, oral tradition was living side by side with writing culture.

The artifacts of Sundanese writing culture on different media also show striking differences in the look of characters, and the script on gebang and non-perishable materials are much more consistent over time. This is giving us two important points to be analyzed: to which extent did the materials and tools influence the form and which socio-political factors dictated the use of one or the other script?

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[14] Gold inscriptions in Late Southern Brahmi script were found in the ruins of Batujaya temple in Karawang, a Buddhist temple complex, which was built around sixth century - eighth century C.E. (see Djafar, 2010)

Consequently, next to visual analysis to find a line of development, we should get at least a historical overview who were the leading powers and the religion in the region during the time frame of script development to deduce signs of restrictions or of freedom and independence. The artifacts from Tarumanegara, which are written in Late Southern Brahmi script, have to be seen as the starting point. Not only since they are proof of the first kingdom in Java noted in stone, but also because Late Southern Brahmi script might mark the beginning of development into the script of our focus. These artifacts and generally available historical information, as written above, bring us to some questions: Why Old Javanese language and Kawi script were used in this area? Did they have common ancestors, and the language for the whole island was the same? Researchers assume, e.g., Djafar (2010), that Srīvijaya defeated Tarumanegara in the seventh century CE. This event is implicitly written on the Kotakapur inscription.[15] That inscription is written in Old Malay language and tells us the preparation of the Srīvijayans to attack Bumi Java, which did not obey to Srīvijaya empire.

Djafar assumes that 'Bumi Java' here was addressed to Tarumanegara; his assumption is also based on Chinese information that since seventh century CE Tarumanegara never sent their delegations anymore. If Djafar's position is right, it might be said that until the seventh century CE, there was no other power on Java, except Tarumanegara, which challenged Srīvijaya to invade and dominate it. To analyze more historical information might be helpful, to find if the Srīvijayans gave some influence to Sundanese people in the development of the concept of writing. Or was Javanese generally used for religious purposes on the entire island, just like Latin in Europe or Arabic in the Muslim world? There is the story of the monk Bujanggamanik, who traveled all over Java and until Bali. He prides himself on being able to speak Old Javanese to learn the religion (Noorduyn, 1982; Noorduyn and Teeuw, 2006). This is obviously suggesting the latter.

Central Question

As scripts with a potentially Indian origin, we only have Late Southern Brahmi, Kawi, and Sundanese scripts in use on the island of Java from fifth until eighteenth century CE. Sundanese script differs considerably from the others, not only in style but in structure. From the last days of independent Sundanese culture, we find two quite different scripts in contemporary use. One is found on stone, metal, and *gebang*, and it seems very stable over a time of many centuries. The other exists on *lontar*, bamboo, *daluwang*, and European paper, where many characters changed substantially both in structure and in style.

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[15] Discovered on the western coast of Bangka island, off South Sumatra, by J.K. van der Meulen in December 1892. Named after the local village of the same name and now in National Museum, Jakarta.

From the background of the researcher in typography, the main interest is how the script version on *lontar*, bamboo, *daluwang*, and European paper in Sunda may have gained its specific form as compared to the one on stone and gebang. As a working hypothesis, we will assume that the process may have at least partially been influenced by writing materials and tools. Nevertheless, we need to consider the context of use and social development as factors encouraging or even driving changes for one script or stabilizing factors for the one that remained nearly the same. If we can prove that both scripts have a common origin, so we come to the core question:

- **Which factors lead to the development of the peculiar situation of two scripts in parallel use on different media on the same island and in the same area?**

To arrive at any conclusion, we will have to look at the cultural context during that period in Sunda, especially on socio-economical features of the culture. This should be based on history and available original content, just as much as looking at the development of the form. When it comes to the visual analysis, it is essential to look for any evidence of gradual development from one primary form, which leads to the metamorphosis of some characters, since we need to exclude the possibility of a completely independent source of the scripts. Only based on such knowledge, it might be possible to explain why one script was so stable over the centuries, and the other gained a very different form. As De Casparis (1975 p. 28) writes about Early Kawi, the principal difference between this and Late Southern Brahmi script is just a difference in style.

Methodology

Consequently, due to the very limited historical sources, a different method than the historical approach will be chosen from the viewpoint of the designer, and it will be a visual approach. Even at first view, the development of Indonesia's writing systems, particularly in Sunda, shows tendencies into simplification (if Pallava was the origin), while Kawi is still quite decorative. Their structure is not only simpler, but they developed into more angular forms. This metamorphosis could be influenced by use in only a restricted region, the influence of other cultures, political power, media technology (like material and tools), and last, but not least, the context of use.

By using the experience in the fields of art and design, arts-based research is used for the visual approach. This experience may help to observe the influences of hand gestures, materials, and tools in the form of the letters. Savin-Baden and Major (2012) write that arts-based research appears to be a construction that occurs both across and between art and social science to reflect the diverse hu-

man experience. Formal analysis, as explained by Munsterberg (2009), is used to describe the structure of letterforms of artifacts, such as brush strokes, the body of the letters, visual impacts of using different materials and tools. Historical data should be used to study the context of this development, analyzing the form of the script from several media, which can be dated as coming from different periods — exploring the social, religious and political conditions of the region will be essential to define the status of literacy, which we will also base on content of texts. The number of artifacts related to the culture of literacy from the Sunda region until this day is very limited compared to its neighbor Java. This limitation is used as an advantage since it allows us to trace the form of changes that occurred in the script in all detail, equally on stone, metal inscriptions, or as written in manuscripts on palm and gebang leaves.

Visual Sample

Samples shall include artifacts of writing systems which are found in West Java:

- The artifacts included are from 5th until eighteenth century CE.
- Organic and non-organic writing media are used and dated wherever possible.
- The signs need to be related to the phonemes of the respective language on the artifacts to find out if the script system was intentionally adapted to the language.
- To limit the amount of analysis, the signs for vowels and vocalization are not our focus, since even by first overview of Holle's tables these are showing less differentiation than for the consonants.

Data Collection Methods

In this research, gathering data emerges from several methods: studying the artifacts by tracing to identify basic formal properties. The leading experts on local history and writing systems need to be referenced. Today most such artifacts are stored in the National Library of Indonesia and National Museum (Jakarta), but some artifacts, such as inscriptions, are generally still in situ: Bogor, Banten, and Ciamis. To gain the correct proportion of letter shapes journeys to those sites were needed. Two journeys have been conducted to the library of Leiden University to research old Dutch journals, and this was needed due to the scarcity of recent research in the field.

We will study the scripts, which are written on several media, namely: stone, metals, palm leaves, bark, and bamboo. If we look at the materials closely, they can be categorized into two kinds of materials. One group is nonorganic material, such as stone and some metals, and the other group is organic materi-

als, such as palm leaves and bamboo. The text on nonorganic media is written by engraving with a chisel or similar tools, while the text on organic media is either written with ink or incised. The word 'inscription' (from Latin: inscriptio, inscribere) has a relatively broad use in English, and we will strictly apply it to artifacts on stone and durable metal here. For artifacts on organic material, we will use the term 'manuscript' and 'incision' if the text is then colored by intaglio (rubbing color into indentions).

The availability of samples in this field of research is as follows: from the earliest times, the Tarumanegara kingdom, we only have seven stone artifacts, five of them are inscriptions. From later periods, there are samples of texts on metal and organic material like bamboo, *lontar, gebang, daluwang*, and one on European paper, but dating and location of origin are problematic in many cases. It was a regular activity to copy manuscripts when they were deteriorating without any information about their original date or place. There is only scarce information in the colophons; sometimes, there is no information at all. From more or less a hundred manuscripts, only a few are already transcribed and researched. Perhaps with more resources allocated, by further research of Sundanese manuscripts, we would gain more insight. But recent research by Kurnia (2012), who was focusing on the colophons of Sundanese, will help to choose samples that have a few pieces of information in their colophon. After all, it should be considered essential for this research on script development to be able to use dated artifacts wherever possible. To my knowledge, there has not yet been tried any carbon-14 dating for samples on organic material in Sundanese,[16] but in most cases, that would anyway have given us only the dating of the available copy, not the date of origin.

Some artifacts are in a quite good condition, to say the script is still readable, others are severely damaged. The damages are either crack in the stone or abrasions of the surface, so the letters and their details are difficult to identify. Wherever accessible, the surface of the stone was carefully traced with a paper by hand or taking photographs in high resolution, but sometimes we can only rely on lower resolution photographs by others since we were not always given a chance to prepare high-resolution photographs by ourself. Instead, we had to order them and finally received photographs with problematic lighting and lower resolution. A few artifacts are even lost or dislocated, and we can only use rasterized prints of photographs from books. So, we traced the available samples by first using contrast enhancement techniques as available in current imaging software (like Adobe Photoshop). Identical characters from the same sample were compared visually and evaluated for consistency, and a single sample was then chosen based

[16] **The only exception, but not written in Sundanese, is Kitab Undang-Undang Tanjung Tanah (Kozok, 2006)**

on its conformity with the overall style of the given artifact.[17] The areas outside of each character were erased manually at the highest resolution available to arrive at a generalized shape for the characters (see examples in the appendix fig 37-40). Cases of obvious irregularity by the hand of the scribe (and not damage to the artifact) were documented where considered necessary.

Some inscriptions are written on round stones, so, distortions in photography are unavoidable. The results from manual tracing on a computer-based on digital distortion correction at the best precision attainable was used to overcome such distortions. All of these become the sources for the description of the letter structure. The tables by Holle and the transcriptions of the manuscripts, which were already done by philologists, helped to identify the letters.

Categorization could generally be done by date, place, language, content, or material. As explained above, dating and location are too problematic to be used as a general category, but of course, the dating as a sub-category whenever available has to be respected. The focus was on visual structure, but the content was used in particular, where it refers to social activities and writing. The language does not show a one on one relationship in the samples. As a typographer, we are quite interested in the influence of tools and materials on the visual structure. For example, the sketch for Early Kawi stone inscriptions seems to have been done on organic materials before being carved, so they should even show remnants of that process (De Casparis, 1975 p. 6). All others should reveal some visual influence from the interaction of the writing hand, and its tool with the material, just as we know it from the development of Roman letters.

Consequently, samples are categorized by writing material, which implies the tools as well. In the analysis chapter, we will first work by these groups, but later also juxtapose samples from different categories and times. It is understood that content and the cultural use of documents will be described where available. But for the sake of easier access in context, a more detailed description is given right next to the sample group, which in some cases will deepen the information already provided above. Two very important texts which are already translated by other researchers, the early fifteenth century CE texts Saṅhyaṅ Śāsana Māha Guru and Saṅhyaṅ Siksa Kandang Karesian (for dating see Pleyte, 1914; Gunawan, 2009), are used as original sources for cultural attitudes concerning literacy.

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[17] **Tools written specifically for such a task based on AI for image recognition software might be more accurate but were not available to the researcher.**

Data Analysis

- The artifacts are classified and compared in multiple arrangements to detect underlying structures in the development of scripts. Categorizing the script is based on tools, and medium of writing, and the age of the manuscript. This process helped the researcher to understand and to differentiate significant structures of script and steps of its development.
- Some information regarding Hindu and Buddhist mythology and oral traditions, as they developed in Nusantara (Indonesian) archipelago in that era, helped to understand to which extent the religion influenced the concept of writing. The Bhīmasvarga texts, both in Sundanese or in Old Javanese language, which are researched by Gunawan (2017), describe a close relationship between the sequence of the alphabet, the Hindu macrocosm, and the microcosm.
- The final step is to combine and integrate the different sources of evidence, namely historical information, visual analysis, and original texts, to arrive at a conclusion for the issue of the origin and development of the Sundanese writing system.

Framework

Chapter I Before we get to the Sundanese script as the focus of this research, it is necessary to gain some general understanding of the origins and general development of literacy in history as the fundament of this research. The discussion of the definition of writing and classification of writing systems will be included. Oral tradition is also important to be discussed here, not as opposed to literacy, but how before literacy a society used oral communication to transfer wisdom from one generation to another, and then how traditions of oral transfer could survive in a society where writing already exists. An overview of how oral traditions related to the use of writing in society is needed to understand the role of literacy itself. A general overview of the development of writing in other regions and cultures may help to understand patterns in how writing spread and got adopted. We need to analyze which factors, like religion, power, law, trading, etc. have the greatest impact on the spreading of writing culture and possibly the forming of a script. We will also need to study the development of writing under some restrictions to use it in society, while greater independence of a culture and fewer restrictions may foster creativity and help a writing system to develop further and faster. This may not only lead to stylistic development but also the creation of some new characters or changes in their use.

Chapter 2 Many obvious similarities between cultures in South- and Southeast-Asia, like in religion, architecture, languages, and writing systems, generated the idea of "Indianization" or "Hinduization," beginning from the nineteenth century among scholars

of the colonial powers. This was mainly seen as a cultural domination by India, but recently this theory has been challenged by a number of established researchers. Since the Sundanese culture shares these similarities, we will need to know why Southeast Asian people adapted the Indian culture and how such contact between South and Southeast Asia developed. After all, the Indian Late Southern Brahmi script (also called Vengi script) is a prime candidate as a possible ancestor of our research object.

Chapter 3 Even though there is only limited research on Sundanese history, we need to collect the puzzle and build it to become one picture of Sunda. Its history from Tarumanegara in the fifth century CE to the last Sundanese kingdom in the sixteenth century CE, which has fallen after submission to Mataram Islam. If the assumption that the Sunda Kingdom already existed after Tarumanegara around the tenth century CE, it can be said that the kingdom has existed for around six centuries. These centuries are our focus, the society, the religion, their oral tradition, and their writing culture: the language, what they wrote, materials and tools, and its writing system. How were these aspects related to each other and interwoven in their life and defined their culture?

Chapter 4 This chapter is discussing the samples from several media: the five stone inscriptions of Tarumanegara, the only one stone inscription in Old Malay in the Sunda area, three other stones inscriptions in Old Javanese language, the Kawali inscriptions and also the Kebantenan inscription on copper as another sample of durable media, besides stones. Four samples of gebang manuscripts, seven samples of lontar manuscripts, two samples of bamboo manuscripts, two samples on daluwang, and one single sample on European paper. In this chapter, we analyze the appearance of the script visually, and the information of every sample is also embedded. This information is gathered from previous researches, i. e. epigraphy and philology researches. Those scripts are also juxtaposed and compared against each other to show either similarities or dissimilarities among different combinations.

Chapter 5 The result of the discussion on how the script developed is laid out in this chapter. Not only the influence of materials and tools but the social context as well (as discussed in chapter 3) is supporting the conclusion on the development of the Sundanese script.

1
Orality and the Development of Writing

1.1. Oral Tradition

Not every human society has a writing system, but every human population has oral traditions, which are preserving and delivering hereditary knowledge for many generations. For a better understanding of the role of literacy in a society, we need to understand the power and the limitations of oral traditions. One example: Simeulue Island, one of the regencies of Aceh, was the region most severely affected by the Tsunami of 2004. Nevertheless, almost all of the population were saved. Only ten of them were killed, In contrast with other regencies of Aceh, which lost thousands of people in this Tsunami. They had preserved their oral hereditary knowledge about "Smong," Tsunami in their language in the form of stories and a children's song which everybody knew. They noticed the signs of nature when Smong came, and they knew they had to run for higher places when they saw the water retreat from the beach.[18]

Another example of oral tradition in Indonesia is Dayang Sumbi, which is until today still alive in West Java, and this story was told from ancient times. It tells about the creation of a big lake and the Tangkuban Perahu mountain. The hunter Sangkuriang was in love with Dayang Sumbi, a woman who lived from weaving somewhere close to the forest. However, she found out that he was her son, and she tried to tell Sangkuriang that he was her son, and it was impossible to get married. Sangkuriang did not want to believe it and insisted on marrying Dayang Sumbi. Dayang Sumbi was very sad to know that her son denied the reality, and finally, she gave him seemingly impossible challenges if he wanted to marry her: „build a lake and a boat in one night." Supernatural beings helped Sangkuriang,

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[18] **Rahman, Alfi, Smong Cerita Lisan Simeuleu Yang Selamatkan Pendududk dari Amukan Tsunami Dahsyat**
http://theconversation.com/smong-cerita-lisan-simeulue-yang-selamatkan-penduduk-dari-amukan-tsunami-terdahsyat-105388 last seen November 7th 2019 20:40

and he almost succeeded. He dammed up the Citarum river to form the lake and cut the tree for making a boat. Dayang Sumbi became afraid and also asked the spirits to help her by making the sun come up earlier. Sangkuriang got very angry and kicked the boat over, and the lake also ran empty. According to the story, the boat, the stump, and the branches were turning into a mountain.

It is geologically proven that the Bandung area thousands of years ago was a large volcanic lake caused by a giant eruption of Sunda mountain. The explosion not only blocked up the river to fill the lake but also from its caldera formed the new volcanos, which is today named Tangkuban Perahu (the tilted boat), Bukit Tunggul and Burangrang. Archeological findings prove that there were human settlements around the shores of the former lake, which seems to have started to dry up about 20.000 years ago. The folk story is not only about the geography of old Sunda, but also its sociology, how was life at those times: men were hunting, and women were weaving. R.W. van Bemmelen, a geologist, was fascinated by this folklore since he considered it as being surprisingly close to geological findings. He writes, "Moreover, there is a Sundanese legend about the origin of the lake of Bandung which agrees so well with the geological facts, that it is reasonable to suppose that the oldest Sundanese inhabitants witnessed this cataclysmic outburst of the Sunda volcano." (Van Bemmelen, 1949, p. 644) He even further mentions on his footnotes (ibid) another Sundanese legend, the story of the sacred grave of "Kudah Sabil" on the Manglayang mountain, which fits very well in the reconstruction of the volcano-tectonic history, just as Dayang Sumbi and Sangkuriang.

Another impressive example is the Australian Aboriginal stories. The stories appear to represent genuine and unique observations of post-glacial increases in sea level, at time depths that range from about 13,400–7,500 years BCE Changes in sea levels around the Australian coast are now well established. Marine geographers can point to specific parts of the Australian coast and know with some confidence what the sea levels were at a particular time before the present (Reid, Nunn and Sharpe, 2014). Such an example further underlines the potential of oral traditions, since the Aboriginal population of Australia is widely considered as the longest-lasting consistent culture on earth still existing today. Moreover, geologists are seriously considering further research into their oral heritage as a source for their survey of landmarks.

Oral resources have been widely portrayed as inaccurate if compared with written sources. Ong is one of the scholars who strictly divide between orality and literacy. He emphasizes that purely oral tradition is difficult to conceive of accurately and meaningfully (2002). Ong further differentiates oral and writing, the latter he calls chirographically and typographically, by characterizing them based on thought and expression, oral transfer is additive rather than subordina-

tive, oral transfer is aggregative rather than analytic, oral transfer is redundant or copies, oral transfer is conservative or traditionalist, oral transfer is close to the human lifeworld, oral transfer is agonistically toned, oral transfer is emphatic and participatory rather than objectively distance, oral transfer is homeostatic, and oral transfer is more situational rather than abstract. (ibid, pp. 36-56)

This discussion has been named the 'Great Divide' between orality and literacy. This dichotomy has been widely disputed among scholars. According to Finnegan (2018), even though the dichotomizing framework between oral and literate societies may sound extreme, it has been profoundly influencing the comparative studies. Finnegan, while not agreeing, summarizes this position of defining written transmission as "… industrial, urban and bureaucratic, characterized by a respect for rationality, individual achievement and impersonal norms, heterogeneous and secular". (Finnegan, 2018, loc. 2682)

Finnegan herself suggests that there is no clear cut between oral and written modes, nor are oral and written modes mutually exclusive for representing and communicating information. They take different forms in different cultures and periods, and they are used divergently in various social contexts, and, according to her, they are a continuum, they interact and affect each other, and their relationships are complicated. She concludes by mentioning that even in the telecommunication age, which is initially building on oral and written media, the model of literacy is still subconsciously dominant. She also points out that actually, we do not think that oral and writing are the only ways of humans to communicate. There are other ways to communicate, like musical and auditory forms, or visual art and expression, which may potentially be as crucial for "words" and "propositional information." She writes further: "This aspect of communication is seldom explicitly considered in the context of the representation of information and experience but may be of greater importance even in our own culture than is sometimes realized." (Finnegan, 2018, loc. 3462)

Furniss (2004) views this Great Divide between orality and literacy as a direct descendant of the primitive versus civilized dichotomy of post-Darwinian thought, a Western notion of 'us' and 'them.' Even when scholars admired the oral literature of non-literate cultures, he sees this as an element of Rousseau-like romanticism. Drawing on examples from music, he also describes forms of oral performances from several cultures where composition, rehearsal, and performance are carefully organized to take control of the 'now,' the present of oral communication. When commenting on a description of Goody's 'not unusual day,' which he spends nearly exclusively with written communication, Furniss is getting quite ironic by writing: "Perhaps a picture of the daily life of a very small proportion of people in present-day western society…" (Furniss, 2004, p. 138) To state that a majority of people in modern civilization spend most of their time with other

activities, including many auditory and visual communication rather than written words. His core issue is the power of oral communication, even in a literate society. And he concludes: "In the immediacy and ubiquity of the oral communicative moment, intentionality and effect combine to focus the direction of individual and shared thought and action." (page 170) We may add that even in a field like the law in the western world, which seems that fixated on written text, there is a very strong influence of orality on the final outcome in the roles of the witnesses, the prosecutor, the advocate, and finally, the judge and jury. Similarly, in religion with its holy books, we still have the theologists and the priests for interpretation, explanation, and advice to the believers for their current context in life.

On the other hand, when we go back to those examples of Aboriginal orality, or the Sundanese legends and the information on Smong from Aceh, we can see that oral traditions have the power to conserve the wisdom and knowledge of one generation to later generations for long periods, even thousands of years. Obviously, this must be controlled by some ritual, some local tradition, or even religion, which restricts any changes to the text. In other words, there must be some taboo disapproving such changes, which is at least ritualistic, like singing/recitation with rhythm and verse or an element of religion. As Goody (1987, p. 150) writes «In an oral society, one can neglect the words of the elders only to one's detriment, not simply because of a general idea of respect but also because those words constitute the major source of information.» Consequently, even though the echoes of time might corrupt them, the core content or the main message is still conveyed. Many natural scientists now discover the value of knowledge about natural phenomena as taught by oral tradition, like for geology, astronomy, agriculture, and even pharmacy. So, it becomes essential to save indigenous languages and stories as repositories for factual knowledge across time spans far more profound than previously imagined.

The first Aceh Tsunami registered in history was 1906, and the Simeulue people have been keeping this horrific natural catastrophe on their minds. They have kept telling it to their next generation as a lesson to survive, so they were safe during the recent Tsunami in 2004. It does not mean that Simeulue people in general at that time did not know writing culture, there is proof that there were Islamic missionaries on this small island. Nevertheless, not all the people were literate, neither in Arabic nor in any other system. Such catastrophic events like a Tsunami are of utmost importance to a population. Getting to the other examples, the Dayang Sumbi story and Aboriginal stories about areas accessible during a time with lower sea levels, we can safely deduce from geological and archeological findings and their dating that this knowledge is coming from very ancient times. Some of these age-old stories are even more surprising, since at least the change of sea levels was a slow process instead of a catastrophic event, neither would the lake in Bandung area have been filled or dried up in one day, but they

come from a time much more ancient than the Tsunami. The number of people at those times was small, there were only groups of hunters, who in Sunda already knew how to build houses and weave clothes, but they probably did not yet know how to write.

In many places writing and oral culture existed in parallel: in India, only the priests were able to read the Vedics, and they taught the people orally. In Christian culture, only the priests or monks could read the Holy Bible, and another example is coming from South Sulawesi, where only special persons, Bissu, can read the book of I Lagaligo (which is longer than the Odyssey or the Edda). Then they will recite the book for the public in a special ceremony. A peculiar detail, which may point to the role of both sexes in literacy for Austronesian culture: they are imagined to be hermaphroditic beings, who embody male and female elements.[19] Goody suggests that in the early literate cultures, there are three constraints upon direct access to written materials. The first is technological: in a manuscript culture, copies of books are rare and expensive. They can be produced only by the long and arduous labor of the copyist. Secondly, the process of reading aloud means that the pupil can ask questions and hence improve his opportunities for learning. Thirdly, and most importantly, by retaining control over the process of transmission (Goody, 1987, p. 118-19). We can understand those reasons if an oral transfer was the only way to gain access. These constraints gave the chances to legitimate the priests as the medium between humans and the god or divine and, of course, define their position in society.

In this context, when the oral and written are used in parallel, eclecticism cannot be avoided, especially when the written culture (religion) is imported. For example: even though the Southeast Asians adapted Indian religions, which are based on holy texts, they wrapped their local cults with Hindu names. The Old Javanese ceremonies, namely Abhiseka, a royal consecration ceremony of King Airlangga and Śrāddha, the funerary rites of the Javanese queen, were quite different from the Indian texts as the origin (For further detail see De Casparis and Mabbett, 1992, p. 306). The ceremonies were closer to indigenous Austronesian culture than the Indian culture. Written media record the rites, if it is assumed that Old Javanese were illiterate before Indian culture came, the ceremony may have been inherited by the oral in the form of ritual repetition over many generations. It also happens in Tana Toraja in South Sulawesi until now: officially, they are Chris-

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[19] **»... a class of ritual specialists among the Bugis of South Sulawesi, who, like many other Indonesians, have long identified with a highly syncretic variant of Islam heavily influenced both by pre-Islamic Hindu-Buddhist beliefs and practices and by the Austronesian ritual cults that predated Indic influences in the region. The male-bodied bissu assumed female attire and other accouterments of femininity, safeguarded royal regalia and the sacred, "white blood" of ruling families, engaged in sexual relations, and marriage with same-sex (though different-gendered, i.e., male) partners, and were apparently accorded the status of nobility.« (Peletz, 2006)**

tian, but they are still observing their ancient burial ceremony, a particular and quite demanding cult of local belief.

Even in the light of all the criticism given above, Goody's (1986) theory in his book about religion and script might explain the position of literate and illiterate religion[20] in societies. Literate religions, which are based on holy texts, are universal in place and time, they are more resistant to any changes. The religious authorities defend the purity of teaching, rituals, and cults. They are against any influences which are coming from the outside. In their pure form, the literate religions see the local beliefs as taboos, so in their spreading, they do not give any chances to eclecticism. The local religions, which were usually illiterate religions, would have to either disappear or get converted.

Nevertheless, in his specific examples from different African oral cultures and their reaction to Islam or Christianity, Goody himself describes examples of full conversion as well as eclecticism. According to these studies, he assumes two different positions, which can cause syncretism in the encounter of literate and illiterate religions: either the society which adopts the new religion already has a high level of culture and is politically stable, so it will not tolerate a complete change of their beliefs. Alternatively, there is some degree of domination by the new culture. However, a certain amount of 'underground' rituals is tolerated by just giving the old gods new names (like the African undercurrents in Latin American Catholicism). Only when there is the complete domination of power and colonization even of the minds, the absolute purity of rituals of a new, literate religion will be observed. Nevertheless, when Islam came to the Sub-Sahara, it was not brought by new rulers, just by traders. For these communities, Goody describes a case of broad co-existence and even partial adoption of the new, literate religion into a mainly oral society.

While Goody was not researching Austronesian cultures in his book, we will have to examine further which of these two models applies here: strength and independence of the local culture or the hidden preservation of the indigenous belief under a new rule. This can only be clarified by a closer look at the scientific positions and recent discussions on the subject of Indianization of the Austronesian archipelago (see chapter 2).

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[20] What Goody means with literate religion is the religions, those that have written texts on myth, doctrine, and ritual. These religions are often known as the world religions, and these are generally religions of conversion, not simply religions of birth. Literate religions tend to be associated with more than one place, more than one time, more than one people (further detail see, Goody, 1986, p. 3-11).

1.2 From Visual Signs to Written Text

a. Definition of Writing

We have no chance to know how writing developed other than from what we know about literate and non-literate cultures we can observe and about their differences. We may assume that writing was not an 'invention' in the sense of, e.g., what Gutenberg achieved and how relatively fast it changed European culture. The earliest steps of writing were probably triggering cultural change as much as they were made possible by such changes – a mutual development of capabilities and functions. Consequently, it should be more helpful for the scope of this research to look at and classify the mental and socio-cultural functions of writing instead of looking for its very beginnings (the latter will be discussed in the next subchapter).

Many cultures left some traces indicating that from early times humans used various objects to memorize information, such as tally sticks which were known in Australia, in pre-colonial America, in Africa, in Europe and China, or the knot-string notation of the Inca. It is not very easy for us to claim that those achievements were the beginning of the art of writing. To understand this, we need to know how we want to define script and writing. Daniels (1996) defines writing as "... a system of more or less permanent marks used to represent an utterance in such a way that it can be recovered more or less exactly without the intervention of the utterer." While Rogers (2005 p. 2) is using a slightly different wording when he writes: "We can define writing as the use of graphic marks to represent specific linguistic utterances." Furthermore, he writes: "Although writing is not language, writing does represent language, and in our definition, only language."

One of the broadest definitions of the script is given by Jack Goody when he notes that „writing is clearly the same as drawing, engraving, and painting - the so-called graphic arts." (1987 p. 3). While this appeals to the graphics designer in us, we need to be careful here at which stage we can classify a graphic activity under „writing." He further divides early design by function into expressive and communicative. Expressive relates to the individual, and communicative is meant from the start to reach others. Goody then further differentiates between pictorial and non-pictorial, where the first stands for a design that can be read by others without further explanation. Non-pictorial or abstract can stand for objects, but also ideas and always needs to be learned. However, pictorial signs also can become a symbol for another object or idea instead of the depicted object and would then need explanations and learning to be understood. Further, even recognizing pictures might have to be learned, as has been proven by anthropologists who were showing photographs of close relatives to people who had never seen one and exhibited difficulties in understanding such a picture.

Goody further writes, „In speaking of writing systems, iconographic designs are often referred to as pictographs (or pictograms, if they are isolated signs rather than extensive systems)…" (Goody, 1987 p. 4) Nevertheless, when he refers to such pictographic forms, he is fully aware that these are mnemonic devices and serve mainly to help to memorize details of incantations, other rituals, or calendric information. They do not reproduce linguistic statements; they only help to recall or prompt them. Goody is using the term 'proto-writing' for such a step of development but does not expect the pictorial design to turn into the script without abstraction. He is also pointing at the apparent difference in use, even if there might be morphological similarities between graphic systems from North American tribes, used as mnemonics, and those from the Near East, used for economic registration. Daniels (1996) and DeFrancis (1989) argue that pictograms were not a forerunner of writing.

Daniels (1996) criticizes Schmandt-Besserat by claiming that the early Cuneiform signs do not seem to have a pictographic background. He gives us an example of the sign which has the meaning of sheep, which does not represent sheep at all. (picture) Without knowing the whole set of signs, this sign does not necessarily seem non-pictorial to us. We can see with some of the pictorial signs that perspective or direction of the signs frequently changed, and to us, the sign for sheep may come from the look of four hoofs tied together – this is done until today for the transport of sheep in rural cultures. Daniels criticizes her theory about the origins of Sumerian writing. His critic is based on Paul Zimansky's research by reanalyzing her database, and he found it unconvincing. Daniels considers Zimansky's review as "absolutely essential" for anyone looking into this field. Zimansky also finds an interesting point in the use of Sumerian geometrical shapes. He suggests that "various people at various times exploited the few geometric shapes that are relatively easy to make in clay and used them as counters or for whatever other purposes they, as individuals, chose." Zimansky leaves the important point here. He is directing our attention to the use and the capabilities of the tools and the material.

When we go back to the basic need of humans as social beings to communicate, we are equipped with organs to recognize objects and actions, to remember these, and to express thoughts and feelings. The thousands of years old paintings in caves, which were found in France, Africa, and South Sulawesi, are proof to us that since a very long time ago, humans have always been wanting to express what they feel, to tell what they see. To store and share their memories with others in forms other than audible language. They felt a need for media other than vibrations of air or direct line of sight to do this, not only by speaking or sign language but for some essential reasons, humans wanted to keep those experiences as messages. We have cave paintings from tens of thousands of years away, and some of them, like the so-called X-ray paintings,

are not merely trying to depict a direct visual perception. These can be found from cultures as far apart as Australia and North America. However, we can only guess if their purpose was magical or instructional, like advising hunters how to efficiently kill an animal that might get very dangerous when only injured.

Such paintings lead us to the idea that writing, then, has its roots in the graphic arts, in significant design, as Goody names it in his book. What he describes as the whole spectrum of designs ranges from the iconographic (pictorial) to arbitrary (non-pictorial or abstract). In writing systems, iconographic designs are often referred to as pictographs (or pictograms, if they are isolated signs rather than extensive systems), abstract ones as ideograms. Just like in language, where onomatopoeias may have been the starting point, but soon became the exception for any more complex expression. Writing will probably have started from the pictorial, but unavoidably would have needed to become simplified or abstract, ending in arbitrary connections of the sign to the object or action.

In the beginning, 'writing' is everything that is done by scratching, engraving, or drawing and not only intended as a purely decorative pattern. Pictorial signs could be iconic, indexical, or symbolic signs. It could be understandable that in the beginning, humans tried to represent an object or an idea by a visual sign independent of spoken language. This could be widely understood by their fellow people at the time, long before humans were able to create visual symbols for every singular phoneme to represent the word for an object. Phoneticization was not created suddenly, but a complex achievement over time, until signs could compose any possible word, consequently even in different languages. A transitional process was found to be true for Sumerian, which mixed pictorial and phonetic representation for a long time but gave birth to most other systems around them, including the later alphabetic ones.

Historically writing was invented by the Sumerians as a mnemonic device. It was for basic bookkeeping of their goods since they had achieved a surplus of agricultural production and manufacture, so they started to exchange their products. What they generated at that time were basic signs which allowed them to recall what they had for trade. Their tools were making traces in clay, the amount of abstraction was needed due to limited space and the need for transportability. While we may interpret some of the early signs by just looking at them, then very soon, the signs needed explanation and learning. When the trading activities were getting more intensive, reached further, and the demand for products was getting higher too, they needed more sophisticated communication. Signs were needed which did not only denote objects but a record of concepts like credit and debt. Nevertheless, the Sumerian writing system needed several centuries to gain substantial progress.

After all, writing has existed for too short a period that it might be evolutionary in the biological sense (other than spoken language), and it may be called a human invention. It would still have been a complex achievement over several hundred years until many signs in such systems would be used for their phonetic value only. Furthermore, consequently could compose any possible word, even in different languages, and finally could be used by other people starting to adopt writing.

b. Classification of Writing Systems

When we see the scheme of Goody, we could further differentiate his arbitrary indices into logosyllabic, alphabetic, and syllabic writing. Alphabetic and syllabic writings are non-significant design, and logosyllabic belongs to significant design, which he connects with pictorial or quasi-pictorial. Quasi-pictorial may be metonymic, associational, or formalized (see detail Goody, 1987, p. 4-5). This scheme shows similarities to a whole genre of ‚tree' systems, among which the earliest one is from Taylor (1883) until Gelb (1952) (see Borgwalt and Joyce, 2013 p. 1-9). Such systems tended to use a tree structure with pictographic signs and symbols at the root. One of the problems with such an approach: these systems often assumed a teleological (or even chauvinistic) attitude by positioning alphabetic writing as the most developed ‚evolution' in writing.

One of the most explicit definitions of a full writing system comes from DeFrancis (1989). He pointedly opposes the idea of any pictographic system as being capable of representing the full vocabulary of any language. He expects from what he calls a full writing system to be able to thoroughly represent the spoken vocabulary of the society where it is in use, i.e., to fully encode any meaningful utterance in that language. He calls this achievement the ‚rebus', as in the popular puzzles where pictorial symbols are used to link back to their spoken version and to reveal a different meaning. DeFrancis even assumes that phonetization may have been created suddenly, as a novel idea, by a single individual or a group in a place called Jemdet Nasr (DeFrancis, 1989 p. 73),[21] which is mentioned by Goody when he writes: "… in which the abstract element was stronger from the beginning." (1987 p. 30).

Diringer (1962) classifies types of writing according to their 'nature,' which he also attributes to steps of development. His classifications are pictography or picture writing, defined as a sequential arrangement of pictures or sketches be-

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[21] Similarly, he later references the view of L. H. Jeffery who has a theory that the origin of the Greek alphabet can be linked to a limited group of individuals in a Greek settlement in the Phoenician region who first used signs very close to the consonantal script of the Phoenicians. Her theory is actually the Greek only borrowed the idea to write like Egypt from Sumerian. But DeFrancis differentiates this and considers that the Greek just misinterpreted some of the letters as vowels and adapted them to their language. (For full detail, see DeFrancis, 1989, p. 173-175)

yond the single image (which for him is 'embryo-writing'). He explicitly names this underwriting: "This is the most rudimentary stage of true writing." (Diringer, 1962 p. 21) Next ideographic writing, where the pictogram can stand for underlying ideas or concepts instead of the depicted objects. Systems that combine ideographic and phonetic elements are then called analytic transitional scripts by Diringer (by which he is implying some type of historical evolution). Finally, phonetic scripts, where each symbol is connected to an element of the language being represented. He further subdivides these into alphabetic and syllabic forms. The main problem here is an obvious attribution of higher value or level of development to alphabetic writing: "… the Alphabet is the most flexible and useful method of writing ever invented…" and further "… the nearly universal basis for the scripts employed by civilized peoples…" (Diringer, 1962 p. 24)

Both the inclusion of picture writing and the teleological attitude have raised criticism by later authors. Among which the most radical seems the position of DeFrancis, who is very strict in denying the notion of a ‚forerunner to writing' to all pictorial systems that never achieved the phonetic step, and rather calls them dead-end symbols. He is also debunking the myth of the Yukaghir Love Letter, which is rather a severe misinterpretation by earlier authors than a form of ideographic writing, as mentioned by Diringer (1962). DeFrancis mentions the Yukaghir in Siberia or American Natives, which are referred for a picture, but he attributes these people spoken vocabularies in the tens of thousands (DeFrancis, 1989 p. 43).

When we go back to the underlying meaning of writing as using graphic signs to represent an utterance, such simple pictures like in the Yukaghir love letters, even though they are assumed to have meaning, cannot be simply categorized as a system of writing. Writing can represent an utterance by three levels: phonetic, linguistic, or sematic (Rogers, 2005), but doing so by a purely semantic system would make it very difficult to represent any language. The Yukaghir Love letter or the Cheyenne Indian Letter, which are always used as an example for such a system, could trigger manifold interpretations. The reader would not even have a clue in which directions he or she should read, or which icon should be first read. Such ambiguities can make the message illegible. In the case of the Yukaghir Love Letter, we would slightly agree with DeFrancis that it might be just a game among the Siberian girls and boys, which not only needs interpretation, but some guesswork might even be part of the game.

DeFrancis (1989 p. 56) himself categorizes the system of writing into six types: "pure" syllabic systems, which include Linear B, Kana, Cherokee, and Yi. Morpho-syllabic systems, which include Sumerian, Chinese, Mayan. Morpho-consonantal systems include Egyptian. "Pure" consonantal systems, which are including Phoenician, Hebrew, Arabic, "Pure" phonemic systems, where Greek, Latin,

or Finnish are included. Furthermore, the last type is morpho-phonemic systems, which include English, French, and Korean. He does not list Indian and South Asian scripts under any of his categories. However, when DeFrancis is discussing the concept of Hangul, he suggests that Koreans knew the "alphabetic principle" from scripts in India and Iran and further mentions that these can be traced back to Aramaic (see DeFrancis, 1989 p. 188). Until today we have a spectrum of nearly pure phonetic systems and mixed systems. Defrancis argues that Chinese, seemingly pictographic. It has evolved far from pictorial origins, and he calls it 1% pictographic (1989 p. 96). He writes that Chinese is not always linked to sounds, sometimes whole objects or ideas, but also working with lots of composed signs which are using both strategies, also including the ‚rebus' principle, and frequently joining a semantic and a phonetic element.

Zev Handel (2015) is arguing against this position, even if only based on the definition of terms. He is pointing at two distinctive features of Chinese: "the high prevalence of graphs that represent distinct meaningful linguistic units" and " the use of graphic components … to represent the general semantic domains of those represented morphemes." He insists that these features make Chinese writing distinct from phonographic writing systems. While there was some hope among early linguists that one might be able to use pictographic communication one day to overcome the use of different languages, it has never been achieved by any culture. The Bliss System may have come closest to this but was never adopted beyond the training of disabled children (see Rogers, 2005 p. 263 ff).

The origin of Indian scripts is still controversial. Most Western scholars adhere to the theory of a Semitic origin out of Aramaic. In contrast, others, scholars from India in particular, assume an independent development out of the still undeciphered Indus valley script. While this discussion seems to have political aspects too, R. G. Salomon (1996) states that the theory which links both Brahmi and Kharosthi "… to a Semitic prototype, probably Aramaic, is clearly the most convincing one." He further states that "… the Indic scripts typically share the same basic principles of the *aksara* system, i.e., a modified consonantal syllabary representing most of the vowels by diacritic signs attached to the consonants." (Salomon, 1996 p.372)

Daniels (1996) is giving us a category for these when he categorizes the types of writing systems into six groups, namely: logosillabary, where the individual signs of the script denote individual words (or morphemes) as well as particular syllables. Syllabary, where the characters of the script specify the syllables, abjad (Semitic-type script), where each character stands for a consonant. Alphabet, where the characters stand for consonants and vowels. Abugida (Sanskrit-type script), where each character specifies a modified consonant gives a consonant connected with a particular vowel, and changes to other vowels. And the last type

is called feature type, where the structure of the characters represents specific features of segments in the language, with Korean as the only traditional example.

Rogers (2005 p. 274-275) is using similar types of phonography too, which are ranging from Abjad via Alphabetic, Abugida, and Moriac to Syllabic. However, he introduces the amount of morphography as the second dimension of scale, with Finnish having a meager amount and English one of the highest among those with the Latin alphabet. A high amount of morphography relates to higher numbers of words with the same sound, but different orthography. He is attesting a very high amount of morphography to Egyptian, Mayan, Sumerian, and for a contemporary language to Japanese. He further uses the notion of orthographic depth if a writing system has a higher number of heterophonous allomorphs, which is the contrary: parts of words with the same spelling but a different sound.

Modern classification approaches, such as one by DeFrancis, are rather using a scale instead of the tree between a theoretical pure phonographic and a pure logographic system and locate known writing systems between these extremes. Among known languages, Finnish, for example, is located closest to pure phonographic by DeFrancis, while Chinese is a very mixed system with a high number of logographic elements, but also phonographic ones – according to DeFrancis necessarily so. The scientific phonetic notation is closest to pure phonographic and cryptographic codes closest to pure logography.

We tend to follow DeFrancis' argumentation that a full writing system must be able to express the full vocabulary of the respective language. Due to different degrees of correlation to the respective sounds of the language, like in the many systems using Latin, we should also regularly denote the combination of script and language when referring to a writing system. However, while the very loose term ‚forerunner' and even the expression ‚proto-writing' are not clearly defined among scholars, as a designer, we do not follow the radical position of DeFrancis. The first line intentionally scratched onto a rock or into the sand by a human can be seen as the beginning of both art and writing. Writing should be connected to language "and in our definition, only language." as Rogers states (see above). As long as a drawing is close enough to a visually perceivable object to be understood without explanation, we may classify this as unrelated to language. But did this ever exist?

Even the hands that were painted onto cave walls by spitting color over one's hand, which were identifiable by every human and can be found from many cultures, probably had a meaning beyond the visual identification. That meaning already needed explication, so it was connected with spoken language. Such ‚painting' of a hand was already abstraction since it was reduced to the outline of a hand, as were most of even the earliest known cave paintings of animals. Such

a level of abstraction, even more so in the case of the X-ray paintings, for us, was the first qualitative leap in visual communication. It needed an explanation of the related object and the purpose of painting it, may it be for magic or education (or both).

We may assume that connecting a spoken utterance with a physical object, as in giving it a name, came before visual communication. Nevertheless, as soon as a more or less abstract drawing of an animal's outline got connected with the same audible utterance, we may call this proto-writing, and it can be seen as an essential part of this qualitative leap. As soon as such forms of communication (other than visual structures for purely decorative purposes) are used more frequently, and under different physical conditions, there will be a tendency to further abstraction and simplification, until the pictographs cannot be recognized any more without ‚learning' them.

The next qualitative leap would be the use of similar signs (or redefining existing ones) to express invisible phenomena, like feelings and ideas, for which a cultural group already had developed a capability of expression by spoken language. At this point, the problem of definition is becoming very clear: can this be proto-writing? DeFrancis argues that such a method will never be able to fully express the vocabulary of any cultural group, not even one from the Stone Age. Nevertheless, all known early writing systems started at that pictographic level.

The next qualitative leap would be the use of abstract signs as representations of smaller units of audible utterances, of phonemes. We cannot know if it was a rebus game like we can find until today in magazines that gave the idea or if some intellectuals in Jamdet Nasr intentionally were looking for a better solution. However, they were very facing a growing complexity of their pictographic writing system, which had become highly abstract with a very limited number of graphic elements long before. That qualitative leap, which still used the same basic graphical elements, lead to most of today's writing systems, which are able to express a fully developed language with very few elements. It can easily be adapted to different ones by redefining some phonemes or adding some signs. We have to acknowledge that Chinese (and Japanese for that matter) may not belong to this method since there is an ongoing dispute among linguists like DeFrancis and Zev Handel.

Except for Hangul, we cannot know to which degree such qualitative leaps were intentional or by creative and partially unconscious processes in the human mind. Nevertheless, what we can see is a tendency of ‚design' even in the earliest pictographic systems. After Cuneiform achieved a high level of abstraction, we can observe very developed structural features, long before phonetic representation. The wedge was always on one end only, the lines had a specific length and a

limited set of different angles, and the majority of lines is parallel and arranged in regular distances. While only neuroscience can prove if such features are inherent to the human brain, we can hardly imagine that there was not some degree of conscious design involved.

1.3 The Spreading of Writing Culture

Before getting into specific developments in Austronesia, especially in the Sunda area, it needs an overview of the historical transfer of writing, since we may recognize patterns here. As far as we know today, Sumerian, Chinese, and Mayan were the civilizations that first invented writing systems independently, even if there is some discussion that Chinese writing might have been started by stimulus diffusion from the west. While it is generally agreed among paleographers that writing has developed independently from only three areas of the world, the history of writing has been researched to the largest extent for Asia Minor and Europe. This is caused as much by climatic conditions, which preserved artifacts over thousands of years in Asia Minor and the Mediterranean arena, as by the simple fact that scientific interest in the west was focusing first on the roots of its writing systems. We will try to show, though, that it may be helpful to understand why syllabic and alphabetic writing developed early in the Mediterranean arena to apply this understanding to the Austronesian archipelago.

Trading started with simple barter systems to exchange goods and services. Trading could be named as one kind of human communication. In this process, the exchange is not only about products or services, but naturally also an exchange of ideas and cultural attitudes. The more contact takes place, and the more exchange is happening in religions, languages, writing systems, shipbuilding, pottery patterns, and even the concept of the administration system. Food and clothes, as the basic needs of humans, were the primary goods to exchange in the early times. The development of agriculture allowed the possibility of a surplus of agricultural products, a surplus which they could be exchanged with other products, like animals, grains, or crafted objects like jewelry and religious artifacts. The invention of the wheel, shipbuilding and the construction of canals made exchange activities possible all over the country, even over the borders of one country. «…there were other products and patterns of consumption that were both geographically specific and heavily determined by cultural preference: Arab horses, otter skins, certain types of medicinal spices, … There were also products that carried a heavy freight of cultural value and reputation but were produced fairly evenly across regions: flowers and fruits, for instance. » (Bayly, 2002, p. 57)

Summer is one of the prime examples which invented writing motivated by the growth of economy and trade. They developed the signs of cuneiform from pictographs and other symbols to record the livestock and trading activities on clay tablets. They used writing to seal sales and purchases; every purchase had to be confirmed by a written agreement. So, the written words, obviously, were considered more reliable than spoken words. The surrounding societies which didn't yet invent any mnemonic system or writing would be helped to organize economic affairs by adopting such systems from the neighbors. It is a widespread phenomenon that other cultures were borrowing or copying their neighbor's writing system, and finally developing it into their own writing system, fully adapted to their language.

Elam and Sumer were two independent civilizations around 4000-3000 BCE. One can assume that they had trading contact and cultural exchanges. Elam imported cuneiform writing. In the beginning, they borrowed not only the script but also the language if they wanted to write something down. However, later, around the first half of the second millennium BCE, the Elamites used the Sumerian/Akkadian cuneiform to write their language. This adaptation of cuneiform changed the former morphosyllabic system substantially. The shift toward phonemic writing continued, and in the Middle Elamite period, a predominantly syllabic system resulted. The number of cuneiform characters constantly in use was reduced to a quite manageable number of about 130 different signs, some of which were still used as logograms, mainly for Akkadian loanwords. The main principle of writing their language by the Elamites was to use the Sumerian/Akkadian cuneiform signs for their syllabic properties. However, in Elamite, some of the cuneiform signs got assigned a different phonetic value. (For further reading see Coulmas, 1989)

Transfer of writing was not always a process of adaptation, but we have evidence that some cultures took the idea of writing from their neighbors. For example, it is assumed that the Egyptians knew the concept of writing from their trade partners, the Sumerians. The Egyptian system, which emerged by about 3100 BCE, is quite alien to the Sumerian and represents a distinctly local creation. Egyptian (Hieratic) influenced the Semitic writing systems, and then the Greeks borrowed the Semitic writing system. The Etruscans borrowed the Greek alphabet, and then the Romans adapted their alphabet to write Latin.

Most experts in the field assume that alphabetic writing systems in the Mediterranean area were developed out of a need to keep records in different languages since such a writing system can easily be adapted to different local languages. „The trading ports at the eastern side of the Mediterranean Sea, the Levant, were in contact with Egypt, Crete, the Aegean islands and Anatolia, but also with people further east. The resulting cultural multiplicity, the speakers of many

languages that came into contact with each other, but also their knowledge of the existence of different writing systems, like Egyptian, Assyrian, and Hittite, should have created the perfect environment for experimenting with new possibilities or simplifications." (Coulmas, 1989 p. 138) We may assume that the seafarers and traders from Southeast Asia, who even traveled all the way to Madagascar and the Red Sea, encountered similar conditions in their arena.

In Asia, some neighboring countries also borrowed the Chinese writing system, but surprisingly not the Malay-Austronesians, even if they were in cultural contact with China long before they made the trade with any other literate culture (proven by archeological findings of ceramics). While the archipelago was never dominated by Chinese in the time when the Sundanese script developed, it seems that cultural domination in other parts of South and East Asia resulted in two possibilities of attaining literacy. After one thousand years of Chinese domination, the Vietnamese created their writing system, called chữ nôm. They adopted the Chinese forms, but they also created thousands of new forms for their language (for further detail see, Hannas, 1997, p. 79-80). However, finally the French colonialists introduced Roman letters, which need many diacritic signs to express this tonal language. The Japanese based writing on Chinese characters but integrated two systems of their own to express words without a counterpart in Chinese, resulting in a quite complex mixture.

A very different process took place in Korea, where until the mid-fifteenth century CE, Chinese letters were in use with some extensions for names. However, Chinese was not appropriate for the Korean language, and due to a large number of letters, the majority of Koreans were illiterate. In 1443 or early 1444, King Sejong the Great (the fourth king of the Joseon dynasty) had developed a genuine writing system (at least it is attributed to him), today called Hangul. It consists of nineteen signs for consonants and twenty-one vocalic elements and is far better adapted to the language than Chinese. It was explicitly intended for literacy and teaching of the masses, as the title Hunminjeong'eum suggests (The Proper Sounds for the Education of the People). Its efficiency is still admirable and the only case of conscious creation of a full writing system known in history (for further detail see Hannas, 1997 p. 48-98)

The patterns discussed above may help us to understand how the old Sundanese people knew and learned to write. If the script was imported, how did they adapt the script to their language, and if there were some adaptations, how far they developed the script and how far the indigenous culture influenced their writing concept or even the visual form of the script? As we already discussed in the introduction, there are significant changes in the

visual form of the characters of this script from potential precursors. Consequently, we need to look at the social context of writing to see if there may be factors to preserve the shape of a script or others to facilitate or even encourage changes.

1.4 The Cultural Role of Writing as Medium

Knowing the social activities in old Sunda is very important to shed some light on how literacy developed and how the Sundanese used the script generally. Such information will help to understand the purposes of the script. As Eric Gill writes, any intensive use of writing should influence the variety of the visual style of the script. The intensive use of writing may not only allow varieties of style but may also allow the visual form of a script to change. We can see the process of the development of Egyptian Hieroglyphs as a script for monuments, which changed its form when the script was used for religious purposes and written on a different medium, resulting in the script we know as cursive hieroglyph or Hieratic script. In its further development, the script changed again and finally developed into the Demotic script for administrative purposes. Not only the style, but even the form of this Demotic script is no longer closely related to Hieroglyphs (for further detail see Bard, 2005 p. 327-328).

Writing is not always connected with urban society, but the needs for increasingly complex administrative and communicative activities generally lead to a developed writing culture. In the early Neolithic in Mesopotamia and Egypt, when the shift to agricultural production of cereals involved the regulation of irrigation, as well as the storage of grains for use throughout the year, a surplus of production, gave rise to the possibility of exchange for other needs: animals, crafts, and clothes. With the invention of the wheel around the fifth millennium, which was also triggering the craft of pottery, mass production began, and finally, developing bronze metallurgy. Those developments increased the trading activities between regions and became the base for the rise of cities based on trade. Such activities needed an extensive recording system. The tablets from Uruk are the evidence. Uruk was the largest urban structure in Mesopotamia and the home of the earliest tablets. Goody (1987) writes in his book that the first writing system arose in West Asia, around 3.100 BCE, during the period that saw the development of the great urban center of Uruk.

Regarding the practical use of writing in the early time – in this case, in the Mesopotamian culture – there is a vast range of documents. "Practically every act of civil life, of buying and selling, loans, contracts, legacies, adoption, marriage, divorce, was a matter of law and as such was duly recorded in writing and con-

firmed by the seals of witnesses." (Wooley, 1928 p. 93) Leonard Woolley further explains that writing in Mesopotamia was employed for book-keeping and law as much as for recording myths and rituals. "There were two kinds of court, civil and ecclesiastical, for every temple was a place of justice, and every priest was entitled to pronounce judgments, but there were also regular judges appointed by the king…" (Wooley, ibid).

Quite similar to medieval monasteries in Europe, the temples served as schools for the significant number of scribes needed for such a commercial society with that much-required documentation. The lengthy education of boys and girls for the still complicated writing system with hundreds of signs, many of which, with multiple uses, was carried out by the temple. This is documented by many school tablets that survived and illustrated the studies, not only of script but mathematics and geometry too. Judging from economic and social activities, we might think that there must have been quite many professional scribes, but also of literate citizens. Some of the educated men and women stayed in the temple as religious scribes. However, many went into government services or used their knowledge in private business, and the temples were essentially government institutions (see Wooley, 1928, p. 110-119), while the god of the city was considered the true king with the human king being his or her representative. „Church and State were so extricably mingled that while the State has to be regarded as a theocracy the Church must in part at least be jugded as a political institution and the state religion as a political instrument." (see Wooley, 1928, p. 129)

In the Old Assyrian period between 1940 to 1720 BCE, this well-organized society produced a considerable surplus from agriculture, which led to long-distance trade into Anatolia. Cécile Michel is shedding some light on the extent to which trade was bringing wealth to the Assyrians based on over 22.000 texts found in Kültepe and Kaniš (in Latin also written as Kanish or Kanesh). This main center of Assyrian trade in Anatolia is over 1.000 kilometers from Assur, which took about six weeks with donkey caravans. Most of these documents are contracts and letters, some are political treaties, again regulating commerce. The vital trading goods were wool, or textiles made thereof, and tin, bought from the Elamite neighbors to the east. Textiles were both produced in Assur and also bought from Babylon, just like more wool. The merchants brought back gold and silver to buy goods for the next caravan. For such long-distance trade, the Assyrians established a highly developed credit system. They circulated many of these credits inside the family, where both men and women had personal property.

Nevertheless, they also knew business partnerships that could last well over ten years, where several merchants invested the same sum. Such structures could overlap, like members of a family business also being partners in a joint-stock partnership outside of family ties. Even priests or consecrated women were

involved in trade (see Michel, 2013). According to her, at that time, many Assyrians were able to read and write, including women. The syllabary was already limited to some 150 signs with very few logograms. Some school texts were found at Kaniš, too (see for detail Michel, 2016).

From this description, we can understand that it was a mutual development: it was the temple that was proliferating the moral guidance and rules which were needed to make sense of writing as an invention for the records of goods (like fair trade). However, the priests, monks, and writers in the temple would have to be supplied with resources, which also needed book-keeping and consequently made the temple a bureaucratic institution as much as an educational one. Thus, the temple was overseeing the development of writing and keeping the standards for the interpretation of texts. Temples became the place to develop more advanced administrative skills as writing clear rules and also keeping of accounts, probably in return for the agricultural surplus they absorbed in the religious service. Nevertheless, not only trade needs advanced skills in record-keeping for an agrarian society's success, the observation of the stars and keeping a calendar is as crucial for planting and irrigation. We can further add here that for Mesoamerica in particular, the writing was closely connected with such a mathematical complex calendar, which we can only admire, and it seems to have developed partially in response to the need to record astronomical observations. « Associated with detailed political histories is a knowledge of solar, lunar, stellar, and planetary phenomena that can only be the result of centuries of recorded observation. » (Macri, 1996, p. 172)

Independent of the importance and variety of business-oriented exact needs, the people of early literate cultures often connected writing with religion or the divine. In such cultures, the creation of writing, which had taken ages and was, in most cases, not perceived as a conscious process, was considered beyond the capability of humans. Any highly developed writing system became so complicated that even to its users themselves, it seemed a miraculous achievement: most of the old, literate cultures we know about have claimed that writing came from a god or supernatural beings. In Mesopotamia attributed the invention of the art of writing to the God Enki of Eridu. Indians credit Ganesh as the God of art and sciences. In one story, he broke one of his tusks and used it as a pencil (Ganesha, until today, is the symbol for many institutions of education in Indonesia). In Islamic tradition, Muslims believe that the Prophet was not able to read and write, the words were coming from God, and the first of God's commands for humans is to read. According to Coulmas (1989), in the Northern Saga, the invention of writing is attributed to Odin.

However, there are considerable differences among societies in which aspects of religion were written down and which were continued by oral recitation.

The Hittites, the texts offer all the details of cults, the strict rules of physical and ritual cleanliness, even the punishments for any breaches, including death. Not only that, but the texts also define in detail the support of the king to the temple administration. According to Goody (1986), among the Mesopotamians, the divinations are reported in the written texts. Not so in India:

"In general, writing in traditional Indian culture never achieved the status and influence that it attained in many other cultures such as those of the ancient Near East, the Islamic world, or China. Oral traditions were usually more revered than written ones in India, and sacred texts such as Vedas or the Buddhist canon were originally preserved by memory rather than in written form, which was felt to be less reliable." (Salomon, 1996, p. 371)

To apply what Salomon writes, we need to look closely at the facts we may find in the Malay Archipelago writing culture, especially in the Sunda area, since the Indian writing culture influenced the writing culture in this area. In this case, not only the writing culture but, as we already discussed in the introduction, the Indian religions spread into the Malay Archipelago as well. The Malay Archipelago also know The use of oral tradition to deliver religious teaching, especially in the Sundanese culture. Wayang performances are one example of delivering religious teachings by an oral presentation. Sańhyań Siksa Kandań Karesian manuscript mentions (*memen*) *dalang*[22] performances and *pantun*[23] (for further detail see, Danasasmita et al., 1987). However, if we compare the situation to the Near East, the evidence of administrative texts for daily use is scarce, or hardly found at all. This is quite surprising since the Malay Archipelago people were very active in sea trading, not only among them but also trading internationally. So how did they do their bookkeeping for their goods? Indeed, there are some Javanese and Sundanese inscriptions found, which mention the taxation rules and trading rules in the region. However, unfortunately there is no further evidence of texts containing contracts or bookkeeping. Then, we might assume that at that time, even in the Javanese culture, which is respected as the most excellent culture in the Malay Archipelago, the writing was still restricted to the area of the religious and political statements. Or should we assume that the artifacts of bookkeeping and other economic activities were not considered holy, so it was no needed to copy them?

When the early scripts had developed into a highly capable form, they had become quite complicated, and it could take a long time to master reading and writing. It can be understood that in some societies, there were only a few people who were able to write and read; very often, they were the priests. For the major-

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[22] *Memen* **or** *dalang* **is a person who plays the puppet shadow.**

[23] *Pantun* **is an oral performance, which is performed by one person only, and he usually is blind.**

ity of the population, the writing was a mystery, and it was only for the ones who had direct access to the divine. In this kind of society, oral and written information existed in parallel, the priests continued to teach the people orally. Interestingly, in classical Greece, where for the first time in history, a large part of the population had access to the art of writing, the myth about a divine origin of writing was not known. They had several stories about humans inventing writing, Plato around fourth century BCE, recorded Socrates's discussion of the Egyptian myth of the invention of writing. The story goes that the god Theuth, the one who invented letters, astronomy, and geometry. Others attributed the origin of their alphabet to a Phoenician man called Cadmus, which is close to the established theory, even if Driver writes: "There is, however, no reason to suppose that Cadmus was a historical person;…" (Driver, 1948, p. 129).

Nevertheless, in most cultures, literacy established the great divide between those who have access and those who do not have any access to the heavenly powers. It means that those who have access and are close to the divine have the power to control society. The skills of writing and reading provide access to knowledge, and consequently, knowledge becomes power. In Southeast Asia, in the early times of their literate cultures, it is noted that many priests were praised for glory and wealth, like in reports by Chinese travelers. Knowledge became expensive and inaccessible for ordinary people; it was only for special humans, chosen by the higher powers.

We need to note that in many societies, there was not the only demarcation of access to literacy by class but as well by gender. Before patriarchal concepts came in Malay Austronesian culture, women had an important rule in society, but the patriarchal concept did not make the role of women degraded. There was an egalitarian relationship between females and males, by a good deal of female autonomy and social culture. Regarding the access of women to literacy in Sumatra, for the Batak tribes, in particular, there is a controversy. Some scholars, like Susan Rodgers, suggest minimal access to literacy only for the Datu, the male magicians, or healers. The German biologist Franz Junghuhn, though, reports in 1847 that even children learned to write, and young men were sending love letters on bamboo to young girls. Missionaries like Schütz also reported observations of widespread literacy without any official school system, but acquired nearly like child's play, including women. As Uli Kozok (2000) puts it: "The surviving accounts encompass a range of scenarios, from an almost fully-fledged literacy among both sexes to an extremely limited literacy as an art mastered by only a small elite of male specialists." Kozok notes that early twentieth century CE colonial censuses (except one) generally reported a shallow level of literacy for Bataks, and for women in particular. However, he suspects that most of these numbers were only related to the Roman script, and the indigenous scripts seem to have been simply overlooked.

Nevertheless, Kozok argues that the observations of Junghuhn and Schütz might not be very representative and that these popular communications among young people could have been read to the receiving women by an intermediary. Kozok further remarks, "Trade never played an important role in the mainly agricultural Batak economy, and those involved in foreign trade (in horses, camphor, and other forest products) were almost exclusively male." From the research of numerous of these supposed love letters, Kozok deduces that they were rather serving a magical/spellbinding purpose, and were not necessarily meant to be read. However, he also states that neither was writing these texts restricted to a small group of Datu.

From some examples above, we can understand that writing and its form might change and develop faster when there are fewer restrictions in society to learn and use writing in all aspects of life. If access to literacy only belongs to one elite group, like priests or noble families, it can lead to a 'cult' of literacy. The scripts would be presented as sacred or even as forbidden to ordinary people, possibly also including the form of the script. Such a concept could be used to legitimate the power of those who have access to literacy. When other groups in society could access literacy, like administrators, businesspeople, or even for individual communication like letters, speed, and ease of writing would become more important than the preservation of form. Gill described such a development for Latin, where the text of the Holy Bible was sacred, but Latin script itself not. So, the version known from Roman monuments soon developed into a form better adapted to efficient handwriting.

1.5 Rulers and the Written Rules

In the modern era, written communication influences the polity: the electoral systems, the law system, administration – like census, taxation, accounting –, and finally, military and external relations. The reproduction of writing nowadays is needed to spread the information of policies to the whole nation. The invention and wide-spread use of digital media allow access to a whole population in a very short time, but how did writing influence the polity in early times? The early development of writing was in accordance with the development of the state, for example, Mesopotamia and Egypt. However, the states in Mesoamerica, Africa, and Polynesia are proof that a state could rise and flourish without – or at least without a fully developed – writing system. The Inca developed an administrative system by using threads for record-keeping (called Quipu), which records by color-coded knots, but they had no script. Goody argues that writing was not essential to the development of the state, but of a particular type of state, the bureaucratic one. For the development of any state

which is relying on bureaucracy, writing is critical; however, relatively complex forms of government can exist without it.

Sending letters from subordinates to the top (and back) is also a concern of any regime. This is needed to communicate at a distance for control of power and to keep track of obedience. Agreements and the building of cooperation with other kings by sending them letters were regularly needed. This can be shown by the communication of the Malay-Austronesian kings with the Chinese emperor. There are some Chinese texts, which recorded such diplomacy between Javanese and Sumatran Kings with the Chinese emperor since the Sung Dynasty to Ming Dynasty (for further detail see Groeneveldt, 1880, p. 2-63). It was not only for trading purposes, but also to mutually preserve the territory, in this case, trade territory, and frequently to ask for an alliance. In modern words, this can be called foreign policy or diplomacy.

Another function that a state organizes is the law system, even in a relatively simple state. In a literate society, writing is closely related to the legal system. History records that for any developed civilization, the regimes started to write down the law. The Ur-Nammu law code is the oldest written law code known to science. This code was promulgated by a Sumerian King named Ur-Nammu, who founded the third dynasty of Ur about 2050 BCE. Like Egyptian, Sumerian culture claimed that the king is god's representative on the earth. This king established and regulated honest and unchangeable weights and measures. The law is written on eight columns, but the tablet is severely damaged, so content for only five parts has been restored. One of them seems to involve a trial by water ordeal, and another appears to treat the return of a slave to his master. But it is the other three laws, fragmentary and difficult to decipher as their content is, that are of exceptional importance for the history of human's social and spiritual growth. Instead of the primitive and inhumane "eye for an eye" or "tooth for a tooth" as still written in the much later bible, they already suggested the alternative of a monetary fine instead of physical punishment. (see Kramer, 1981, p. 51)

There is not only the Ur-Nammu code that was found, but there are also two more Sumerian law codes, namely: the most famous one, the Hammurabi Code, and the law code promulgated by king Lipit-Ishtar. Lipit-Ishtar's code was written more than one hundred fifty years earlier than the Hammurabi code. It was written on a sun-baked clay tablet in the cuneiform script but in a non-Semitic language. King Hammurabi began his rule about 1750 BCE. He promulgated a law code that contains close to three hundred laws "sandwiched in between a boastful prologue and a curse-laden epilogue." (Kramer, ibid) It is written in cuneiform script and the Semitic language known as Babylonian. Both from the sculpture and the writing we are informed that Hammurabi received the right to establish the law from Shamash, the sun god. Hammurabi was involved in legal proceedings,

conducting extensive correspondence with judges and acting as Babylonia's highest judge. The judgments were not made on his whim only, and they were often informed by earlier law codes, Ur-Nammu codes, and Lipit-Ishtar.[24]

We can find the existence and the sustainability of a priesthood: these priests were not only taking care of religion, ceremonies, and custody of religious texts. They were also record-keepers, helping with taxation and any other tasks of bureaucracy. Moreover, they were supported continuously by the kingdoms. In ancient Sumer, law and justice were prominent factors, both in theory and in practice, and they regulated Sumerian social and economic life. Archeologists have discovered thousands of clay tablets with all kinds of Sumerian legal documents: deeds, wills, contracts, receipts, or court decisions. In this respect, Sumer may look quite 'modern' to us.

Summary

We already discussed the subject of the use of writing in society, and Sumer is one of the primary examples which invented writing motivated by the growth of economy and trade. They developed cuneiform from pictographs and other symbols to record the livestock and trading activities on clay tablets. They used writing to seal sales and purchases: every purchase had to be confirmed by a written agreement as a witness. So obviously, the written words were considered more reliable than spoken words. The societies which did not yet invent any mnemonic system or writing would be helped to organize things in such a level of detail by adopting these systems from the neighbors. It was not always an adopting process, but we have evidence that some cultures took the idea of writing from the neighbors.

From the examples in the Mediterranean field, we can discern three main patterns for the development of writing, which may also apply to the subject at hand. There is the independent development of a writing system for the own language after getting the idea of writing by cultural contacts, like in Egypt. Next to the adoption of a writing system and the respective language through trading contact, like Sumer to Elam, where Elamites in the beginning also used the Sumerian language when writing something down. Later, in the Middle Elamite period, the Elamites made extensive changes to the cuneiform writing to adapt it to their language and used it in a mainly syllabic structure. Finally, there is the direct adoption of an alphabetic system, which facilitates the adaptation to different languages, and its modification to express their language. At this point, we can assume that far-reaching trading contacts, in most cases without political

[24] **The Plea, Hammurabis Code, vol. 36 No. 2**

domination or priesthood as guardians of the correctness of a script, can lead to a more creative process of an adaptive and simplifying development of a writing system for different languages. We will have to look at these possibilities when we are looking into the Austronesian history of writing.

Some examples above show us the process of how a writing culture developed in the beginning, was further adopted by neighboring countries and then finally adapted to other languages. History shows us that every culture played an active role in the process of adapting another's writing system. Social and economic activities were driving the development of writing most actively. But we can also see that in the development of writing in Europe the activities of the cleric generated a great diversity of script styles for Latin. The variety of media and tools may also drive changes in the script forms, like in the case of Egyptian scripts. However, after a long time and with frequent use of a script, considerable transformations of the script's form can hardly be avoided.

The transformation processes of script forms in the Near East and Europe are quite well documented. These processes needed several centuries, so it might be assumed that the changing of the form was gradual and not even consciously noted. When we go back to what DeFrancis assumes, that the step from picture writing to actual phonemic writing may have been a conscious process, the transformation of the script form and style was probably not by conscious decisions.

In the history of writing cultures, we may find regions where such a gradual process of transformation of a script form is not recorded, or no evidence of this process is found. Like, for example, the Sumatran scripts (Rejang, Lampung, Batak, Aceh) and the South Sulawesi script. There is no information in their colophon, like date, author, etcetera. The researcher can only assume that an Indic script influenced these scripts since the system and the alphabetic structure are similar to the Indic writing system. However, how did the script in the form finally found come into existence? These are scripts where every single character's form is far away from any Indic origin. We might even say there is hardly any resemblance to the Indic script, especially in the South Sulawesi script. For such cases, may we have to take into consideration that they are results of conscious development?


India
Indian Ocean


China
U
South China Sea
Mainland Southeast Asia
Malacca Strait
Sumatra
Maritime Southeast Asia
Srīvijaya
Java Sea
Tarumanegara
Sunda Strait
Java

2
Trading and Cultural Exchange in the Southeast Asian Arena

To gain a deeper understanding of the independence of a culture in its activities, its self-esteem and finally its capability of developing proprietary cultural achievements, we need to know its history and its political power in the regional context. Only recently the long-established theory of 'Indianization' of the archipelago, mainly a theory by European colonialists, has been challenged by leading historians. An overview of the initial theories that emerged will be given, but only those theories which contribute substantially to this research will be explained in detail.

The theories about the arrival of Indian culture in Southeast Asia are still arguably until today. The research of the subject began from the eighteenth century when the academic societies were willing to assist in the colonial endeavor. As Joanne Sharpe expresses it:

«For effective rule in their colonies to be maintained, the tenet was 'know your natives '. Knowledge was the charter for domination. Military pacification was followed by academics and royal commissions to understand sources of resistance and counter resistance. Knowledge was used to produce a skilled and pliant labor force; to reduce resistance; to establish forms of governance and taxation; to maximize resource usage. » (Sharpe, 2009 p. 49)

For such reasons, naturalists, ethnographers, historians, and archeologists became an essential part of colonial politics. From the studies of natives, the scholars discovered in South and Southeast Asian colonies that religion, forms in architecture, music, dance, language, literature, and writing, which spread wide over Southeast Asia, have similarities with forms in India. These observations encouraged active research to understand the relationship between India and Southeast Asia. Wilhelm von Humboldt (Humboldt, 1876), whom we might call

one of the founding fathers of modern linguistics, was deeply convinced of the superiority of the Indian culture over the native ones from the archipelago. Humboldt has written three books on the Malay-Austronesian languages (he is calling the family of languages simply Malay), with the first volume focusing on Java and the Kawi language.[25] While in his introduction, he is respecting the advanced level of social organization and the skills of the Malay-Austronesians as seafarers, he is also making a general statement that none of the languages of the Malay-Austronesian family ever had an original script. As most of the scholars of his time, he perceives the Indian culture as highly superior and so impressive to the Malay-Austronesians that they eagerly absorbed the Indian influences. Nevertheless, he already doubts that there has been any migration in considerable numbers, neither a military invasion nor colonization.

Historian Herman Kulke, who examined the history of India intensively, argued for state formation in Southeast Asia and the 'Indianization' of its elites as not being unique, since the same also happened in South and East India itself. The development of wet-rice agriculture, the use of Sanskrit language, religious buildings, and the formation of the kingship state took place at almost the same time, which pushed Kulke to the conclusion that the comparable process was due to social nearness or convergence on both sides. We will get deeper into the cultural history and further examples later, but we may conclude here that the development of literacy around fourth century CE in Indonesia was neither the result of a military expansion nor Indian colonization of Southeast Asia. (Kulke, 1993)

2. 1 Discussion of the Theory on Indianization

The arrival of the Indian culture to Southeast Asia cannot be separated from the trade relations in the Indian Ocean area. The beginnings of the relationship between these two regions are not known precisely; however, it is likely these have developed since the second century BCE. Before I discuss the trade routes between India and Southeast Asia in extent, it would be better to first convey the opinions of historians about the spread of Indian culture in Southeast Asia and the changes in their positions over time. Initially, the European colonialists were impressed by the highly developed culture of India and simply proposed that every culture in Southeast Asia, which carried some similarities, must have been dominated and formed by India – maybe just assuming likewise to their own attitude?

Even when independence came after WW II, some Indian scholars perpetuated such ideas with their theory of a "Greater India." Driven by the growing

[25] **„Über die Kawi-Sprache auf der Insel Java" (Humboldt, 1876)**

movement of nationalism among Indian scholars, this also played an important role in discourses on the dominance of India in Southeast Asia, such as R. C. Majumdar and H. B. Sarkar, who were influenced by French and Dutch thinkers in their concept. They argue that the cultural influence of India in Southeast Asia was in itself a form of colonization, aristocratic imperialism of India into Southeast Asia. Moreover, N.J. Krom developed the theory that Indian traders were responsible for the spreading of Indian culture in Southeast Asia.

J.C. van Leur in his book "Indonesian Trade and Society," disputed those theories:

"There were, then, no 'Hindu colonization' in which 'colonial states' arose from intermittent trading voyages followed by permanent trading settlements; no 'Hindu colonies' from which the primitive indigenous population and first of all its headmen took over the superior civilization from the west; and no learned Hindus in the midst of Indian colonists as 'advisers' to their countrymen." (van Leur, 1960 p. 80-81)

This argumentation should be followed, since we have no proof for any Indian colonies or domination in Southeast Asia, neither in the written sources nor in the cultural achievements. On the contrary: inscriptions from Tarumanegara and Kutai describe the adoption of Indian kingship by the grandson, where the grandfather still was still ruling according to the older customs. Was the grandfather not replaced by a new ruler if it was colonization? It has to be noted that Tarumanegara, in the western part, was the earliest kingdom in Java of which we have information and at the same time, defines the step into Hindu/Buddhist culture.

Other written sources, which talk about a sudden overthrow by power (like Carita Parahiangan regarding Mataram Sultanate's expansion), were expressing such a disruptive event with great sorrow and despair. Why are there neither documents of such an experience nor statements of new domination regarding an Indian 'invasion'? We will get back to cultural achievements later, while J.C. van Leur further states:

"…The majority of the traders in the peddling trade belonged to the lower social groups … It is impossible for such people to have been administrators of ritual, magical consecration and disseminators of rationalistic, bureaucratic written scholarship and wisdom. … it must be considered completely out of the question that traders, even if they had been rich merchant gentlemen, should have participated in such things repeatedly and in a way defined in so much detail. It can only have been the work of Brahmins." (ibid p. 81)

De Casparis and Mabbett also did not deny the importance of the brahmin position in Southeast Asia's kingdoms. Because of their abilities as teachers, preachers, and manuscript readers, the brahmins often became advisors to the

king. But the question arises: were they, or even most of them, Indians?

"If such brahmins were Indians (the Indian brahmins are indeed occasionally mentioned in Southeast Asian inscriptions), one wonders how or why they should have left India. This is the more surprising since Indian lawbooks contain prohibitions for brahmins against overseas travel, which was regarded as ritually polluting." (De Casparis and Mabbett, 1992)

So, it can be assumed that future Brahmins might have traveled the other way, from Southeast Asia to India and acquired religious and, more general, cultural knowledge there. On the other hand, De Casparis and Mabbett also consider the possibility that such prohibitions may have had little effect on ambitious men to seek fortune and honor in those distant lands.

De Casparis and Mabbett further question the assumption of brahmins being invited by local rulers in considerable numbers:

"It has been suggested that some learned brahmins were invited by Southeast Asian rulers at a time when commercial relations between Indian and Southeast Asian ports had spread the fame of such brahmins to the courts. It is indeed likely that this happened sometimes, but probably not on a large scale. It is, for example, striking that the Indian gotra names, never omitted in Indian inscriptions, are not normally mentioned in Southeast Asia. On the other hand, in the few cases where they are mentioned, it is likely that they refer to Indian brahmins. It, therefore, follows that the great majority of Southeast Asian brahmins would have been Southeast Asians, many of whom had acquired their knowledge of the Sanskrit texts and of Brahmanic ritual in Indian ashrams." (ibid 1992, p: 287)

Theories of the arrival of Indian culture into Southeast Asia can be considered as 'Indo-centric,' in which the superiority of India should have succeeded in transplanting their dynamic civilization into a less developed or primitive society. Such an illustration of Southeast Asia's pre-Hindu communities, in general, seems to be inappropriate. Krom (in van Leur, 1955, p. 76) describes the condition of the archipelago's communities of the pre-Hindu period, and he concludes that its society at that time was a resident society, was able to manage politics, knew wet field method of rice-growing with its complex irrigation system, understood navigation and astronomy and knew metalwork in bronze, copper, iron, and gold.

Van Leur analyzes further:

"... From the existence of irrigation farming and the administrative system connected with it can be deduced the existence of patrimonial, bureaucratic states conceived on a larger or smaller scale, at and the same time the most highly developed forms of village organization, with a nucleus of founding families, and village elders, a supervisor of lands, and perhaps patrimonially nominated headmen. From the existence of navigation can be deduced trade and the forms of

social structure, inter-communication, and authority connected with it. From the existence of metalworking in well-organized villages under a stable authority can be deduced crafts and a resultant multiformity in organizing of communities and people." (van Leur, 1960 p. 77)

He continues that:

"Although determining the antiquity of such organizational forms is a precarious affair, they are in any case to be accepted as autochthonously and historically Indonesian, however much they may have been transformed or damaged by miscegenation and colonization, struggles between ethnic and class groups, catastrophes occurring in the history, and so forth. This basis of what is historically general Indonesian should be used as the starting point for all observations. ..."(ibid)

Further, he suggests: "... it occurs to me that in any discussion of the 'pre-Hindu' cultural situation in Indonesia – or at least on Java – the term 'primitive' needs to be discarded as suggesting a completely fallacious assumption and saying nothing. ..." (ibid, p. 79)

The sea trading network on the Indian Ocean and the South China Sea was not only transporting material goods over a vast space: it connected people and thereby generated the exchange of ideas, languages, traditions, and religious concepts. In this sea trading, the people from the archipelago played an active role, and they must have had considerable knowledge about shipbuilding, navigation, astronomy, and the organization of trading activities. We have enough proof for this, from the languages of Madagascar to the sculptures of the Pacific islands. We can expect them to have met other cultures when having attained a level of their own development that didn't make them feel inferior at all.

In recent years, scholars did not emphasize Indianization or Hinduization anymore. Instead, they tried to notice how the people of Southeast Asia absorbed the cultural impulses which came from outside and combined them with their native culture, so it became their new cultural identity. Until today, we can see how Hindu/Buddhist concepts must have been changed by indigenous traditions in the living culture of Bali. Many ceremonies don't have a direct Indian counterpart, for example, and the caste system plays no more than a symbolic role without the cruel consequences we can still observe in India until today. Another example is the Minangkabau, an ethnic on Sumatra, who is until today with about three million people one of the few surviving matrilineal and matrilocal cultures on earth, neither changed by Hinduism nor by Islam (which they follow today).

"Because the terms culture and imperialism are both very difficult to define, any definition of cultural imperialism will be the subject of variety of different debates. The very possibility of cultural imperialism is premised on the idea not

of culture (as in the old fashioned sense of civilization or high culture), but the conception of a plurality of cultures: that there are many different ways of life equal in their right to exist autonomously, a plurality of authentic or indigenous cultures which somehow properly belong each to their own area. Globalizing or homogenizing forces then threaten the integrity of these local cultures." (Sharpe, 2009 p. 99)

Following this approach, we can doubt that the historical contact between India and the Southeast Asian people could be correctly described as cultural imperialism. The only area where we can assume an element of power is the attraction that Indian religious concepts had for local kings to justify their rulership as given by the gods, as we can see in some inscriptions. Local powers like Srīvijaya must have secured important waterways for safe trading and surely will have taken some taxation for that. Other than that, we have no written or archeological evidence that there was any Indian invasion with military power into Southeast Asia, neither do we have any indication that the trading ships from the archipelago carried troops. This only applies to the later European colonization.

We can safely assume that the process was more like a mutual influence, where a wide variety of local cultures was still maintained, and new ideas and concepts were not imposed, but assimilated and modified. Modern examples: until today Muslim weddings in Sunda use decorative elements from far older traditions and puppet plays (Wayang) use Hindu myths with some Islamic elements integrated (even if considered impure by fundamentalists).

Now what about O.W. Wolters' position in his “History, Culture, and Region in Southeast Asian Perspectives”? He writes:

"I am referring to what is often called" the Indianization "of Southeast Asia. Rather than assuming that "Indian" influences introduced an entirely new chapter in the region's history I prefer to see the operation of specific “Hindu" and therefore religious rather than political conceptions that brought ancient and persisting indigenous beliefs into sharper focus." (Wolters, 1999 p. 21)

This point of view of Wolters received a lot of criticism, including from Sanskritists Sheldon Pollock, Craig Reynolds, and Victor Lieberman, who argue that 'indigenist' historiography is deeply flawed in its projection of some ahistorical and unitary essence back into history. Pollock (2006) offered the theory of the 'Sanskrit metropolis’ instead, which appealed to Southeast Asian historians. Pollock highlights that Sanskrit was proliferating; furthermore, it was being used in the region of India and Southeast Asia at the same time; which in itself is a remarkable cultural phenomenon. He relates Sanskrit to state politics, but it was not a tool of power in material form: Sanskrit articulates politics as aesthetics.

Pollock concluded that the influence of Sanskrit in the region had not arrived through military presence, political subordination, material exploitation, neither through substantial Indian settlements. According to him, Sanskrit came through the agency of merchants, adventurers, and itinerant religious entrepreneurs. He separates the use of language between Sanskrit and local languages. The language used in inscriptions tends to discard the local language, so it was assured that Sanskrit is the language which was designated as a tool of diplomatic power. (Pollock, 2006)

On the other hand, according to Daud Ali (2011), this part of Pollock's opinion should also be revisited, as there were some early inscriptions found in Indonesia, especially in Sumatra, which were written in Late Southern Brahmi script, but used the local language, namely Old Malay, in parallel. These inscriptions were written to legitimate Srīvijaya as the maritime kingdom in seventh century CE, with its power stretching throughout the Malay Archipelago. The language used to articulate political power here is different, from the attitude of Tarumanegara, Kutai, and Java, which in the early times of their power were still using Sanskrit. So, while others used that highly refined language (the first one for which history knows a well-defined grammar) to legitimate their power, Srīvijaya's rulers had enough self-esteem to use the Late Southern Brahmi script with their own language. This is a significant point to be noted regarding Srīvijaya's cultural independence. So, Pollock's remark that Sanskrit was used to articulate politics in Southeast Asia must be questioned for Srīvijaya.

2. 2 Seafaring and Trading in the Southeast Asian Arena

Historians of today attribute much greater importance to the Southeast Asians in early sea trade than those of the colonial period. These traders and seafarers were actively exploring the world around them, which brought about changes to their own culture long before colonization in modern times, and it still resonates in today's mixture of cultures. Geographically, most people in Southeast Asia are islanders, so they have developed the ability to sail the seas for millennia, they have acquired the ability to read the signs of nature as their guide to make use of the Monsoon[26] winds, they were able to read movements of the clouds and birds for navigation. Manguin (1993) assumes that the people of the maritime realm on the southern oceans were the pioneers of early watercraft development.

[26] The name was first applied to the winds over the Arabian Sea, which blow for six months from northeast and for six months from southwest, but it has been extended to similar winds in other parts of the world. (American Meteorology Society, www.glossary.ametsoc.org retrieved November 17th 2015. 11.44 a.m.)

It is not so clearly known since when the people of Southeast Asia began to sail across the ocean, but there is strong evidence that they sailed to Madagascar, an island off the southeastern coast of Africa, and even some indicators point all the way to the Easter Islands in the Pacific. There are similarities between the statues which were found in West Java and the style of statues that spread in the Pacific area; this type is named Polynesian type. It is accepted in linguistics that POc (Proto-Oceanic) is the ancestor of some 450 Austronesian languages of Melanesia, Micronesia, and Polynesia. Speakers over this whole region preserved a high proportion of Proto-Malayo-Polynesian and Proto-Eastern-Malayo-Polynesian terms for an entire range of cultural issues. We have to assume that there was continuous contact between the Austronesian people from the Proto-Malayo-Polynesian areas of origin in island Southeast Asia to the POc regions in northwest Melanesia over a very long shared history, perhaps much more than 1000 years (see for detail Pawley and Ross, 1995). Malagasy, the Austronesian language spoken in a number of dialects by almost all inhabitants of Madagascar, belongs to the southeastern part of Borneo, one of the biggest islands in Indonesia. (Adelaar, 1995) Today, the term Austronesian has often replaced the term Malayo-Polynesian and identifies a family of languages spoken by peoples of the Pacific from the Easter Island all the way to Indonesia, with a singular westward expansion to Madagascar.

In linguistic studies, the Malayo-Polynesian language group is divided into Western Malayo-Polynesian, which is spoken in the Philippines, Malaysia, most of Indonesia, on Madagascar and by one group in Cambodia, Vietnam and China. And the other group is Central-Eastern Malayo-Polynesian, which is spoken in eastern Indonesia in the archipelagos of Micronesia, Melanesia, Polynesia, and some parts of New Guinea. In this thesis, the term Malayo-Polynesian (henceforth MP) will be used to refer to the Southeast Asian people and geographic area, but some sources are using the term Austronesian interchangeably.

Shipping and trade were carried out actively by the people in this area, which brought them toward acculturation. When the Monsoon wind brought them back, they didn't come with empty hands. Evidence can be seen from coastal Vietnam to Bali, where they have similar shapes of drums to be used in their ritual ceremonies, and in plates which have roulette motifs, found in almost all coastal areas in the Malay Archipelago. Not only intangible products but also in immaterial cultural products such exchange can be observed. As explained above, languages and cultural objects have been introduced and spread through to Madagascar and the Easter Island, the similarities between sculptures that were made by Nias people in Sumatra and Africa are obvious, the traditional African boats show significant similarity to the Moluccan and Sulawesian traditional boats – there is more than enough evidence that MP had an active role in the cultural exchange in this part of the world. Mahdi (2017) suggests that the seafaring in this area has already

existed since the deep antiquity. From the evidence found in Sahul and East Timor area, it is shown that in the region of Insular Southeast Asia, the seafaring started around 45.000 years ago. Such long experience with seafaring has brought the MP people to attain considerable evolution from simple boats to ships. After 4.000 BCE, there were massive advancements in ship construction that made long-distance traffic possible with Austronesian seafarers reaching the Marianas, more than 3.000 km east of the Philippines, by about 3.500 BCE. (for further detail see Acri, Blench and Landmann, 2017, p. 11-12)

Such a revolution of boat building must have lead the MP people to voyage across the open sea and make wider contacts, covering the Indian Ocean, the areas extending to the South China Sea. (see Acri, Blench and Landmann, 2017) According to (Frank, 1998) this area was central in global history for centuries up to about 1800. Manguin (1993) mentions the archeological findings of a large boat hull on the Malay peninsula that can be safely dated between 260 to 430 CE and another part of a similar vessel dated between 434 and 631 from Palembang (South Sumatra) which places it short before the Srivijajan period (both dated by Carbon method). He writes that these: "… were large ships, even by modern sailing standards" (Manguin, 1993, p. 262). The reliefs in Borobudur temple (eighth century CE) are showing the contrast between the flimsy construction of previous boats compared with a large trade ship.

In 2003-2004 an experiment similar to the famous Kon-Tiki one had been carried out by Philip Beale, a former member of the British Maritime Force and Nick Burningham, an English maritime archeologist based on that relief. They wanted to prove to historians that such a Southeast Asian ship could make the voyage to Madagascar and Africa. In the beginning, they tried to realize their project with European technology, but it didn't work well, so finally, they worked together with As'ad Abdullah, a traditional Indonesian ship maker. They could realize their project and made a voyage from Jakarta to Madagascar, Cape Town, and even Ghana. The ship has 18.29 m in length, 4.50 m in width, and 2.25 m in height. It is now on display with extensive background documentation, next to the Borobudur site, a UNESCO world heritage monument (where the author gathered this information). While this is not scientific proof, it is proof of the capability, and together with the fact that there were permanent settlements of MP speakers on the coast of Malagasy for centuries, we can accept that capability as a fact.

Of course, nobody undertakes such long and dangerous journeys without gaining some advantage from these by moving goods that were attractive to the population on either side. Those sailors did not cover these routes with empty ships or only goods for their own needs, but they transported the specialties of one place to the other side over the thousands of miles. Cinnamon, for example, is a product that originally came from the southern coast of China. It may have

arrived at the markets of India on the ships of these sailors, but also at the markets of the Mediterranean through Malay trading stations in East Africa. Hall cites the Roman historian Pliny, who was writing in the first century BCE, and described cinnamon traders between Africa and Asia « …who rode the winds from "gulf to gulf." (Hall, 2011, p. 5, he is referring to Pliny the Elder's Historia Naturae) Pliny describes their craft as rafts, but true rafts would not be controllable enough for navigation over such distances. What he was with high probability referring were the large double outrigger canoes of the Malay-Austronesians, a shape that was not known in his part of the world.

From that description and the well-established link to Madagascar, we may deduce with confidence that the initial contact between Southeast Asia and South Asia, i.e., India, was made by the people of Southeast Asia. Other historians, for example, Wheatley, Ray, and Sen, suspected that Indian and Western traders were looking for the Island of Gold in the second century BC.[27] "For more than a thousand years before the eighteenth-century exploration of the Pacific, the Austronesians who remained in Southeast Asia were significant players in a series of interlocking trade networks which stretched from western Indonesia to China and Japan in the north and to Portugal and Ireland in the west. We know this not so much from the ambiguous geographical information of Ptolemy and his Chinese contemporaries as from the arrival of the products of eastern Indonesia in the markets of the world." (Reid, 1995, p. 334)

The Europeans did not know the origin of the spices which they were looking for until they arrived in Southeast Asia: "The Malay merchants say that God made Timor for sandalwood and Banda for [nutmeg and] mace and Maluku for cloves, and that this merchandise is not known anywhere in the world except in these places." (Pires 1515 in Reid, 1995) Of course, smart traders didn't give the exact location of origin for their merchandise.

Until a few years ago, it was argued that the people of Southeast Asia could not make a big ship and cross the open ocean. Many claimed it was the Indians who did the cruise and bridged the sea-trade relationship between China and the West, and it was assumed that Indian people imitated and learned to build ships from Persian traders. However, the experiment by Phillip Beale and Nick Burningham described above should be an excellent indicator to the contrary.

Nowadays, some leading historians are confirming that people of Southeast Asia were the ones who played an active role in this field. In early records of the Chinese, Malayo-Austronesian seamen (*K'un-lun*) and ships (*k'un-lunpo*) based in Southeast Asia are mentioned as sailing the route between Southeast Asia and

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27 For further reading see details in Hall p. 4-6

China. They are described as extending to two hundred feet in length, rising to twenty feet above the water level, and said to be able to hold from six hundred to seven hundred passengers and ten thousand bushels (nine hundred tons) of cargo. They helped the Chinese traders to cross the sea (Manguin, 1993). It needs to be noted that until the eleventh century CE there were no Chinese ships which voyaged on a regular basis, and until sixth century CE Persian traders did not go farther east than Sri Lanka (Hall, 2011). Miksic (1980) describes large ships that were called Kolandiafonta by the Greeks, which carried spices like pepper from Southeast Asia to India, and from there, they were traded by Graeco-Roman traders. Some Roman coins said to be from Aceh, may indicate direct contact with Mediterranean traders.

All this demonstrates that to understand the development of the people of Southeast Asia and their contact with India, we must use a different approach. This development cannot be analyzed with the same attitude as the beginnings of the development of centralized urban civilizations that flourished in the Mediterranean region. Although, in the beginning, the political organization of the people of Southeast Asia was non-urban and they lived in multi-centered communities, this does not mean that they were less deserving of being labeled advanced or civilized. Building ships of such a capacity with pre-industrial tools is a remarkable feat and needs a strong social organization.

As previously described, the development of international maritime trade as it occurred in Southeast Asia was started by Malayo–Austronesian peoples who came from the islands of spices. They sailed to the Indian waters and even to Africa carrying cinnamon, which they brought from China along with other spices like nutmeg and clove from their lands. These spices were then brought from their trading stations in East Africa to the Mediterranean (see Hall, 2011, p. 5). Malay sailors were coming to China by the third century BCE, and probably not long after that, they were also sailing through the Straits of Melaka (Malacca) and Sunda into the Indian Ocean. While it is not clear when the first ships based in Indian ports went to Southeast Asia, historians like Hall (2011), Wheatley (1983), Ray (1994) and Sen (2003) assume that it was later, in the last two centuries BCE.

One indicator might be their sources of gold. It has been assumed that from the late fifth century BCE, at the beginning of the Mauryan dynasty, India's supply of gold came from Siberia, so by land routes from beyond central Asia. However, after the Mauryans fell in the second century BCE, the power of steppe nomads cut the Indians off from these sources and forced them to look elsewhere. These historians assume it was then, that merchants based in India's ports began to sail into Southeast Asia, looking for the "the island of Gold". The presence of these Indian merchants who made the voyage into Southeast Asia then intensified the development of trade in the Southeast Asian region, but we

may call the MP sailors the pioneers of trans-Indian Ocean trade (as does Blench in Acri 2017).

In the course of his historical overview, Hall divides the early age of international commerce in the Southeast Asian region into five zones. The first zone was the South China Sea network, which covers northern peninsular Malaysia and the southern coast of Vietnam, where the Cham lived, people with an Austronesian language. This area was growing and became the center of trade at the end of the last century BCE. These route lines linked the Eastern and the Western trading, and traders traveled through landline routes as well as through the Gulf of Thailand.

In the second and the third century CE, traders began to sail to China and vice versa, which activated the second zone of Southeast Asian trades, the Java Sea. This caused benefits to the traders because they could easily get spices from the Moluccas and the Lesser Sunda Islands. Zone two was centered in Koying, in the northern part of the Sunda Strait. Ptolemy mentioned this area, and he described this area with its quite specific dry rice cultivation.[28]

In the seventh century CE came the rise of the Buddhist Srīvijaya kingdom in Sumatra, a true thalassocracy which existed from seventh century CE until the late thirteenth century CE. It stretched over several islands and up to the southern parts of modern Thailand. The sailors began to move trade goods, ideas, and languages around the region. This development encouraged trading centralization in maritime Asia and Southeast Asia for the Melaka strait region as the third zone. With its dominant power in the archipelago, Srīvijaya was capable of maintaining the stability of maritime trades. Therefore, traders could sail safely in Southeast Asian waters. This condition encouraged imperial China to cooperate with Srīvijaya kingdom, which also leads to Srīvijaya's dependence on the prosperity of China. Such circumstances lasted until the Chola dynasty of southern India attacked Srīvijaya in 1024 to 1025 CE. From that time on, India and China started to pene - trate the Southeast Asian region intensively, especially the Java Sea.

These conditions caused a vacuum of power in the Melaka Strait region, and it took two centuries to rebuild and stabilize. China then switched its trade routes to the Philippines and Eastern Indonesian waters to facilitate getting nat-

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[28] Ptolemy in his book entitled Geographike described Argyre in Iabadiou, the topography is very similar to the description of Wan Chen regarding the topography of Ko-ying or Ka-iwang, in his book entitled Nan chou i wu chih, written in the third century AC. Ko-ying or Ka-iwang is interpreted by Hasan Djafar as Karawang (a region in the west of Sunda). If this assumption is true, then Iabadiou could be interpreted by the same pronunciation with "Yavadvipa". (Djafar, Hasan, 2010, Kompleks Percandian Batujaya). But according to Hall, based on Meulen, Ptolomy's Yvadviva is associated with the Jelai River system of southwestern Borneo, an area known by the Chinese as Yehpoti and that was said to be located next to Shepo (Java) (Hall: 2011, p. 104)

ural resources from Java and the Spice Islands. This caused the fourth zone in the Sulu region to emerge as a new trade zone, including the Chinese waters, Java sea, Philippines, and Eastern Indonesia.

With the increasing influence of Angkor and Pagan in the northern Melaka Strait, a new trade zone developed in Southeast Asia, which Hall describes as the fifth zone. In the fifteenth century CE, trading in the Southeast Asian waters had turned into a prosperous trading region again that was carried independently by several Southeast Asian nations, where all the five zones were mutually connected and supported each other. The Hindu kingdom of Majapahit on East Java, which rose from around the thirteenth century CE, was the strongest power in the area, but never gained as much control over the waterways as Srīvijaya used to have.

Indian traders began to enter the Island of Gold or Svarnadviva (Sumatra) or Javadviva (Java) in the second century BCE. Their arrival shows that the trading relationships between the people of the Southeast Asian archipelago and India were very intense. Such informations, gathered from Chinese sources and the West, as well as from inscriptions found in the Malay Archipelago itself, are giving us clues that literacy in the Malay archipelago was in line with the development of Sunda and Melaka Strait as the center of international trade in Southeast Asia between fourth and fifth century CE. This development opened up opportunities for Southeast Asian people to adopt elements of their governmental system, religion, language, and writing.

From the capabilities of the Austronesian seafarers, we can conclude that relationships between Southeast Asian and Indian societies had already existed for a very long time before the first Indian-inspired archeological, cultural, and linguistic vestiges begin to appear between the third and fifth century CE. We also should not forget that Buddhist and Hindu culture came to Southern India itself only gradually from the North. At the same time, the accessibility of India for the Austronesian was much better in the South.

This leads to very interesting questions: during these early days, the Southeast Asian mainland communities and the Malay Archipelago were more interested in adopting the Indian culture rather than the Chinese culture. Even if, based on data mentioned above, Austronesian people had made contact with the Chinese from pre-historic times, sharing the South China Sea. Another indicator: the trade of cinnamon as a Chinese herbal product being carried by Southeast Asian people to the international trade arena, including India, the Middle Eastern countries, and even Rome. Adoption of Indian culture may have happened because, at that time, the contact to the Indian subcontinent was already much older and had created cultural similarities on both sides (we will get back to this subject of cultural convergence later). Alternatively, maybe India was considered to have more

prestige in the international trade arena, especially in religious aspects regarding Hinduism and Buddhism.

2.3 Cultural Exchange

From what was described, trading contacts existed for millennia in the South China Sea to the Indian Ocean by seafarers and traders, and it can be understood that there must have been an intensive cultural exchange. We have to keep in mind that these voyagers had to wait several months until the monsoon winds brought them back to the Southeast. Humans would not sit around and wait to do nothing; after all, we are a curious and communicative species. There would be enough time to learn the language, to observe, and to learn about philosophy and religion, maybe even the arts. On the other hand, these sea routes enabled a significant transfer of crops, agricultural knowledge, and in particular of maritime technology from the archipelago to South Asia. (for detail see Selvakumar, 2011; Mahdi, 2017)

We can assume that the continued trade contact over the whole arena of South and South-East Asia should have generated a common cultural matrix. Not only including language or writing, but even some similarities in belief systems, long before Brahmanical or Confucian influences arrived. «French and Dutch Oriental scholarship … bequeathed to Anglophone historiography the notion of a cultural matrix along a broad band stretching from pre-Aryan India through Island and mainland Southeast Asia into Southern China. An important element in the matrix was bronze technology , and so the Dongson culture-complex with its famous bronze drums took a prominent place in efforts to define what was distinctive about the region." (Reynolds, 1995, p. 422-423). Coedés (1975) is still using the expression 'Farther India' for this cultural matrix, which is ranging from India to the Pacific. He is listing the following cultural characteristics: wet-rice cultivation and the social organization needed for irrigation, domestication of cattle and buffalo, navigational skills, some use of metal, an active role of women and matrilineal relationships, a religion with a cosmological dualism of mountain versus sea, and a developed language with prefixes, suffixes and infixes.

A continued cultural contact over long periods would even make the return of specific ideas or practices to their area of origin possible, merely because they would be recognized and accepted without being imposed by power. There were continuously Austroasiatic-speaking populations present in Southern India, who likely shared a set of socio-cultural features with their relatives in Southeast Asia. Many loanwords in languages on either side support the assumption of long-term exchange.

In recent years several scholars from fields like history or ethnography are abandoning the dichotomy of Indic plus Sanskrit vs. local culture in favor of an integrated "Monsoon Asia". The number of Sanskrit loanwords in South and Southeast Asian languages, as well as that of MP loanwords in Sanskrit and Indo-Aryan languages confirmed by linguists, supports this concept.

2.3.1 Indic Architectural Art in Western Malayo-Polynesian Societies

At this point, we need to take a closer look at some evidence of Indian culture in MP societies, especially in Western Malayo-Polynesia (WMP). We need to get a clear image of the mutual influences and cultural achievements of the two cultural zones in Southern India and Southeast Asia. Consequently, we should discuss some facts regarding Indic art and architecture in the WMP region, which have already been researched by leading scholars. Even if not directly connected with this research on writing, these shall give us an impression of the general cultural level already attained in MP societies when they started to develop the scripts in question.

At first sight, the architectural art of temples in the WMP region shows a strong influence of Indic culture. Some architectural remains, especially Javanese architecture, have been standing since the seventh century CE, which instead looks like evidence of a kind of two-way cultural exchange. However, there are still researchers who are skeptic about any two-way cultural exchange and the convergence theory, e.g., Roy E. Jordaan. He claims that acculturation on a mutual basis between Aryan and local culture could take place only in South India, not in Greater India (Southeast Asia). He further claims that the only transplantation process occurred from South to Southeast Asia. He even suggests that for the process of building such temples, foreign artists were invited to supervise the construction and were giving the idea of modeling an East Javanese style. (see for detail, Tajudeen, 2017)

Tajudeen (2017) is challenging Jordaan's view by presenting six points of innovation for temples of Central Java, Sumatra, and Kedah between the eighth and eleventh centuries, which have no precedence in India. First, he claims that the term 'caṇḍi', which refers to Indic temples, was used by Javanese a century earlier than by Indians. Its first use is identified on the Ngabean Inscription (882 CE) in the assimilated form 'pacaṇḍdyan' bearing Javanese affixes, which has the meaning of 'temples compound'.

Older research claimed that the temples on the Dieng plateau in Central Java show the Pallava (South Indian) influence. Julie Romain explains that these temples in Dieng (seventh to eighth century CE) present a free-standing temple architecture, while the South Indian ones of the period are all monoliths, carved from stone. She claims that this style has more similarities with those in Northern India, which are assumed to be built not earlier than those in Dieng (there will be references to even

older ones when we get to Sunda in particular). She concludes that India related temples in Java appear almost simultaneously with the rise of free-standing stone architecture in South Asia itself. (Romain, 2011, p. 299-314)

Secondly, the vast temple complex of the world heritage site in Borobudur shows an impressive translation of esoteric Buddhist philosophy into stone with its narrative reliefs and the ascending hulls with statues of meditating Buddhas up to the highest peak, where the final hull is empty. This is not only the single known site with such a representation of the Vajradhara system, but it is even dated before that system has been canonized around the tenth century in Mahayana Buddhism.

From the seventh century dates Śrīvijaya's Old Malay Talang Tuwo inscription and Candi Gumpung (Gumpung temple) in Muara Jambi, which are the third and fourth example to point at the translation of Vajrayāna Buddhist concepts into built forms before the tenth century, again with no precedents in India, but becoming popular in the Buddhist world. The fifth example is the relief on the Prambanan Temple in Central Java, which is showing the movement of the Indian dance Karaṇa. Tajudeen cites Alessandra Iyer, stating that these are not copies of Indian material and these reliefs are 200 years older than the first known Karaṇa series at the Bṛhadīśvara temple in Tanjore in South India.

And the last example is also related to the Prambanan reliefs, which present certain episodes from Ramāyāṇa before they appear in either the Indian or Indonesian literary traditions (for further reading see Tajudeen, 2017 p. 475-78). Interestingly, these reliefs show persons with quite different features in beautiful detail, some definitely Malay-Austronesian. Others, like some Brahmans, with instead Northern Indian features (hairstyle and full beards), and some even with mixed features, like short Malay-Austronesian noses, but a massive beard. Should we assume that all of this is the work of imported Indian sculptors? Would not they resort to what they had been doing at home? Or were these indigenous artists, who had seen people from all over this part of the world?

Finally, we should have a look at the Pasemah plateau, a megalithic site in South Sumatra. The Pasemah artworks (reliefs and sculptures) are generally freezing dynamic movements or display complex compositions of humans and animals; one example is shown in the National Museum of Indonesia in Jakarta. These artworks show figures with metal objects (like drums, bracelets, etc.) and are considered to be from the early centuries of the common era in the Malay-Austronesian region by most researchers (Miksic, 1980; Caldwell, 1997; Bellwood, 2007). The archeological dating is still under dispute, but the artworks show features which have no direct connection with Hinduism. So, it can be fairly said that it was anything but new for MP societies to translate what they saw, heard, learned, or imagined, including abstract ideas, into dynamic reliefs, decorative arts, or even architecture. We can find

megalithic sites in all regions of Malayo-Polynesia, not only giant statues but also terraced stone mounds, which are spread throughout these regions. The terraced stone mounds are now considered as the basic idea of Javanese temples.

There are still ongoing discussions about the unique Javanese art and iconography, which lead the researchers to do further comparative work in this field, not only in the comparative framework within South and Southeast Asia but also in a comparative approach to Austronesia as a whole. Long-distance contacts across the seas among South Asia, Southeast Asia, and perhaps even into Southern China conduce the existence of similarities and parallel developments out of a common source, for which Acri suggest a dynamic process as the result of centuries of circulation of people, languages, and ideas. He further suggests that this paradigm represents a sort of "strong convergence theory" and postulates a parallel and highly connected development across Monsoon Asia even long before the period for which we have any written evidence (see Acri, 2017, p. 71-135). This can only be assumed by comparison and detection of similarities, so the discussion is still open. However, we might dare to conclude that at the beginning of the literacy period as the focus of this work, the Malay-Austronesians already had quite capable architects, craftspeople, and artists.

2.3.2 Indic Writing in Western Malayo-Polynesian Society

Based on the inscriptions, it seems that the Indian writing culture was introduced to Southeast Asia, particularly Indonesia and Malay, through the royal palaces together with Hinduism or Buddhism. Nevertheless, seafarers and merchants may have inadvertently brought Indian script for the first time, in the form of valuable merchandise, such as seals, rings, pottery, and other objects, engraved with Sanskrit names, into trading ports. For instance, different types of Brahmi script (dated from the second to the fifth century AD) have been discovered engraved on such objects at Oc Eo, the site of an ancient trading port in southern Vietnam (see De Casparis, 1975, p. 12). There is also a type of Brahmi or Kharoshthi script (dated between the third century to the fourth century CE) inscribed on a sherd of a vessel, a kind of dish, which was recently found at Sembiran on the Northern coast of Bali (Supomo, 1995 p. 317). The script found here is one of the Brahmi descendants, which was in use during the early first millennium in Southern India, and the script is generally called Late Southern Brahmi script (Griffiths and Lammerts, 2015). De Casparis argues that this particular script should be called Vēngī script since it was found on the early inscriptions around Vēngī or Vēngīpura in the Godāvarī delta of present Andhra Pradesh (1975, p. 13).

In the archipelago, there were two periods of using this script, based on style and feature, namely the early style, which is more decorative. The style and features of this script can be related to the scripts on the inscriptions of Southern

India and Sri Lanka. It was used in the Indonesian archipelago from around third to sixth century CE. The later style, which was used from the seventh until mid-eighth century CE, is already showing some changes. According to Casparis it was developing into a different direction from the script in South India. The later style has many common features with Early Kawi, Casparis even calls it the foreshadow of Early Kawi. The script from Northern India was also employed in the area, but unlike the form from Southern India, it has never been developed into national alphabets (Damais in Court, 1996, p. 446).

Those inscriptions are signs that, at the time, Malay-Austronesian kingdoms began to adopt Indian influence, like the governmental and religious system, around the fourth century. This can be seen clearly from inscriptions, like those of the Tarumanegara kingdom in West Java and Kutei in East Borneo, which are written in Sanskrit language and Indian script.[29] According to Supomo (1995) and Ekadjati (2005) the name Purnavarman, the king of Tarumanegara, just like Asyvavarman and Mulavarman, the kings of Kutei, were the first names of kings to be adopted from Indian culture. The consider this because the former king of Kutai was named Kundungga, which is probably not an Indic name.

Based on reports from Chinese Buddhist pilgrims, we got the information that in the kingdom of P'an-p'an" (fifth century CE) are numerous brahmans coming from India in search of wealth. They are in high favor with the King (Wheatley in Supomo, 1995). Similar information can also apparently be found written in a Tarumanegara inscription, which says that 1000 cattle were awarded to the Brahmins for their blessing given for the construction of the canal. As we explained before, according to the Indian law books, it was forbidden for Indian brahmins to go overseas, and there is a high probability that these brahmins were Southeast Asians who learned in Indian ashrams. (see De Casparis and Mabbett, 1992) Even if we cannot exclude that some Indian brahmins became fortune seekers in their own right, it would be not very easy imagining them to take 1000 cattle back home with them.

However, as Casparis and Mabett suggest, there is a high probability that it was the Southeast Asian brahmins themselves who developed writing. It is also conveyed in the record of a Chinese Buddhist monk – I-Tsing, who visited Srīvijaya in the seventh century – that there were lots of local brahmins who were very

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[29] the statement on one of Tarumanagara's inscriptions:
"Vikrantayam vanipatéh, prabbuh satyaparakramah, naréndraddhvajabhutena crimatah, purnnavarmmanah." (He is the king of the world, The Great Purnavarman, The Highest King, The Hero, and he is overshadowing all the kings in the world (Cidangiang Inscription).

"Vikkrantsyavanipatéh, crimatah purnnavarmmanah, tarumanagaréndrasya, vishnoriva padadvayam" These footprints belong to King Purnavarman, The King of Tarumanagara, and they are the likes of Vishnu's (Ciaruteun inscription). (Ekadjati, 2005 p. 49-50)

familiar with their religion and the culture of writing. During his stay, he re-wrote some of the Buddhist books to be taken home to China. I-Tsing even reports that during his time in Srīvijaya, Śākyakīrti, one of the most respected Buddhist scholars of his time, was residing there. So, in this regard, historians stated that Srīvijaya could be called the prime Buddhist learning center in Southeast Asia (for detail see, Supomo, 1995, p. 315-319). As we already mentioned in the previous chapter, already in the early seventh century CE Srīvijaya used Old Malay for their political statements, while the script was Late Southern Brahmi. So, they were the first in the archipelago of whom we have proof to use the script for their language, while other cultures around them still used Sanskrit written in Late Southern Brahmi for their inscriptions.

If there was that much writing activity as we can assume for a Buddhist learning center, we might expect that all the priests or monks were very familiar with Sanskrit and, of course, their local language. Those who traveled to India may even have noticed that the script was used there for local languages, too, not only Sanskrit? Or, they may also have tried to translate religious texts into Old Malay and were looking for a way to write such translations down. Of course, this would have been done on perishable materials, so we have no proof of such activities in that period. However, it may have started around that time. It was not too difficult to adapt the script to their language since the syllabic Late Southern Brahmi offered a more significant number of signs than necessary for Old Malay, and only minor adaptations were needed.

One example of adaption is the Malay vowel ĕ, which did not exist in Sanskrit. At the early times of the use of the Late Southern Brahmi script for Old Malay in Srīvijaya, there were two methods in use to express this vowel; one can be found in the Talang Tuwo inscription and the other modification in the Kĕdukan Bukit inscription. Both are only one year apart, so we may deduce that this was an early time of adaption when some local variations were still going on (for detail see De Casparis, 1975, p. 25-27). The context of Srīvijaya as a Buddhist learning center and the ease of adaption might also explain why Austronesians never tried to write their language in Chinese, even if cultural contact can be proven for much earlier times.

It is assumed that the Proto-Sinaitic inscriptions, dating from the end of the Middle Bronze period, are the prehistory of the alphabet. The people who developed this script were Southwestern Asian workers, and some became prisoners of war, and thus with reasonable probability were West Semitic speakers (see O'Connor, 1996, p. 90). If we consider this, it should not be excluded that MP seafarers brought the writing culture from South to Southeast Asia. We need to outline here since such voyages used quite big ships for the route, it means that such a ship required a captain, needed specialists who understood navigation, others who

were able to care for record-keeping in trading. With high probability, these were not uneducated persons and probably understood foreign languages. Old Malay and Javanese inscriptions mention the word 'puhawaṅ,' which is Old Malay for a ship captain. 'Puhawaṅ' on those inscriptions refers to people bearing Malay titles in shipping, but also in temple sponsorship, construction, or as the staff of royal household (see Tajudeen, 2017 p. 504). From these pieces of information, it is possible that 'puhawaṅ' were some of the essential agents in the process of cultural exchange (and not only brahmins).

"Compared with the Malayo-Polynesians, Indo-Aryan and Dravidian seafaring tendencies were notably low; in light of this, it might make more sense to see the Malayo-Polynesians going to India and coming back with Sanskrit than to invent Indian Sanskritizers radiating through Southeast Asia. The truth of the matter can be expected to lie somewhere between these bald extremes." (Taylor, 1976, p. 49) Taylor writes further that the word for ginger from Sanskrit was added by MP traders to Malagasy and even to Greek but not to the Southeast Asian language. Taylor sees this as direct evidence of commercial contact in the Arabian Sea.

The spreading of Sanskrit and Late Southern Brahmi script happened roughly in parallel on the Indian subcontinent itself. This led to a theory already mentioned, which Pollock calls "Sanskrit Cosmopolis". According to him, Sanskrit was used only for political purposes, while for documentation, local languages stayed in use.

" Sanskrit probably never functioned as an everyday medium of communication anywhere in the cosmopolis – not in South Asia itself, let alone Southeast Asia – nor was it ever used (except among the literati) as a bridge- or link- or trade-language like other cosmopolitan codes such as Greek, Latin, Arabic, and Chinese. And aside from inscriptions, which have larger purposes, there is little evidence that it was ever used as language of practical rule; tasks such as chancery communication or revenue accounting seem to have been accomplished by informal uses of local language." (Pollock, 2006, p.14)

We may instead assume that the Sanskrit language was considered a signature of education, not so different from the role of the Greek language in the Roman empire, where the admiration for Greek philosophy and culture was strong, even if the Roman empire already dominated Greece. The earliest inscriptions in Indonesia were found in Kutai (East Borneo) and West Java and were written in Sanskrit language and Late Southern Brahmi script. We can say that the deployment of the Late Southern Brahmi script in the archipelago went along with Sanskrit; both of them are interrelated. If Pollock argues that Sanskrit articulates politics as aesthetic, and further, that in the deployment, Sanskrit was used for diplomacy, its allotment was separated from the local language. So, what about the

Late Southern Brahmi script? Based on paleographic research, which was done by Holle and Casparis, it underwent a unique metamorphosis from its origins. We may say it differentiated from the original Indian script, especially in the scripts that evolved in Sumatra and Sulawesi.

However, next to the role in monumental political statements, we need to consider the role of Sanskrit as a language and script as a medium of religion too. Long before the time of mechanical reproduction, in many literate societies, religious texts were read and copied by relatively few specialists in scriptoria, and such texts were mainly spread for oral teaching and recitation. We must assume that religious teachings before the use of Late Southern Brahmi have been by oral transmission only since there are merely no artifacts that suggest anything else. Nevertheless, the body of religious texts from then on must have been much broader than that of statements on monuments, and the frequent use of manual writing should have shaped and developed the scripts. As Casparis (1975) suggests, even the text for engravements on durable materials was probably first written by hand; consequently, changes in handwriting should have influenced the later inscriptions. This would give us a chance to detect continuities among changes even under the climatic and geological conditions, which were usually not conserving any artifacts on organic carriers like wood or bark.

As already mentioned before, the MP seafarers and traders were named by Chinese at that time as "K'un-lun", and their language was also called "K'un-lun". Chinese Buddhist pilgrims used this language in 605 CE for Buddhist works, it was a necessity for them to learn and speak K'un-lun and it enabled them to prolong their stay in Śrīvijaya (Wolters, 1986). It can be said that K'un-lun refers to the Old Malay language, which was used as a lingua franca in a wider region. The question arises which writing system, if any, was in use by the Chinese Buddhist pilgrims and for any other documentation in that language? If they wrote in Indian script, it would mean that the adaptation of Indian script to Old Malay had been developed much earlier. We have to assume that only political statements or laws were carved in stones, while such documentation would have been done on less durable materials.

We can compare this situation with the writing history of the Mesopotamian Cuneiform, which was created for economic and trading purposes. We can compare the process of development into an alphabet among the Semitic society fulfilled their needs of a system that could be easily used for the variety of languages in the region. It would make sense if the people who were actively voyaging about insular Southeast Asian waters decided to use one language as a lingua franca and a writing system that could support their activities in these contacts. We are reminded here of the convergence theory by Kulke.

At that time, as the ruler of Melaka and as a Buddhist learning center in Southeast Asia, Srīvijaya made it possible for many traders and immigrants to come to their region and travel safely. This lead to cultural exchange, mutual sharing of concepts, and perception of sociocultural issues and also an enrichment of the culture. It also leads to syncretism – Hinduism and Buddhism seem to have never been clearly separated in the Malay Archipelago. In the early beginning of the fourth century up to sixth century CE, Sanskrit language and Late Southern Brahmi script were used to write inscriptions, but after the 8th century (see Ekadjati, 2005, p. 200) the lettering began to evolve and developed far from its origin into the separate script systems of the Malay archipelago, such as those in Aceh, Batak, Lampung, Sunda, Java, Bali and South Sulawesi (Bugis Makassar).

Borrowing a writing system is not a simple process because writing represents language. Words, syllables, and phonemes are units of every language, and they have a different structure in every language. Many cultures used both the script and the language of their neighbor during the beginning of this process of adopting a neighboring writing system, and later they adopted the system and made it suitable for their own language. This process is called localization of scripts. There are three stages in this process of adaptation of Indian scripts in Southeast Asia, and the first stage consists of the use of both the languages and the scripts of India. In the second stage, Southeast Asian languages are written in Indian scripts. The third stage consists of local developments and variations in the scripts, with no counterpart in India. Such developments can be found in parallel with identical steps in different parts of Southeast Asia, but this parallel development seems to end by the late eighth century when the scripts begin to diverge and take separate regional forms (further detail De Casparis, 1975). « Typolog ically Indian scripts, which are derived from Brahmi script, are alphasyllabary or abugida : that is, they write each consonant-vowel sequence as a unit, called an akṣara, in which the vowel symbol functions as an obligatory diacritic to the consonant. » (Bright, 1996 p. 385). According to Court (1996) for writing languages such as Khmer and Thai, with their non-Indic vowels and consonants, especially Thai with its tones, indigenous adaptations were found.

In most regions of the Malay Archipelago (Indonesia) the indigenous adaptations consist of a reduction of the syllables and the form of letters – and even addition of new forms – and also the conventional order of listing the consonants. The sequence of Brahmi script as defined in the Bhīma Svarga text[30] is *ka kha ga gha nga ca cha ja jha ña ta tha da* ***ḍ****ha na pa pha ba bha ma ya ra la va sa* ***ṣ****a śa ha*, but the sequence is changed in the modern Javanese script. "*Hana caraka, data sawala, padha jayanya, maga bathanga*" which literally translates to "There were (two) emissaries, they began to fight, their valor was equal, they both fell dead" (Kuipers, 1996), but for a similar use like "The quick brown fox …" in English. Similar adaptations of scripts also

[30] **(For further detail see Gunawan, 2017)**

appeared when Malay, Javanese, and Sundanese were using Arabic script for their own language, which is called Pegon for Sundanese and Javanese language and Jawi for the Malay language. In these adaptations, they created several additional signs, even new letters to represent their language. All of this should prove that Southeast Asians were not passive imitators of Indian (and other) cultures, but they were creatively selecting, adapting, and developing.

However, observation of the next forms, the scripts in Sumatra and Sulawesi, encourages us to consider it at least another possibility that their originators may only have taken the idea of writing from India but then created a writing system which suited their language. The shapes of the script from Sulawesi are far from any Indian origin. While many phonemes are similar to the Indian ones, they added their phonemic elements as needed. It might have happened like with the Egyptians, who got the idea of writing from their neighboring Sumeria, but then they developed their own writing system. As Daniels states: "It is universally recognized that the cuneiform … and hieroglyphic … writing systems are sufficiently dissimilar (one logosyllabic, the other logoconsonantanal) that one could not have been adapted directly from the other. But the similarities of earliest attestation (ca. 3.200 B.C.E.) and the combination of logography, phonography, and determinatives are sufficient to convince Egyptologists (e.g., Fischer 1977: 1189) or suggest to them (e.g., Schenkel 1984: 725) that the idea of writing came from the Sumerians to the Egyptians." (Daniels, 1996 p. 24)

So, in neighboring areas, we have both the gradual development of writing systems, e. g. in Java's Kawi, and possibly parallel development, as in Sulawesi, which is still under research. The first to mention a different theory was Wilhelm von Humboldt himself, contradicting his statement mentioned before:

"Die Tagalische und Bugis-Schrift weichen so bedeutend ab, dass man sie für eine Stufe in der alphabetischen Schrifterfindung ansehen kann." (Humboldt, 1876 p. 11) So, he considers Tagalog and Bugis, due to their striking differences from any Indian script, as possible candidates for an original development of writing.

Charles Campbell Macknight from the ANU even considers a conscious formation of the Buginese script in Sulawesi, based on its simplicity and efficiency (not yet published, based on an interview from the conference in Makassar, February 3rd, 2016). The only historically proven case of such a guided development is that of Hangul in Korea in the fifteenth century CE. (see Hannas, 1997 p.48-72)

From the evidence in Southeast Asia, in the early time of their literate culture, their texts were related to the legitimation of power of the kings. In the next step of vernacular development, the texts are also related to religion, ceremonies, laws, didactic works, mantra, and calendrical information. Interestingly, the calendrical information, which is found among almost all ethnics in Malay Archipelago (Indonesia),

basically have the same form. They use some symbols to mark which days bring luck or miscarriage for their agriculture, fishery, and marriage. It could be assumed that MP societies already knew this structure before they had contact with Indians, Chinese, or Arabs.

Kuipers and McDermott (1996) write that record-keeping, taxation, and science – the usually acclaimed uses and consequences of literacy – are subordinate or absent in written texts of insular Southeast Asia. However, while most of the available texts are of religious nature, in West Java (Sunda), there are some inscriptions and manuscripts, which are about everyday affairs and rules for society. They write about and explain taxation, how to weave, and build the house (these sources will be analyzed further in chapter 4). These are not only found in West Java, but there are also a lot of Javanese inscriptions that inform us about an order to pay tax and compensations. We may be reminded here of the Hammurabi code. With high probability, if there are written orders to pay tax or to pay a penalty, then there are also some accounts to record these. It could be understood that such information from early Southeast Asian literacy is very limited. Especially in Indonesia (excluding Javanese literacy), even if the humid climate does not support the storage of old artifacts on organic material very well, there are still many manuscripts that are waiting to be read and researched. While religious texts were copied over and over for generations, documents on contracts, taxation, land use, and the like would probably last long enough for their actual use without copying. It should be mentioned here, though, that archeologists found some texts in Makassar in private ownership with such content, like lease contracts. The current owners could not read them anymore and held them in ceremonial custody, assuming religious content.[31]

Summary

Cultural exchange between South- and Southeast-Asia has been discussed since colonial times. Europeans were impressed by the Indian civilization they encountered first and discovered many similarities in the magnificent Southeast Asian temples, language, and literacy when they arrived in the archipelago. This led to a theory of 'Indianization' and intensive research on the spreading of Indian culture into Southeast Asia. Early researchers assumed some invasion of Indian powers into Southeast Asia, and India was seen as more civilized than Southeast Asia and bringing them cultural advancement. However, modern research into archeology, ethnography, history, linguistics, and literature has proven that the relationship between South- and Southeast-Asia was not as simple as a domination of one culture over the other.

[31] **Based on interview with H.A. Ahmad Saransi, South Sulawesi National Archive, February 5th, 2016**

The long-lasting interaction, which reaches from the Pacific to the Indian Ocean and even Africa, has resulted in an interwoven cultural matrix in the area, not only between India and Southeast Asia but all the way to Malagasy and Pacific islands. Not only wet-rice agriculture and shipbuilding technology or navigation came from Southeast Asia, but archeological research shows that there is a high probability that the craft of building free-standing temples building technology was learned from Southeast Asians. In contrast, early Indian temples were still carved out of rocks.

Many scholars have proven that there are numerous indigenous elements to be found in the Southeast Asian culture and that the Indian religious elements were assimilated and resulted in syncretism. Indian religious expressions named many ceremonies, but the actual ceremonies were coming from the traditional worship of the ancestors. Also, the Southeast Asian matrilineal culture was still stronger than the Brahmanic patriarchalism. If we relate this to what Goody wrote about Sub-Saharian ethnics, he states that a new religion when coming to a relatively strong society without backing by force, like through traders or missionaries in small numbers, this will lead to eclecticism and syncretism.

Indian culture, in particular, Indian religions, were adopted not only by Southeast Asians, but we know that Chinese and Japanese have adopted Indian religions. This shows that Indian religions had high prestige, and it does not surprise if Southeast Asian kings adopted this religion and the Indian kingship concept to gain similar prestige. For the early Common Era, it is even noted that many Chinese Buddhist pilgrims came to Srīvijaya in Sumatra to learn Sanskrit and Buddhist philosophy. The consequence of this was also the adoption of Sanskrit as the religious and political language. Consequently, for early Southeast Asian literacy samples, we find only religious texts and political statements.


Map of Sunda Region
U
Srīvijaya
South Sumatra
Java Sea
Tarumanegara
Pajajaran
SUNDA
(today West Java & Banten)
Panjalu/Kawali
Sunda Strait
Indian Ocean

3
Sunda: History, Culture and Society

3.1
Sunda and Its Polity

There are still many pieces of the puzzle needed to understand the early history of Sunda concerning the culture of writing. However, an overview of the Sundanese history and their society before the Javanese sultanate and the era of western colonization needs to be given here. This overview should help to understand the process of developing their own writing system while having regular contact with their neighbors. We need to know about the quality of such contact with other cultures, India in particular, or even about cultural domination or colonization of the Sundanese by neighbors – if that existed.

Sunda is located in the western part of Java Island, and Sundanese ethnic is the second largest ethnic group in Indonesia after Javanese. In the administration system of the Republic of Indonesia, Sunda belongs to the provinces of West Java and Banten. Other than for its neighbor Java, the history of Sunda is still in a 'dimly lit' state, even if the oldest written artifacts in Indonesia have been found in this region. The artifacts that are spread in the central and eastern regions of Java exist in higher numbers and are more helpful in providing information about early Indonesian history. Relics of Hindu and Buddhist architecture stand majestically in central and eastern Java. For the core question of this research, a summary is needed of what is known today about the history of Sunda, since recent discoveries of archaeology and research on Sundanese manuscripts are gradually revealing the history of the Sundanese more closely.

In the history of Southeast Asia, it is recorded that Tarumanegara, which was probably located around the Northwest and North of Java (between Bekasi,

Karawang, and Jakarta of today), had one of the earliest populations which left a Hindu-Buddhist heritage. The existence of Tarumanegara is known from five stone inscriptions dated around the fifth to the seventh century, namely Tugu, Ciaruteun, Jambu, Cidangiang, and Kebon Kopi I (see appendix fig. 1-6). The Tugu inscription was found in the area of Tugu, near Tanjung Priok in Jakarta. Now the inscription is in the collection of National Museum of Indonesia, with Inv. Nr. D. 124. It was written around the fifth century CE and recorded the river works of King Purnavarman's reign. The river, which is mentioned to have eleven miles of length, is assumed to be for drainage purposes and to have been done in 21 days. This inscription has the most extended text of the Taruamnegara inscriptions. Going down over the full height of the stone is a double line that serves as a divider to indicate the beginning and end of lines of text. However, it is also continuing into an ornamental figure at the top, which contains a structure like a trident. The trident is the symbol of Shiva, but can also indicate a guru (teacher) with knowledge from the divine (Bosch, 1951; Noorduyn and Verstappen, 1972).

The Ciaruteun inscription was found in the Ciaruteun river, Bogor. Once in 1893, it was dragged by the flood. To avoid further damage by a flood, the stone was moved to the riverside, and until now, it is still there. The text on the inscription is the declaration of Purnawarman as the king of Tarumanegara. He declared that he was a manifestation of Visnu on earth. This inscription is decorated with footprints, Padma (Lotus), and other floral ornaments. The researchers try to interpret the meaning of those symbols and argue that the footprints mean the power of Purnavarman and two Padmas are symbols for Devi Sri, Sakti, and Visnu. Regarding the Padma symbols, Vogel in McKinnon (1995) assumes that they are pictorials of spiders. In Hinduism, the spider is a symbol of Brahman or the soul of the universe in the Upanishad. But Pleyte and McKinnon argue that they are Padmas since Purnavarman related himself to Vishnu.

Jambu inscription or Pasir Kolengkak inscription was found in Parakan Muncang, Bogor by Jonathan Rigg in 1853. Friederich, (1855) who was the first to publish the research of this inscription. Even the transcription was not successful, but he was convinced that the script was not Kawi. The inscription is still in situ. Apart from the text it also has the footprints, and it seems footprints have a special meaning for the king of Tarumanegara. According to Meulen, such footprints are an early Southeast Asian tradition, which corresponds to Javanese conceptions, in this case, Western Javanese, of feet as the locus' magical power (see Hall 2011 p. 108). The text is a declaration of Purnavarman as a great king, who always succeeded in war.

Munjul or Cidanghyang inscription was found in the riverbank of Cidanghyang, Banten. Until today it is still in situ. It has only text, and the text contains praises to King Purnavarman. The natural texture of this stone is firm, but luckily

the script is still recognizable. This would raise the question if it were in the same condition when the text was written. Kebon Kopi I inscription is also one of Tarumanegara's inscriptions, it has text and elephant footprints. It is written that the footprints belong to Airawata. In Hindu mythology, the elephant is the mount of Deva Indra as a god of war. The inscription is, unfortunately, damaged by some abrasions, so the form of letters is difficult to identify. The other two artifacts are containing visual ornaments only, so for this study, they are of limited use regarding information about the Tarumanegara era (Surti and Djafar, 2016). The recent excavation of the Batujaya Temples site brought forward the discovery of eight inscriptions. Those inscriptions are written on Terracotta and gold plates. Unfortunately, these inscriptions are not yet transcribed and translated completely. According to Djafar these texts are generally Buddhist votive tablets (Djafar, 2010)

From those inscriptions, we are informed that the King of Tarumanegara followed the Hindu law. But it is possible that a small minority of his people was following Buddha's law, as Fa-Hien, a Chinese geographer who came to Java around 400 CE, writes: "…In this country heretics and Brahmans flourish, but the law of Buddha hardly deserves mentioning … " This does not denote a total absence of Buddhism but seems to indicate that this religion, at that point in time, was practiced by very few only (Groenevelt, 1880). Based on notes from China, the kingdom of To-lo-mo established diplomatic relations[32] with the Chinese emperor repeatedly (Ekadjati, 2005; Manguin, 2011). Afterward, the further existence of this kingdom is unknown. But the Kota Kapur inscription made by Srīvijaya in 682 CE is mentioning Malay expeditions to Bhumi Jawa (historians consider this to be Java island). This inscription is seen as evidence that Srīvijaya subsequently controlled the region of Tarumanegara (Djafar, 2010).

The existence of Tarumanegara cannot be separated from the history of the development of a maritime trade system in the waters of Southeast Asia in the early days, which connected it to other areas. Especially India and China, as we already explained before. Waterways surround this area. In the west is the Sunda Strait, which connects Java Island with Sumatra and the Malay peninsula. In the north is the Java Sea, it connects this region with Borneo, with the South China Sea, and the waterways that lead up to the east of the Indonesian archipelago. In the south of Sunda is the Indian Ocean. These natural conditions, consequently, allowed people to interact with other people who came from different areas and cultures.

In addition to literacy tradition, some ruins of temples and statues are evidence of Tarumanegara's existence. There are the ruins of the Batujaya temple, which can be identified as a Buddhist temple and was built in two phases, the first

[32] such as in 528, 535, 666 and last in 669 CE

phase was from the sixth to the seventh century CE, and the second phase was around the 8th century up to the tenth century CE. The site is adjacent to the Buni site, the oldest ceramic making site found on the island of Java. The site has approximately existed over ten centuries, from the first century BC to the end of the tenth century (Djafar, 2010; Manguin, 2011). From the artifacts, Manguin divides this period into two phases: beginning phase of Buni in the first century BC to the fourth century CE and the phase of recognizable Indian influences from the fifth to the tenth century. Manguin (2011) also argues that the Buni and Batujaya temple sites can serve as complete documentation for the transition from local culture (Austronesian?) to the inclusion of Indian cultural elements.

However, Djafar (2010) argues that the transition period already started in the second century CE. When archeologists dismantled the Batujaya temple, they could prove that it was older than Borobudur, which was built around the eighth century. The style of the Batujaya temple was not similar to any other temples found in Central Java and the east, which in general are made of rocks. Batujaya temple was built from red brick, in its mixture were found rice husks,[33] and also from stucco,[34] wall layer, and decoration of the temple. From the style of details and statues found in the Batujaya temple complex, Djafar concludes that it has similarities with the Nalanda style from northern India. This convinced Djafar of Srīvijaya's expedition to Tarumanegara, because based on historical research, Srīvijaya had a close relationship with Nalanda, especially in the development of Buddhism. It needs to be remarked here, though, that Tarumanegara already had Buddhist sacred sites, even if the king Purnavarman was described as following Indian religion.

3.2 Sunda Kingdom

As explained above, after 669 CE, Tarumanegara never sent delegations to the Chinese empire anymore. Moreover, no further inscriptions were found about Tarumanegara's authority after that year, so historians conclude that this kingdom ended around the seventh century. The next inscription was found in the vicinity of the Tarumanegara subdistrict and is known as the Kebon Kopi 2 (also named the Juru Pangambat or Pasir Muara inscription). It is in Malay language and was written around the tenth century CE, its content states the re-submission of authority to the ruler of Sunda. The sovereignty of Srīvijaya over this region is estimated to have lasted until the

[33] This evidence was supported by the Tugu inscription which explains the making of two canals by King Purnavarman of Tarumanegara which were meant for irrigation (Setten van der Meer, 1979). The idea that Sundanese people didn't have wet rice culture until seventeenth century CE must be restudied.

[34] Limestone

tenth century, and the next ruling was the Sunda kingdom, as confirmed by the inscription of Juru Pangambat in Malay in 932 CE, which declared the return of sovereignty to the King of Sunda.

"Ini sabdakalānda rākryañ juru pangāmbat i kawihāji pañca pasāgi marsāndeça barpuliḥkan hāji sunda" (Bosch, 1941). We can freely translate it as: "This is the statement of The Highest Hunter (Juru Pangambat)[35] in 854 Saka (932 CE) that the authority is returned back to the King of Sunda."

The problem we are confronted with here is the reconstitution of power to the king of Sunda, while we have no earlier mention of such a kingdom. This might be a problem of a proper interpretation of the date of this inscription.[36] It is called Kebon Kopi 2 inscription because it was found not far from the Kebon Kopi 1 inscription, one of Tarumanegara inscriptions. Kebon Kopi 2 is evidence, where the word "Sunda" is for the first time mentioned in an ancient text, but it is not known since when the term was used to describe the area in the western part of Java Island. Had any Sundanese Kingdom existed before? Or was the word Sunda a local name for the region used by Srīvijaya? With very few artifacts found until today, it is not very easy to answer. On the other hand, Srīvijaya's authority over the Tarumanegara region is still not proven, besides those two inscriptions which do not state this clearly enough.

There is information in a Chinese source from the Liang Dynasty (502–556 CE) about a country where the cities had brick, and they followed Buddha's law. From the name of the country "Lang-ga," many historians are not sure yet where exactly was this place. "…Other Chinese geographers, amongst whom those are who have best-studied their subject, agree in placing this country on the north coast of Java, but in the western part of the island, and we have many reasons to accept this view: the description suits Java very well, …" (Groenevelt, 1880 p. 10-12). Moens (1940) writes of Srīvijaya, Yāva, and Katāha as the geography of the Malay Peninsula from Chinese and Arab sources from sixth to seventh century CE. He also cites the Carita Parahyangan manuscript that probably Ma-li and P'o-li were the Chinese pronouncements for South Sumatra to Sunda area and P'o-li for Middle Java in early times. Chinese sources also mention Buddhism in both countries, and the Arab sources inform us that Ma-li was famed for the best pepper ever to be had. Ekadjati (1995) also mentions that the most valuable export good of Sunda was pepper.

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[35] Bosch (1941, p. 50) translated as »opperjagermeester«

[36] There is some discussion about this inscription, especially about the time it was made "...Kavihaji pancya pasagi ..." which is translated as 854 Saka, but according to the rule of Saka reading, it must be read as 458 Saka or 536 CE. 536 was the era of Tarumanagara, but the inscription writes about the king of Sunda, which existed around 9th Century AC (Ekadjati, 2005 p. 56)

The term "Sunda" is again mentioned in the Saṅhyaṅ Tapak inscriptions from the Sukabumi region. These inscriptions were written in the eleventh century CE. Both the script and the language used are Old Kawi (Javanese). They are telling us about the construction of many sacred places by King Jayabhupati, the king of Sunda..[37] One of the east Javanese inscriptions, which came from the same era as Saṅhyaṅ Tapak, writes that they were in fear of Sunda's attack (Notosusanto et al., 1990). The inscription is wholly damaged so that no further research can be done about that. When we connect the early research of Groeneveldt in nineteenth century CE, Moens in the twentieth century CE, and the latest research of Batujaya temple in twenty-first century CE, then we may consider the possibility that a kingdom in Sunda already existed since seventh century CE or even before.

There are still discussions going on to define the existence and historical role of Sunda based on its other name, "Parahyangan," the home of the spirits (of the ancestors) or the gods. Ricklefs(see, Wessing, 1997 p. 327) points out that "…to Javanese, the kingdom of Pajajaran in West Java was a place of particular spiritual significance… a place associated with the spirit world of Java. Indeed, the name Priangan a mountainous part of West Java, derives from *parahjangan* or *prajangan*, meaning "place or the home of the spirits." Wessing himself defines *Parahjangan* or *prajangan* as a reference to the spirits or ancestors, and perhaps to the nature spirits.

Through his study of oral mythologies that are spread both among Sundanese and Javanese, Wessing explains that Pajajaran (Sundanese kingdom) was not a counterpart to Majapahit, but a predecessor. There was a separation of power in Java between two brothers, one in the West (Sunda/Pajajaran) and the other one in the East (Java/Majapahit). Cipamali was the border for those two kingdoms. He also uses the Carita Parahyangan manuscript as a reference. He argues that the ancestor of Majapahit was Sunda, and its spiritual origin lay in Sunda, thus, in a spiritual sense, Sunda was superior to the rest of Java. (for detail see, Wessing, 1997, p. 317-353)

The Bujangga Manik manuscript informs us about the borders of Sunda, it says:

Sadatang ka tungtung Sunda meu(n)tasing di Cipamali, datang ka alas Jawa. Ku ngaing geus kaideran, lurah-lĕrih Majapahit, palataran alas Dĕmak. Sanĕpi ka Jatisari datang aing ka Pamulang. (When I reached the limits of Sunda, I crossed

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[37] These inscriptions are about the rules in the sacred area. Those inscriptions left some questions: These inscriptions mention the Sundanese King, Jayabhupati, and he was attributed as Maharaja Sri Jayabhupati Jayamanahen Misnumurtti Samarawijaya Sakalabhuwanamandaleswaranindita Haro Gowardhana Wikramottunggadewa. The attribute was similar to Airlangga, a king from the eastern part of Java. It is not only indicated by the long attribute, but also Jayabhupati's religion is close to Airlangga's religion, Vaisnava Hinduism, both of them lived in the same era, and both of them were concerned of the similar task, building a sacred area (Notosusanto et al., 1990; Ekadjati, 2005).

the river Pamali (and) came to the Javanese territory. I wandered through the several districts of Majapahit (and) the plains of Demak region. After reaching Jatisari I came to Pemalang. (lines 80–87) (Noorduyn, 1982; Noorduyn and Teeuw, 2006)

The Bujangga Manik text tells us not only about the border of Sunda in the east, but also the Ciserayu river in the south and Hujung Kulan in the west (Ekadjati, 2005). Regarding the borders of Sunda we need to analyze carefully. Guillot, Nurhakim and Wibisono (1996), who researched Banten, argue that this region in the western part of Java island had its own history separate from Sunda. They also argue that Banten Girang (the old name) in the past was closer to Javanese culture than to Sundanese. They found a lot of artifacts, like Hindu statues and ruins of temples which are similar to Javanese Hindu art. They further explain that Sunda was the exile of the Sanjaya descendants (see introduction). These fled because of Srīvijaya's expansion and then, at the mercy of the king of Srīvijaya, they built their kingdom in the western part of Sunda around tenth century CE, which made it possible to control the Sunda Strait at the time. Guillot (1996) also argues that the Sundanese, in this case from Pajajaran (see below), were too backward to build the temples.

But he did not account for the excavations of two Hindu-temples in the Southeast of West Java, the Cangkuang (ca. seventh to eighth century CE) and the Bojongmenje temple (ca. seventh century CE). These are claimed by Indonesian historians to be older than the Central Javanese and East Javanese temples. There is also a report which came from Tome Pires, a Portuguese who visited the Sunda Strait in 1513. He wrote that Banten was a big harbor, which belonged to Pajajaran, and he also mentions an abundant production of textiles, of which we, unfortunately, have no artifacts. Today historians suggest reconsidering the historical influences, which were for a long time supposed to be starting from central Java and later to the west. Since the temples, as mentioned above, are older than the oldest ones in central Java, it might be the reverse, which might be further demonstrated by the earliest written documents being found in the western part of Java.

There are some facts which we can read from the Fragment Carita Parahyangan (FCP) and Carita Parahyangan (CP) manuscripts:[38]

- These manuscripts inform us about two polities in early Sunda: Sunda and Galuh kingdom. FCP writes about the polity of Sunda, which was founded by King Trarusbawa, and the CP manuscript writes about the polity of Galuh,

[38] **CP manuscript was studied for the first time by K.F. Holle, 1882; Pleyte, 1911; Noorduyn, 1962; Darsa, Sofianto, and NS Suryani, 2000), who studied the manuscript later on. These manuscripts were written at the end of the sixteenth century CE when the Islamic power was conquering all the Hindu kingdoms in Java.**

which was established by Wretikandayun. Both manuscripts write that Sunda had more power than Galuh, but later the two kingdoms became one. The capital of Sunda was Pajajaran, and that of Galuh was Kawali.

- The CP manuscript mentions Sanjaya,[39] the King of Galuh (one region of the western part of Java), and the son of Sannaha. Sanjaya is also written on the Canggal inscription (732 CE) from the middle part of Java. The explanations about Sanjaya, both in the Carita Parahyangan and Canggal inscription, are similar, both of these sources tell us about the great Sanjaya, who crossed the land and the sea to expand the power.[40]
- The Sundanese kingdoms had been in contact with many kingdoms from overseas and are said to be respected by them: Keling (India), Kemir, Melayu, Barus (probably all in Sumatra), China and other countries.[41]
- Another interesting point: the CP manuscript describes 'Wahanten Girang' (Banten Girang?) as one of the small kingdoms which were under control of the Sunda kingdom.[42]
- Carita Parahyangan tells us about the fall of the Sunda kingdom, as the last Hindu kingdom in Java after they fought fiercely and struggled against Demak and Cirebon, the Javanese Islamic kingdoms.

Some of the names that Carita Parahyangan is mentioning are in line with the information in inscriptions and other sources, i.e.,: Rakean Darmasiksa[43] who built many of the sacred places is mentioned in Saṅghyaṅ Tapak inscriptions as

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[39] But this is still under debate, it is suggested that Sanjaya in Carita Parahyangan has nothing to do with the Sanjaya from middle Java, but Poerbatjaraka, the Indonesian historian, argues that Carita Parahyangan is valid as a source of history (Notosusanto et al., 1990 p. 382)

[40] *"Prangrang ka Mananggul, éléh sang ratu Mananggul, Pwanala panulak sanjata. Tuluy ka Kahuripan, diprangrang, éléh Kahuripan, na Rahiyangtang Wulukapeu nungkul. Tuluy ka Kadul, diprangrang, éléh Rahiyang Supena, nungkul. Tuluy ka Balitar, diprang, éléh sang ratu Bima. Ti inya Rahiyang Sanjaya nyabrang ka désa Malayu. Diprang di Kemir, éléh Rahiyangtang Gana. Diprang deui ka Keling, éléh Sang Sriwijaya. Diprangrang ka Barus, éléh Ratu Jayadana. Diprang ka Cina, éléh Patih Sarikaladarma"*
Free translation:
Expanding to Manunggul, to Kahuripan, they are defeated. Expanding to the south to defeat Ra - hiyang Supena, to Blitar, Sang Ratu Bima then was lost. Rahiyang Sanjaya then sailed to Malayu, to Kemir to defeat Rahiyangtang Gana. Expanding to Keling, then Srīvijaya was defeated and to Barus to defeat ratu Jayadana, the King of Barus. Governor Sarikaladarma in China had also been defeated.

[41] As written above, the Sunda area had already overseas contact since around sixth - seventh century CE.

[42] This might be connected with Guillot's argument.

[43] "*...disilihan deui ku Sang Rakéyan Darmasiksa, pangupatiyan Sanghiyang Wisnu, inya nu nyieun sanghiyang binayapanti, nu ngajadikeun para kabuyutan ti sang rama, ti sang resi, ti sang disri, ti sang tarahan, tina parahiyangan. Ti naha bagina? Ti sang wiku nu ngawakan Jati Sunda, mikukuh Sanghiyang Darma ngawakan Sanghiyang Siksa. Lawasniya ratu saratuslimapuluh tahun...* " (for further detail see Darsa and Ekadjati, 2003, p. 202)
" ... followed by Sang Rakéyan Darmasiksa, an embodiment of Vishnu, he built Binayapanti sanctuary, he was inherited the sanctuary of – Sang Rama, Sang Resi, Sang Disri, Sang Tarahan of Parahyangan. How could he be inherited of those spiritual power? Because he obeyed Jati Sunda, adhered Saṅghyaṅ Dharma obeyed Saṅghyaṅ Siksa. He was a king for 150 years long ..."

King Jayabhupati. Prebu Maharaja, who died in Bubat in thirteenth century CE, is also mentioned in Javanese sources (Serat Pararaton and Kidung Sunda) and a Balinese source (Kidung Sundayana). Three of the Sundanese kings are also mentioned in the Batu Tulis Inscription.[44] Another king who is mentioned in an inscription is Ranghyang Niskala Wastu Kancana, the name is written in the Kawali inscription.[45] Even though there are a lot of poetic and metaphoric expressions, Carita Parahyangan is shedding some light on the puzzle to a complete history of Sunda.

Regarding the same spiritual realms in West Java, Sukanda-Tessier (1992) adds another aspect: that the Javanese Islamic Sultanate Mataram used Sundanese oral mythologies, to legitimize their power in Sunda. Their myth claims that Prabu Silihwangi has the same spiritual ancestors as the Javanese king. It can be assumed that it was difficult for Islamic Mataram to gain acceptance for the new religion and their political power. From the artifacts that reach us until today, we can assume that there was no Hindu-Javanese colonization on Hindu-Sundanese in the early time, as also Wolters (1999) writes. Pigeau also states that the Sundanese Kingdom was neither conquered nor culturally wholly assimilated by Javanese Kingdoms as compared to Madura and Bali (1967, p. 143). This might explain the use of Javanese language in some Sundanese inscriptions as a lingua franca for religious purposes.

Sunda is mentioned eight times in the Carita Parahyangan manuscripts, six of which denote a region or a kingdom, and two times the word Sunda refers to the meaning of ethics, tradition, or holy lessons. We can also find the word Sunda in the Bujangga Manik, Saṅhyaṅ Siksa Kandang Karesian, and Amanat Galung-

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[44] We can freely translate the text on the inscription as: "This is in commemoration of Prabu Ratu. He (diya) was crowned as the King Prabu Guru Dewataprana, who was again inaugurated as Sri Baduga Ratu Haji in Pakuan Pajajaran Sri Sang Ratu Dewata. The one who built the defense moats, he was the son of Ranghyang Dewa Niskala, who is buried in Gunatiga, the grandson of Ranghyang Niskala Wastu Kancana, who is buried in Nusa Larang. He (Siya) is the one who built the mounds, established the sacred forest, and made the sacred Sanghyang Telaga Rena Wijaya lake. Yes, he (siya) was it. In 1455 Saka."

There are two different readings of its date, "...ban bumi"; Poerbatjaraka reads it as "nge(m)ban bumi" which has the meaning 1225 S/1333 CE, but Pleyte reads it as "e(m)ban" which means 1455 S/1533 CE. When we count the year for King Jayabhupati, who existed around the eleventh century CE (see Saṅghyaṅ Tapak inscription), he would have been king for 150 years (!). Whereas Prabu Maha raja died in the thirteenth century CE in Bubat, then for the two kings before King Guru Dewataprana, the logic of Pleyte is more acceptable.

Djafar and Surti (2016) argue that the inscription was initiated by King Sri Baduga Maharaja. But should we not assume that the initiation was from the king after Sri Baduga Maharaja, since it states a commemoration of Sri Baduga Maharaja?

[45] There are six inscriptions found in Ciamis, which are still in situ. One of the inscriptions names King Wastu, whose palace is named Surawisesa in Kawali. According to the Carita Parahyangan text, he was the son of the king Prabu Maharaja, who died in the Bubat war. Then, we can safely assume that the names of these Sundanese kings, who are mentioned both in the manuscript and on stones, are related.

gung manuscripts, where it denotes a region. We can conclude that Sunda was the name of a kingdom or region which was identified by its culture. These manuscripts come from around fifteenth to sixteenth century CE, it cannot be earlier than fifteenth but no later than sixteenth century CE, because it writes about Hindu-Buddhist laws, even if some Arabic words are already used. We cannot be sure that the Islamic influence was already there. However, the documents must be older than the beginning of the Mataram Islam era around the seventeenth century CE. If we count from the tenth-century inscription, Kebon Kopi 2, we might say that the Sunda Kingdom existed for at least six to seven centuries.

From all these pieces of information – Chinese and Arabian sources, inscriptions, and manuscripts – we can assume that a Sundanese Hindu/Buddhist kingdom has existed since the time of Tarumanegara in the fifth century CE until its fall to Javanese Islamic powers in the seventeenth century CE. After that, Sunda had been colonized by Javanese sultanates, and later Sunda was under Western colonization. Both from Chinese and Arabian geographers and also from the artifacts that piece by piece appears on the surface, we are informed that Sunda was active in international trade. Arabian traders in the sixth-seventh century CE called them 'Sindan,' a place where one produced the best quality of pepper. From the Chinese sources, it is clear that at the time, Buddhist law had flourished in the region.

The first phase of the Batujaya temple building came from the sixth century CE, and this might confirm the Chinese information. There is no clear proof until today that Srīvijaya ever controlled the Sunda kingdom, not even in the Carita Parahyangan manuscript if we consider it as a respected source of Sunda history. The Javanese Islamic sultanate's colonization of Sunda had many influences, not only in religion but also in politics, language, literacy, and music. That is why many researchers thought that Sunda was backward like they were not able to develop their own script, did not have their own language, were not able to build temples, were not able to produce statues. Or were they a 'silent' society? Such a sadness of one old Sundanese writer is expressed in the last paragraph of CP manuscript.[46]

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[46] ***"...tembey datang na prebeda***
Bwana alit sumurup ring ganal, metu sanghara ti Selam.
Prang ka Rajagaluh, éléh na Rajagaluh. Prang ka Kalapa, éléh na Kalapa. Prang ka Pakwan, prang ka Galuh, prang ka Datar, prang ka Madiri, prang ka Patégé, prang ka Jawakapala, éléh na Jawakalapa. Prang ka Galélang.
Nyabrang, prang ka Salajo, pahi éléh ku Selam. Kitu, kawisésa ku Demak deung ti Cirebon, pun."

"...the changes have just come a very smooth wind of change, passing in a low posture, threats, and destructions from (Selam) Islam.
Fighting in Rajagaluh, Rajagaluh failed. Fight in Kalapa, Kalapa failed. Fight in Pakuan, Galuh, Datar, Madiri, Patēgē, Jawakapala, Jawakapala, all failed. Fighting in Galélang. Sailed to fight in Salajo, but failed by Selam (Islam). That's why we are now colonized by Demak and Cirebon."

3.3 Government System of the Sunda Kingdom

The government system of Sunda was based on the *Tritangtu* concept; the roles are called: *prebu, rama* and *resi*. This concept is actually an embodiment of the Hindu trinity: Viṣṇu, Brahma, and Śiva. Prebu is the king and stands for Viṣṇu, *Rama* is a council of respected citizens, who are expected to care for the needs of the population, and *Resi* stands for the clerics who are responsible for law and religious affairs. The structure of the government is organized on two levels, central and regions. *Prebu* is the nomination of the king in the central government, and *rakéan* are the kings of every region. The prebu is responsible for governing the whole country and care for any foreign relationships, and *rakéans* are responsible for administering their region and obeying to the center. Every region has its rights, which are called *pangwareg* and obligations, which are called *pamwatan* (for detail, see Ekadjati, 2005).

There were also three law systems to control the whole country, not only for the majority but for the king and the clerics too. *Dewasasana* is religious guidance. *Rajasasana* is the law for the king to govern the country, and *manusasana* is the law for the people. The Carita Parahyangan and Amanat Galunggung texts explain that *Rajasasana* is written in the *Ratuning Bala Sariwu* book (Ekadjati, 2005), but unfortunately, we have no further information about this book. The Sańghyań Siksa Kandang Karesian text is one example of *Manusasana*. And if we read the translation of Sańhyań Sasana Maha Guru,[47] we should assume that this text is an example of *Dewasasana*.

The *Tritangtu* or law system concepts are not only an embodiment of Hindu/Buddhist concepts, but they are also connected to their older belief system, which is called *Jati Sunda* (see sub chapter 3.5). According to Sumardjo (2012), Listiani et al. (2013), the three-pattern concept is basically the Sundanese cosmology, which is dividing the world into three parts: an upper, middle, and underworld. The upper world relates to the female principle, and the underworld has the male principle. This concept is still used in some remote societies, like Kanekes, which divide their community into three parts: innermost, middle, and outer. Innermost is considered the purest (wearing white) and has the right to take care of the law and to connect to the spiritual world. It is not allowed for the innermost circle to make direct contact with the outside world. The middle part (wearing dark) has the right to communicate and the task to connect with the outside world.

[47] **See for the explanation in sub chapter Sundanese Society and Economy**

3.4 Sundanese Society and Economy

Since our resources regarding daily life and economic activities of the Sundanese in that period are very limited, we have to rely mainly on their own written testimonials. Next to inscriptions and excavations, we only have the content of original sources, some of which will also be used in the following chapters and our visual analysis. In particular, the most helpful texts are the Saṅghyaṅ Siksa Kandaṅ Karesian and Saṅghyaṅ Sasana Maha Guru texts.

Saṅhyaṅ Siksa Kandaṅ Karesian (further in short SSKK). Its colophon has been said to record the date when the text was written as nora catur sagara wulan (0-4-4-1), which would have the meaning 1440 Ś (1518 CE). However, according to Pleyte (1914), it states only the month when it was finished and explicitly says that it is a copy of a book from the year given above. Unfortunately, there is no information about the author and the origin, and we cannot know if that book was the original or another copy of an older book. We have to accept that the sample in question cannot be dated but must be younger than 1518 CE. Now the text is in the collection of the National Library of Indonesia too, and the code is L 630. The manuscript has thirty leaves of gebang and is written with ink in the old Sundanese language. This text was mentioned for the first time by Holle in 1867 and finally transcribed by Atja in 1981 and published by Danasasmita in 1987. The text is a didactical prose, which contains the rules and the guidance for religion and morals to the Sundanese people.

The text has two passages, the first passage is Dasakerta as "kundangon orang reya" (people guidance) and the second passage is Darmapitutur, knowledge to enrich the people with a good life in the world (Danasasmita et al., 1987). If it is compared with the other religious texts, SSKK explains moksha[48] in a differ-

[48] At first, moksha meant only freedom from death, and the word appears in the Upanishads in various forms, often as a verb, "to set free." Free oneself from the grip of death, the grip of days and nights, the grip of the waxing moon and climbs up to heaven: "It is freedom, complete freedom (Brihadaranyaka Upanishads 3.1.3––6,34––35)." Or in Chandogya Upanishad 8.13.1 moksha is "Shaking off evil, like a horse its hair, and freeing myself, like the moon from the jaws of the demon of eclipse, I, the perfected self [atman], cast off the imperfect body and attain the world of brahman." Moksha according to Shvetashvatara Upanishad 6.16,18 comes to designate Release not merely from death or evil in general but, more specially, from samsara, from the cycle of rebirth. Then, Mundaka Upanishad associated moksha with renunciation (samnyasa): "The ascetics who have full knowledge of the Vedanta (the end of Veda) are purified by the discipline of renunciation. In the worlds of brahman, at the time of the final end, they become fully immortal and fully freed." And whoever knows this (yo evam veda) will realize that unity with brahman upon his death and be freed from redeath. Or we can conclude that moksha is final Release from the cycle of transmigration (further read see Doniger, 2010, p. 178-179).
In Balinese Hinduism moksha is one of five principal beliefs: Brahman, the belief in the existence of one almighty god head; Atman, the belief of the soul and the spirit; Samsara, the belief in reincarnation; Karma, the belief in the law of reciprocal actions; Moksha, the belief in the possibility of unity with the divine [Nirwana] ((Nettheim, 2011, p. 57).
The Sewaka Darma, a Sundanese text describes that moksha means free from the grip of the desires, freeing our self from ego and then to attain the dharma (see the translation by (Danasasmita et al.,

ent way. The differences are: first, SSKK teaches the people how to live sapiently by knowing their dharma.[49] Second, if they live their dharma entirely, they would reach the Kreta 'worldly wisdom'. Third, the fruitfulness in dharma would open the chance to reach moksha without being a monk. Based on the attitude of the text, Danasasmita et al. (1987) argue that the text was more for the public, not for the monks, and he suggests that the core of Saṅhyaṅ Siksa Kandaṅ Karesian are the rules to live in dharma. At the beginning of the research, SSKK was assumed to be a codex unique, but in 2013 the second text of SSKK was found and researched by Nurwansyah. The second version is written on lontar, and the script used is the Sundanese script. There are few differences between the two, but nothing of importance, the differences between them are instead of completing each other. In its colophon, it states that the text has been written on the tenth month on Tuesday in Nusakrata. Unfortunately, there is no year and name of the author (Nurwansyah, 2013).

Saṅghyaṅ Sasana Maha Guru texts, which is Pleyte (1911 p. 198) named the text 'Saṅhyaṅ Pustaka,' and the text is the sacred commandment of Maha Guru (Çiwa). But when we read the first paragraph of the text over again, it explains the meaning of the words 'Saṅhyaṅ Sasana Maha Guru'. It states that sasana means the ancestry heirloom. Maha means greater than the greatest, greater than the universe. Guru means the source for all human beings. We might say that this text is a guidance for the people who dedicate their lives to the dharma. (further detail sees Gunawan, 2009 p. 99)

Unfortunately, the colophon records no information of the year when the text was written. Nevertheless, it mentions Desa Mahawitra, Gunung (mount) Jedang as the origin of the text and that it was finished in the fourth moon. The writer is a 'thinker child who weighs the gold.' The unique things here: almost all Sundanese texts ask for apologies for their handwriting in the end, which they compare to animals' footprints, in this case, chicken's and crab's. We can see that this humbleness as another indication that writing was an everyday activity, and fluid generation of a text was more important than perfection. Plus, they are also asking for the opinions and contributions of readers. We could still find it until the 90's generation. It might be interesting for other research that is connected to the pedagogic tradition. Two points are essential to be noted here are Desa Mahawitra, Mount Jedang.

About the year, Gunawan (ibid) agrees with Pleyte's assumption (1914 p. 441) that the text was coming from the same period as SSKK, namely sixteenth

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1987, p. 69).

[49] Dharma is religious law, justice, righteousness. Sadharana dharma means religious law that applies to everyone in common. And sanatana dharma means the eternal religious law (Doniger, 2010, p. 698, p. 701)

century CE. Nevertheless, in this case, we need to be careful because Pleyte himself writes that SSKK with code 16 L 630 is a copy of the book from 1440 Ś (1518 CE). It means that the text with the code 16 L 630 could be younger than 1518 CE. Pleyte considers that both texts come from the same period because both write about tax terms like calagra, dasa, upeti and pangurang. But, Pleyte also writes that those terms had been known from the Majapahit period too (TBG 1911 53, 198). Since we know that Majapahit was not older than Sunda, we may assume that the terms had been used or known in Sunda before the sixteenth century CE. Since the copying of texts was a tradition over the centuries, it is difficult to identify the year of this text if the colophon does not mention it. The text is in the collection of the National Library of Indonesia with code 15 L 621.

There are many assumptions that the old Sundanese society was based on dry-rice cultivation. Hall (2011) writes that West Javanese did not know wet-rice cultivation until seventeenth century CE, Sumardjo (2012) argues, based on the Carita Parahyangan text, that there were four main economic activities to support the people: dry-rice cultivation, hunting, vending and tapping the palms for liquor. He suggests that the Sundanese culture was mainly based on dry-rice cultivation. Ekadjati (2005) also assumes, based on old texts, that Sundanese people formed a dry-rice cultivation society. But these assumptions need to be further investigated since the archeological research on the Batujaya Temple on the northern coast of West Java was conducted, as mentioned above. This temple was made from bricks, and the tempers contain the tusks of rice. A microscopical analysis by biologists should reveal if this was from dry-rice varieties or wet-rice (or both).

If we could know how early wet-rice cultivation existed in West Java, we might also assume that at that time, they had at least calendars and some form of bookkeeping for irrigation. The oldest form of calendars, still known to the very traditional Kanekes people, consists of simple, regular geometrical forms and might even have influenced script development. Unfortunately, until today, we have no secured dating for both the earliest artifacts of calendars nor the beginning of wet-rice cultivation, so this will not help us in questions of script development.

When reading the Tugu inscription of Tarumanegara, which writes about the construction of canals, we might assume that such activities related to irrigation. I tend to agree with Djafar (2010) that we need to look closer at the topography of the Sunda area, which has a mixture of mountains and coastal regions. The rural area is lying in the middle of the land, dividing the north and south coast areas. Dry-rice cultivation was possible in the rural highland regions, but for the lowlands, like all the coastal areas of West Java, it was possible to develop wet-rice cultivation. This should explain why both methods of rice cultivation are mentioned in Saṅghyaṅ Siksa Kandaṅ Karesian, a sixteenth-century CE text (Danasasmita et al.,

1987). Irrigation was not unknown to the old Sundanese society, it was not only recorded in the Tugu inscription, but there is another text, *Jampé Nyitu*,[50] which contains mantras to be used during preparation for building irrigation systems. The text mentions the ground structures, and their usefulness for irrigation: *rincik rancak* (rocky grounds), *dangdang wariyan* (barren grounds), *tegus bengkung* (?) and *kadal meteng* (bumpy grounds). From the description, it is clear that the grounds are not suitable for agriculture, but construction.

Boelaars in Sumardjo (2012) divides historical Indonesian society into four primordial categories, namely gatherer/hunters, wet-rice cultivators, dry-rice cultivators, and coastal dwellers. These societies have their own social characteristics, the gatherer society is naturally consumptive, independent, egalitarian and humble; since their ground and irrigation need much preparation the wet-rice society has highly organized characteristics; dry-rice cultivation society has mixed features, between gatherer and wet-rice cultivation societies (some are also semi-nomadic, avoiding exhaustion of fertile ground). The old Sundanese society must have been a mixture of all these characteristics, and we may assume that this was already a complex society.

The Saṅghyaṅ Siksa Kandaṅ Karesian and Saṅghyaṅ Sasana Maha Guru texts reflect this complexity of contemporary society. These texts list in a detailed enumeration a lengthy list of specialists for different activities in the society, from craftspeople, religious advisors, astronomers, translators all the way to cooks, artists, even divers, and fishermen – over thirty professions are mentioned. This points to a highly organized society with defined individual roles. The same text also describes activities like bookkeeping, land survey, and taxation and mentions prices (the oldest genuine coins found in the archipelago go back to 850 CE and come from the Śailendra dynasty).

It is important to be noted that Puhawang (ship captain, see chapter 2) is one of the professions mentioned here, the text encourages the reader to ask puhawang all about harbors, seafaring, and the ocean. But we may interpret the word 'ask' here, as we can see from the context, rather means seeking some lessons on seafaring. Included in this list, it should indicate that seafaring is one of the important activities in the region too. And then, they wouldn't need a harbor for fishing boats that can be pulled up to the beach. This activity rather opens

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[50] The manuscript is part of the collection of the Indonesian National Library with code 407. This manuscript contains five texts, namely Kawih Pangeuyeukan, Silsilah Panjalu, Mantra Putra Suléman, Jampe Nyitu, and Rajah Nyi Pohaci Dangdayang Tresnawati. The medium is lontar, the script and the language are Sundanese. The manuscript is a codex unicus and one of the twenty texts which were given to the Bataviaasch Genootschap by R.A.A. Kusumahdiningrat, a Galuh Regent in 1866. There is no information in the colophon about the origin and no dating of the text, but based on Silsilah Panjalu, it could be written around the sixteenth century CE. On the other hand, Mantra Putra Suléman is showing strong Islamic influence so that another valid assumption would be around eighteenth century CE (for a detailed discussion, see Ruhimat, Gunawan, and Wartini, 2014, p. 21-23).

contact with overseas regions and would be based on the capability to build large ships. In the same text we are informed that there are translators to be asked about foreign languages, which are enumerated by an impressive list, including countries as far away as Mesir (Egypt), Persia, India or China – in all over forty countries with Java last in the list, obviously as the closest one.[51]

Finally, some insights into their crafts and visual culture, which are described in the same text, should be given. Even if we probably cannot relate this to writing culture directly, such a visual culture definitely needs highly developed craftsmanship. The old Sundanese knew a lot of textile patterns, and the text is delivering an impressive list: *kembang muncang, gagang senggang, sameleg, seumat saruhun, anyam cayut, sigeji, pasi, kalangkang ayakan, poleng rengganis, jayanti, cecempaan, paparanakan, mangin haris, sili ganti, boeh siang, bebernatan, papakanan, surat awi, parigi nyengsoh, gaganjar, lusian besar, kampuh jayanti, hujan riris, boeh alus* and *rage panganten* (for further reading see Danasasmita et al., 1987). But without any textile artifacts preserved over time, we have no further information if the patterns were produced by weaving or by batik, and we have no clues how the patterns looked like. Nevertheless, this seems to confirm the statement by Pires that textile was one of the commodities from Sunda/Pajajaran.

Weaving is mentioned as an activity of women in the old Sundanese society and another text, Kawih Pangeuyeukan (Ruhimat, Gunawan and Wartini, 2014),[52] poetically describes the whole process which surrounds weaving: all activities in detail from planting cotton all the way to the finished garment. The text is not only describing the process of making clothes, but it contains the suggestion to cover the upper and bottom part of women's body. Kawih Pangeuyeukan is also mentioning the adoration of Sundanese people for Chinese silk[53] – the colors and the motifs as *susulaman lulukisan* (embroidered and painted). According to the text, weaving is a sacred activity and only women are is allowed to do that. Weaving was important for women to become respected as a wife. Finally, one combined technique of dyeing and weaving, called Ikat, which only exists in a few places in the world and is demanding highly developed skills, is still used by the Kanekes women.

Numerous patterns of carving are also mentioned in the text Saṅghyaṅ

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[51] **Even if the text we are referencing is from early sixteenth century (apart from probably having been copied over and over), we may assume that such activities don't develop in one generation.**

[52] **For further information of the text see, footnote nr. 50**

[53] **It is not surprising actually because of the Chinese texts from the early Sung Dynasty (420-478 CE) until Ming Dynasty (1368-1643) report that in the diplomatic relationships, Chinese Emperors sent Chinese silk as gifts back to the Southeast Asian kingdoms. (for further detail see, Groeneveldt, 1880)**

Siksa Kandang Karesian: *naga* (dragons), *barong* (the king of good spirits), birds, lions, and monkeys. Also listed are painting patterns: *pupunjengan, hihinggulan, kekembangan, alas-alasan, urang-urangan, memetahan, sisirangan, taruk hata,* and *kembang tarate* (lotus), but again we have no sources to show how these might have looked like and which media were used.

3.5 The Sundanese Religion

As already explained in the previous chapters, the Tarumanegara inscriptions (around fifth century CE) are the earliest documents that inform us about the influence of the Indian religion in West Java and generally in Java. These inscriptions mention that King Purnavarman was a devotee to Viṣṇu. Floral elements and footprints decorate some of the inscriptions. Footprints have been a religious symbol throughout southern Asia, like India and Sri Lanka, for a long time; in particular those of Viṣṇu and, in a more symbolic form, those of Buddha. However, such worshiping of footprint seems to have been known in the early Southeast Asian tradition long before Indian influence came (see Hall, 2011, p. 108). We can find these, for example, on the island of Nias (near West Sumatra), where there is enough evidence for the worship of the footprints of ancestors.

The Chinese geographer's report and the excavation of the Batujaya temple complex are evidence of the influence of Mahayana Buddhism in West Java. For Batujaya in Karawang, which was also under Tarumanegara's reign, we have a safe dating (by carbon-14 method) to around the 6th century CE for the beginning of its construction. Djafar (2010, p. 126-130) states that the temple shows the earliest Mahayana teachings, similar to the Nalanda style in northern India. De Casparis and Mabbett (1992) argue that Mahayana Buddhism in Java first flourished during the Śailendra (Srīvijaya) period (ca. eighth to ninth century CE) and again, but side by side with Śaivism (the cult of Śiva), during the Singhasari-Majapahit period (ca.thirteenth to fifteenth century CE). The Batujaya temples add another indication that actually in West Java, the first influence of Mahayana Buddhism existed two centuries earlier.

Another early group of religious buildings from West Java is Cibuaya, a Hindu temple complex, which was made from bricks and differed from the early temple styles of Central Java. And finally, there are the Cangkuang temple (a seventh to the eighth century CE Hindu temple) and the Bojongmenje temple (a seventh century CE Hindu temple). Even though the archeological excavations of these are still limited, the existence of *candi* (temple) and *arca* (statues, in old Sundanese known as *hareca*) are mentioned in ancient texts. Like in the Tutur Bu-

wnatext[54] verse 38 A & B, which mentions stones for lingga and *candi* (temple). It also further mentions candi bang, which means the red candi, and we may assume terracotta temples, like those in Batujaya. And also, candi putih (white temple), might be possibly built from chalk or andesite stone. Hareca is also mentioned in the Saṅ Hyaṅ Siksa Kandaṅ Karesian and the Bujangga Manik text.

But in West Java, there are also a lot of megalithic sites, so-called punden berundak, a stone terrace building, which is supposed to be the basic concept for later temple buildings. Even in the much later Bujangga Manik text (from fifteenth or sixteenth century CE), the author describes in detail that he built a place for worship which implicitly defines such a punden berundak, but with erect stones on the top, carrying a roof of marble. So we can assume that Hindu-Buddhist temples in West Java assimilated such concepts from earlier religions (also see Manguin, 2011).

Sumardjo (2012) also argues that in West Java Hinduism and Buddhism existed in parallel, but he assumes that these religions developed in different areas, Pajajaran (north-northwest) was more into Buddhism and Galuh (south-southeast) was more into Hinduism. Tantrayana influenced both religions. According to Danasasmita et al., (1987), a carved stone was found in Ciampea (Bogor) with a mandala and mantras, which are typical tools for meditation in Vajrayana.[55] Danasasmita argues, and Sumardjo follows his position, that pantun (we will get back to this later), the Sundanese oral tradition, embodies the Vajrayana teachings.

The Hindu gods are quite rare to be mentioned in any Sundanese religious text, while the local deities are presented more often. We can find that also in the stories of Hindu heroes, such as the story of *Para Putra Rama*: there are only a few names which are still similar to the Indian or Old Javanese Ramayana story; the author even set it into the local background. Noorduyn argues that Sundanese

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[54] The text is in the collection of Indonesian National Library with code 620 in the box nr. 86. It is religious prose in Sundanese language and script. The text was transcribed and translated by Wartini et al., 2010.

[55] The school of Tantric Buddhism is one of the essential Buddhist traditions, usually translated as „diamond vehicle" or „thunderbolt vehicle". The name is referring to the Vajra, the mythical weapon of Indra, king of the gods, which is a symbol as much as an object of meditation in this Buddhist branch. The two other major schools are Hīnayāna, the „smaller vehicle" (as translated by Tibetan teachers, „lesser vehicle" in Sanskrit original) and Mahāyāna, the „great vehicle". This applies if we consider Vajrayana as a separate branch at all. Otherwise, it should be seen as a part of Mahāyāna. A vehicle in this context is to be understood as a way of going to enlightenment. Thrangu Rinpoche writes that "all three traditions of Hinayana, Mahayana, and Vajrayana were practiced in Tibet and that the Hinayana which literally means "lesser vehicle" is in no way inferior to the Mahayana." (Khenchen Thrangu Rinpoche, Distinguishing Dharma, and Dharmata, 1999, p.113). While the term Tantric Buddhism is in common use by scholarly literature, we must observe that „Tantric Buddhism [...] is not the transcription of a native term, but a rather modern coinage, if not totally occidental", but further „... our use of the anglicized adjective "Tantric" for the Buddhist religion taught in Tantras is not native to the tradition, but is a borrowed term which serves its purpose." (Isabelle Onians, Tantric Buddhist Apologetics, or Antinomianism as a Norm, D. Phil. dissertation, Oxford, Trinity Term 2001, p.8).

Ramayana has more similarity to the Ramayana of mainland Southeast Asia than to the Malay or Javanese version (for further detail, see Noorduyn and Teeuw, 2006, p. 139).

All of these facts point to a syncretism, not only between Hinduism and Buddhism, but also an integration of elements of older cults. This conforms with the content of some texts we will use in the visual analysis. The book *Sewaka Darma*[56] is evidence of Tantrayana, where the teaching of Śiva Sidhanta and Mahayana Buddhism coexisted in West Java (Danasasmita et al., 1987). The text itself contains a mixture of older cults and the Indian religions. The book even states that the *kahyangan* (heaven) of Indian gods, Ishvara, Viṣṇu, Mahadeva, Brahma, and Śiva, is lower than that of the Sundanese goddesses. The highest place is for the perfect soul, which reaches moksha, and it is named *jati niskala* (disappearance). The Saṅghyaṅ Siksa Kandaṅ Karesian text also explains that all creatures, including the Indian pantheon of gods, must obey *hyang* (the highest, but not further defined, spiritual force). This division of heaven can also be found in another passage: *sorga* is called the place for gods, in this case, the Indian pantheon, and *kahyangan* is the place for *hyang*. To enter the sorga is called munggah and to enter *kahyangan* is called *moksha*.

De Casparis and Mabbett (1992) also describe this different 'staging' of gods in the maritime Southeast Asian Mahayana Buddhism culture. However, in that case, the Hindu gods are at a lower stage than the Buddhist deities. Here we may find an interesting point: the old Sundanese culture replaced the Buddhist deities with their indigenous goddesses: Pwah Saṅghyaṅ Sri (goddess of the rice), Pwah Naga Nagini (goddess of the earth) and Pwah Soma Adi (goddess of the moon). However, the highest stage, according to the Sewaka Darma text, is for the perfect soul (moksha). After all, there is a phrase in the Sewaka Darma text, which implicitly defines their own religious ritual manners. The text emphasizes that even though every region (*Sunda, Baluk, Java, Chempa*) has its own ritual manners, these should not be seen as differences.

Not only the names of Hindu gods are rarely mentioned in most Sundanese religious texts, but also the name of Buddha himself; what the texts write is mainly the core of the teaching. According to Kawih Paningkes the highest entity is Batara Tunasasaranta, which is not Śiva nor Buddha, but some entity that cannot be seen (Munandar, 2010). In another text, Serat Dewa Buda,[57] a religious-philosophical

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[56] According to Darsa (2012), there are four texts of Sewaka Darma, one is in the collection of the Indonesian National Library with code 408 (it is of the samples in this study), and the other three are in the collection of Ciburuy, Garut, West Java. The first phrase of the text is '*ini kawih panyaraman*' (this is *panyaraman* poetry) and Darsa suggests rather naming Sewaka Darma as Kawih Panyaraman.

[57] The text is the collections of The National Library of Indonesia, with code Br. 638, and was researched by Ayat Rohaedi in 1988 as a project for Laporan Penelitian untuk Bagian Proyek Penelitian dan Pengkajian Kebudayaan Sunda Bandung.

text, it is explained that the highest entity is actually wisdom, which should be reached by every human. Śiva, Buddha, Brahma, Viṣṇu, Raksasa (demon) and Pitara are only visualizations of human senses and desires, which are transformed into puspalingga and statues (ibid). These visualizations are merely the guidance to reach the human's aim, Saṅ Hyaṅ Taya, which can be assumed to have the meaning of 'disappearance' or nirvana in the Buddhist concept, which doesn't include any god in it, only ultimate wisdom.

3.6 The Sundanese Oral Tradition

Oral resources have been widely portrayed as inaccurate if compared with written sources, and the discussion of orality can be found in chapter 1 of this book. In this subchapter, we will discuss how the oral tradition in Sunda was existing side by side with the written tradition.

In Sunda one very important oral tradition is called *pantun*, it is a theatre which is presented by one person only. The story would be performed by singing, accompanied by a single musical instrument. According to Sumardjo (2012), the concept of *pantun* is based on the old Indonesian mythical-spiritual system, which believes in a holistic cosmos but also integrates an understanding of dualism or antagonism. Every antagonism needs balance, and the human task is to keep the balance. The connections between humans, the universe, and the spiritual realm make it possible that humans may attain supernatural powers. The harmony has to be established in the middle world, that is why there are three layers of worlds and *pantun* reflects this concept. It is fascinating since the storyteller must be a blind man, or when he can see, he must close his eyes as long as the performance goes. In the beginning and at the end of the performance, the storyteller will be reciting some mantras.

Ayat Rohaedi and Sumardjo (ibid) argue that *pantun* is actually similar to many oral cultures in Indonesia, in this case, the Malay Austronesian. Ever since Hinduism and Buddhism were entering the islands, these ideas have been assimilated into the content of *pantun*. The substance of pantuns are stories of human beings with supernatural powers, who can fly, disappear or dissolve and wake up a dead body. For that reason, Sumardjo and Danasasmita argue that *pantun* contains elements of the Vajrayana teachings. Sumardjo further assumes, since tantra teaching is very esoteric and intellectually demanding, that pantun might come from the court area and be created around thirteenth century CE. But we tend to assume that it is also possible such an oral tradition has existed long before, and the new religions were mixed in and enriched this local tradition. Sumardjo also states that, even though its content reflects Vajrayana teachings, the primordial Sundanese culture is very dominant.

It is important to be noted that pantuns rather tell the stories of Sundanese heroes or, as Sumardjo writes, that the heroes were actually Sundanese princes or princesses, who became a myth for later generations as ethic guidance for the Sundanese. We do not have any confirmation that these heroes really existed or were just a legend, like Dayang Sumbi. Such legends may reach far back because the texts from fifteenth to sixteenth century CE, such as Bujaṅgga Manik and Saṅhyaṅ Siksa Kandaṅ Karesian, mention pantun and both are mentioning these heroes in pantun stories. We may assume that the heroes at that time were already a myth.

The Saṅhyaṅ Siksa Kandaṅ Karesian text not only writes about pantun, it also writes about dalaṅ. Nowadays, dalaṅ is the master who plays puppets (wayang), but the text does not inform us if dalaṅ had the same meaning or at that time there were other performances, which were played by a dalaṅ. The word wayang is mentioned in the Sewaka Darma text code 408, where it says "… *Nu buni pangwĕrĕg darma ngarana sa(ng) hya(ng) watang wayang …,*" (Danasasmita et al., 1987, p. 38 and 70) which can be freely translated as "… The invisible one, who is steering the dharma is named *Sanghyang Watang Wayang* … ." Could we assume that wayang was used as a metaphor here, if the puppet play was already known to the society? Regardless, the essential point that should be noted from this text: at that time there was another art to teach people orally, which in this case could also be visual.

Saṅhyaṅ Siksa Kandaṅ Karesian explicitly explains the different roles of *juru pantun* (the pantun teller) and *memen (dalaṅ)*. It is written:
"If you want to know the story of Darmajati, Saṅhyaṅ Bayu, Jayasena, Sedamana, Pu Jayakarma, Ramayana, Adiparwa, Korawasarma, Bimasorga (Bhīmasvarga in Sanskrit spelling), Rangga Lawe, Boma, Sumana, Kala Purbaka, Jarini, Tantri and all other stories ask dalaṅ." (see Danasasmita et al., 1987, p. 83)
And in another passage:
"If you want to know about pantun, such as: Langgalarang, Banyakcatra, Siliwangi, Haturwangi, please ask juru pantun."

From the two passages above, it can be perceived that dalaṅ had the role to play (or tell) the stories which contained Hindu and Buddhist teachings, so in this case, with elements from Indian religions. And pantun, judging from the names which are mentioned, as Sumardjo claims, is telling about the Sundanese (local) heroes or in this regard, Sundanese ethics. We will find in Sundanese texts such stories as Bimasorga, Ramayana, and Kala Purbaka (some of them will be used as samples in this study). These facts lead us to the assumption that it is entirely possible that the dalaṅ used the texts (or read the texts first) as a guide to tell the stories. Since the storytellers of pantun were always blind men or at least closed their eyes while they were telling the story, we may assume that the

knowledge of these stories was probably by oral transfer only. This had changed by the nineteenth century CE when the Dutch began to preserve the pantuns by transferring them into texts. As explained in the previous chapter, the parallel use of oral and written culture existed in many places, just like in India itself. It is understandable since the manual way of copying the books or texts was still tedious and consequently expensive. Besides the three constraints upon direct access to written materials, which Goody suggests (see chapter 1), the oral transmission also gives a chance to legitimate the priest, in our case juru pantun and dalaṅ, as the medium between the humans and the gods or the divine.

3.7 The Sundanese Writing Tradition

The history of the writing tradition in Sunda is related to the peak of trading in Southeast Asian waters in the early common era. Even if it is assumed that the contact between South and Southeast Asians has begun much earlier, these intensive relationships left many traces on both sides (see chapter 2). The first written sources in Java were found in the western part of the island, namely the seven inscriptions of King Purnavarman of Tarumanegara, which lay in the area that was later to be named Sunda. Those inscriptions were written about fifth to seventh century CE. Five of them contain written information (all of which are part of samples in this study), and two of them only visual signs. These five inscriptions include the legitimations of power for the king Purnavarman of Tarumanegara.

After Tarumanegara, the development of a writing tradition in this area seems to be 'silent' from the lack of artifacts. After the seventh century CE, more of the durable written sources are found from the central and eastern parts of the island. That is why historians consider these areas as the main source for the development of Indonesian writing culture in general. De Casparis' palaeographic work on Indonesian writing culture shows the development of the Javanese script comprehensively. Regarding the development of the Sundanese script, De Casparis assumes that: "It would seem much easier to account for the peculiarities of this script of Pajajaran descends from a much older form of script in this part of the island, contemporary with Early Kawi." (De Casparis, 1975 p. 56)

Based on the limited number of Sundanese inscriptions, he could only give some highlights. Even though the number of written sources is very limited, he points to a sharp distinction between some characters in Sundanese from Old Javanese (Kawi) script. He assumes that if the script has developed from the one in the Saṅhyaṅ Tapak inscription (the script is one of the samples in this study), there might have been intensive writing activities in the region. To further prove Casparis' assumption, we need more efforts since there are only a few inscriptions

found in West Java, but at least we have some lontar, bamboo, daluwang, paper, and gebang texts. In particular, the lontar, bamboo, and some daluwang texts, where both the language and the script are identified as Sundanese; this script is not found elsewhere.

Compared with the number of texts in new Sundanese (Islamic period) and Old Javanese, old Sundanese texts are only a few, fifty-five are in the National Library of Indonesia and three chests with 1.730 pages in Ciburuy, Garut. As noted by Sukanda-Tessier (1992), a large part of Sundanese manuscripts is still in private hands and considered ‚sacred' to a certain degree. Many are guarded by aristocratic families and not available to the public, even if they are not read or used in recitations anymore. Others are in kabuyutan (sacred places) and considered the heritage of the local community. Finally, there are those guarded by families of rice farmers, who grew up with the conservation of culture, and these are still used for recitation during ceremonies in the agricultural cycle. But this is a dying tradition, called *beluk*, which, even at the time of her research, was only to be found in remote mountain areas. Nevertheless, the ceremonies for Nyi Pohaci Saṅghyaṅ Sri, the goddess of rice and agriculture, survived Islamization well into the twentieth century CE.

Most of the manuscripts are preserved in the National Library of Indonesia in Jakarta; the other places are Kabuyutan Ciburuy, Kabuyutan Jasinga, and some museums. Unfortunately, the research on old Sundanese texts until today is still limited. Many colophons of old Sundanese texts do not write any of the information by whom, when, or where those texts were written, only a few texts have complete information in their colophons[58] — the dates which are recorded range from fourteenth to sixteenth century CE.

a. Media and Writing Tools

The writing tradition in Sunda cannot be separated from Hinduism: even if the first inscriptions served the legitimation of power of the king, the underlying philosophy of writing comes from Hindu teachings. This is clearly written in the Saṅhyaṅ Sasana Maha Guru (one of the samples in the study), which is the philosophical concept for the creation of writing. According to this text, Bathara Gana (Ganesha) became angry, and he let the palm leaves dry up, so the humans could write on them, that's why he is praised as the god of literacy. The text further says that was the time which let the *asta gangga wira tanu* come into existence. *Asta* means hand, *gangga* means water, *wira* means pen or brush, *tanu* means ink. This was the beginning for the priests to write, to make the ignorant wise, to give the knowledge to the poets.

[58] **(for further detail see Holil and Gunawan, 2010; Kurnia, 2012)**

The text further gives a list of materials or carriers to be used in writing, which is called 'dasawredi' (ten kinds of knowledge and media): text on gold, which is named the highest *rubi*. Text on silver, which is named *kanaka*. Text on copper, which is called *paripih*. Text on steel, which is named *preka*. Text on iron, which is named *gotraka*. Text on stones, which is called traspati. Text on wooden plates, which is named *saleu*. Text on bamboo, which is named *leupihan,* is forbidden to be kept in our selves.[59] Text on lontar (Palmyra), which is named *carik*, it is not for kabuyutan (cleric or scriptorium) purposes. The last is text on gebang (Corypha Gebanga or Corypha Utan), which is named *ceumeung*, and this is for kabuyutan (cleric or scriptorium) purposes.

When we look at this exhaustive list, we can consider the order is based on availability and value. But it is intriguing that it names carik for lontar text and ceumeung for gebang. Even though both leaves are coming from the same family, they have different structures. Casparis erroneously calls gebang nypa, but he gives a comment on this material that the leaf is much thinner than lontar (see De Casparis, 1975 p. 53). If we observe both media, we can clearly see the different techniques that are used. For text on lontar, one can write by incising, but on the thinner gebang, they used ink to write. For visual effect, the script on gebang is bolder and darker (this will be discussed in detail in the analysis chapter).

Saṅhyaṅ Siksa Kandaṅ Karesian describes every kind of weapon, and among them are the 'weapons' of the priest: *kala katri, peso raut, peso dongdang, pangot,* and *pakisi*. We have no visual information to clarify these weapons, but the text further explains that these are used to incise (Danasasmita et al., 1987, p. 108). We may assume that this explanation relates mainly to the text on lontar, bamboo, wood, or possibly stone, which are written by incising or engraving. The tool for writing on gebang, as is mentioned in Saṅhyaṅ Sasana Maha Guru, is *panurat* or *panuli*.

The media for writing longer texts are *gebang (Corypha Gebanga/Utan*), *lontar (Borassus Flabillifer)*, and bamboo. While *Borassus Flabillifer* and a similar *Corypha* species, namely *Corypha umbraculifera*, were in use in India, bamboo as a writing material is rather known from China. Only *Corypha umbraculifera* was in use all over India from early times, while the use of *Borassus Flabillifer* began later and mainly in southern and eastern India (Diringer, 1982). We may assume that Sundanese knew these methods, but the interesting point is that they took their writing media from other cultures too. They cut the bamboo into the desired length and cleaned the outer surface by scraping, and then the tubes were cut into equal stripes and dried over a fire. This would prevent them from rotting away. Bamboo as material for writing a text in Indonesian culture was familiar,

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[59] **It is not clear if this means we should pass it on to others or if we should not carry it around with us, for the detail See (Gunawan, 2009b)**

especially in West Java and Sumatra (Lampung, Batak, and Rejang), but it was rare in central and eastern Java. Usually, it would be a bundle of bamboo sticks, where every stick contains 1 to 5 lines of text. Bamboo, as a writing material besides in China, it was also known in the Philippines (see also Diringer, 1982). These pieces of bamboo were strung together with threads. We can find the same type of preparation for books from Sunda, even if the species of bamboo might be different ones. The Chinese bamboo texts are strung together with two rows of strings, either at about one-third of the length of the bamboo pieces or at both sides. In those cases where the ones from Sunda are connected, this is done by a single string through holes in the middle, thus preserving the sequence of the text. Sometimes the artifacts are also just a bundle of single bamboo pieces, which makes it more challenging to reconstruct the proper sequence.

The method for preparation and writing on gebang or lontar is still in use until today in some traditional applications in Bali. This aligns with the information about the literature of Bali and Java as discussed in relation to the surviving writing culture in Bali (Diringer, 1982). Young leaves are cooked and then dried to be sterilized, then they are pressed with bamboo, so they end up slightly curved. These will be cut into the desired size and used for writing (based on interviews with artists from Tenganan, Bali, January 22nd 2016). The old Sundanese manuscripts which are based on this method were strung together by the same method used for bamboo, only the Bugis culture in Sulawesi was stitching lontar leaves together at both ends, creating a long reel that was read with a device remotely resembling a tape recorder.

On lontar and bamboo writing was done by incising with a fine knife, called pangot. A black oily substance was rubbed into the scratches to make the script stand out (in Europe, this would be called Intaglio). The dark paint was prepared by roasting candlenut (Aleurites Moluccanus, kemiri in Indonesian), and its preparation is also known until today in the places named above. The method that was used to write on gebang was ink and some kind of ‚pen'. Unfortunately, we have no information on how such a pen was made or what it looked like. But from the calligraphic effects, we must assume that the tool was working comparable to the effect of the nib of a fountain pen, which can control the width of the line by pressure or like an antique quill, where the angle does the same. It will be discussed in more detail in chapter 4.

Besides the materials discussed above, in the Sundanese literacy culture, we have texts on daluwang, and European paper, and these texts are already connected to Islamic teachings. In the Southeast Asian archipelago daluwang was used for religious clothing in the pre-Islamic era, it was called *fuya* (for further details see Pigeaud, 1967, p. 35-36). The use of daluwang for clothing is also mentioned in an old Sundanese text, Saṅhyaṅ Swawar Cinta (see Gunawan, 2011). Pigeaud (ibid) assumes that after the Arab traders introduced the Arabian paper to the Javanese society,

this induced the use of daluwang as a writing material by the Javanese. The new material and the Islamic writing tradition replaced the use of palm leaves. After the Dutch became the principal importer of paper, the European paper produced by Dutch papermills was highly respected in Javanese Courts (for detail see Pigeaud, 1967, p. 36). We can safely conclude that the use of daluwang and paper started in the Islamic Era, which explains why daluwang or paper is not listed in Saṅhyaṅ Sasana Maha Guru as media of writing.

b. Systematic Features

As explained in the previous chapter, the system of writing is borrowed from Indian writing typology, which Daniels and Rogers classify as abugida. It was derived from Brahmi, which is representing the consonant-vowel (type V, CV, CCV, etc.), such units are called aksara, and they contain graphs for independent vowels, diacritics for altering the vowel sounds accompanying the initial consonants, and some graphs for special purposes (see chapter 1 and 2). The Sundanese have twenty aksaras, which are frequently used and six vowels. The important point here is that the Sundanese adapted the Sanskrit loanwords to their own language and their spelling; we can confirm that the words are fully adapted. Compared with the Old Malay and Old Javanese attitude, where the writers still tried to adhere to the rules of Sanskrit, even if they felt foreign to them (see De Casparis, 1975 footnote, p. 26), the Sundanese simplified the spelling. For example, the word īśvara would be spelled *isora*, bhaṭāra would be spelled *batara*, and mahārāja would be spelled *maharaja*. There is also one example in the Kawali inscription where they added an aksara (syllable) to ease the pronunciation of the word prabhu, which changes into *pereubu*. They dropped the use of retroflex signs (ṭ [ʈ], ṭh, ḍ, ḍh, ṇ [ɳ]) and some of the sibilants signs (ś and ṣ [ʂ]) in most cases. Even Pigeaud mentions that it is typical West Javanese spelling when there is no interchange between d and ḍ, t and ṭ (for further detail see (Pigeaud, 1967, p. 56, 1968, p. 247).

c. Language

The texts on gebang are almost all written in Old Javanese language, but we could also find a few gebang texts which are written in Sundanese, like Saṅhyaṅ Siksa Kandaṅ Karesian. Old Javanese was very important at that time since Java became the place to learn the Hindu or Buddha teachings. As described in the Bujangga Manik text, the author was proud to be able to speak Javanese so that he could learn the religious and philosophical teachings. Copying religious texts became a tradition to spread the teaching and to preserve the knowledge. So, it is no surprise that we find many religious texts in the Sunda area, which are written in Old Javanese. It is fascinating since historians find many texts which are assumed to be adapted from Old Javanese texts, but in the end, the Sundanese texts differ from the sources. Many of Old Javanese loanwords, which are found in old Sundanese are based on

Sanskrit (Noorduyn and Teeuw, 2006, p. 76-77). This fact raises a question: did Sanskrit loanwords get into Sundanese directly or via Javanese? There are few words for which we can recognize an influence from Malay, which is understandable since Malay is believed to have been the lingua franca for centuries in maritime Southeast Asia. After all, it is the base of modern Bahasa Indonesia too. The vocabulary of old Sundanese itself can still be recognized in modern Sundanese; however, there are found phonetic differences. There are also some typical words that are not found in Old Javanese nor modern Sundanese (ibid, 75-84).

d. Content of the Texts

The content of the texts on organic material which are still in existence today is of religious, philosophical, or poetic nature. To estimate how true these are to the original content, we need to consider how they were handled. These texts were obviously considered valuable enough to be copied over and over when they started to degrade. After all, they were considered sacred objects by the priests or families who were overseeing their custody. «Texts dealing with religious topics or containing important religious elements were written down for future generations. They were regularly copied as soon as the originals had become difficult to read. » (De Casparis and Mabbett, 1992 p. 277)

Sukanda-Tessier (1992) also confirms this; she explains that the sacred character of such documents dictates that they have to be copied when they begin to deteriorate, which happens fast in the tropical climate. Accordingly, copying took place two or three times in a century, until the number of documents in Sundanese script outside of museums or the national library was in steady decline from the first quarter of the 20th century. But tradition also demands that the old, unusable versions are neither kept nor just thrown away, but destroyed ceremonially by burning them. During that ceremony, the new copies are placed close by, while invocations are recited, so that the blessing or power can flow over. The ashes are collected, and one part is offered to the gods, the other part mixed with hot water, and the owner or the master of the ceremony will drink them. The latter is the rule if the owner himself cannot correctly recite the incantations. Considering the strict rules for the treatment of such documents, we should conclude that the content was normally copied from the predecessor with utmost diligence and that the original texts of the earliest documents available, from early sixteenth century CE, should reach much further back in time.

Available texts in Sundanese are either prose or poetry in a metre of eight. This style is very typical for Sundanese poetry, which is quite intriguing since this rhythm can also be found in pantuns. According to Noorduyn, there are many similarities between pantuns and old Sundanese poetry. However, as we discussed before, pantun is an oral tradition, and the storytellers were usually blind or illiterate. At

this point, we come to a conclusion, since pantun is an ancient tradition, older than the tradition of written text from India, that they transferred this rhythm into text by just inserting the Hindu or Buddhism teachings as a central theme. We may assume that pantun influenced the written texts, not the other way around, but further research would be needed.

There are also some texts which contain factual information, like on the topography of the land and its use (the Waruga Lemah[60] text) or on crafts like weaving (the Kawih Pangeyeukan text), where the content is mainly related to the "women's world". At the end of the text it says that the poetry is to be sung along while they are weaving, so we can assume that the readers were women (Ruhimat, Gunawan and Wartini, 2014). Until today, in all Indonesian ethnics weaving is done by women. Pabyantaraan is another example, this text is containing information on tools and crafts or military strategies, but these are typically mixed with what we may today call 'superstition' or ritualistic elements.

As written in the Saṅhyaṅ Sasana Maha Guru, the texts on lontar and gebang serve different purposes, and lontar texts were not for kabuyutan (cleric or scriptorium) and vice versa. From this information, we might initially assume that the lontar texts would not contain religious matter. But among the artifacts that reach us, there are a few lontar texts which write about religious teachings, including Saṅghyaṅ Sasana Maha Guru itself. If we read carefully, this text is full of religious and philosophical teachings. So, in this respect, we need to assume that the statement relates to using context and not to content. If gebang was to be used by the cleric only, consequently, lontar was in general use, not only for profane information but for any text. This points to literacy being spread more extensive than among the cleric only, and the context of its use needs to be observed carefully when we analyze the form.

According to Kuipers and Mcdermott (see chapter 2), there are no texts with records of any economic activities in existence until today. We may assume that texts of more profane content, like documents for bookkeeping, contracts, taxation, or the like, were just not important enough to be copied over and over for so many generations. Of course, this does not mean that such texts did not exist. After all, the Saṅhyaṅ Siksa Kandaṅ Karesian text mentions items like prices, taxation, and measurement of the land. Saṅhyaṅ Sasana Maha Guru and Carita Parahyangan texts, also Kebantenan inscriptions are mentioning the terms of tax, which were used at that time. The Chinese reports recorded their diplomatic relationships with the Malay Austronesian kings from the fifth century to the early seventeenth century CE.

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[60] the text was transcribed and translated by Gunawan (2010) Gunawan. According to Gunawan the name of each land topography are two combined Sanskrit words, which has metaphorical meaning. Further research is needed to find out, if such knowledge also existed in Indian or in Old Javanese traditions. If it is not to be found elsewhere, the fact becomes more interesting in favor of the old Sundanese tradition.

The records mention sending letters from both sides, which should be additional evidence proving that there were administration activities recorded in writing.

e. Literacy in Society

From the information above, we can picture the writing activities to a certain degree. The texts described above bring us to the conclusion that these were not for the cleric only, but some of them might have been used for guiding in daily activities. In the first passage of Saṅhyaṅ Siksa Kandaṅ Karesian text writes that the text was meant for the general public: "*…kundangeun orang reya*" (guidance for the people) (see Danasasmita et al., 1987, p. 73 and p. 94). The text is not directly religious teaching, but it gives guidance for the people in their daily lives, or we could say moral and ethics guidance. In the ninth passage it says: "*Lamun urang ňemu siksaan rampes ti nu maca ya kangken guru tangtu ngarana*" (ibid, p. 80). We can freely translate as: If we gain some wisdom by reading, it means that we learn from guru tangtu (philosophical teacher). This statement is implicitly giving us the information that to be able to read was encouraged for the people, at least in the period when the text was written.

The same text differentiates the professions among clerics: '*Brahmana*', '*Pandita*', and '*Janggan*'. These expressions do not have any direct counterpart in English, so we can only define them by the task they have in religion. *Brahmana* is the one who knows all about the mantras, *Pandita* is the one who knows all about the books (teaching), and *Janggan* is the one who knows all about rituals. The Pandita might also be the person to take care of writing or copying books. Such information can be found in Saṅhyaṅ Sasana Maha Guru, stating that Pandita has the task of writing the books to enlighten the people and to enrich the poet with knowledge (Gunawan, 2009b, 108-109). From this information and from the kind of texts that reach us until today, we may assume that not only the panditas were able to write, but also the poets. The text Sewaka Darma, which is written in poetry, gives us the information that the author was a woman. It might be possible that she was a cleric since many texts mention '*ebon*' (nun), such as Bujangga Manik text and Saṅhyaṅ Sasana Maha Guru. However, we can assume at this point that at that time, women were not only able to be members of the cleric but were also able to be poets. We should also note the information in the Bujangga Manik text, that to be able to write, read and speak in other languages was a prestigious capability, even for a prince. Nevertheless, we have no clear indication if Prince Bujangga Manik was a real member of the royalty or only an idealization.

The Sundanese texts are not only didactic, such as Bhīmasvarga and Saṅhyaṅ Siksa Kandaṅ Karesian, or historical, such as Carita Parahyangan. But there are also many poems, such as *Para Putra Rama dan Rawana* (The sons of Rama and Rawana), *Pendakian Sri Ajnyana* and Bujangga Manik. If the text was adapted from Javanese,

Sundanese poets changed the poems into Sundanese metre, which is using eight syllables for each line. This structure is similar to their oral tradition, Pantun.

Almost all the texts in which we know give us information that the scriptoria usually were in mountain areas. This may be related to the fact that in Hindu or Buddhist tradition, like in many other religions, the mountains have specific religious importance. On the other hand, mountain areas are a preferred area for retreat and concentration in many cultures, just because they are not very appropriate for agriculture or settlements. From archeological excavations, like on Gunung Padang, we know that there were sacred places in the mountains (the stone terraces mentioned above) even before the Hindu/Buddhist era. Saṅhyaṅ Siksa Kandaṅ Karesian also points to the readers. It tells about many specific professions for everyday activities to be asked for advice. Since the texts combine practical knowledge and mantras, there is a high probability that the specialists in these professions also read them.

Summary

After collecting information about the old Sundanese society piece by piece, we can deduce that the Sundanese already had a complex social structure before the Javanese Mataram Sultanate came to domination. The terracotta artifacts from the Buni site, which was in use from the first century BCE until the fourth century CE, are proof that the people on the western part of Java had already made contact with people from overseas. Cultural exchange is evident in this region, even the first signs of South Asian cultural influences in Java island are found here in the Sunda area. The inscriptions in Late Southern Brahmi script and Sanskrit, as much as the Batujaya temples with eight Buddhist inscriptions, are evidence that this area belongs to a region that had early contact with South Asia. The existence of Tarumanegara as the earliest kingdom known in the area was not recorded anymore after the seventh century CE. The Kebon Kopi 2 inscription, probably from the tenth century CE, still leaves some questions if the Sundanese kingdom was its successor. Nevertheless, we can rely on Chinese and Arabian records that a Sundanese kingdom has already existed before the tenth century CE, and it was an independent kingdom, both politically and culturally.

The old texts portray the Sundanese people as an independent society, which enabled them to make contact with other cultures. They noticed that neighboring regions, like Java, Baluk, or Cempa, had different forms of religious rituals than they had. This shows that they were able to define their culture. We can see the Saṅhyaṅ Siksa Kandaṅ Karesian as general ethic advice, but at the same time, the text gives us full information on society and culture of old Sunda. That text can nearly be seen as an encyclopedia of Sundanese society at that time. The Saṅhyaṅ Sasana Maha Guru explicitly informs us about the writing culture, and it even describes the media and tools in use. Indeed, writing was closely connected to religious use, but the text also gives us

a clue that lontar may have been used for other purposes. The other texts, like *Sewaka Darma, Jampe Nyitu, Bujangga Manik, Kawih Pangeuyeukan* etcetera, are supporting the information from Saṅhyaṅ Sasana Maha Guru and the Saṅhyaṅ Siksa Kandaṅ Karesian. Those texts are not picturing that Sundanese society as a purely oral society, as Sumardjo (2012) suggests. After all, a mixture of oral and writing traditions is found everywhere.

4
Description and Analysis of Samples

Beforehand the expressions, which are used to describe visual parts of the letter in this detailed analysis, need to be defined. The visual parts in Latin typography are called type anatomy, and these parts are named according to the similarities to their counterparts in human or animal bodies (Clair and Busic-Snyder, 2005). In the Latin paleography, it is called Ductus, that is " … the overall, general "nature" of the production of a given script, defined in terms of the "number, sequence, and direction of the strokes used in forming each letter of the script's alphabet. . . . "[61]

The terms which are usually connected to Latin typography, such as serif, ascendant, descendant, bold, italic, cap height, and some other Latin typography terms, will be avoided. Only the general terms will be used, which can hardly be avoided, like baseline, stem, and stroke. We will use our own terminology to explain some of the visual terms, which have no counterpart in Latin terms. The terms that are used are the following:

- Baseline is an invisible line on which most letters appear to sit (Ovenden, 2016).
- Because there is not counterpart in Latin, we will use our own terminology for the body.[62] In this study body is the term for the dominant shape.
- Stroke is the term used to express a single sweep of the pen; it may be a single "movement" (that is, with no change of direction) or may be a "broken" stroke.[63] In Latin typography, stroke is the term to name one or more lines, curved or straight, that make up a letter (Ovenden, 2016). In this study, we can define a stroke as the trace left by a tool from one single continuous movement of the human hand, whether curve or straight.
- Stem is the term for a straight upward line, or Ovenden (2016) defines it as the main vertical part of a character.

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[61] (James J. John, "Latin Paleography," Medieval Studies, 2nd ed., p. 8 https://sites.ualberta.ca/~sreimer/ms-course/course/pal-ltrs.htm retrieved on December 17, 2019)

[62] Body in Latin typography is a term for single letter in movable type in printing process.

[63] (James J. John, "Latin Paleography," Medieval Studies, 2nd ed., p. 8 https://sites.ualberta.ca/~sreimer/ms-course/course/pal-ltrs.htm retrieved on December 17, 2019)

- Oblique is the term used to express an inclined body of the letter.
- Head is the term for the short and bold line on the top of letters.
- Cap is the term for a short line (straight or curvy) above the letter.
- Hook is an expression for a very short angled line on the top or the bottom of the letter.
- Character, which is a Latin typography term, is to express any individual element of a typeface, from the letters and numbers to punctuation marks and other symbols (Ovenden, 2016). Here, character is expressing a sign that represents a consonant and its inherent vowel or independent vowel in the script.

4.1 Sample on Anorganic Media

4.1.1 Tarumanegara Inscriptions (Fifth-Seventh c CE)

a. Description of Sample

The oldest available references from the region of interest are the Tarumanegara inscriptions. The script is named Late Southern Brahmi Script, and the language is Sanskrit. There are seven stone artifacts from Tarumanegara that have reached us, and these give some information about the king and their religion. From those seven only five stones which have written text, one has just text, four have text with some decorative and pictorial elements, and two other artifacts have floral and pictorial elements only, the meaning of which is still unknown. The information of the Tarumanegara inscriptions is already given in subchapter 3.1, p. 73f.

Some artifacts are in a quite good condition, to say the script is still readable, in particular, Tugu, Ciaruteun, Munjul, and Jambu (Kolengkak). Photographs and tracing on the stone surface will document the shape of letters. Both of these become sources for the description of the letter structure. To further improve recognition, they are digitized by tracing on the computer. Some inscriptions are written on round stones, so some distortions in photography are unavoidable. To overcome this, the results of manual tracing are used.

b. Structural Description of Character on Tarumanegara Inscription

The letter styles on the Tarumanegara inscriptions are relatively similar to each other so that we will arrange them in one table. Only for some individual cases, we will show two or three samples from different inscriptions. The Tugu inscription has an almost complete set of letters, so the majority of the letters for presentation are from Tugu, some are from Ciaruteun and one each from Munjul and Koleangkak. The description of the characters of the script will be explained in the table on the next page.

Table 4.1.1
The structure of characters on Tarumanegara inscriptions

k		***k*** has a very tall body with a head, one symmetrical downward curve crossing the stem and on the top it has a head. The long tassel is a sign for long vowel, so it should read ***kā***.
kh		***kh*** is a billowy closed form and an open stroke. Same with ***kā***, it should be read ***khā***
g		***g*** strokes are simple curves, with the left side of the bottom curling back. The head of g stands without a neck.
ṅ		***ṅ*** is a wavy stroke, which opens up to the right.
c		***c*** is a wavy closed form, which is connected to the stem on the right side. The head of c is on the top right.
j		The form of ***j*** is basicly similar to ***ṅ***, but it has a middle stroke, similar to E in Latin, but curving up.
ñ		***ñ*** has two long stems. The left stem is shorter and keeps a distance to the head. Close to the head there is a curly downward line to the right.
t		***t*** has two strokes, a curve and a straight line and it has a head. The curve is almost closed and on the edge of left bottom a straight line goes up to the head. The n in the middle has a sign for long vowel.
ṭ		***ṭ*** has a spiral stroke with a wavy head.
d		***d*** is a curved stroke with a head.
ḍ		***ḍ*** is a circle with a dented bottom, the upper part is conical and has a head.
n		The form of ***n*** looks similar to ***t***, but the loop of ***n*** is more elliptic and rather lithe in comparison to ***t***. The neck of ***n*** in Tugu (right) is longer than the body.
ṇ		The head of ***ṇ*** branches out to both sides and is curling inward. The style of ***ṇ*** in the Tugu inscription (right) is very unique, the branches are curling out very wide.
p		The left stem of ***p*** is more curly and carries the head.
b		The basic form of ***b*** is a square, but it is wavy on all sides, reminding of a pillow.
bh		We show two samples of ***bh***, both are curved forms. ***bh*** in Tugu inscription is more billowy and in this sample the tassel is the sign for long vowel.
m		The basic form of ***m*** is wavy with two different styles of upward lines on top of the body. The ones of ***m*** in Ciaruteun (left) and Tugu (middle) look like antennae with a head on both edges and they have a narrow distance. ***m*** in Jambu (right) has a wider distance between them and in this sample it is attributed with sign for long vowel (mā)
y		***y*** has two stems and one upward curve on the left and a head on top in the middle.
r		***r*** has two stems, the right stem is higher than the left one.
l		***l*** has two types of stroke, the left side is a curly line and the right side is erect.
v		The form of ***v*** is a closed conical form. It has a neck and a head.
s		One of the strokes of ***s*** is like a hook on the left and carries the head, the other connects to the center and goes up.
Ṣ		The structure of ***ṣ*** is similar to ***p***, but ***ṣ*** has a bow, which is connected to the right stem that has a head too.
ś		There are two variations here: One with the line in the middle of the body branching outside. But ***ś*** in the Tugu inscription (right) has a small closed curve, which is connected to the right stroke and the head is wider.
h		The main body of ***h*** is one very wavy stroke, going up. The top left ends in a head.

c. General Description of the Characters of Tarumanegara Era

a. Jambu (Koleangkak)

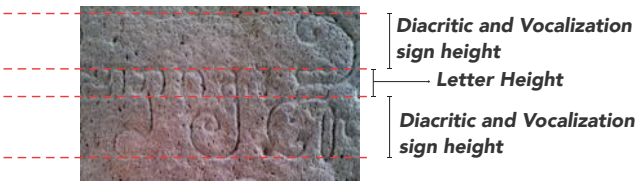
a. Tugu

All characters of Tarumanegara inscriptions are beautifully carved on stone. Generally, the characters of the Late Southern Brahmi script from Tarumanegara are curvy and rounded. Almost all characters have a head, and some of them have tassels or tails.

Comparing the letters of Late Southern Brahmi script in Tarumanegara inscriptions, we may group them as follows:

- Letters with a head: **k, g, ñ, t, ṭ, d, ḍ, n, p, bh, m, y, r, v, s, ś, ṣ**
- Letters with a neck: **k, c, ñ, t, d, n, ṇ, p, bh, v, s, ś, h**
- Closed forms: **kh, g, c, ḍ, b, bh, m, v, ś**
- Open forms: **k, ṅ, j, ñ, ṭ, d, p, y, r, l, s, ś, h**
- Letters with a long stem: **k, ñ, r**
- Letters with a loop: **t, n**
- Letters with tassel/tail: **k, kh, t, bh**

(regarding the tassel/tail, it probably depends on the writer, let us say it is a style).



The two figures (*above left)* show that the letters are written on horizontal, straight lines, except the double consonants, which are doubled vertically. Almost all letters have the same height, except k, ñ, and r. It is peculiar that the diacritic signs and vocalizations have a bigger size than the letters (*see figure above*). Casparis argues that n and t are almost the same, except for the loops; one is smaller than the other. But they can be distinguished by the gesture of the stroke. The main body of ***t*** is a half-circle, which is crossed by a vertical line from the bottom to the head. The gesture of ***n*** is a loop (in one single stroke if it were handwriting). For detail see the figures (*left*).

(t) *(n)*

4.1.2 Kawi on Inscriptions (tenth-sixteenth century CE)

a. Description of Samples

Since former researchers agreed on the name „Old Javanese Script" for the script after „Later Pallava" script, we should find out if this script might show development into the direction of „Sundanese" or if the latter may have branched off at a specified period. De Casparis suggested the name „Kawi" since the use of that script was not strictly confined to Java (1975 p. 29). We can follow this argumentation. De Casparis also explains that the appearance of scripts in West Java (Sunda) is problematic; somehow, the styles remind us of earlier periods, not the contemporary use of script style. So, we prefer to avoid the term „Early "or „Later "Kawi.

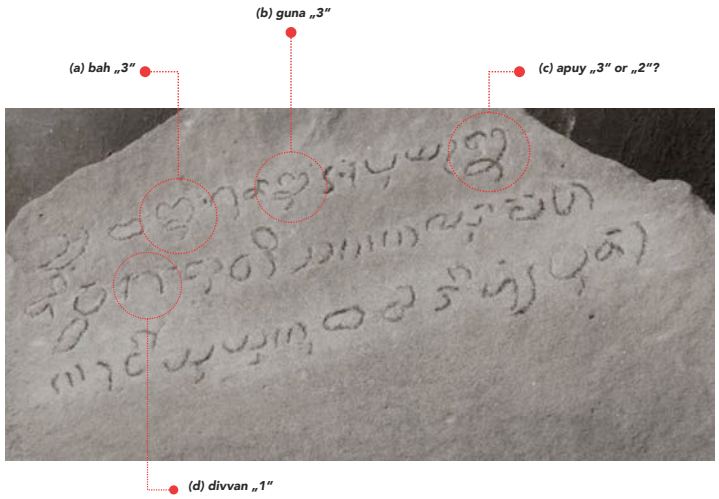
The artifacts of this script group that reached us are unfortunately not in perfect condition. Some inscriptions are severely damaged. The damages are either crack in the stone or abrasions of the surface. So the letter and their details are challenging to identify. One stone even does not exist anymore, the Kebon Kopi II (aka Juru Pangambat, aka Pasir Muara) inscription. This inscription tells about the reconstitution of power to the king of Sunda. What we have is only a relatively coarse photograph from one article by Bosch in BKJ vol. 100, 1941, where some letters are not entirely recognizable, but we have a transcription. Nevertheless, this artifact is considered important enough for this research, since it is written in Old Malay and the script is Kawi. We need to know if there are mutual influences in script development. There is some discussion about the dating of this inscription. It is written „kavihaji panca pasagi", which has been dated as 854 (Bosch, 1941). But the way to read a caka year should be from the back; this would then be 458 Saka or 538 CE. But Bosch suggests reading the date 854 Saka or 932 CE. He considers that a Sunda Kingdom around the sixth century CE had not yet been established, and the style of script is younger than Tarumanegara's style.

The next samples are the characters from the Saṅghyaṅ Tapak inscriptions. There are two inscriptions which are written on four stones. These inscriptions were found in Cibadak and Bantarmuncang, Sukabumi. Now they are held by the National Museum of Indonesia, Jakarta, the Inv. Nr. are D. 73, D.96. D. 97 and D. 98. The pieces of information are about the establishment of sacred areas by the King of Sunda. It is also stated some curses and punishments for people who ruin such places. These inscriptions are written in Old Javanese language and Kawi script in the eleventh century CE. According to De Casparis, there are two styles of the script which are used, Kawi of eleventh century CE East Javanese style and Kawi of ninth to tenth Central Javanese style. He assumed that Sundanese was borrowing from many places; they used many styles of the script to write. But the problem is one of the styles used here came from two centuries earlier.

De Casparis is using the expression "conservative" in the context of the Ci Catih (Saṅghyaṅ Tapak) script and sees the reason in it coming from an area far removed from any of those where the script was more regularly used (1975 p. 44). Other than presuming that there was little writing activity in those regions and the scribes were looking elsewhere for styles or attitudes to copy, we may have to look for indicators of parallel development into a similar but disconnected writing tradition. Because of readability for the study of Saṅghyaṅ Tapak script, we could only research the artifacts which have Inv. Nr. D.73 and D. 96. Unfortunately, some letters are missing, such as ṅ and ñ. From the transcriptions, we should find those letters, but the abrasion on the stone 's surface does not help to identify them.

The third sample is Maṇḍiwuṅa inscription. It was found in Ciamis, and now it is part of the collection of the West Java Museum. The inscription is written in Old Javanese, and the script is Kawi style. The artifact is severely damaged, and some parts of the text are missing. Surti and Djafar argue that the text is about the establishment of a tax-free area, namely Maṇḍiwuṅa. They read the inscription as:

(1) māsa kṛṣṇpa[k]ṣa (2) nawami haryaŋ (3) pon wṛhaspati wā (4) ra tatkāla sīma ri (5) maṇḍiwuṅa
(1) month… after full moon (2) on ninth, Haryang[64] (3) Pon,[65] and Thursday (wṛhaspati)[66] (4) on the day the exemption tax area (5) Maṇḍiwuṅa.



[64] Haryang is the first day of Javanese Sadwāra/Peringkĕlan week of Javanese calendar. A week has six days, namely: haryang, wurukung, paniruan, paniron, mawulu and tunglai (Surti and Djafar, 2016)

[65] Pon is the third day of Pancawāra week. The week was actually calendar for daily market in Javanese and Balinese tradition. Pancawara has 5 days: legi, paing, pon, wage, kliwon (ibid)

[66] wṛhaspati is the fourth day of Saptawara week, which has 7 days: Sunday (Raditya/Radite), Monday (Soma), Tuesday (Anggara), Rabu (Buddha), Thursday (Wṛhaspati), Friday (Śukra), Saturday (Sanaiścara) (ibid)

The fourth sample is the Rumatak, also called Linggawangi, inscription. It was found in Geger Hanjuang, Tasikmalaya, and it is written in old Sundanese and Kawi script. The inscription is now in the collection of the National Museum of Indonesia, Jakarta, with Inv. Nr. is D. 26. Holle (1877) was the first to read it, and he argues that it is written in 1333 Saka or 1411 CE, so early fifteenth century CE. Pleyte, (1911, p. 162) on his footnote no. three suggested that it should be read 1223 Saka. However, Danasasmita suggests the dating is 1033 Saka, which would be 1111 CE. The problem here is three numeral symbols that look similar. However, when we look closer at the characters, one of them has a different gesture (see figure). When we compare with Holle's table no. 48 (1882), the characters for 2 and 3 in Kawi are quite similar, but the difference between these characters is the longer stroke in figure 3. If we assume that the stroke of the character (fig. on p. 108) is a decorative style of the scribe, we might also read this symbol as "2". Further research is needed to make the information clearer, for this study, we lend to the Pleyte's reading.

The last sample of this script group is the Batu Tulis inscription. It was found in Batu Tulis, Bogor and until today is still in situ. The inscription is written in old Sundanese language and Kawi script, the text is stating the genealogy of Sundanese kings, and their works.[67] The inscription is also one of the important sources to study Sunda's history. Friederich (1853) was the first who published the transcription and a drawing of the Batu Tulis inscription, the drawing was made by E. Netscher. The second research was done by Holle (1869), but he discussed the names of the Sundanese kings who are listed in the inscription. Later, in 1882, Holle gave suggestions on the first line of transcription and the year of origin of the inscription. He suggests reading the first line as ›ini sakakala prĕbu ratu purana pun‹ instead Friederich's reading: *›ini sakakala sri butêng puranê puja‹* even though Friederich was not really sure, but he suggested to read the last words as *›panca pandawa (ribana)‹* which means 955 Saka. Holle decided to read the last few words as ›panca pandawa tiban bumi‹ which has the meaning 1055 Saka. Pleyte corrected Holle's reading, his reading of the year is *›panca pandawa e(m)ban bumi‹,* which would be 1455 Saka. By comparing it with the text of the Carita Parahyangan manuscript, the text on the Kawali and the Kebantenan inscriptions,[68] which are mentioning the names of Sundanese kings, it is widely accepted that 1455 Caka or 1533 CE is the correct dating of the inscription.

Our analysis of the characters from four samples of „Kawi" from inscriptions on stone shows a relatively high level of consistency, so we can neither decide if Sundanese came after it or was branching off. Consequently, the script with the best range of characters preserved in the samples to compare with our

[67] **For further information see footnote no. 47 in sub chapter 3.4**

[68] **Those inscriptions will be further explained in sub chapter 4.1.3**

subject of interest will be used. As already mentioned, most of the artifacts are not in good condition. Wherever accessible, the surface of the stone was carefully traced on paper by hand or by taking photographs in high resolution. However, sometimes we could only rely on lower resolution photographs by others or even just in books. So, we traced the available samples with a layering technique in computer graphics and tried to average out the variations to arrive at a generalized shape for the characters (see examples in the appendix).

In the case of Batu Tulis, it is quite evident that former researchers have tried to rub some lighter color into the traces of the script to enhance visibility. It is different from one of the Kawali inscriptions, where the stone itself seems to have a different color under the surface). At closer inspection, this has not been done thoroughly, or the color has worn off later. Fortunately, for this stone tracing was possible to follow the structure without looking at the color to compare, but we can 't safely exclude that some structures are damages to the stone. The description of the characters of the script will be explained in the table on the next pages.

Table 4.1.2
Description of the characters of Kawi Script on West Javanese Stone Inscription
(1) Kebon Kopi 10 c CE (2) Saṅhyaṅ Tapak 11 c CE (3) Maṇḍiwuṅa 12 c CE (4) Linggawangi 14 c CE (5) Batu Tulis 16 C CE

Even in Linggawangi and Batu Tulis inscription the strokes of **k** are not (fully) connected, the basic structure of **k** from the oldest to the youngest artefact is still recognizable.

Apart from it's bold strokes, **g** in Saṅhyaṅ Tapak has a combination between straight and curved. It is also attributed with a hook in the left stroke. Another direction of hook is in Kebon Kopi, which is on the bottom left.

Unfortunately we have only a few samples of **ṅ** here**. ṅ** in Maṇḍiwuṅa is one character with a wavy stroke, which is similar to the one on Kebon Kopi. In Batu Tulis it is an angular form with an unconnected wavy stroke in the right side.

There are three samples of the charater **j** in these inscriptions**.** The hook of **j** in Kebon Kopi is curling down and folding back. I tend to define the central element as a dot (not a line), like in early Javanese Kawi, but this is not assured. **j** in Saṅhyaṅ Tapak has a rather quadratic form and in Batu Tulis it is more rounded. In Saṅhyaṅ Tapak there is a dot in the middle and in Batu Tulis it is a short line.

It can be seen that the basic structure of **t** has no huge difference among these samples. The only peculiar detail: **t** in Saṅhyaṅ Tapak has a hook on the top right stroke and Maṇḍiwuṅa has a cap.

We have only two samples of **ḍ** here in Maṇḍiwuṅa is not only oblique but also the upper stroke is missing. But **ḍ** in Saṅhyaṅ Tapak is similar to **d** in Batu Tulis**.**

The top stroke of these **n** characters is varying: the counterpart of the long curve in Maṇḍiwuṅa is ending with a hook in Saṅhyaṅ Tapak but is a simple stroke in Linggawangi. A small knot in lower left is a loop in Kebon Kopi, Saṅhyaṅ Tapak and Batu Tulis.

Every inscription has their ‚own' **m,** which has only a little bit of similarity to the others. Maṇḍiwuṅa has two styles of **m,** one, which is similar to today's „eternity" symbol and the other m resembles the Tarumanagera style. **m** in Linggawangi is very unique. (see the next page for detail)

r in Saṅhyaṅ Tapak and Batu Tulis looks similar, only **r** in Batu Tulis is more rounded. **r** in Linggawangi is the only form, which its strokes are disconnected. **r** in Maṇḍiwuṅa is peculiar with the upper stroke is going up on the right side. There are two versions of **r** in Kebon Kopi, but the difference can be caused by the rough stone.

v in Kebon Kopi is a closed form like **b**, but it has a tiny loop or hook to the inside in the upper right. In Saṅhyaṅ Tapak and Maṇḍiwuṅa is a closed form, but **v** in Maṇḍiwuṅa has a hook. The shape of v in Linggawangi and Batu Tulis is almost a closed curve with a hook on the upper stroke.

s in Maṇḍiwuṅa has an angular form and the strokes are connected, but it is still similar to other **s** on the other inscriptions. The curvy stroke on the upper right of **s** in Kebon Kopi should be read with a long vowel: **sā**

Maṇḍiwuṅa inscription is broken on the top right, so it is difficult to identify the letters. **ṣ** in Sanghyang Tapak Maṇḍiwuṅa remind us of the oldest form , and in Maṇḍiwuṅa it is event completely tilted.

From two **c** forms that reached us, it can be observed that this character has a closed structure and the stroke is curvy. But it is unique since **c** in Batu Tulis looks has two loops.

Batu Tulis has three versions of **ñ,** see next page for detail, but the basic form is similar to **ñ** on Kebon Kopi

The simplest form of **d** is the one in Linggawangi without warped strokes as d in Kebon Kopi, Saṅhyaṅ Tapak and Batu Tulis.

The main difference of **ṇ** in Kebon Kopi from other n is that it has smaller and shorter curvy stroke than n in Saṅhyaṅ Tapakand Maṇḍiwuṅa.

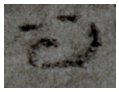
The structure of **b** is a closed form with billowy strokes on the top and the bottom. **b** in Kebon Kopi is more rectangular among other.

y characters are almost similar to each other, the only peculiar form is **y** in Maṇḍiwuṅa. The character is seperate with the link body has a bigger porpotion than the other.

b. General description of Kawi characters on stones

Generally, the basic structure of all versions of the Kawi script is quite similar. Even though the use of this script ranges over centuries, from tenth to sixteenth century CE, the structure of the characters did not change very much. Only their style made the visual appearance vary. On the other hand, we can see here some crucial cases to be considered: some characters of Kawi in Old Malay (Kebon Kopi inscription), especially ***ṇ, m, s,*** and ***ś***, are different from those characters of Kawi in Old Javanese in the same period (see De Casparis, 1975 p. 33-37).

a



b

c

We can also note some individual cases which vary, and the m reminds us of the old form (Tarumanegara inscriptions), like the one in Maṇḍiwuṅa inscription. ***m*** in Linggawangi is quite peculiar. It may be assumed that the apparent damage to the stone causes the dots on the top of its body. In his publication, Holle reconstructed the form of ***m*** on Linggawangi inscription (*see figure a*). With due respect to Holle, by analyzing the visible surface of the stone and looking carefully at the dent above this character, it may have caused the dots or the short strokes *(see figure b).* So we might assume that the original form was like *figure c.* But this will still be open to discussion since only a closer analysis of the damage on the surface by a physicist might bring further clarification. This is beyond our current possibilities. If our assumption is viable, the character m of Linggawangi is close to the character ***m*** in Kebon Kopi and Batu Tulis.

In Batu Tulis, we find ***ñ*** as another particular case with a high variation of form. Nevertheless, it is still recognizable as having three main strokes, and it shows similarity to ***ñ*** in Kebon Kopi:

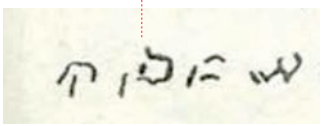
Figure number one and number three are quite similar, but figure number three is more decorative with a billowy stroke. Figure number two is quite different from the others, it has four stems, and two of them are separated. The similarity among all versions is the angular tendency of the right stroke at the top.

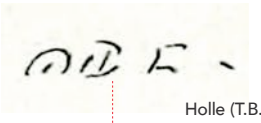
There are two styles of ***ṇ*** in this group. ***ṇ*** in Saṅghyaṅ Tapak and Maṇḍiwuṅa has four stems, but ***ṇ*** in Kebon Kopi has three stems. ***s*** in the Kebon Kopi inscription is similar to the Late Southern Brahmi style on the Tarumanegara inscriptions. The left stroke is a bit billowy, but here both stems have a hook on the top.

Another particular case is ***c***. From these five artifacts, only three inscriptions have any ***c***, and the visual forms of these are entirely different from each other. For the case of ***c*** in Batu Tulis, we need to compare the drawings by Friederich (1853) and K.F. Holle (1882), the photograph by Pleyte (1911), and our photographs. The main problem in studying the form of ***c*** is the abrasion of the stone 's surface, which

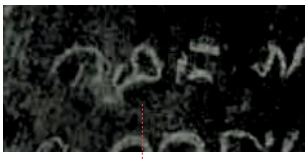
causes most of the differentiation of this letter's structure. We cannot be sure that there was no further damage between the first studies and today. So, the original form is difficult to identify (see fig. 3). The identification of the details of this letter-form is needed to look for a potential line of script development. In this study, we use the result of our own photograph. By studying the ***c*** versions of the Kawi scripts in Sunda, we can see that the basic form is a loop. Nevertheless, the position of the loop varies. The loop of ***c*** in Kebon Kopi is large and centered with the hook to the right. In Sańghyań Tapak, the loop of ***c*** is on the left side. ***c*** in Batu Tulis is problematic (see left side), but we would assume that ***c*** in Batu Tulis has a loop on the left side too, and it has an extreme ascending line on the right side.

c form on Friederich's drawing (T.B.G., 1853 p. 441-468) has two strokes, a stem and a wide curve on the right side.





Holle (T.B.G., 1882 p. 90-98)
c has four seperate strokes; two of which are vertical and the others horizontal. It is possible that Holle interpretes the form by judging from the whole script on this stone, where most of the letters have disconnected lines.



Pleyte (T.B.G., 1911 p. 155-220) shows a quite different visual impression of c. It has a big loop on the upper right side. This is somewhat similar to Friederich's version but Holle noticed that the letter is tilted or oblique.

My own result by photographing the artifact is showing that c seems to have loops on both sides. They are separated by the line in the center. But I tend to assume that c has one loop only, which is on left side, and the other „loop" is actually an ascending line. We can see another c in Batu Tulis. The line above could be a cap or an extremely long line, which curling up and down again.

sign to change the vowel.
it's read: cu

4.1.3 Typical Sundanese Characters on Stones and Copper (Fourteenth-Sixteenth century CE)

a. Description of samples

There are only a few inscriptions that are written both in the language and the script of Sundanese. The Kawali and the Kebantenan inscriptions are the best examples, both in good condition and containing longer text. These inscriptions, unfortunately, are not giving any indication of the date of their origin. So, the date could only be reconciled with references from other artifacts. Some manuscripts, for example, Carita Parahyangan and Saṅ Hyaṅ Siksa Kandaṅ Karesian, become sources to determine the approximate time range when the inscriptions and plates were written. Historians agree that the Kawali inscriptions were made around late fourteenth or early fifteenth century CE, and the Kabantenan plates were written around late fifteenth or early sixteenth century CE.

The Kawali inscriptions were found in the Astana Gede site, and until today these stones are still in situ. It is assumed that King Wastu came there to meditate and prepare himself to be a king after the Bubat War. This war was started by treachery from Majapahit with a fake marriage arrangement to attack Sunda around 1357 CE. During this war, all of King Wastu's family had fallen.

There are six inscriptions to be found in Kawali. Fortunately, these are quite readable. All shapes of the letters are very clear. Three of them, researchers named them inscription I, II and VI, contain some information about King Wastu (fourteenth - fifteenth century CE) who was ruling Kawali, and his palace was named Surawisesa. The inscriptions are providing not only information regarding the king but also some blessings for the people and the future of the kingdom. These texts show a different attitude compared to the inscriptions from other places in Indonesia, for example, some Srīvijaya inscriptions and Saṅghyaṅ Tapak, which are containing curses and descriptions of punishment.

The texts are composed quite differently from each other. Inscription I has bold lines to set the rows of text apart. The size of characters in the inscription II is varying, but they seem to follow the shape of the stone and form a pattern. The characters in the middle are bigger than the characters on the top, the bottom, and the sides. Inscription VI is also unique, the background color is light ocher, and the text is middle grey. The writer seems to have used the properties of the stone to achieve this unique effect. Inscription I and VI have an ornament at the beginning of the text, it can be assumed to be a compass rose. (appendix, fig 13)

The other inscriptions, III, IV, and V, have only a short text, for example, „Sang Hyang Lingga Hyang. " The inscription V is again very unique, and there is only one word: „añana. " Apart from the meaning being unknown, it also shows

some symbols, like calendar, hand, and footprints (see appendix, fig 14). The foot print on inscriptions in Southeast Asia is not peculiar, Tarumanegara inscriptions also have footprints. However, handprints usually are only found in caves of an era before Hinduism or Buddhism.

The Kebantenan copper plates were found in Bekasi, and now all of them are held in the National Museum of Indonesia in Jakarta, they have the codes E 42 a-b, E 43, E 44 and E 45. Three plates are in a quite good condition, but we are not so lucky with the fourth and fifth plates. Cohen Stuart did the first transcription in 1867 and later, Holle (1867) published his transcription and translation into Dutch, and Pleyte in 1911 related the content of the inscriptions with the Carita Parahyangan text, Batu Tulis and Kawali inscriptions. The plates contain five admonitions of Sri Baduga Maharaja, the second generation after King Wastu. These plates carry the information that the king commanded two sacred places: Sunda Sembawa and Jayagiri, and defined the borders of these. It was forbidden for the ruler to demand any tax for both sacred areas. The inscriptions mention four kinds of taxes which are assumed to be collected at that time, namely: dasa, calagara, upeti, and panggeres.[69]The text also mentions ›kapas‹ (cotton in English), which confirms the information about the Sundanese textile tradition in the Kawih Pangeuyeukan text, as discussed before in subchapter 3.4. By comparing the inscriptions and the Sundanese manuscript Saṅhyaṅ Siksa Kandaṅ Karesian, both of which are mentioning the term taxes at that time, Holle concluded that the inscriptions might have been written around fifteenth CE.

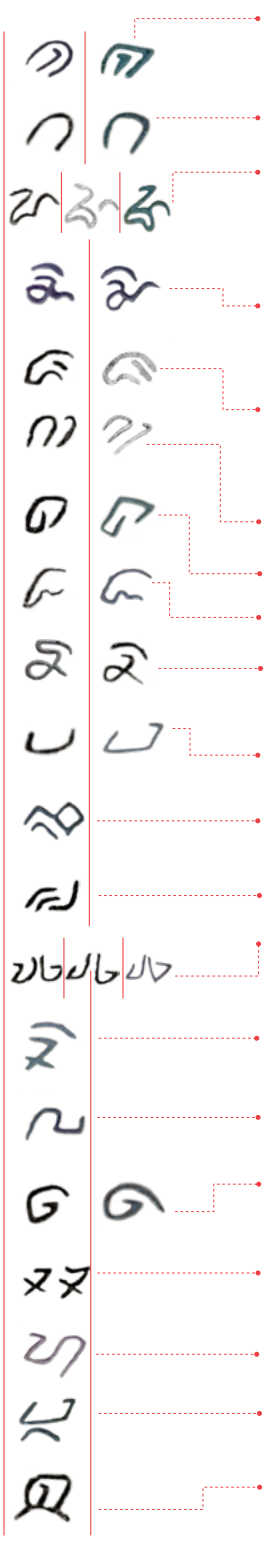
We used photography to sample the characters from the Kawali artifacts, and in two cases, we used manual tracings of characters on the stone. The style and shape of characters from these artifacts are entirely consistent, so only one or two samples of each are presented here.

The display and lighting of the Kebantenan plates in the National Museum of Indonesia are not helpful to take pictures in the right position, so for the more precise definition of the characters from these plates, we are using the photographs from Pleyte in TBG 53, 1911 p. 155-200. Most of the characters are very consistent again, so it usually took only one sample, but a few cases are interesting enough to use two.

b. Description of the Characters on Kawali and Kebantenan Inscriptions
The detail on every character will be explained by the tables on the next pages:

[69] **For further reading see (Pleyte, 1911, p. 163-164)**

Table 4.1.3a
Description of the structures of characters on Kawali inscriptions
[14th C. CE]



All versions of ***k*** are oblique and have two strokes, the outer stroke is a curve and the inner stroke is an oblique line with a hook. In one case, in inscription VI (right) the outer stroke is becoming quite angular.

g form is a simple curve and oblique. ***g*** in inscription VI (right) tends to angular.

From three inscriptions we find quite different styles of ***ṅ***. The similarities among them are the bottom lines and the left upward stroke, curving outward. ***ṅ*** in inscription II and VI are different only at first view, but at closer look only the curved line from the center to the right is disconnected in II. So, only the one on the left is showing obviously a different gesture.

The two versions of ***c*** are actually from the same inscription and clearly show the same gesture, but the wavy stroke crossing over the center has moved higher in the one on the right.

j form is relatively consistent in every inscription. The top stroke is a curved line, which encircles the bottom stroke. In the middle there is an unconnected line, which is parallel to the top and bottom parts on it's side.

ñ has two bodies and is curvy. But the body of ***ñ*** in incription II is slightly more angular.

t in inscription VI (right) is more angular and the right stroke shorter.

The upper stroke of ***d*** in inscription VI is curved more than in inscription I

There are two gesture types of the upper line in ***n***. In II and V (left) the upper line is not seperated from the main body and the whole form looks like one continuous line.

p in inscription V (right) is more angular and on the right stem it has a hook.

b shows consistency of style in every inscription. It is angular, with a repetitive line below and one closed square to the right.

m has three similar strokes with two of them in parallel and pointing into the right stroke.

From all three samples of ***y*** it can be seen that y has two bodies, with both sides less or more angular and it always has two long stems in the middle.

r is an angular form with a curved line that caps the main body. Close to the bottom there is a line horizontally crossing the stem.

l is a reversed, connected form, but the right stroke is more angular.

v form is similar to G letter in Latin, but in some cases the curve goes further down and almost reaches the base line.

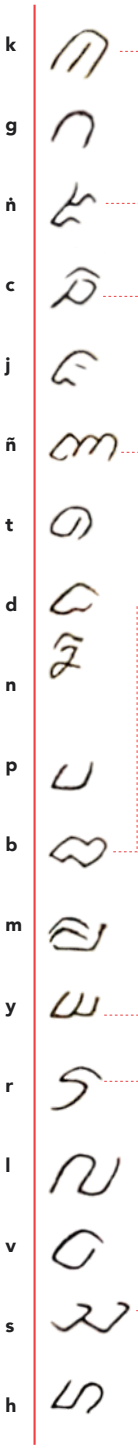
s has two similar bodies. The forms are similar to ***r*** but they have no curved cap above the body.

h is like a reverse of ***l***, but on the left stroke it has a hook.

Basically ***rè*** is similar to ***p***, but reu has a downward curve below the body.

_k is special, because it is not a syllable, it doesn't contain a vowel. Normally the virama will be put on the right side, but only for ***_k*** they added a curved line below the body and connect it.

Table 4.1.3b
Description of the structure of characters on Kebantenan inscriptions [16th C. CE]



The basic form of ***k*** here is similar to ***k*** in Kawali, but there is no hook on the middle stem.

ṅ in Kebantenan has a different form from ***ṅ*** in Kawali. There are only to branches from the stem to the right and no closed stroke.

The similarity of ***c*** here and ***c*** in Kawali is the cap over both. But here the loop is on the right side and tends to be more angular.

ñ here has three connected strokes. The left has a curved bottom line connected to the stem.

b is a closed form with angular tendencies, nearly like two overlapping rectangles.

The form of ***y*** here is one connected body

The body and the cap are connected. This form differs from r of Kawali. The horizontal line crossing the stem on the bottom is omitted here.

The bodies of ***s*** are connected here and have no crossing lines.

c. General description of structure of Sundanese characters on inscription

Physical media used here are different, namely: six stone inscriptions and five copper plate inscriptions. The approach in writing of the text on stones is engraving, and on the copper plates, it is incising, but the visual style is nearly the same. Both scripts are written oblique, and they are still slightly distinctive in some points, in any case. When we look at the style of the k character in Kawali, it is unique, especially the middle stroke, which has a hook to the upper left. This style cannot be found in any other inscription, neither on stone nor in copper. The character ṅ in both media is also unique. It differs not only in style but also in form. The form of ṅ in Kebantenan reminds us of the ṅ in Kebon Kopi and Maṇḍiwuṅa, but the ṅ in Kebantenan has a different style of the upper stroke, it looks like a tree branch. The ṅ forms in Kawali are more varied and also unique. They do not have any resemblance from any other ṅ in other inscriptions. The c in Kebantenan has its own form, which is also not found in other Sundanese inscriptions. The main loop on the left side is only a short line, which is connected to a big loop on the right side, but it has a cap, similar to c in Kawali. The form of c in Kebantenan reminds us of the form in Early Kawi of Javanese inscriptions (see Plate IIId and IVa in Casparis, 1975), but they have no caps. Nevertheless, in the script of Kawali and Kebantenan inscriptions, there are similarities to each other for ***g, j, t, d, n, p, m, l, v,*** and ***h.***

The characters of the script on the Kebantenan plates are more rectangular than those in Kawali; every character has almost the same width and height. Virama (the vocal killer) is written with a descending line and, in some cases, is touching the character below. The characters in the Kebantenan copper inscriptions are engraved with thin strokes and clear without any decorations. The characters are written straight from left to right, well ordered as if there was a guideline, and each plate has a hole in the middle. It seems that the plates were tied together by a string just like manuscripts on leaves.

The scripts in the Kawali inscriptions tend to a more oblique angular form, especially in Kawali VI. To lend a more angular impression to the shape, the writer uses sharper corners to the right side of the characters. Apart from that, we find a few different styles or even new forms of characters, which we have never seen before in other inscriptions. For example, here the character b is peculiar, especially ***b*** in Kawali. Finally, ***ṅ, c, m, r,*** and ***s*** are characters that have an entirely new form.

Like in Kebantenan, the text in the Kawali inscriptions is written in a very clear style, without decorative elements. This applies not only to the visual style, but according to Ekadjati (2005), the messages are straightforward, clear, and to the point. From the style and form, we could argue that the script in Kebantenan is closer to Kawi than to Sundanese on Kawali.

4.2 Sample on Organic Media

4.2.1 Sample on Gebang (Corypha Gebanga / Utan)

a. Description of samples

The script in this script group, called Buda (Buddhist) or Gunung (mountain) script (Molen and Wiryamartama, 2001),[70] for some reason, was survived only in West Java (Sunda). The second name is used because the script is assumed to be used by scriptoriums on mountain slopes. We would find the west slope of the mountain, in this case, mount Merbabu, mentioned in many of these manuscripts. The media they used are gebang leaf (Corypha Gebanga / Utan), one species of the Arecaceae (palm) family, and tint. We decided to study the form of letters of this script to find out if the script once influenced the form of the Sundanese script.

There are four samples for research, and from those, the ones were chosen, which are written in Old Javanese and old Sundanese language. We also consider selecting the texts which have already been transcribed before. Moreover, they have complete information in the colophon with the scribes, dating, and location where they wrote the text. However, unfortunately, there are only very few texts which have complete information in their colophon. Some have just the writer or the place of origin in the colophon. Those samples in this research are collections of Perpustakaan Nasional Jakarta (National Library of Indonesia, Jakarta).

The first sample is Serat Catur Bumi, one of Saṅ Hyaṅ Hayu manuscripts. There are four 'Saṅhyaṅ Hayu' manuscripts, which are already researched, but this one has a dating record. Undang A. Darsa, 1998 researched the manuscript. According to its colophon, the manuscript was written in Désa Mahapwitra, Tajak Barat (west slope) in 1445 Ś (± 1523 CE) (Darsa, 2010). The manuscript is now in the collection of the National Library under the collection code 16L 634. The geographical location of this place, where the manuscript was written, in modern terms, is still in question. According to Pigeaud, in the treasury of Old Javanese manuscripts, Pawitra as a place is recorded in Tantu Panggelaran and Nagarakrtagama (see Gunawan, 2009, p. 18-19), and it was a monastery in pre-Islamic time in East Java. Bujangga Manik, a Sundanese manuscript, mentions mount Sri Mahapawitra in Panahitan, Hujung Kulon (West Java, today Banten province). It states that Panahitan is a sacred place where the Kabuyutan (scriptorium or place for religious teaching) lies (ibid). This question can be applied to Saṅhyaṅ Sasana Maha Guru (the text is explained in chapter 3) too. Further research would be needed to complete geographical information.

[70] See also the discussion of Buda/Gunung/Gebang script in introduction chapter

The manuscript is religious prose, and the language is Old Javanese. In historical records, we are informed that Java was one of the religious teaching centers. For example, in the Bujangga Manik manuscript, it is mentioned that the author went to Java to learn, and he is very proud of being able to speak Javanese. So, it is no surprise when we find some manuscripts in West Java which are written in the Javanese language, especially texts of religious teachings. We might assume that Old Javanese, which has almost fifty percent of its vocabulary from Sanskrit, [71] was the language for religious purposes.

The Serat Catur Bumi manuscript explains the Sundanese cosmology, which is divided into three orders. *Saptapatala* is the lowest level, *buhloka* is where we live now, and *saptabuana* is the upper level. But *Saptabuana* is only the first step to reach the highest place, which is called *kanirasrayan*, the destiny. The text relates to the perception by Sundanese people of parallelism of macrocosm and microcosm, which adapted from Indian religion too (Darsa, 2010).

The second sample is Saṅhyaṅ Siksa Kandaṅ Karesian (further in short SSKK). Its colophon has been said to record the date when the text was written as nora catur sagara wulan (0-4-4-1), which would have the meaning 1440 Ś (1518 CE). The manuscript is one of the collection of Indonesian National Library with code L 630. We have discussed the text thoroughly in subchapter 3.4.

The third sample is Carita Jati Mula; the text has the code 16 L 1097. Unfortunately, we have no further information about the content of this text. In its colophon, we are informed that the text was written in Sagara Wisesa. Sagara in Sundanese means the ocean or sea. Almost all the other texts mention a mountain where they were written. In Sundanese culture, the mountain has a special meaning in a religious context. Before the Hindu and Buddhist culture era, the Sundanese had already rendered the mountain as the place for spirits. As evidence, there are found many megalithic sites on mountains or in the highlands, such as Gunung Padang, Sibalay, Arca Domas, Cireme, e.t.c. This tradition seems to continue in the Hindu and Buddhist period. So, a place next to the ocean where this text was written is nearly unique. We have only two artifacts that record a coastal area (Nusa and Sagara) as the origin of the texts. We may assume that there are different cultural environments between coastal regions and mountains, and perhaps we should find some uniqueness for these.

The fourth sample is Bhīmasvarga has code L 16 455, and it is written in Old Javanese language. Actually, there are three texts of Bhīmasvarga, which were found in West Java. Regarding the focus of this study on the form of letters, only two of them will be discussed in this research. Gunawan researched the text in 2015,

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[71] **Zoetmulder, P.J. 1982, Old Javanese-English Dictionary, The Hague: Martinus Nijhoff. 2 v. (xxxi, 2368 p.) In collaboration with S.O. Robson.**

the text on gebang, which is discussed here, has no explanation on who, where, and when the text was written. But Gunawan tries to analyze the connection between the text and the relief on Sukuh temple in East Java, which shows some parts of the Bhīmasvarga story. The temple itself, according to archeological research, was built around the fifteenth century CE, and Gunawan comes to the conclusion that probably the text was produced around the same time.[72]

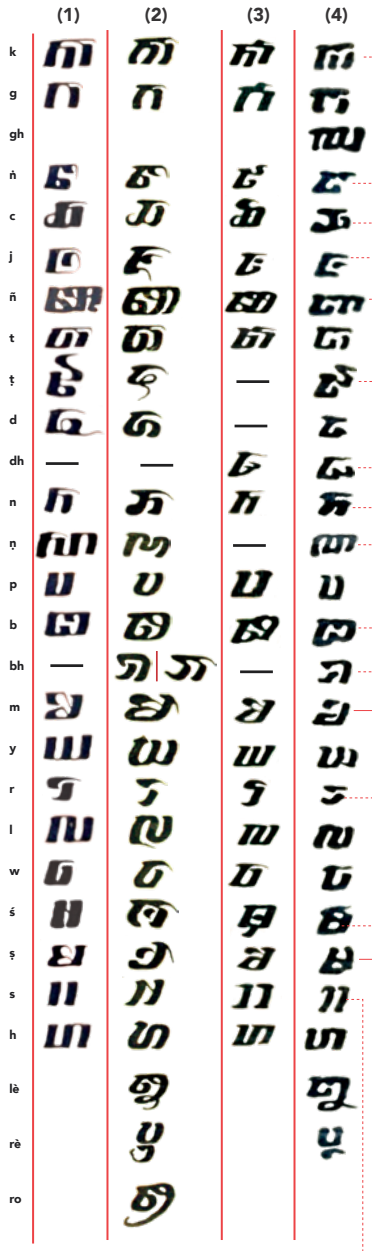
The text is a dialogue between Bhaṭāra Guru and Bhīma when Bhīma tries to save his father from hell. There are sources for this text in abundance, and the most famous is the Balinese version. Even in the Balinese tradition, we can find many paintings about this story, which are in the collections of ARMA Museum, and another source is a serial painting of it on the ceiling of Kertha Gosa, Klungkung, Bali. The text in the Sundanese tradition is unique, since there is almost no narration, only at the beginning of the text. The text records just the dialogue between Bhīma and Bhātara Guru.

b. Description of the characters on gebang

The description will be explained by the table on the next page:

[72] For detail see (Gunawan, 2017)

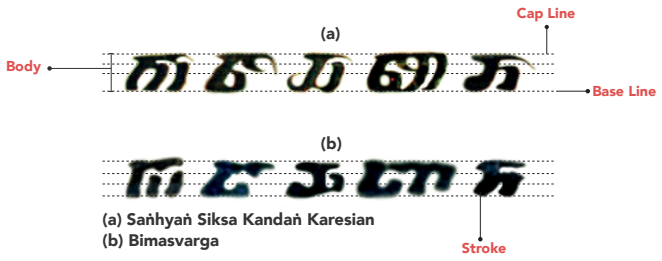
Table 4.2.1 Description of the structure of characters on gebang
(1) Saṅhyaṅ Hayu (SH)
(2) Saṅhyaṅ Siksa Kandaṅ Karesian (SSKK)
(3) Carita Jati Mula (CJM)
(4) Bhīmasvarga



- All the strokes are bold, connected by thin strokes. Only in Bhīmasvarga the strokes are separate and all bold. In SH and SSKK the horizontal strokes on top are branching out longer and thin, some with the end downward. ***k*** in CJM has a tassel in the middle of it's top stroke.
- The style of the stroke on the upper right of ṅ in these manuscripts varies. ṅ of SH and SSKK are similar, but those in CJM and Bhīmasvarga differ.
- The basic stucture of ***c*** in these manuscript is similar, the thickness of strokes differentiates the visual impact of letter, especially for ***c*** in Bhīmasvarga.
- The effect of variation in the ink's thickness varies the visual impact of ***j***. ***j*** in SH differs, the thin line on the bottom goes up and ends with a curved bold line inside. In SSKK the bottom line is downward.
- ***ñ*** of Bhīmasvarga has no loops at all. The strokes are ending in hooks, which makes it's form more open.
- ***ṭ*** of SSKK has distinctive form. It has an upper stroke and the bottom stroke is a continuous line, forming a loop and tail which is crossing the base line.
- There are two styles of bottom strokes: wavy and a loop with tail.
- ***n*** of SH and CJM has two bold stems and the top stroke is a thin line. ***n*** of SSKK and Bhīmasvarga has a thick hook in the lower right.
- The thin line on the upper left of ***ṇ*** in SH is concistantly like this, so the letter has two upper lines on the left side. It can be assumed than the thin line is meant as hook.
- ***b*** are closed forms in these manuscripts, but there are two styles in closing the form. ***b*** in SSKK and CJM has two opposite loops.
- There are two styles of ***bh*** in SSKK, one with a fine hook on the top right and connected. But the underlying structure of both is still the same, even with the style in Bhīmasvarga.
- The forms of ***m*** and ***ṣ*** are very close, they are difficult to identify, especially in SH and CJM.
  ṣ of SSKK has two strokes, one stroke is a curve which touches the right stem.
- The strokes of ***r*** in CJM are connected. It differs from the style of ***r*** in others manuscripts.
- ***ś*** in these manuscripts are quite different, but the basic structure is still similar. The line in the middle of letter ***ś*** in SSKK is not connected, it looks like a dot. ***ś*** of SH is a relatively open form.
- ***s*** of SSKK has a thin diagonal stroke, which connects the right and left stem.

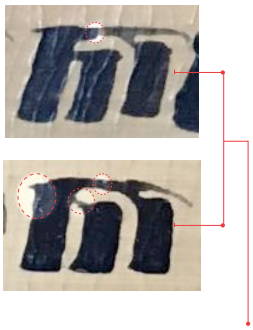
b. General description of the characters on gebang

When we are taking a closer look at line fall for two types of script, one is the script in Saṅhyaṅ Siksa Kandaṅ Karesian (SSKK), and the other is from Bhīmasvarga. We can see that the type of script in SSKK is relatively uniform with the other two scripts. Bhīmasvarga has a slightly different style of writing. But from observation on four gebang manuscripts, it can be perceived that every single letter is a solid figure, thick and written oblique. The variation of ink thickness is showing artful care for delicate letterforms. The figure below shows us how the writer explored the decorative possibilities of using ink.



(a) Saṅhyaṅ Siksa Kandaṅ Karesian
(b) Bimasvarga

The letters in SH do not have hooks on the left side, but the letters in the other three manuscripts have a short hook on the top left. The guidelines are used to understand the structure of letters. By assuming these guiding lines, it can be seen that the height of every stroke is well controlled (see the figures below). The thin line on the top seems to guide our eyes when reading (keeping our eyes to the line), as serifs do in Latin. It can be seen in the picture below. It can be assumed that the writer used the natural structure of leaf to keep the letter on the line and have the same height, but we cannot decide if there might have been faint guidelines drawn before writing.


*These close ups of the character **k** show that the writer used more than four hand gestures to write, and she/he used the posibility of dragging wet ink to create the fine line.*

After studying the characters of the Gebang/Mount/Buddha script, if it is written in old Javanese or old Sundanese language, the characters do not show significant differences. If there is a difference, we find it is only by styling the writing: with a hook or no hook, or styling by the thickness of the stroke. Indeed, there are some cases, such as ***ś, j*** in Saṅhyaṅ Hayu, and ***ṭ*** in Saṅhyaṅ Siksa Kandaṅ Karesian, which are different from those in other manuscripts. However, we cannot attribute one of them to a specific language.


Saṅhyaṅ Siksa Kandaṅ Karesian


Carita Jati Mula

And then, we also do not find any special cases which are related to the place where the text was written. The character forms of the Carita Jati Mula text, which was written in the coastal area, has no significant distinction from those coming from the mountain areas.

The stylistic differences seem to develop from the degree of freedom that the material and tools offer. But the variation was not influenced by the language. There is no apparent relationship between the minor differences in style and the language. Other than the characters that were in use depending on the syllables in either language. Both old Javanese and old Sundanese were written in this script, and the time frame of using the script in both areas (Java and Sunda) was more or less the same. Even the earliest manuscript (fourteenth century CE), which was written in the script, was found in the West Java area, and we could say that the Gebang script was familiar and widespread in Java island. If we compare to the oldest artifact of this script (see Casparis Plate VIII b) and the one in Sunda around sixteenth century CE, it is remarkable that the script has quite a stable style and form.

4.2.2 Sample on Lontar *(Borassus Flabiliter)*

a. Description of samples

The script on the following artifacts is named Sundanese Script; this type of script is found only in texts of the old Sundanese tradition. It is difficult to judge when they started to develop the script and how it evolved. Was it branching out from the Kawi Script style, or did this Sundanese script develop on its own as De Casparis assumes? Could it even have been intentionally developed (e.g., by monks in scriptoriums), or were the participants not aware of its forming by the time? De Casparis' studies on Indonesian paleography shed a lot of light on the development of scripts in Indonesia, especially in the Javanese culture. This was possible since the artifacts (inscriptions and manuscripts alike) of Javanese are in abundance. But about Sunda De Casparis writes only a few paragraphs in comparison to his research on Javanese writing.

The problems that we encounter when trying to understand the Sundanese writing culture are twofold: there are not only very few inscriptions, but many artifacts also do not have dating information. The same applies to manuscripts, and there is only scarce information in the colophons, sometimes there is no information at all. From more or less a hundred manuscripts, only a few are already transcribed and researched. Perhaps with more resources allocated, by further research of Sundanese manuscripts, we would gain more insight. Nevertheless, a recent study by Kurnia (2012), who was focusing on the colophons of old Sundanese texts, helps us to choose texts which have a few pieces of informations in their colophon.

The following part is focusing on the writing system of our core interest so that we will get deeper into the content and context of these samples than with the previous samples from other West Javanese cultures. Since differences between letterforms from different media and tools (apart from inscriptions on stone) are about as small as those from various writers, these media need to be kept close together, and we will describe only some essential variations in the general descriptions. The latest samples of Sundanese we have are from eighteenth-century CE, and it is already written with ink on a very thin bark. It is called daluwang, and one of them is written on European paper.

As explained before in chapter 3, we are aware that there were several media and tools used for writing, and text served different purposes in the Sundanese tradition. Lontar (*Borassus Flabellifer*) is among them. The texts on lontar were meant for public purposes, and they are named carik. The researchers agree to call the style of most of the script on this medium from this region as the Sundanese script because it is found only in the Sunda area, and the language used is mainly old Sundanese. To study the form of characters, we use seven samples of lontar texts with a similar method of writing, namely scratching by a special knife (*pangot*) and dark oil from roasted candlenut for coloring (such a technique would be called Intaglio in Europe). In the study of this script group, two texts will be presented, which have different styles of script, namely: Pabyantaraan and Kala Purbaka. Here we are aiming at finding some indicators if these scripts were early stages of the characters of the Sundanese script.

The first sample of this group is the text Pabyantaraan, which is now in the collection of the National Library of Indonesia, and the code is 68 L 1101. The text was researched and transcribed by Gunawan and Holil in 2010, and later the transcription was published in (2014). This text has thirty leaves, and there are some damages on the leaves, but fortunately, the text is still readable, and the form of the letters is quite well recognizable. The text is written in Old Javanese language, but in some points, there are apparent characteristics of the old Sundanese style to be found, such as affixes and prepositions (ibid, p. 15). The text deals with prophecies about war and warnings to be prepared. The predictions are explained by reading the signs of nature, for example, by watching the movement of clouds, solar and lunar eclipses, and interpretations of dreams. In this text, there is also a mantra, or rather a charm, to let the enemy fall asleep before attacking.

The word Pabyantaraan is derived from *abyantara*. In the Old Javanese language, the word meant 'inner part, core' and in modern Javanese language, it has the meaning 'in front of, ahead.' If we compare the meaning of this word and the content of the text, the definition in modern Javanese is more appropriate (ibid). The text has no colophon, so we have no information by whom, when, and where the text was written. But when we analyze the content of the text, which has no

Arabic loanwords, we may assume that it was written in the pre-Islamic period, which would be before the sixteenth century CE. According to Gunawan, this text was reported by Pleyte in N.B.G 50, 1912 p. 44 that the text was from a kabuyutan (scriptorium) in Cicanggong, Jasinga, Bogor. Pleyte put further information about the text in attachment 1 (bijlage I) (see N.B.G., 1912). According to this information, the text was in custody of Cicanggong, Jasinga kabuyutan.[73]

The second sample is Kala Purbaka, and it is in the collection of the National Library of Indonesia with the code 13 L 506. The text was in the Merbabu texts collection, but according to research by Gunawan, the text is written in the old Sundanese language. This text was mentioned in Notulen van de Algemeene en Directievergaderingen van het *Bataviaasch Genootschap van Kunsten en Wetenschppen* (NBG) 1869 Appendix N as a contribution by Dr. R. H. Th. Friederich. He gives the information that the origin of this text was Pekalongan, Central Java. The text has ten leaves and is in good condition. Again, this text contains no information on dating, but according to Gunawan, it may come from the seventeenth century CE. He assumes this by comparing the style of the script, which is similar to the Kidung Subrata text, which was written in 1632 CE.[74]

The text itself is about the birth of Kala (Kālá), which is the personification of time in Hindu mythology. In Javanese mythology, Kala is the son of Batara Guru (the name for Siva in Javanese mythology) and Dewi Uma (Parvati), his wife. The Javanese version of the legend describes as we might call it today, the marital rape of Parvati by Siva. This happened on the back of his mythological animal, the divine cow Nandi. Batara Guru was so ashamed after the event that he imagined both of them to appear as horrifying ogres, but only Dewi Uma got transfigured into a horrific version. In Hinduism, this aspect of Parvati is also called Durga. The offspring from this event, Batara Kala, was born looking like an ogre.

In our text, the story is quite different. It also begins with Batara Guru losing control and chasing his wife, but he didn't succeed, and his semen fell into the ocean and was swallowed by a mythological fish. After seven days, the semen became a human with a horrifying appearance. He went to the skies and complained

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[73] The interesting point from this source is the fact that custodian who took care of these pre-Islamic heritages mentioned "Buda script" and "Javanese script." (See introduction chapter about the script on gebang) We can assume that the people at that time already used the term Buda script

[74] The tradition of the writing of Merapi Merbabu had existed for three centuries, from the beginning of the fourteenth century CE to the end of eighteenth-century CE, from the pre-Islamic period to the Islamic period in Java. The text contains Hindu teachings, so it indicates that the text might be written in the pre-Islamic period. In the Sunda area, Islam had already taken power by the end of the sixteenth century CE. If Gunawan's assumption is correct, we should assume that there were many exiled Sundanese monks, probably seeking shelter in Merbabu. But the text was not from Merbabu, it was from Pekalongan, as Dr. Friederich informed us. And there is also stated in NBG 1868 that Dr. Friederich found two fractures of an inscription from Pekalongan. We may assume that in that area, there was a scriptorium or sacred area. It gives us a reason to assume that it was possible if the text was written before the seventeenth century CE.

with Batara Guru and asked him for divine power. Until today, Kala is a fearful god and the personification of time, which inevitably destroys anything in the end. It is of interest to be noted that in our text, the story depicts life close to the sea. In the Sundanese culture, the cult of Kala was an old tradition. It was mentioned in Saṅghyaṅ Siksa Kandang Karesian as oral religious teaching for the public through the *wayang* performances.[75]

The third sample is Saṅhyaṅ Sasana Maha Guru (see Table 4.3_3), it is in the collection of National Library of Indonesia with the code: 15 L 621. This text is already explained thoroughly in chapter 3.4.

The fourth sample (see table 4.3_4) is the Bima Svarga text (a Sundanese version is Bima Leupas); it is also in the collection of the National Library of Indonesia with the code 16 L 623. There are two versions of Bima Svarga text; both of them are samples in this research. The differences among those samples are language, media, and script. The colophon doesn't write the year, but it writes the author, the origin, and the month. The writer is 'Euncu nu ngaherang', the meaning is more or less like 'a thoughtful child' because 'euncu' means grandson. It was written in mount Cikuray and was finished in the first month. The content of this text is already discussed in the gebang group of samples.

The fifth sample (see table 4.3_5) is the Sewaka Darma (also called Kawih Panyaraman) text, which is in the collection of the National Library of Indonesia, too, with the code 16 L 408. It is a lesson on how to reach moksha, which is emphasizing the use of bayu (energy), sabda (words), and hedap (determination). The text is divided into two parts; the first part is the lessons on how to prepare when the soul comes to fate, as the gate to the immaterial world. The second part is describing the release of the soul (Danasasmita et al., 1987). The text is also showing the mixture of Indian and indigenous religion when explaining the levels of heaven. It is interesting to be noted that the indigenous Sundanese goddesses are placed higher than the Hindu gods (Ishvara, Mahadeva, Brahma, Vishnu, and Siva).

Its colophon records the writer and the place. The writer is Buyut Ni Dawit, and the site was the retreat of Ni Teja Puru Bancana in Mount Kumbang. Danasasmita and colleagues (ibid) assume that the writer was a woman (a tiagi or nun). They explain that from the name itself, it 's not clear if the writer was a woman, but the writer wrote the text in the retreat of Ni Teja Guru Bancana, which is a female's name. Danasasmita further explains that many terms used in the text are typical contemporary women's objects. The writer explains the clothes of the goddesses in detail. It may indicate that the text was written by a woman. This text is a

[75] **Until today in West Java, finding the right date to avoid Kala (negative forces) for an important event, like marriage, building the house, major investment, and moving to a new home is still of importance.**

piece of evidence that at that time, women had access to the writing. At the end of colophon, there is written 'nanu namas haba jaja', which could have the meaning "1021 Ś", which translates to 1099 CE. Most researchers consider this impossible on a piece of organic material. Danasasmita, though, considers the possibility of the date having been copied together with the text to later copies.

The sixth sample is Carita Parahyaṅan and The Fragment of Carita Parahyaṅan, will be abbreviated: CP/FCP (see table 4.3_6). These texts are in the collection of National Library of Indonesia with the code: 15 L 405. These texts are written in the same book, but it uses some specific marks to divide those texts. There is no dating information in its colophon, but Pleyte assumes that the text was written in the period of Islamization in Sunda, which was 1528 CE. On the other hand, Atja argues that this was impossible, because the text also writes about the last Sundanese king, who reigned until the Sunda kingdom had finally fallen, and that was around 1579 CE. So, Atja suggests that probably the text was written after 1579 CE (Darsa, Sofianto and NS Suryani, 2000).

The Carita Parahyangan could be called a chronicle of the Sundanese kingdom, from the time it was established until Demak and Cirebon defeated it. The text becomes an important source for historians, for example, Pleyte, Poerbatjaraka, and Pusponegoro, to study the history of Sunda, which unfortunately has minimal sources. The Fragment of Carita Parahyangan is telling the story of three kings of Sunda, who were in control of Pajajaran (one of the capitals), namely: the ancestor of Trarusbawa, Trarusbawa, and Rakéan Darmasiksa.

The seventh sample is the Pakeling text (see table 4.3_7), which is also in the collection of National Library with code 15 L 413. The content is already showing the influence of Islam, it is written in the old Sundanese language, but we can find some words from Javanese and the Arabic language. The text is divided into two parts; the first part is sermons of Islamic teaching and the second part consists of mantras, which contain pancaaksara of Sivaism (Wartini and colleagues, 2010, p. 8). These facts show us that the text with high probability was written around the seventeenth century CE when Islam was already established in Sunda, but the influence of Hinduism was still alive.

b. Description of characters on lontar

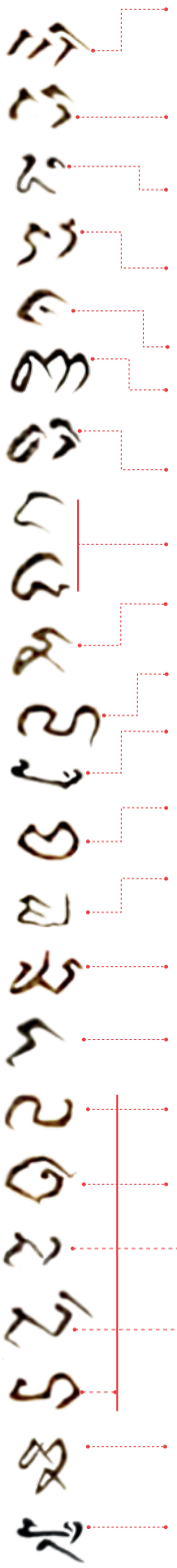
We will explain the description of every character on every sample in separate tables. Due to the different forms of letters with those characters on other lontar manuscripts, we will discuss the general structure of the characters at the end of the study on characters in lontar. We will observe if they are similar to each other or how far the differences go if there are any. Only for Pabyantaraan and Kala Purbaka, there is a separate explanation following.

b.1 Description of Characters in the Pabyantaraan Text

The characters of the script from Pabyantaraan are slightly tilted to the right. The strokes are oblique, dynamic lines, and they tend to curve. Almost all characters are single main bodies, except ***k, g, c,*** and ***t***. Separate strokes form these characters. There are cases of characters that tend to be closed strokes, but a few of them are separated. We may assume that the speed of writing causes this.

In general, the characters of the script on Pabyantaraan are similar to Kawi script. A few characters, like ***b, s,*** and ***ñ***, have archaic forms and remind us of forms on inscriptions. Nevertheless, most of them are similar to the characters in gebang. It seems that the writer was used to writing on gebang, which is generally written by ink, and the writer tried to interpret the form on gebang by scratching on palm leaf with the knife. The naturally varying pressure of the hand with the knife differentiates the width of the stroke. The description will be detailed by the table on the next page.

Table 4.2.2a
Description of the structure of characters in the Pabyantaraan text



k Form of character ***k*** has four seperate strokes, three of them are obliqually parallel to the right and one stroke is above the others as a cap. The cap is declining and following the slope of the main body. The upper edge of every stroke has a hook.

g Basically ***g*** has a similar structure with ***k***, but it is built with two oblique strokes. the strokes tend to curve inward

ṅ ***ṅ*** has two strokes, one stroke is a continious dynamic line with a hook on top. The other stroke is on the top right and a short curve.

c Character ***c*** here has an uncommon form: it has two seperate curved bodies, nearly repetitive. Both with hooks on the top.

j Character ***j*** is built with two strokes, a curve and a tilted line.

ñ ***ñ*** has three dynamic strokes,the first stroke is a continious dynamic line with a close curve at the end. The other are two repetitive curves to the left.

t Basically ***t*** has a similar structurte like ***g***, but the first stroke is a continious dynamic line with a close curve at the end.

d ***d*** and ***ḍ*** are quite similar, but ***ḍ*** has two curves in the lower part.

ḍ

n ***n*** seems to have a cap, but the cap becomes one part with the main body, which is formed by a single dynamic line, curving over itself.

ṇ ***ṇ*** has three curves, but it seems to be formed by two manual strokes.

The interesting part of this character is a tiny and short line, which is parallel to the hook on the top right.

p

b Character ***b*** has three strokes. The upper strokes form two triangles. The bottom stroke is a continous curved line. This form reminds of the form on some inscriptions.

m Beside distinctive character ***m*** on the other lontar manusripts, this ***m*** has a hook on the top left .

y ***y*** has two strokes, with a vertical line which divides the body. There are hooks on both edges.

r ***r*** has a cap, which becomes one part with the main body and both main body and cap have similar weight. ***r*** has also a hook in the bottom edge.

l ***l*** and ***h*** are reverse forms. The distinction: the curve of ***h*** is declining and goes over the bottom edge.

w ***w*** is formed by an almost closed curve with hooks on both edges. ***w*** has kind of a floral form.

s The same case like ***c***, here ***s*** and ***ṣ*** have distinctive forms with the form on the other sundanese lontar manuscript, especially with the diagonal line, which connects its two bodies. They have more similarity with the character ***s*** in Kebon Kopi inscription.

ṣ

h

lĕ ***lĕ*** has two strokes with different style of edges. One stroke is ending with a closed curve and the other is ending with a triangular form.

rĕ Upper part of character ***rĕ*** is similar to ***p***. Below is a seperate angled stroke pointin g downward.

b.2 Description of the characters in the Kala Purbaka text

The style of these letters is oblique, and the body of letters is arranged on a baseline. The strokes of every character in this manuscript are generally almost separated, but still recognizable as one letter. The corners where two lines meet leave a hook, see ***k, g, j, ñ, t, ṭ, ḍ, b.*** However, the script has a different style of hook for ***p, m, y, s***.

The problem of identifying characters here is if the lines above the body are meant to be caps or are just not touched by the lower lines, like in ***k, c, t, n***(possibly caused by fast writing). We need to note here similar style as those on gebang nor other lontar samples. Especially c, ***ñ***, and ***r*** are unique, while ***m*** and ***s*** remind us of the earlier style on stones. The description will be detailed by the table on the next page.

Table 4.2.2b
Description of the structure of characters in the Kala Purbaka text

k		***k*** has five strokes, three of which are vertical strokes parallel to each other. Two horizontal strokes are on the top, with the right one tilted downwards.
g		***g*** has a body with a cap above. The body seems to consist of three strokes, which the upper stroke slightly tilting downward. The cap follows the tilt.
ṅ		***ṅ*** has a body consisting of four connected strokes. An unconnected curved stroke in the upper right tilts downward.
c		Two connected curved strokes give the body a ‚wavy' style. An unconnected horizontal stroke caps the character ***c***.
j		The structure of ***j*** contains three seperate strokes. One sharply angled stroke, and two soft curves.
ñ		The character ***ñ*** has two bodies with three separates strokes. The lower left stroke has sharp angles. The right body has a double curve.
t		The character ***t*** has two bodies with four separates strokes. The lower left stroke is rounded and almost closed. The upper stroke is similar to ***k*** and ***g***, it tilts downward.
ṭ		***ṭ*** has three strokes, the lower left is sharply angular with a horizontal, mildly curved line above. The curve on the right is enclosing that line.
d		Similar to other characters, the upper stroke of ***d*** is seperate from the other two. The curvy strokes touch over the middle line leaving a hook inside.
ḍ		***ḍ*** has an almost closed shape with a double curve below.
n		Like several characters of this manucript, ***n*** has two clearly seperated lines, the lower one curving back over itself.
p		The stroke of ***p*** is peculiar. The left stroke seems a broken line and touches the other inside. The hooks are downward and the form reminds of the Balinese script on lontar.
b		The basic form of ***b*** has similarities with ***j***, the bottom stroke goes up higher than the stroke on the left side.
m		The form of ***m*** resembles an archaic form but with a downward hook on the right stem.
y		The strokes of ***y*** are almost seperate with a downward hook on the right stem.
r		***r*** has two kinds of stroke, let's name it straight and curved. It has a hook which declines to the inside of the body.
l		***l*** also has a seperate hook, but the line which seems to bridge the two lines on the upper side is going far and almost touches the bottom line.
w		***w*** has a closed form. The line of the upper body and the cap are parallel and tend downward.
s		***s*** has an open form with all strokes connected. It has also a downward hook.
h		***h*** has two strokes, the main stroke is a continuous line which forms a big curve and ends with a tiny loop.
lĕ		***lĕ*** seems to have two bodies, but one is on top and the other below. The upper body is similar to ***ñ*** and the other one forms a nearly continuous line.
rĕ		***rĕ*** also has two vertical bodies, and the form is almost repetitive, but the lower body is tilted and has only one hook.

b.3 Description of the characters in Saṅhyaṅ Sasana Maha Guru, Bima Lĕpas, Sewaka Darma, Carita Parahyangan and Pakeling texts

The following pages are presenting tables of the structure of characters on these texts: Saṅhyaṅ Sasana Maha Guru, Bima Lĕpas , Sewaka Darma, Carita Parahyangan, and the last one is Pakeling. The end of this subchapter will be an explanation of the general structure of all characters on lontar, excluding the characters on Pabyantaraan and Kala Purbaka. In the tables, only the first sample is commented on every character. Later there are only comments for particular cases.

Table 4.2.2c
Description of the structure of characters in the Saṅhyaṅ Sasana Maha Guru text

k		***k*** has two repetitive bodies with sharp angles , both have a curved cap.
g		***g*** has two bodies, it's almost similar to k, but the first form has a bottom line touching the top, creating a sharp angle and ***g*** has only one curved cap.
ṅ		The main body of ***ṅ*** is similar to the first one of ***g***, but it has two more lines, which are parallel to the curved bottom line.
c		It seems that ***c*** is written by a continous line and ends with a long stem.
j		Basicly ***j*** has strong similarity to ***ṅ***, but the bottom line goes up as a hook and then continues downward.
ñ		***ñ*** has three bodies, two of them are connected to each other.
t		***t*** has two bodies, the first body has a high stem and the other body has a curved cap, which is reaches far downward, almost reaching the base line.
d		***d*** has a similar structure with **j**, but ***d*** has only two parallel lines.
n		The basic form of ***n*** is similar to ***c***, but the stroke of ***n*** is downward after crossing the stem. ***n*** is attributed with a cap too.
p		***p*** is constructed by two angular strokes and the bottom line connects both.
b		Basic form of ***b*** is similar to ***d*** but it has added an angular stroke right on the edge of letter.
m		***m*** has two seperate bodies. One body contains three horizontal lines, which are parallel to each other and the other body is an angular stroke.
y		***y*** has also two separate bodies, which are almost similar to each other. Both stems are relatively high.
r		Main body of ***r*** is an angular stroke with a crossing line on the bottom and a cap which is parallel to the bottom line.
l		The main form of this character is a double angular stroke, which is balanced by two stems into opposite directions.
w		Being a nearly closed angular form, ***w*** has an extremely long upper line.
s		***s*** has two identical angular bodies with diagonal lines across the stem on the bottom.
h		***h*** has a dynamic, sharply angular, connected line and it is ended by a stem which crosses the base line.
ṭ		Basic form of ***ṭ*** is similar to ***d***, but it has an additional curved line which is goes up to the top right.
lĕ		***lĕ*** seems to have two bodies, which are like a combination of ***d*** and ***n***, but without the cap.
rĕ		Among all the main syllables only ***rĕ*** has another line below.
ro		***ro*** is very similar to ***b***, but it has a long stem which crosses the base line.

Table 4.2.2d
Description of the structure of characters in the Bima Leupas (Sanskrit: Bhīmasvarga) text

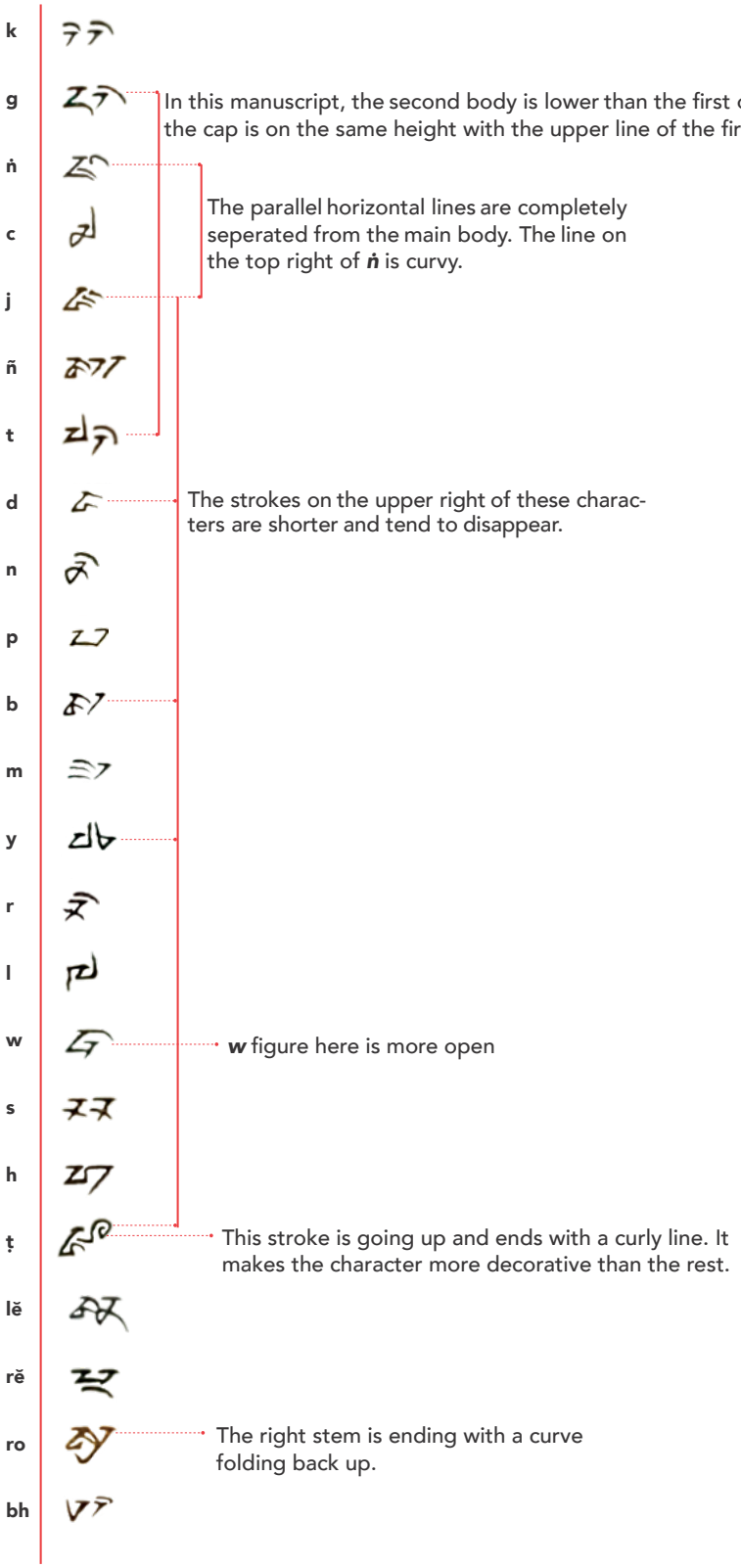


Table 4.2.2e
Description of the structure of characters in the Sewaka Darma text

Table 4.2.2f
Description of the structure of characters in the Carita Parahyangan text

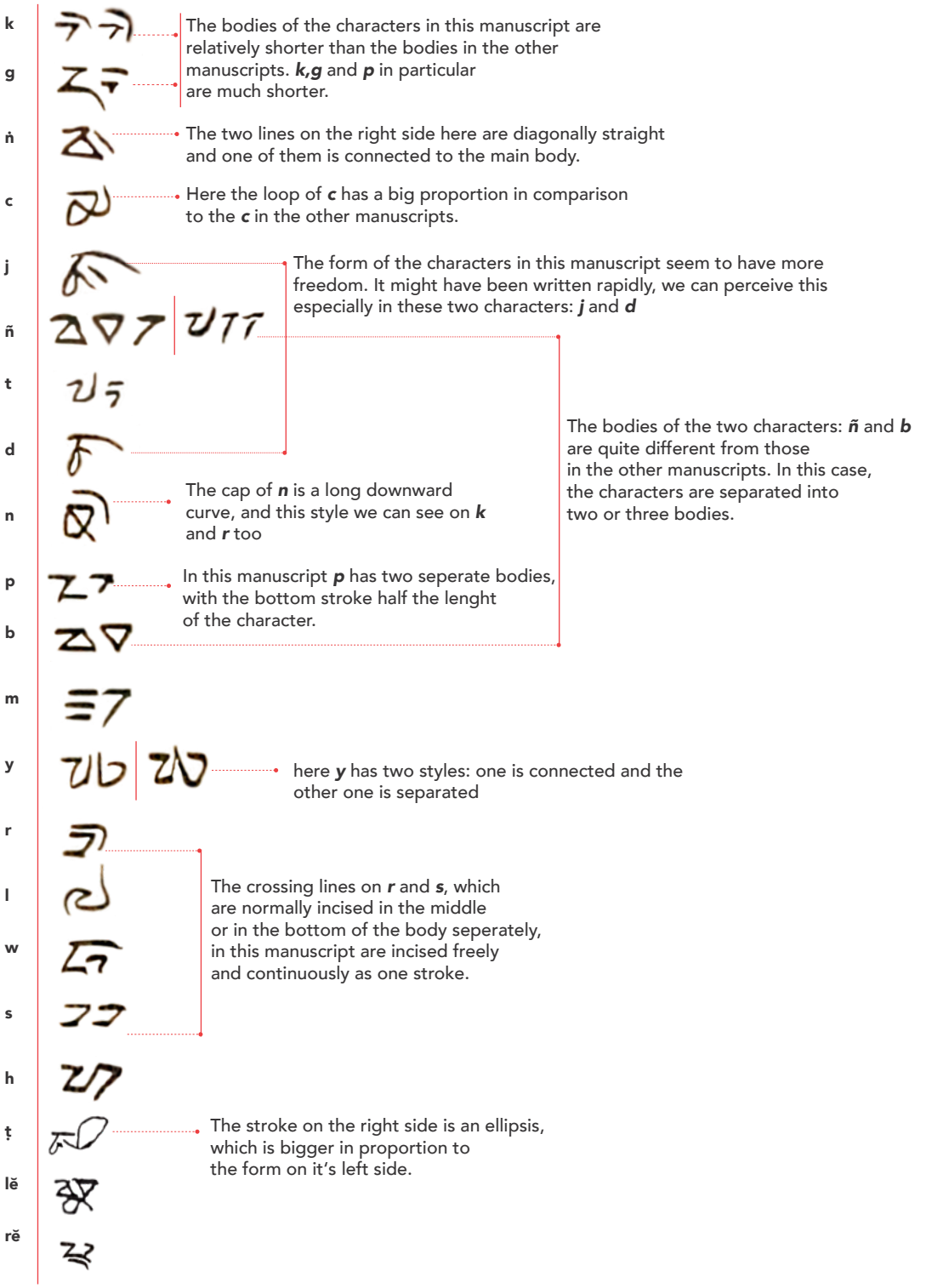
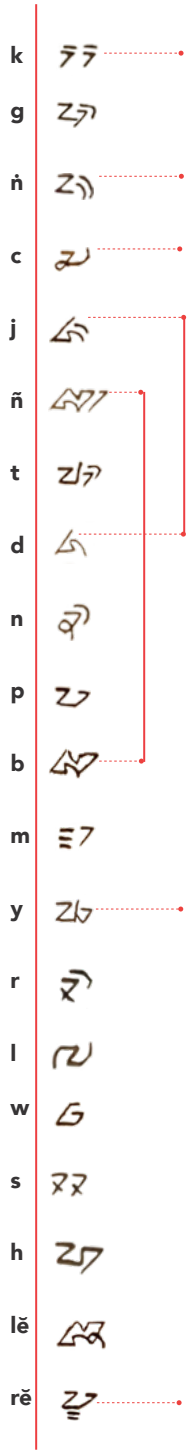


Table 4.2.2g
Description of the structure of characters in the Pakeling text



k has two versions here, one with straight line caps and one with curved ones. We will see the curved style cap here consistenly used in every character with a cap: ***g, t, n,*** and ***r***

Two lines on the right side are downward and one of them crossing the ‚base line'

The right stem of ***c*** tends to oblique, parallel to the left stem. It differs from ***c*** on the other samples of this group.

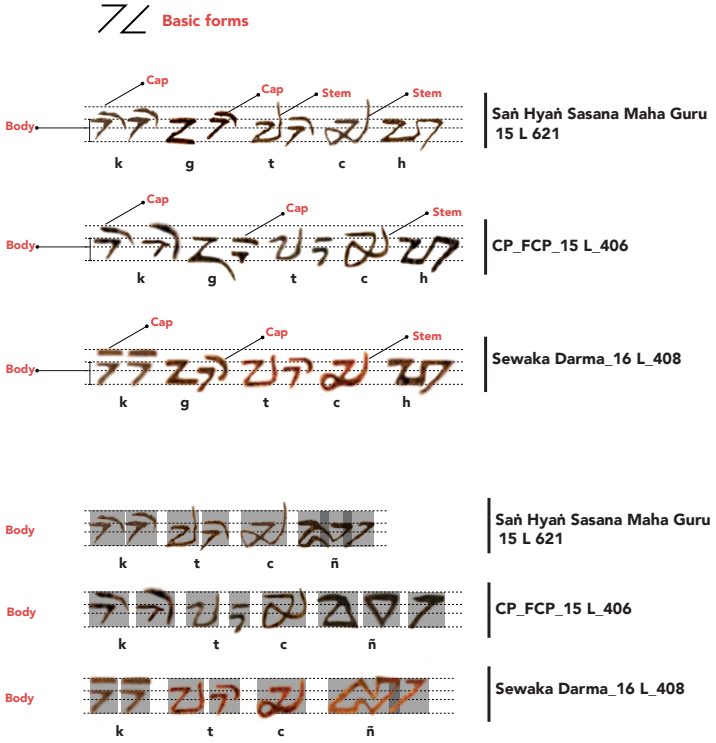
The upper line of ***j*** and ***d*** here are regularly omitted.

the body of ***y*** is connected here

rĕ here is similar to those in the Sewaka Darma, it has two lines under the body, whereas in the other manuscript it has only one line.

c. General description of the characters on lontar (excluding Pabyantaraan and Kala Purbaka)

From these samples of three manuscripts, we can see that the script seems to have "standardized features," which can be seen even on the most cursives style (CP_FCP). The strokes of the characters have four distinct features: horizontal line, vertical line, oblique line, and curve. Each letter has a basic form with a constant angle, which makes the letters oblique. The form of characters generally tends to angular. Some letters have two bodies, and the second body is lower and has its own guidelines.



If we look at the samples, we can group the characters based on some notable features: number of the bodies, proportion, and the cap.

One body letters	
Two bodies letters	
Group of letters according to wide proportion	
Group of letters with cap	

The style of the caps depends on the writer, sometimes all the caps are curved lines, like on Saṅhyaṅ Sasana Maha Guru, Bima Svarga, and CP_FCP manuscript, and there are even mixed style caps, like those in the Sewaka Darma and Pakeling manuscript. There is a particular case for ***ñ*** and b in the CP_FCP, where the body is separated into two or three bodies. The character ***ñ*** has significant variations: in one case, the first and the second body are two triangles pointing in opposite directions. The other variation has three angular bodies with the first body attributed by a high stem. The geometric style of writing generally seems to exist in the Sundanese language. The use of the letters ***ḍ, ṇ, ṭ*** and sh are infrequent, even in some manuscripts, these are not used at all.

(top) Saṅhyaṅ Sasana Maha Guru,
(middle) Carita Parahyangan (CP_FCP),
(below) Pakeling
Photo: Collections of Perpustakaan Nasional Indonesia-Jakarta

In the best-written examples, we can observe how carefully the characters are arranged according to the principal guiding lines. While the writers are not always strictly keeping all four lines described before, we can clearly see the second line from the top being kept for orientation. This will help the eye of the reader immensely, similar to what we know from Latin. (see the figures above) The optical weight and horizontal density of the characters are also well distributed and avoiding clusters that would impede fluid reading. Given the natural surface and the simple tools used here, these examples show a very efficient design of this writing system for everyday use and not only for carefully painted ceremonial texts.

The third sample shows characters with very defined and controlled lines with less freedom in handwriting than the other two, the first one in particular. We may assume a less experienced writer, striving to be correct in the shape of letters. At the same time, the other two may indicate experienced writers who allow themselves a certain degree of freedom and elegance.

4.2.3. Characters on Bamboo Texts

a. General Description of Samples

Bamboo is also one of the writing media, which is listed in Saṅhyaṅ Sasana Maha Guru. Saṅhyaṅ Sasana Maha describes that the texts on bamboo are named *pejwa*, and it is forbidden to keep with ourselves because it could make the text (the content?) even stronger (see Gunawan, 2009, p. 113). There are three texts on bamboo which have been preserved until today. From these three artifacts, two samples are used for this study, because only these two are already transcribed and translated, which helps us to identify every character on the medium. The low quality of the photographs did not allow us to use direct copies of the letters. The structure of these manuscripts is entirely different from each other and lontar and gebang. One manuscript, which has the code 16 L 426 B in the National Library, is similar to some of Batak's old bamboo manuscripts. It is a bundle of pointed bamboo sticks where every stick has only one line of text. The other manuscript, which has the code 16 L 426 C, is similar to the form of manuscripts in the South Sumatra tradition. It consists of sliced bamboo of roughly equal width, always carrying five lines of text. In both cases, they are held together by strings as a manuscript. Both texts do not have any information by whom, where, and when the texts were written. From the content, we can be sure that these texts were written before the Islamic period in Sunda. The text with code 16 L 426 B, named '*Kaleupasan*,' is explaining moksha. The text with code 16 L 426 C, named Saṅhyaṅ *Jati Maha Pitutur*, is describing all the names of god: *achintya* (inconceivable), *adrasya* (invisible), *abyapadésa* (unknown existence), *adwaya* (non duality, unity), *apanro* (the only one), *awimwahita* (cognition), *awijnyana* (not understandable), *awarna* (no color), *awastu* (no name), and *awacya* (inexpressible).[76] The text also explains in short that humans must learn and practice it in everyday life to understand and to find god in oneself. The structure of these characters will be explained in detail by the tables on the next page.

[76] For further reading see, (Wartini et al., 2010, p. 254-265)

Table 4.2.3a
Description of the structure of characters in the Kaleupasan text

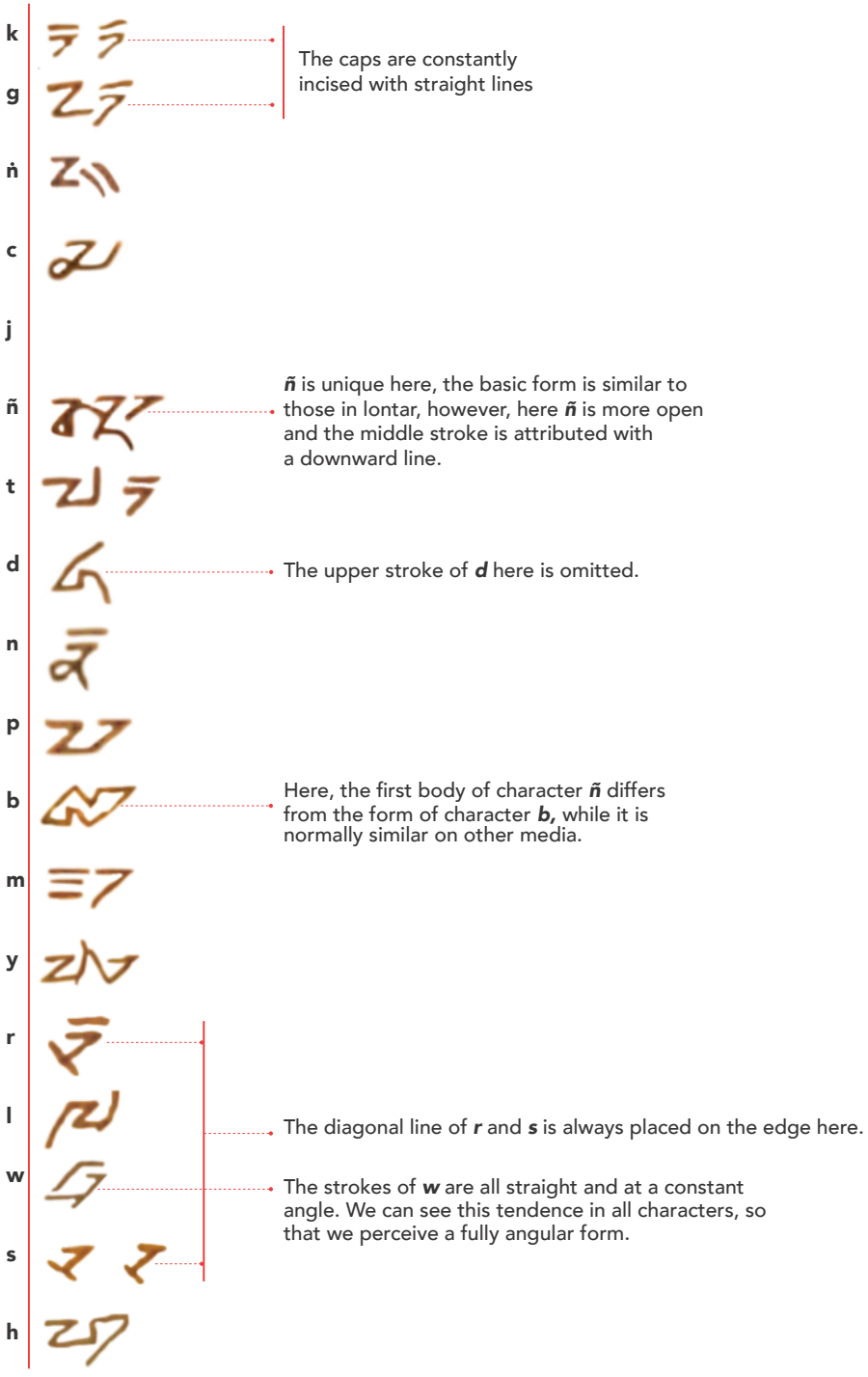
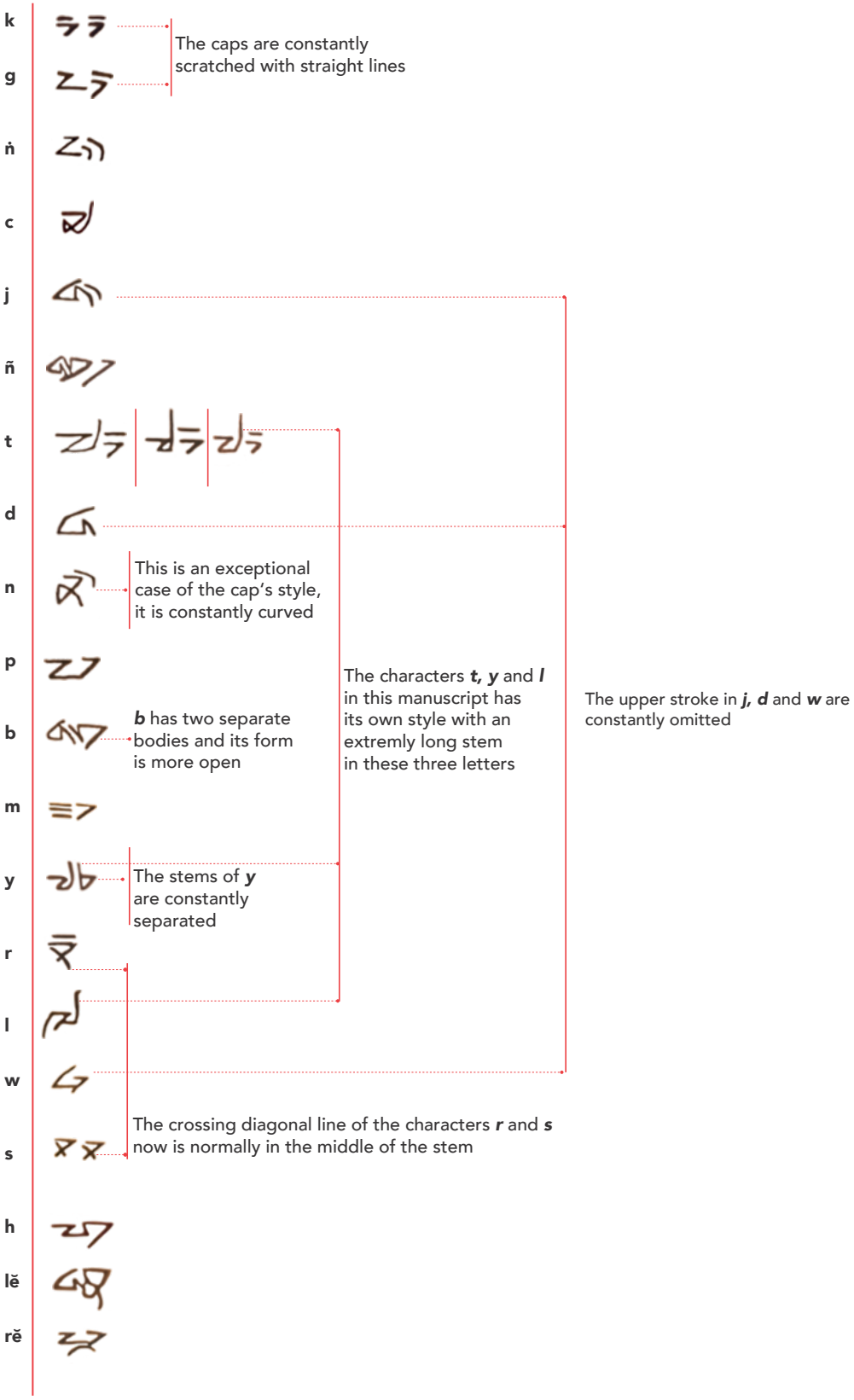


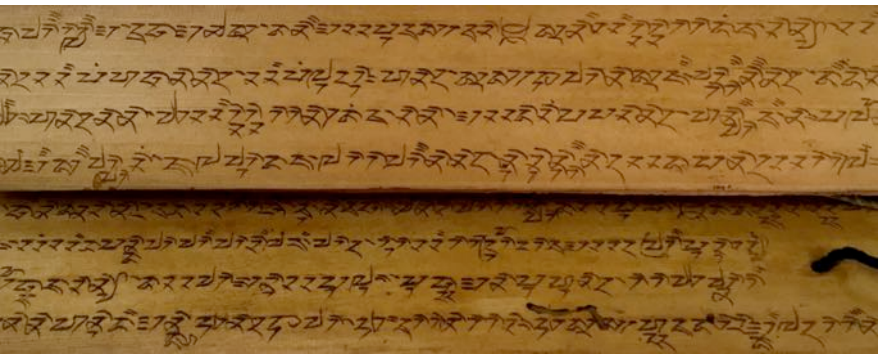
Table 4.2.3a
Description of the structure of characters in the Saṅ Hyaṅ Jati Pitutur text



b. Observation on the characters on bamboo

The script on bamboo is similar to the script on lontar, the form of each letter is angular and shows consistent angles. The styles of the script here are quite firm. We may say they are not written as elegantly. It can be understood since bamboo is more laborious than lontar, and the surface is rounded. It takes more effort to control the shape of letters. Nevertheless, the writers try to keep the distance of each row of letters (spacing). They also help the readers orientation by arranging the letters on guiding lines, even if this cannot be done as precisely as on lontar.

Saṅhyaṅ Jati Pitutur



Saṅhyaṅ Sasana Maha Guru text

(top) Bamboo text
(below) Lontar text

Some interesting facts here, when compared to lontar:

- the caps are almost uniform, and they are straight lines
- the writers seem to minimize the curved lines, as we can see below
- the upper lines of the characters on bamboo are cut short and straight

Lontar	
Bamboo	

4.2.4 Description the Characters on Daluwang and European Paper

a. Description of samples

The manuscript on daluwang was first officially researched by Ade Ahmad in 2014 as his master thesis. The manuscript has the code KBG 75, and it is in the collection of the Indonesian National Library. The manuscript has seven texts, and the first two texts describe the creation of Adam and Eve (Babu Hawa in the Sundanese version) and a whole genealogy which is finally linked to the King of Sunda. We may see the text as a legitimation of Islam in West Java (Sunda). The language of the text is Javanese, Sundanese language is only in its colophon. According to the information in the colophon, the text is written by Kai Raga in mount Sri Mangati on "wulan Muharram sukra kaliwon" one Friday in the month of Muharram, but unfortunately, there is no information on the year. Every character is written clearly, even though there are some cases of mistakes, such as for c. For detail, see the table 4.2.4.

The second sample is the manuscript, which has the code KBG 76, and it is also in the collection of the Indonesian National Library. The text is not yet transcribed and translated. The artifact has three pages which are containing text, but every page is slightly covered by a whitish color, which is making it difficult to recognize the form of the characters. The covering is a method to preserve the text by using Japanese tissue. Nevertheless, one needs to apply it carefully. Therefore the text is still readable.

KBG 74 or Carita Waruga Guru

Unfortunately, this artifact is no more available in the National Library of Indonesia, it is lost, and we have no information where the text is. The only source is the research of the text, which was published by Pleyte in Tijdscrhrift door indische Taal-, Land- en Volkenkunde in 1913(For further detail see, Pleyte, 1913, p. 281-423). He transcribed and translated the text into Dutch, and fortunately, he also published one facsimile of the first page of the text. Even though he shows only one page, this helps us to recognize the form of the script. He also compiled a list of characters that are used in the text (see appendix, fig. 33). When we look at the characters on the facsimile, the characters tra, leu, and the variations of b are missing. However, if we compare the characters in the list, Pleyte gave for this text and the characters in other Sundanese texts. The character leu is similar to those in the lontar and bamboo text. A tendency of variations of b and ñ also exists in the Carita Parahyangan and the Fragment Carita Parahyangan. The character tra is the unique case here because usually, to write tra, a scribe needs to use panyakra sign in front of the sign t. However, in the Waruga Guru text, it has an independent sign, and it is almost similar to ṭ in lontar. For detail see the table …

As we already discussed in the introduction, there is a discrepancy regarding the material for this text: is it European paper or daluwang? By comparing with

the other three daluwang manuscripts (KBG 73, KBG 75, and KBG 76), Gunawan assumes that the medium was daluwang. Ekadjati, whose position is followed by other researchers, assumes that the medium was European paper. For this point, we need to go back to Pleyte's description. Regarding the material in his footnote no. 2, page 299, he writes "Het boekje bestaat uit dubbelgevouwen vellen Hollandsch papier, vervaardigd in een Amsterdamschen papiermolen blijkens het watermerk, dat jammer genoeg' geen jaartal draagt. …"

So, if we consider that the result of Pleyte's research is valid, we need to agree that the medium of this text was European paper. The most important point from this discussion: KBG 74 or Carita Waruga Guru seems to be the only artifact of the Sundanese script, which is using European paper we have until today. This is raising the question: when and how did European paper come to Sunda? Did they acquire paper by direct contact with European traders, or did they acquire paper through Arabs or Javanese?

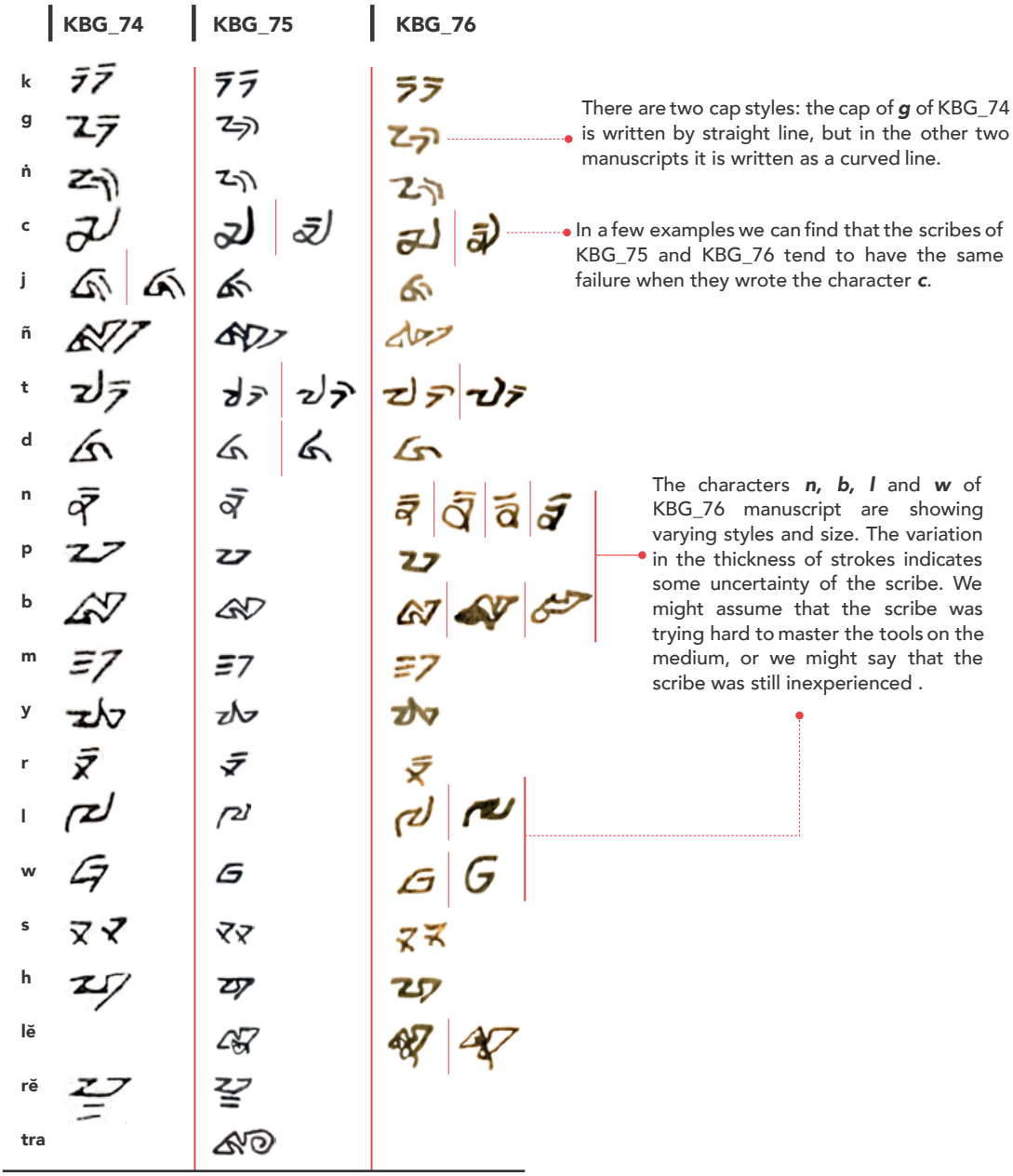
Pleyte also suggests that the text should be written around 1705-1709 (p. 403). His assumption is based on the information in the text. The text lists the genealogy of the Javanese Islam Sultanate to the contemporary sultan, Susunan Poeger alias Sultan Paku Buwono I. The text itself describes the genesis and the creation of Adam, Sis, and Noah. However, the text also describes the division of Java into two kingdoms: Pajajaran as the western part and Majapahit in the East. Furthermore, it says that their ancestors were actually the same. The names for the places of events, apart from Mesir (Egypt), are all referring to locations in Sunda. Even names for holy spirits are taken from pre-Islamic religion. From such an amount of syncretism, we can deduce that the text was an effort to legitimate the Javanese Sultanate and Islam in Sunda.

From all these studies, we can safely assume that this artifact represents the youngest stage of development of the script in question.

b. Description of the characters in the daluwang and paper text

In this sample, we will find many imprecisions in writing. Many characters are written in different sizes and varying thicknesses. It seems that the scribe was not very familiar with the script or was about to learn. We can see the details on the table on the next page

Table 4.2.4
Description of the structure of characters in the daluwang and paper texts



When we look at the characters on those daluang and European paper manuscripts, their forms are very similar to those on lontars (except Pabyantaraan and Kala Purbaka) and on Bamboos. Here the style of the strokes are relatively manful and there are no variation of thickness of the strokes. It could be assumed that the ‚pen' might have a blunt or rounded end, so it is not facilitating the variation of thickness of the strokes.

Each character on the manuscripts KBG_74 and 75 has clearer stokes, especially the characters on KBG_74. Though both manuscript have different style, it can be seen clearly on ***g, j, t, d, r, w*** and ***s***. In the colophon of BG_75 is written „Kai Raga" as the scrib, from the gesture and the forms of each manuscript we can assume that the scrib of those texts was not the same person.

4.3 Comparison and Discussion

4.3.1 Comparison Between Late Southern Brahmi Script and Sundanese Script on Kawali Inscriptions (fifth – fourteenth century CE)

The first comparison will be between the Tarumanegara and Kawali inscriptions. These are the furthest away from each other by their dating and should give us an indication if enough similarities can be found to assume a line of development from the Late Southern Brahmi script with its Indian origin and the Sundanese script.

Late Southern Brahmi characters on the Tarumanegara inscriptions are written vertically. Generally, the characters of the Late Southern Brahmi script from Tarumanegara are curvy and rounded. Almost all characters have tassels or tails, and the style can be described as floral or ornamental. The script on Kawali inscriptions is written oblique. The strokes are simplified, and the style becomes angular. Some characters are massively transformed. Details will be discussed in the next pages by sorting into three groups of transformation. The sorting is considered by the similarities of every character, from minor changes to massive ones. For a better overview, Late Southern Brahmi will be abbreviated as LSB in the tables.

Table 4.3.1_a
Comparison between the Late Southern Brahmi (LSB) and Kawali scripts

Letters G roup 1 | Light Transformation

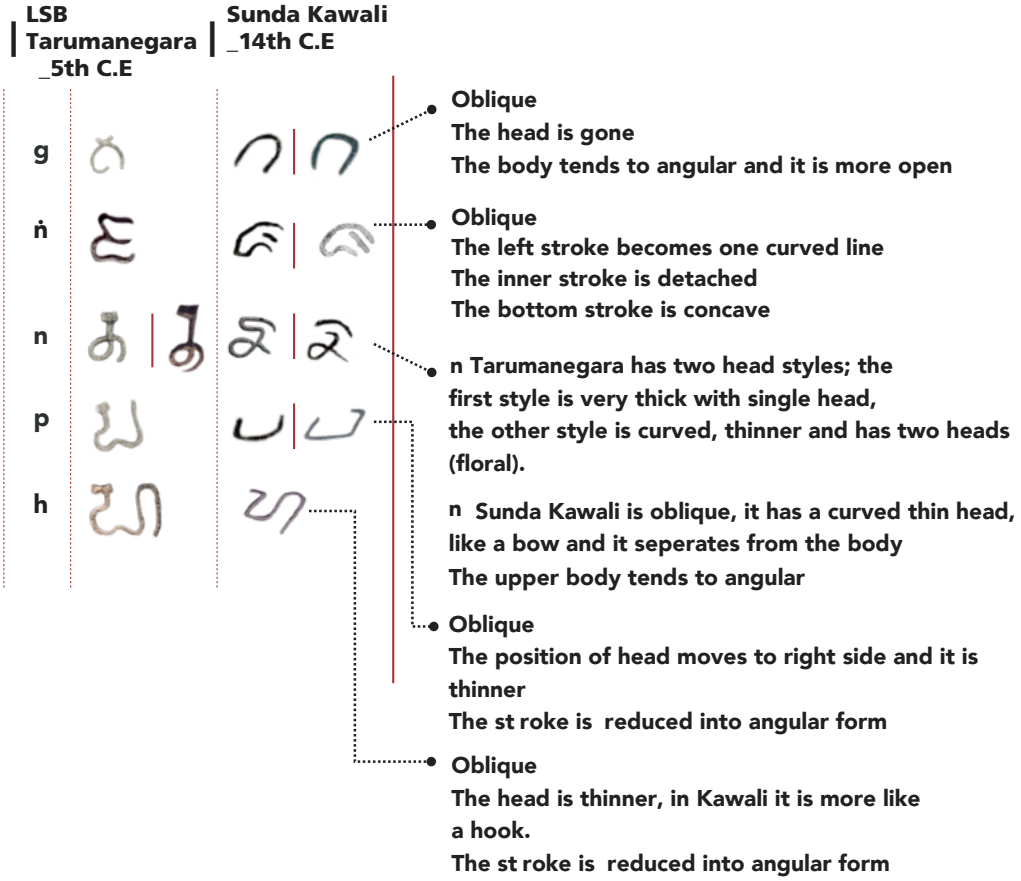


Table 4.3.1_b
Comparison between the Late Southern Brahmi (LSB) and Kawali scripts

Letters Group 2 | Medium Transformation

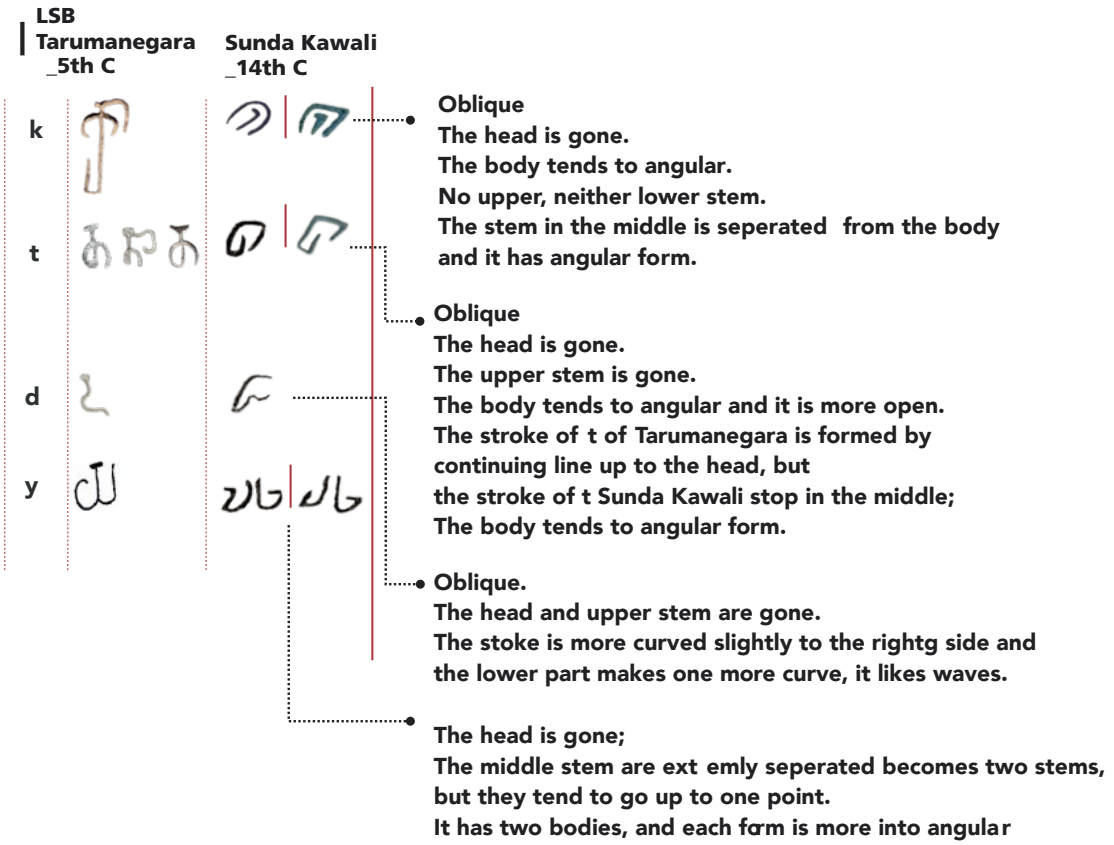
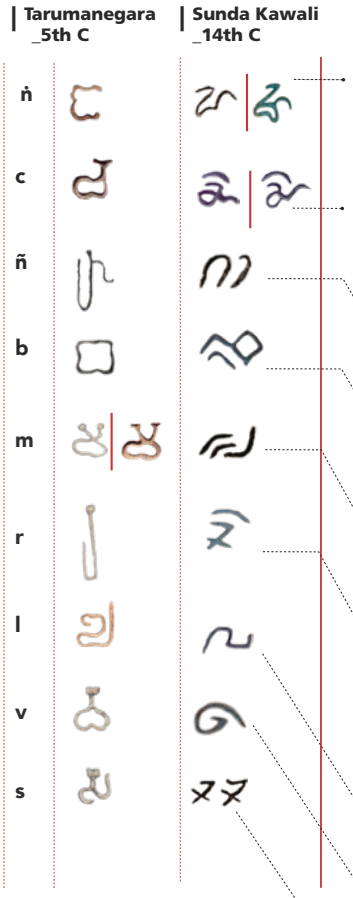


Table 4.3.1_c
Comparison between the Late Southern Brahmi and Kawali scripts

Letters Group 3 | Massive Transformation



Oblique.
The position of the head moves to the left, becomes simpler and straighter, with an angular tendency. The bottom stroke continues upwards to the right, in some cases connected with an extra stroke.

The body tends to oblique, the loop becomes smaller. The most interesting transformation here is a cap and a billowy line on the right side, in one sample the line is pointing upwards.

Only the basic structure of three strokes still exists. The head is gone, instead of the bottom connection we see one on the top and the right stroke is disconnected.

This character is radically transformed, only the square is still recognizable, but turned into a diamond shape. Two angular strokes are added, parallel to each other, but one unconnected.

This character has changed beyondrecognition. m Kawali has three unconnected, angular lines, which tend to the oblique.

This character has no resemblance of the left sample. The head consists of two curved strokes, one as a separate cap. The upward stroke of the long stem may have been disconnected and is now crossing over the much shorter stem, but this seems speculative.

The character still has someresemblance, but it became turned around and simplified.

Just a remote similarity here, we may assume that the body has opened up and the head became a continued stroke. The general tendency to the oblique is clear.

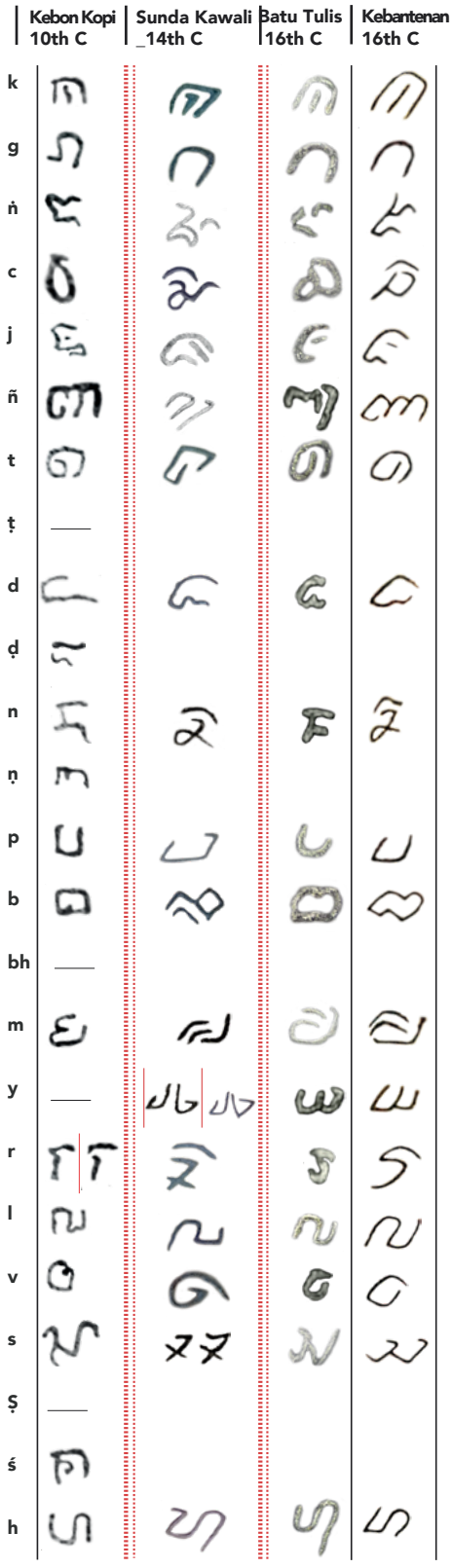
The process of transformation would again be quite speculative, therepetitive shape like a latin ‚7' shows no comprehensible trace of transformation. Clearly oblique.

4.3.2 Comparison between the script in the Kebon Kopi (tenth century CE) and typical Sundanese script in the Kawali inscriptions (fourteenth century CE)

As the next logical step in studying the development of the Sundanese script, we should compare the script on the Kebon Kopi and the Kawali inscription. From the year, which is still under debate, the style of this inscription is called Kawi, a Late Southern Brahmi script descendant, and it is written in the Malay language. Malay inscription was not only found in Sumatra island itself but also Sunda and some in the Central Java area too. They are evidence of Srīvijaya's influence in Java. Historians claim that the Kebon Kopi (aka Juru Pangambat, aka Pasir Muara): inscription is the first document that mentions the region as „Sunda."

The characters of this inscription are simpler than those from Tarumanegara. A few of them, like ṅ, c, ṇ, and s, seem more archaic than those from Java in the same period. Unfortunately, the inscription does not show the whole set of letters. These peculiar styles of characters give us a chance to study if the Old Malay Kawi style had some influence on Sundanese script development. Before we compare the characters in Kebon Kopi and Kawali, we should find out if the Kebon Kopi characters left some marks on the characters of Batu Tulis and Kebantenan, which we might define as Kawi style. Then for a more in-depth analysis of Kawi in Malay and Kawali typescripts, we need to set three groups of difference: light, medium, and massive differences. We will find the explanations in the next pages.

Table 4.3.2_a
Comparison between the script in Kebon Kopi and the younger inscriptions



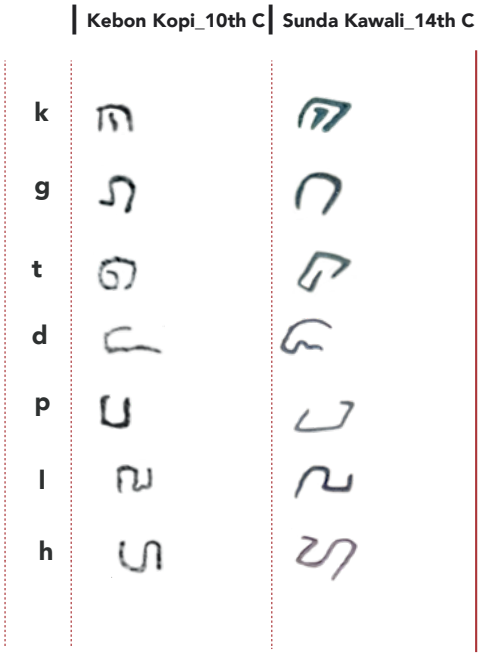
In this table, there are some essential features to be noted:

- ṅ in Kebon Kopi still resembles the letter in Tarumanegara, the billowy stroke on the top is only a curve which is disconnected from the body in Batu Tulis and Kawali. In Kebantenan, the billowy stroke is like a tree branch, while we can assume that the left ‚branch' is a hook like in Kawali.
- c is always problematic; all versions have quite limited similarities. However, we can assume that the manual gesture of c in Batu Tulis has the most resemblance to Kawali.
- Next, we can see that n Batu Tulis is similar to Kebon Kopi. Kawali and Kebantenan have a distinctly similar n, but if we assume a manual gesture, the one in Batu Tulis is close too, just the cap is missing.
- b in Kawali is the most remote form. Nevertheless, b in Kebantenan has a similar tendency, in this case, the angularity, with Kawali. When we look closer at m forms in these inscriptions, we could assume that there are traces of influence on each other.
- Even if m in Kawali is the most peculiar, we can still imagine how it has developed and may also have influenced Kebantenan.
- For s, we have a more significant similarity for two on the right again, but the Kebantenan version shows the repetitive pattern of Kawali.
- While v is very solid in Sanghyan Tapak, it begins to show a ‚mark'on the upper right in Kebon Kopi, which may have developed into the opening up and finally the broader gesture in Kebantenan and Kawali.

On the next pages, we will see the comparison between the script in Kebon Kopi and Kawali inscriptions. We will study how far the script developed in Sunda over a time span of four hundred years. We divide the script into three groups, which are showing the smaller and more massive changes in the script form.

Table 4.3.2_b1
Comparison between the script in Kebon Kopi and Kawali inscriptions

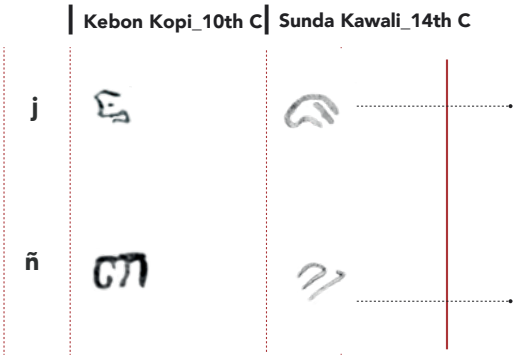
Letters Group 1 | Light Differences



It can be seen that the forms of these letters are quite similar, but the letters of Kawali have a tendency to be more angular and oblique and some characters have a hook, such as *k*, *p* and *h*.

Table 4.3.2_b2
Comparison between the script in Kebon Kopi and Kawali inscriptions

Letters Group 2 | Medium Differences



As I explained in the previous chapter, the ‚dot' in the middle of the character in Kebon Kopi/Pasir Muara could be also a line, which would be connected to the body. If it were a line, the character didn't change much from Tarumanegara. Not even much during later development in Kawali: apart from being oblique, the other changes are on the bottom stroke and the line in the middle got separated.

We always find ñ form in every document until 16th C.E with three strokes like *ñ* in Kebon Kopi, but Kawali is very peculiar since it has two seperated parts. To be noted here is that one of the versions of *ñ* in Batu Tulis also shows this separation and is very similar to the Kawali form, while the two others remind us of Kebon Kopi and Kebantenan.

Table 4.3.2_b3
Comparison between the script in Kebon Kopi and Kawali inscriptions

Letters Group 3 | Massive Differences

In these cases the letters are transformed quite a lot. The transformations are again as massive as the transformations from Pallava Tarumanegara style into Kawali style (see before, on table of Tarumanegara and Kawali). I will only comment on a few special cases, which can be seen below:

***n* in Kawali is a quite interesting case here, because the loop resembles of the n in Pallava. *n* in Kebon Kopi/Pasir Muara doesn't have a loop, only a curvy downward line on the bottom.**

***m* of Kawali has started to split, it becomes three separated lines, but the basic structure of *m* in Kebon Kopi is still remotely recognizable, other than in Tarumanegara**

Since it's possible that in Kebon Kopi inscription there are two versions of *r*, this case of development is quite interesting. The process of seperation could be understandable, only the horizontal line on the edge of *r* in Kawali is a new part here.

A billowy and closed form in Kebon Kopi becomes an elegant curve with a hook to the inside of the body in Kawali.

While the form of s in Kebon Kopi is quite close to the one in Tarumanegara, the repetitive shape like a latin ‚7' shows no comprehensible trace of transformation.

The number of light differences and significant differences between characters is almost equal. Even the tendency of disconnecting the middle stroke in character k in Sunda has already existed since tenth century CE, but some characters like ṅ, c, n, b, m, r, v, and s have massively transformed. The character b is the most peculiar among these, and it is not very easy for us to see that it is a descendant of b in Kebon Kopi or even Tarumanegara. The ñ in Kawali also gives us a hint that it might be a direct descendant of the Tarumanegara style. Other necessary samples are m and v. In some points, and we can trace the same gesture among the two scripts styles. The individuality of characters in Kawali raises the question if there might have been some intermediate steps that led to the process of individual-

ization of characters. There must have been an active writing culture in Sunda for centuries. At this point, we can agree with Casparis.

Another closer look at the tables reveals essential points that we need to note here. When we compare to Kawi style from Central and East Java, the style in Kebon Kopi is considerably simpler. It is not as beautiful and decorative as Javanese inscriptions. Nevertheless, we need to look at the fact that Srīvijaya's inscriptions from the 7th CE were using the Malay language. So, the tendency to be independent in language for political statements already existed among Malay (Sumatran), while Java at the same time used Late Southern Brahmi, but still Sanskrit as the language to justify political power.[77] This attitude from Srīvijaya may have stimulated the people in West Java (Sunda) to develop their cultural independence.

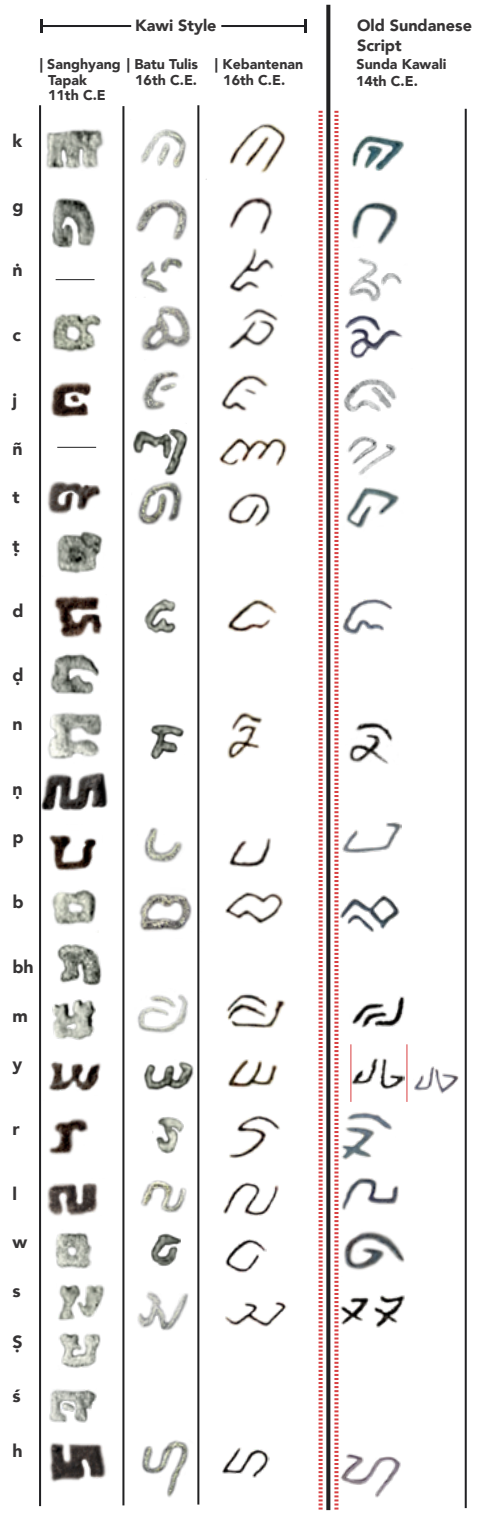
4.3.3 Comparison between Kawi Script in Saṅhyaṅ Tapak and Typical Sundanese script in the Kawali Inscriptions (eleventh – fourteenth century CE)

In this step, the script on the Saṅhyaṅ Tapak inscription is necessarily one point of reference, since it is the oldest inscription written in Old Javanese language found in the Sunda region, and the script is similar to East Javanese Early Kawi. Casparis (1975, p. 56) assumes that the script in the Kawali inscriptions, which he calls Pajajaran script, might be a descendant of the script on Saṅhyaṅ Tapak. However, before comparing those characters, we also need to compare those on Saṅhyaṅ Tapak and the youngest Kawi script in Sunda, namely the script in Batu Tulis and Kebantenan. After that, we will compare the characters on Saṅhyaṅ Tapak and those in Kawali.

This comparison might give us some indications if the characters on Saṅhyaṅ Tapak were the precursors of the youngest characters and if Kawali might have been the bridge for later script development in the Sunda area. By age, the Kawali would fit between Sanhyang Tapak and the other inscriptions. We will describe the comparison on table 4.3.3a on the next pages. Due to its peculiar features, we have arranged the Kawali script in a separate column for a better overview.

[77] Tuk Mas (seventh century CE), Canggal (732 CE), Kalasan (778 CE), and Klurak (778 CE) are some examples of Central Javanese inscriptions in Sanskrit and Indian script. At the same time, Sriwijaya was relative earlier to use Old Malay language to write the inscription, for example, Talang Tuwo inscription from the late seventh century CE. (See the discussion in subchapter 2.3.1 and 2.3.2)

Table 4.3.3_a
Step of development of Kawi compare to Sundanese script



Generally, the structure of these three versions of Kawi script (the first three rows) is quite similar. This is even more remarkable as they are six centuries apart, during which the structure of the characters did not change very much. Only their style makes the visual appearance of whole texts vary. Indeed, there are some changes like we see in these characters: ***k, c, m***, and ***v***, but they are still recognizable as the same character. Only the differences between ***c*** and ***m*** are quite strong. ***c*** forms are very peculiar here, the loops tend to be on the left side, but ***c*** in Kebantenan is the only line, which goes up on the right and back to the inside and has a cap too. We will find such form in many Javanese and Balinese inscriptions (see appendix in Casparis, 1975).

We may note here closer similarities between a few characters in Kawali, Kebantenan, and Batu Tulis, which only make sense if the earlier (on the right) has influenced the later ones. We can see such similarities in ***m, c***, and ***v***. As discussed before, these characters in Batu Tulis are quite different from the Kawi style in Saṅhyaṅ Tapak. Some similar changes can be seen in the Linggawangi artifact (see in subchapter 4.1.2), but it cannot be used for a more in-depth analysis since too many characters are missing.

The most significant cases here are the striking differences in ***ṅ, c, b, m, y, r***, and ***s*** in the script on Kawali, while the younger Kawi in these samples is closer to the oldest. This is one indication of independent development.

For a more in-depth understanding, we need to evaluate the intensity of differences between earlier Kawi (Saṅhyaṅ Tapak) and Kawali by three groups, as presented on the following pages.

Letters Group 1 | Light Differences

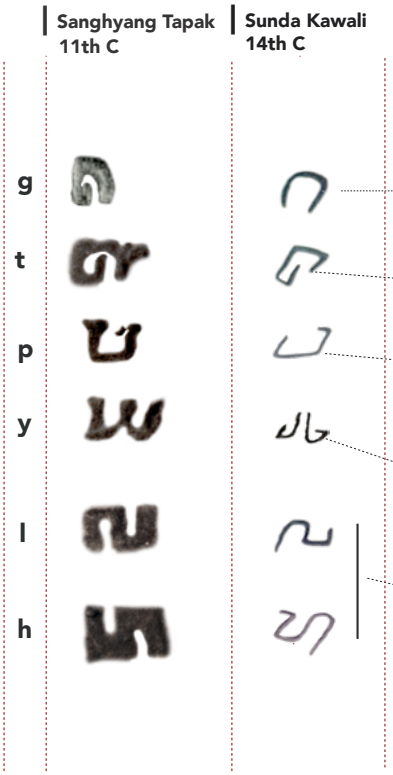


Table 4.3.3_b1
Comparison between the script in Sanghyang Tapak and Kawali

There is a transformation from *g* in Pallava to Sanghyang, but it is still near to that form, which was completely closed. The letter *g* in Kawali is more open, simpler and tends to be oblique.

t in Sanghyang has an additional line, kind of decorative, its looking like a tail. We don't see it any more in Kawali. The form is simplified and oblique.

From what is still visible I'd suppose there were straight lines on the top of the stems of Sanghyang *p*. These lines are reduced in Kawali *p*, becoming one straight line on the right side, enhancing the oblique style, leaning to the right.

The most interesting case: the strokes of Kawali *y* are separating and changing into a more angular form.

Both letters show the least differece of all the letters, in every period, and in every medium. We could say that both letters hardly changed, but still Kawali *h* receives the oblique trend.

Letters Group 2 | Medium Differences

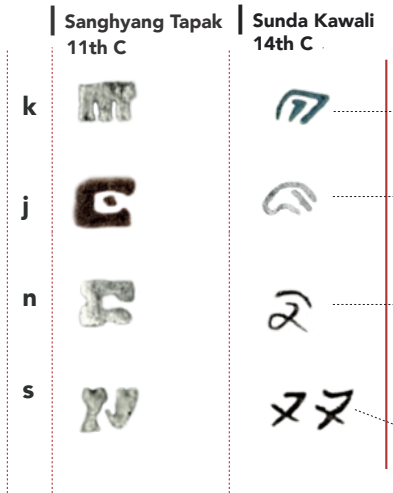


Table 4.3.3_b2
Comparison between the script in Sanghyang Tapak and Kawali

Sanghyang *k* has solid strokes, the lines are connected. Sanghyang is upright and static, while Kawali becomes disconnected and oblique.

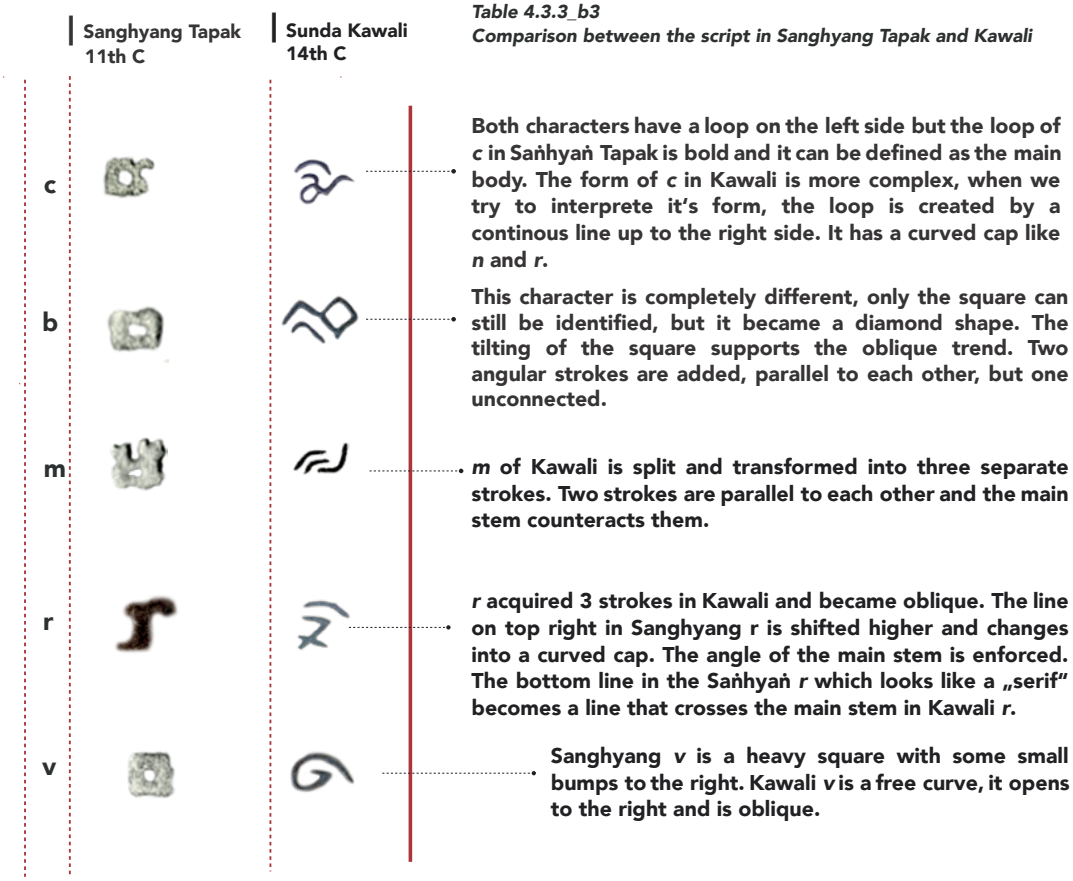
Kawali *j* does not only tend to be oblique, but the dot in Sanghyang *j* becomes another line, nearly parallel with the upper and bottom lines.

Sanghyang *n* has 3 straight strokes, two of them are parallel, they are connected with the stem in the middle. Kawali *n* has separate elements, one form is a continuous loop, ending on the right side. The second stroke is a bow above the main form. But we can still perceive a degree of correspondence between those two letters after 300 years.

s in Saṅhyaṅ Tapak has two stems with a diagonal strokes, which may once have connected both stems (some damage to the stone can be assumed). *s* in Kawali consists of ‚twin' forms which have a stroke at the top and a diagonal line across the body.

Letters Group 3 | Massive Differences

Table 4.3.3_b3
Comparison between the script in Sanghyang Tapak and Kawali



By comparing the differences of the scripts, we find some relevant facts, namely:

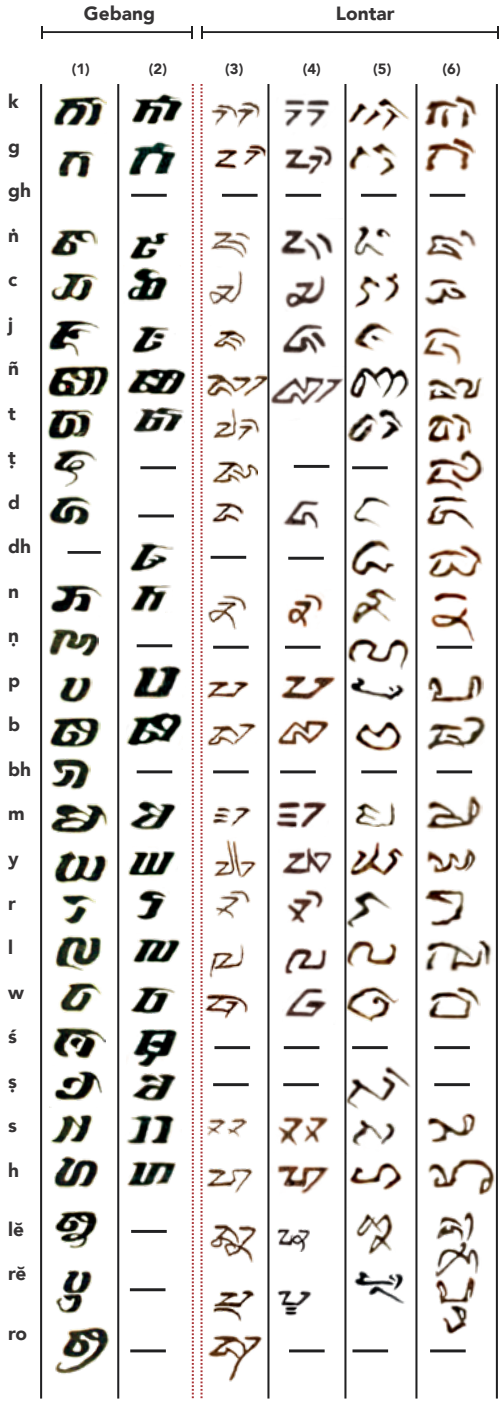
- We notice in the first table that there are some characters which always have kept a similar form or are still recognizable, like g, t, p, l, and h, Casparis argues that these forms in Sunda remind of the archaic forms.
- From the other tables, we can see that there are more characters in Kawali that have taken an independent development than not. If we look at the tables above, the scripts widely agreed as Kawi has changed less than this script. Even Casparis hesitates to subsume it under Kawi, and we should instead call it Sundanese due to its individuality.
- Now, we compare the changes to the ones in Kawi versions, which were used later, until the sixteenth century CE, in the western parts of Java island. With the forms of n, m, even b, and s, these changes point to an influence of Kawali on those later Kawi scripts.

4.3.4 Comparison Between the Script on Gebang and Lontar

The next logical step to study the development of the Sundanese script is to compare the script on different media. Casparis explains that the script on gebang, which Molen suggests as Mountain script, is a development of Kawi, but to his surprise, the oldest artifact was found in the Sunda area. He assumes that this artifact might have only been read by Sundanese people, not written by them (see Casparis 1975, p.53). However, since then, further research of manuscripts has revealed that writing on gebang was a part of the Sundanese writing culture too. It is quite understandable if some researchers would assume that the one on gebang influenced the Sundanese script. To answer this, we should compare the scripts on both media. From all available artifacts on organic material, we have to assume that in the pre-Islamic era, the Sundanese script is always found on lontar or bamboo. But after Islam came, we can also find the Sundanese script on daluwang and European paper. So, in this section, we have to deal with media and writing tools too. Since the characters on lontar, bamboo, daluwang, and paper are similar to each other, in this comparison, we will use the samples on lontar only to compare with the script on gebang.

The method that was used to write on gebang was ink and a ‚pen '. Until today we have no information on how such a pen was made or looked like. But from the calligraphic effects, we must assume that the tool was working comparable to the effect of the nib of a fountain pen. The 'pen' can control the width of the line by pressure or like an antique quill, where the angle does the same. The tool for writing on lontar was a knife, which was called Pangot. Roasted candlenut oil was the ink rubbed into the inscribes to make the letters appear and easy to be read. This method is still in use until today in some traditional applications in Bali. From the differences of these writing tools, we may expect that the visual impact must be variations of lines, not of the basic structure of letterforms. The table on the next page will show how far the tools affect the visualization of the script.

Table 4.3.4 Comparison between the script on Lontar and gebang
(1) Saṅhyaṅ Siksa Kandaṅ Karesian (2) Carita Jati Mula (3) Saṅhyaṅ Sasana Maha Gur (4) Sewaka Darma (5) Pabyantaraan (6) Kala Purbaka



- We can see an apparent tendency to split characters into two bodies in 3 and 4, in many cases, even developing repetitive forms, like k, g, ṅ, ñ, t, y, and s.
- 5 and 6 show some splitting of characters, but by far not as clear as 3 and 4.
- A strong change in 3 and 4 is the closing of the g character in the bottom, where all others remain open.
- The characters ñ and b, which have several closed areas on Gebang, are permutated with a very similar approach in 3 and particularly 4, where they became angular and quite different. In Carita Parahyangan we will find a very peculiar form of b and ñ, where these were split even further.
- Another change to the angular, we can see the straight style in p, m, y and h.
- A particular aspect in the case of m are the three horizontal elements already recognizable on gebang and becoming quite distinct in 3, 4, and 5. Since this tendency exists only in these media, we may assume mutual influences.
- Just like in the case of m, also k, g, ṅ, t, n, r, and s gain a much clearer form, which should support faster reading.

We can see the effect from different tools and media in the characters in the first two columns vs. the last two (both in Kawi script). Column 5, in particular, shows that for most characters, the gesture of the writing hand is the same. Column 6, though, has a much higher number of characters with a different structure, and only a few keep a similar gesture. This column shows more similarities to some Kawi inscriptions on stone or copper.

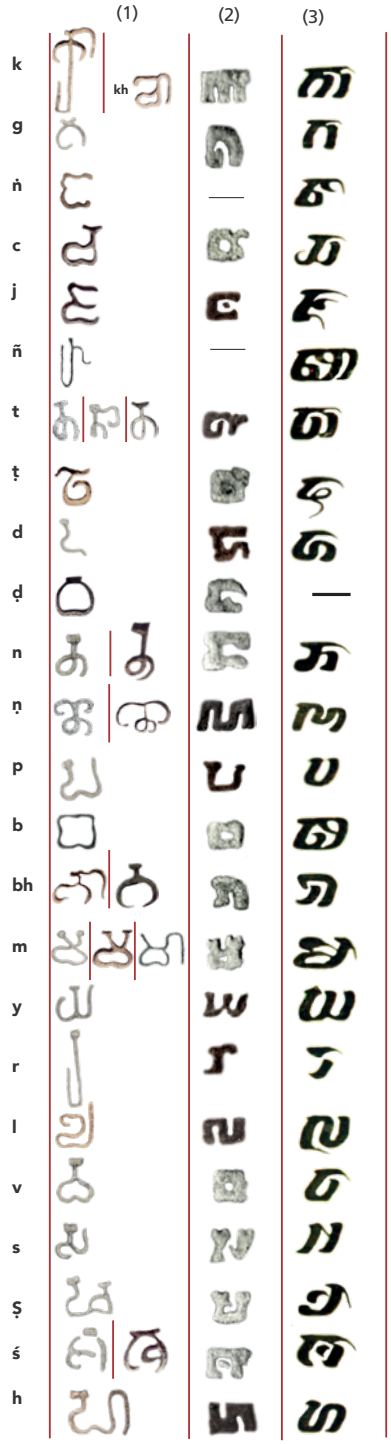
The Sundanese script is in the middle two columns, and they show several stylistic decisions we have seen on the stone, too, like angularity, the inclination to the right, and fewer decorative elements like hooks or tails. Even if we have difficulties with some dating, we know that these scripts precede the ones in Kawi on lontar (columns 5 and 6). Columns 3 and 4 clearly show different ‚design' decisions, which lead far from the Late Southern Brahmi script the origin to a specific Sundanese writing system. Since all samples here are coming from the same region, we may even assume that many writers were familiar with both systems. This might explain why some features, like separations of character bodies, may have influenced some letters in Kawi on lontar from a later period as well.

4.3.5 Comparison between the Late Southern Brahmi and Kawi on stone and gebang

The next step is comparing the Late Southern Brahmi script to the Kawi script, both on the stones or the organic media. Here we use the characters in the Saṅhyang Tapak inscription and the characters on gebang. We choose Saṅhyang Tapak for two reasons: beside Casparis assumes that it might have been the precursor of the Sundanese script, the style of the characters of Saṅhyang Tapak is bold and decorative, similar to the script on gebang. We will see the comparison on the next page including description.

This table shows the variations and the development of the Kawi script from the Later Southern Brahmi (LBS) script as the origin (1), both on stone (2) and the gebang leaves (3). While most characters can still be recognized from their original structure, the inscriptions on stone show simplifications, whereas the text on geban is becoming more decorative and, in some cases, more complex. ***c, ñ,*** and ***ṇ*** on gebang are the characters with massive transformation. The simplification of ***ṇ*** from Late Southern Brahmi to the next step in development is discussed by Casparis (1975), and this simplification leads to differentiate between '***no'*** and '***ṇa'*** in the early adaptation. This is also applied to the character ***t***. The stem in the middle of ***t*** in Kawi is shorter than of the LBS, so the ***t*** form is distinct from ***n***. We can see this process of simplification and adaptation also in ***bh*** and ***g*** when both characters in Sanghyang Tapak are developed into better distinction by shape, so while simplified, the reader can easily discern them. Their heads are omitted, but the bottom hook on the left side of ***g*** still remains. In this development, ***bh*** has two strokes, the right stroke is a curve, and a hook remains. The other stroke is shorter and also attributed with a hook. This form seems to be further used in gebang.

Table 4.3.5 Comparison between the Late Southern Brahmi and Kawi script (1) Tarumanegara script (2) Sanhyan Tapak script (3) Gebang script

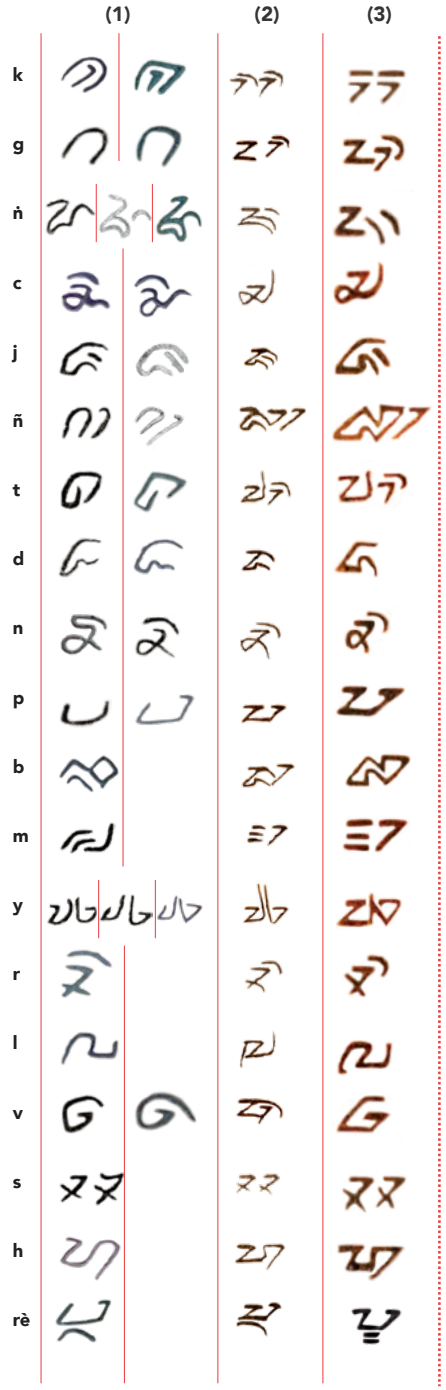


4.3.6 Comparison between the characters on Kawali and organic materials

This comparison is crucial to understand the steps of script development in Sunda. The Kawali inscriptions are the oldest artifact and are showing more individuality of the scriptform than other inscriptions. This fact raises many questions and triggers assumptions. We have no clear evidence of the writing activities in the old Sundanese society at that time, or when old Sundanese started to use organic materials as writing media. The Kuñarakarṇa, the oldest gebang text we have, was found in the Sunda area, and the dating is from the middle of the fourteenth century CE. However, Casparis assumed that the Sundanese were not able to write a "beautiful script," he instead suggested that the Sundanese could only read the text. Nevertheless, recent researches reveal that the gebang script was used in the Sunda region. Consequently, we may safely assume that the writing of text on organic materials has existed more or less since the early fourteenth century CE in that area.

However, we have no information about the time when the Sundanese started to use the characters on lontar. From the comparison that we have discussed before, the Sundanese script on lontar differs by fifty percent or more from the one on gebang. It could be possible that the characters on the Kawali inscriptions were the bridge from Kawi to the Sundanese script. The next table is arranged to examine this possibility and possibly to answer the question. In this table only the script on lontar is used, since we have found no significant differences in the Sundanese script on other organic material.

Table 4.3.6 Comparison between Sundanese script on Kawali and organic media (1) Kawali 14thc CE (2) Saṅhyaṅ Sasana Maha Guru 15th c (3) Sewaka Darma (?) CE



The characters Kawali begin to have an angular form and oblique. There are some changes, but still the Kawi shape remains on the characters ***k, g, j. t, d, p, l, v,*** and ***h***, which are only stylistically different.

If we juxtapose the characters ***ṅ, c, n, b, m, r, y,*** and ***s*** on both media we can see there is a chance to assume that Kawali might be the bridge in the development to the script on lontar.
The closed, billowy, and curvy strokes of ***ṅ*** in Kawali are two parallel curvy strokes behind the main body in lontar. The cap on ***c*** in Kawali is omitted in lontar, but the curvy strokes of c from Kawali became a stem in c on lontar. ***b*** in Kawali is always unique, but to some degree we can still perceive traces left in b on lontar (or, maybe, the other way around). Only separated strokes still remain m on lontar, apart from that, it differs to m in Kawali. ***j, d, n, y, r, l, s,*** and ***h*** in Kawali are similar to those in lontar, and they are only stylistically different. Whereas, ***k, g, ñ,*** and ***t*** in lontar are the most remote to those in Kawali.

After we studied the whole range of artifacts, we found some uniqueness of the characters in Kawali from those on other inscriptions, especially b. However, it would be too speculative if we conclude that the character forms on Kawali were the bridge from the older script to the later development on lontar. Kawali was written around the fourteenth century and the manuscripts we have are not much older than the fifteenth to the sixteenth century. There is a one or two hundred years time span, it might be too short for gradual development, unless there were massive activities in writing, not only among the clerics but also in every aspect of daily life without demarcations. Apart from that, to chisel, an inscription might happen more infrequently than to write a manuscript. Then, in this case, we may assume that the form on the manuscript was influencing the form on stone. When we consider this a possibility, then we could assume that the tradition of writing manuscripts already existed earlier than the dating of the artifacts that we have.

The other possibility might be there was a standardization of the script at that time, commanded by the high priest(s) or the king. Nevertheless, we have no clear evidence to prove that. The only source for such a possibility is the Saṅhyaṅ Sasana Maha Guru text, which describes the diversity of media and their use context.

This comparison shows no substantial evidence for the Kawali inscription to be an intermediate step in the development of the Sundanese script. The two, or another script as a potential intermediate step on perishable material, may as well have coexisted. While the established dating is setting the earliest available samples to the fifteenth CE, the time between these styles in practical use could well be much shorter. At the end of the colophon of Sewaka Darma text, the line 'Nanu namas haba jaja', which could have the meaning "1021 Ś", and translates to 1099 CE (see, Danasasmita et al., 1987, p. 2), but this seems impossible on a piece of organic material. Danasasmita himself, who researched and translated the text, considers the possibility of the date having been copied together with the text to later copies.

4.3.7 Comparison between the Later Southern Brahmi script as the origin and the Sundanese script on manuscripts

Now that we have seen the whole range of samples, we should have one last comparison between the very origin, Later Southern Brahmi script on the Tarumanegara inscriptions, and the Sundanese script on manuscripts. This time we will use some selected samples of characters from different sources, which we have previously discussed. From these previous examples, it is already apparent that many characters are not only stylistically adapted but have been completely transformed. This final table shows to which extent Sundanese script has changed from the origin of known scripts in the region into something new. We divide the characters into two groups based on the degree of changes in the forms.

Table 4.3.7a Comparison between the Late Southern Brahmi (LSB) and the Sundanese script

Group I
Recognizable Transformation

	LSB Script_ Tarumanegara 5th – 7th C.E	Sundanese Script_Lontar (?) – 17th C.E
j		
d		
n		
p		
h		
y		
l		

Only a group of seven characters still carries a resemblance of their origin. A typical characteristic is the change of the small ‚flag' or head in the LSB script into either a connected hook on the top or a cap above the main body. The other main tendencies are most obvious in these remote examples: soft curves tend to become angular in most cases and the characters are now oblique.

The basic structure of *j* and *d* in the LSB is different, *j* structure looks like ‚E' letter in Latin and d has a long neck with a head. In Sundanese *j* and *d* have similar basic structures, *j* just shows an unconnected line in the middle.

One very important pair of letters are *n* and *t*, which look just the same in some samples from the LSB as Casparis (1975) already pointed out. Both in Kawi and in Sundanese they get differentiated, but into distinct directions. The character *n* is still recognizable, but t is something completely new, like the majority in the next table. The ‚strategy' of change is somewhat typical again with the angularity and separation into two bodies in the case of t. Only the cap on the right reminds us of the head of LSB *t*.

***p* and *h* show typical stylistic changes in Sundanese: billowy strokes become straight and angular while the flags or heads become hooks.**

y is another typical case of the split body and angular tendency.

l still carries the basic gesture, but became angular.

Table 4.3.7b Comparison between the Late Southern Brahmi (LSB) and the Sundanese script

Group II
Unrecognizable Transformation

	LSB Tarumanegara 5th – 7th C.E	Sundanese Script_Lontar (?) – 17th C.E
k		
g		
ṅ		
c		
ñ		
t		
ṭ		
b		
bh		
m		
r		
v		
s		

This group is to show the massive transformation of Sundanese script from their origin, Late Southern Brahmi. The changes are not only to be angular but some letters are separated into two bodies, even in case of *ñ* it's figure is seperated into three body (for ex. in Carita Parahyangan).

The long stem and tassel of k in Kawi are reduced, but the figure is still connected and solid, but here in Sundanese script the figure k is transformed to a twin form with caps.

***g* in LSB is a solid curve and the bottom is half open. In Sundanese script it's figure becoming two bodies and has tendencies to close the bottom part and open up on the top.**

***ṅ* has transformed massively, the figure becomes to be like ‚Z' in Latin with double diagonal lines on the right side. When it is compared to *ṅ* in Kawali, the figure here has similarity among each other, but nor *ṅ* in Kawali or here is far enough from the origin.**

The part of *c* of LSB, which is still left in *c* of Sundanese script is the loop on the left side. The loop of *c* of Sundanese script is a continues line, which is going up to the top right.

The structure of *ñ* and *b* in LSB are distinct, the figure of *ñ* has two strokes and it is an open form, but b is a solid close form. In Sundanese sript, the first body of ñ and b are always similar to each other, only *ñ* has an additional body, which we assume a further development from tail in *ñ* LSB into an angular form, like number ‚7' in Latin.

Again the basic form of *ṭ* in Sundanese script is similar to *j* and *d*, but *ṭ* is differentiated by the curvy line in the middle, which is going up to the top right.

***bh* looks like a propriatary development, again it is a repetitive angular body, only the cap might be a remain of the head from LSB.**

The transformation of *m* can only be understood if we have a second look at Kebon Kopi and Kawali, but even then the first step from LSB is unrecognizable.

***r, v* and *s* have no semblence of the LSB origin.**

The transformations of the letterforms in Sundanese manuscripts, which leave only a faint echo of the origin, allow us to assume an active writing culture with specific stylistic tendencies and innovative constructions. In some cases, like ***ṅ, ñ, b***, we can even see a range of variations which coexisted in documents. Compared to Kawi, which carefully preserved most of the basic structures and only made stylistic changes, the Sundanese culture seems to have allowed more freedom in these developments, while Kawi was observed quite strictly. After all, we are looking at a time span of ten centuries.

5
Conclusion

Based on the knowledge that we have about the development of writing systems in other areas of the world, we can assume that the art of writing came to Sunda either as an idea or as an adaptable writing system from contact with India. There is no known artifact suggesting any older, completely independent origin. We can also assume that far-reaching and frequent trading contacts with other cultures would favor the adaption of a phonemic system.

Judging from contemporary positions in historical research, there was not a one-way transfer of cultural achievements from India to Austronesia. Furthermore, there is no proof of Indian domination over regions in the archipelago. The only exception being the expedition of Chola against Srīvijaya in the eleventh century CE, which did not establish an occupation. What can be proven are far-reaching seafaring and trading activities by Austronesian people in the China sea and the Indian Ocean to Madagaskar. Cultural similarities are manifold, but dating suggests parallel developments in fields like architecture or sculpture. The political independence of Austronesians favored the integration of syncretic elements in their culture and religion, which have their roots in native oral traditions.

By detailed comparison we have shown that the Sundanese script has its origins in Late Southern Brahmi script, it was not created "ex nihilo" by getting only the idea of writing. Both the syllabic structure and the shapes are related beyond pure chance. However, over the time span of about ten centuries it has developed into a stylized, functional, and idiosyncratic script. Materials and tools had only minor influence, and the script as it can be found at the time of its waning

is still entirely consistent, even on foreign materials. In our eyes, this can only be explained by an active writing culture with frequent use of written information and considerable creativity, well beyond the confines of ritualistic use. This study could be the answer to De Casparis' curiosity about the letterforms of the Pajajaran (Sundanese) script, even if we have a huge gap in its early development. For an active writing tradition in daily needs, we can assume that there were fewer restrictions, which encourages more freedom and creativity, and in turn would improve efficiency. The media to write on for non-religious purposes would be organic material, like lontar and bamboo. At the same time, stone or metals were media for specific purposes, such as a ruler's announcements. On the other hand, only religious texts would be considered for regular copying over the generations.

Unfortunately, we have no artifacts from earlier periods and a problem of dating for the majority of the artifacts. Only the examples on daluwang and paper can be dated quite safely to a late period of this script in active use, judging on the basis of their content and the arrival of European paper in particular. The resulting 'design' of the script was highly efficient in writing and reading, just like Latin or most other scripts that survived the times. The well-defined basic structure composed of geometric elements even makes it possible to redesign it according to established typographical rules.

The development of the Sundanese script could be traced to a more profound degree than until now available to us in existing literature, even if we have to admit significant gaps between the original artifacts available at this time. To get to the central question, we need to summarize some facts that were still in doubt at the beginning.

There was a metamorphosis of style and structure from an older script, which was in use both in India and on Java. While the discussion on 'Indianisation' of the archipelago might be still an ongoing one, we found enough similarities between the available stages of development to exclude sheer coincidence.

To prove this point, we are looking at two groups of comparisons:

- The scripts on the inscriptions, in this case, Late Southern Brahmi vs. the characters on the Kawali inscriptions and the characters on Kawali inscription vs. Kawi (Old Malay and Old Javanese)
- The characters on inscriptions and lontar, in this case, Late Southern Brahmi (Tarumanegara) and the characters on Kawali vs. lontar, to see if the characters on Kawali was an intermediate step

Because we do not have sufficient information about where the artifacts originate from and also cannot connect them to specific sites that can be dated, the following argumentation will be strictly based on the visual analysis of the characters and the content of the texts.

After comparing the samples from Tarumanegara as our reference for the origin, which are written in the Late Southern Brahmi script from the fifth to seventh century CE, and those on the Kawali inscriptions from fourteenth century CE, we found that the basic structure of about fifty percent (see table 4.3.1a, b and c) of these characters is still recognizable. At the same time, the other half only very loosely resembles the characters in Late Southern Brahmi. Some of them are so far away from their counterparts that they could even have a different origin. De Casparis assumed that they might be descendants from an older script, which was used in the region contemporary with Early Kawi (see De Casparis, 1975 p.56). Some characters:: ***c, b, m, r,*** and ***s***, and ***b***, as a particular case, have no identifiable counterpart in other samples. They are so far away from Late Southern Brahmi as a predecessor that one can hardly speak of a transformation and could as well say invention or creation based on other sources. However, to assume such a proto script would be highly speculative as long as we do not have any archeological findings to support this.

Next, we need to look at the comparison of the Kawi script in the Sundanese inscriptions and the characters on the Kawali inscriptions. We have two artifacts for the oldest Kawi group, Kebon Kopi (tenth century CE) in Malay language and Saṅghyaṅ Tapak (eleventh century CE) in old Javanese. The later Saṅghyaṅ Tapak is showing no similarities to the changes in the characters on Kawali. Some characters of the Kawi script in earlier Kebon Kopi are bringing specific contributions to the characters on Kawali and then to the later characters in Kebantenan and Batu Tulis from sixteenth century CE, which could be described as forms of Kawi. We can see such influences on the characters ***k, ñ, m, r, v,*** and ***s***, especially the strokes of ***m*** and ***v***, as shown in the graphic display below:

(1) Pallava (Tarumanegara) (5th-7th century CE)
(2) Kebon Kopi (10th century CE)
(3) Sanghyang Tapak (11th century CE)
(4) Kawali (14th century CE)
(5) Kebantenan (16th century CE)
(6) Batu Tulis (16th century CE)

If we look at the characters on the Kawali inscriptions (just called Pajajaran style by De Casparis), we find some characters not only changed through simplification but with a very different structure, such as ***ṅ, c, b, m, y, r,*** and ***s***. These

characters show us some independent development. However from the whole range of characters, we would agree that such a development is probably not wholly independent, there were possibly intermediate forms bridging between Late Southern Brahmi and the characters on Kawali. De Casparis assumed that this 'bridge' could be the scripts that are contemporary with Early Kawi. We have two of the oldest artifacts here, Kebon Kopi and Saṅghyaṅ Tapak. If we look for one of these as a precursor of the characters on Kawali, Kebon Kopi should be the better candidate. The two examples above show us that some development of ***m*** and ***v*** is recognizable from Kebon Kopi into Kawali. The ***m*** shows not only the opening of the closed-form in Late Southern Brahmi but already the basic structure of the three lines, which later got separated. In the case of ***v***, the change is just a hint of what happens later. But we may assume that the head from Late Southern Brahmi moving into the upper right corner in Kebon Kopi is a tendency, which may have lead to the later form opening up.

As we can see from table 4.3.5 (p. 163), the Kawi script did not change much from the Late Southern Brahmi script as its origin. There are some differences in style between Kawi and Late Southern Brahmi, but the structure of the characters is still clearly recognizable.

The script on lontar and bamboo, which we call Sundanese script, shows influences like simplification, which facilitates faster writing, and improvements on legibility.

When comparing early Kawi with Late Southern Brahmi, De Casparis assumed that it was primarily written on lontar and "…thus shows a cursive hand, but 'translated' into shapes appropriate to the stone" (De Casparis, 1975 p. 28). Unfortunately, we do not have a single sample on lontar from that period, and further, we have no samples for a vast gap of several centuries in development. Consequently, this assumption (while plausible) cannot be proven. However, we have to ask here which changes improve communication, which ones are decorative, and which ones are simplifications to improve the speed of writing. Just as Eric Gill described for the origins of later forms of Latin, we may say that form follows function and frequent use when writing faster changes a script as compared to chiseling it into stone.

We can conclude that the massive changes we have seen in Kawali can only develop if the particular society is using written communication intensively. Nevertheless, we can confirm that there was a development out of older scripts, with Late Southern Brahmi as a precursor used both in Southeast Asia and in India.

When we compare the characters of the Late Southern Brahmi (Tarumanegara inscriptions), Kawali and lontar:

- Only a group of seven characters still carries a resemblance of their origin: ***j, d, n, p, h, y,*** and ***l***. However, we cannot see any development here from the Late Southern Brahmi script via Kawali to the lontar script, and they could as well have existed at the same time.
- The other group is showing the massive transformation of the Sundanese script from the common origin, Late Southern Brahmi script. The changes are not only into angularity, but some characters get separated into two bodies: ***k, g, ṅ, c, ñ, t, ṭ, m, r, v,*** and ***s***.
- The characters ***b*** and ***c*** form are particular case here, when we look at ***b*** in lontar, it resembles the original form, but with a different style. However, if we look at ***b*** in the Kawali inscription, it does not show any resemblance to Late Southern Brahmi nor Kawi script, not even on lontar.
- Again, the transformations to the characters of Sundanese as they appear on lontar and bamboo do not indicate steps of development via Kawali. Nevertheless, if we look at ***ṅ*** and ***c***, we see there might be an intermediate step in Kawali. In some other cases, like ***ñ*** or, ***b***, we can even see a range of variations that coexisted in Carita Parahyangan text.

In summary, we can only state that the script on the inscription and the scripts on lontar might even have existed at the same time as variations. The samples on lontar and bamboo present a higher degree of innovation and specific style, for which we generally do not have an intermediate stage. We have found indicators for the co-existence of two different writing cultures, Kawi and Sundanese script. There was a four to six centuries span for Sundanese people to develop their own script until they 'established' the final character forms from the Late Southern Brahmi as the origin. We should be reminded here of the development in Egypt from Hieratic to Demotic, which took about one millennium of intensive use for many purposes in daily life.

Considering the fact that all the samples on gebang and lontar are coming from West Java and from the same time frame, but carry two very different scripts, we have to assume the parallel existence of two writing cultures. This should be confirmed by the information in Saṅhyaṅ Sasana Maha Guru text, where lontar is restricted to the use outside of the kabuyutan, the sacred areas. The other indicator is the recommendation not to keep documents on bamboo to oneself but passing the information to others for spiritual or ethical guidance. And, judging from the artifacts we have, lontar and bamboo are common carrier of the Sundanese script.

The Kawi script on gebang is stylistically very consistent, written carefully, and it stays close to the Late Southern Brahmi script as the origin in its structure. The spelling of Sanskrit words is adhering to the Indian rules, while in the old Sundanese texts, Sanskrit words are adapted in spelling to Sundanese. All of these

facts point to the use of Kawi in a sacred environment or ceremonies, tightly controlled by tradition. Kawi script, as found on gebang in Sunda, did not develop very far from the origin, while its use was explicitly restricted to religious purposes. Sundanese was obviously used in a broader context, both for religious and non-religious content, and was meant to be used by a broader part of the population. Sundanese are encouraged in Saṅhyaṅ Siksa Kandaṅ Karesian to read and receive spiritual and ethical guidance. The cleric was not excluded from writing in Sundanese, and probably higher priests were able to use both scripts. But the advice encouraged other clerics (nuns too), poets, and possibly other professions to use it.

By intensive use for general communication, it was developing much further from the origin and got simplified. It was not only stylistically modified: many of the structures of characters were also modified for faster writing and easier reading, by guiding lines and higher differentiation of those characters that look very similar in Kawi. If it was obviously not considered 'holy,' it could be changed by the users, and we might even assume at least a certain factor of conscious design by experience and daily use. As Eric Gill wrote about the changes of the Roman script: "But that influence"(of tools and materials) "has been secondary and, for the most part, it has been exerted without the craftsman's conscious intention." So he concedes a limited amount of "conscious design," and we have no reason to assume that Sundanese scribes were not applying some aesthetic judgment and decisions too.

We would not go so far, though, as to assume a guided or even commanded development like in the famous case of Korean Hangul script, since there are a few characters that still have the same structure with the origin and have not been adapted to the new forms. But then, as we discussed in the chapter 3, the Saṅhyaṅ Sasana Maha Guru text may support limited evidence of conscious aesthetic decisions. That text describes the variety of writing media and its context of use in detail. Finally, we can see a consistent degree of 'standardization' of Sundanese character forms over a wide range of media and tools.

The Sundanese script has been used, according to the original sources, beyond the religious context. While we cannot put numbers to literacy in sixteenth-century Sunda, we can assume that other parts of the society than the cleric were literate. After the Sundanese script went out of use, we have numerous sources of literature in different genres from 19th century Sunda, which may shed some light on the general attitude towards literacy in this culture.

As already discussed above, the Sundanese script has developed much further than the only other script from the same period found in the region, which can only be explained by continuous and frequent use. Kawi script, as found on

gebang in Sunda, did not develop very far from the origin, while its use was explicitly restricted to religious purposes.

It should be noted here that some texts give us indications about the role of women in the writing culture of Sunda at that time. The Sewaka Darma text tells us that the writer was a woman. This information is supported by the Bujangga Manik, Saṅhyaṅ Siksa Kandaṅ Karesian, and Saṅhyaṅ Sasana Maha Guru texts, which all mention an 'ebon' or a 'tiagy,' Sundanese for a nun, for whom it was accordingly possible to have access to the writing tradition. Finally, there is Kawih Pangeuyeukan, a text about weaving, which was a sacred activity restricted to women in this culture. Such pieces of information bring us to the conclusion that women at that time had access to literacy.

Materials and tools

Finally, we can see a consistency, a degree of 'standardization' of Sundanese characters over a wide range of media and tools. As already shown in table 4.3.4 and 4.3.5, the different media used indeed are showing some influence, but only on stylistic features. We can see how the characters in Pabyantaraan and Kala Purbaka are close to the Kawi characters on gebang, especially those in Pabyantaraan. The method which was used to write on gebang was ink and a 'pen' and, just like modern tools, these created variations of thin and thick lines in every character. The tool for writing on lontar was a knife, called *pangot*. The technique was engraving or incising and finally using blackened candlenut oil to make the letters appear. When we look at the characters of the Pabyantaraan and Batara Kala texts, we can see that the method also supported curved lines. As De Casparis explains: "… The technique of writing on lontar involves the use of sharp-pointed stylus, with which it is not easy to draw long vertical strokes, whereas a round and slightly sloping style comes almost natural." (De Casparis, 1975 p. 28)

In Sunda, besides texts on gebang and lontar, we also have those on bamboo, daluwang, and even paper. The characters on bamboo, daluwang, and paper are the same as those on lontar. They show only small differences: the writers seem to minimize the curved lines on bamboo, which is understandable since bamboo is harder than lontar and has a rounded surface (table 4.4a&b). Daluwang and paper texts are more unique cases since they are not written by incising, but with some kind of pen and ink. Such tools should give considerably more freedom to write in a more decorative form, such as on gebang. However, we find that the forms of all characters are quite similar to those on lontar and bamboo. When we compare the characters on lontar, bamboo, daluwang and European paper to those on gebang, we can find there are not only differences of style, but also in the basic structure of the characters. This can be summarized as follows:

- Generally, the characters on lontar, bamboo, daluwang and European paper tend to geometric shapes. Some letters have two bodies such as ***k, g, ṅ, ñ, t, m, y,*** and ***s***. The split of characters is not by coincidence, but rather a widely established characteristic of the Sundanese script, we can see it in every text on those materials. Only for ***y***, we can find two versions, separated or connected.
- Their basic structure generally shows an angular stroke, like the form of a '7'. The horizontal line on the top generates an optical orientation over the whole line, which helps in guiding the reader's eye (similar to what serifs do in Latin). Characters are built from geometric elements like these:

- While these may facilitate writing with a knife, we can also assume a stylistic decision here, because samples from Pabyantaraan and Kala Purbaka show a lot of curved lines on the same material in Kawi script. Since these structural changes facilitate both writing and reading, we may assume some degree of conscious design, aiming at speed and convenience in written communication.
- Regarding structure, we find some fascinating cases: the first part of the body of ***ñ*** and ***b*** is actually the structure of ***d***, and then they add the reverse element. There is an obvious tendency to an assembly of basic geometric building blocks here, which cannot be found in the Late Southern Brahmi and Kawi script systems. But we can observe similar tendencies in Sumatran and Sulawesi writing systems too.
- After comparing the characters on gebang and lontar (and even bamboo) we have two groups of characters. These groups are defined by differentiation of ***c, j, ñ, d, b, y, l, w,*** and ***h*** on one side, which are still similar in their underlying structure. On the other side ***k, g, ṅ, t, m, r,*** and ***s*** are the characters with massive differences from those on gebang. The character for ***n*** is a very significant case for the variation of form: when the language is Javanese, the character for ***n*** on gebang has one specific form, but when we compare to ***n*** on gebang in Sundanese language, it differs and shows a similarity to n on lontar.

We have to conclude that there must have been a general consent among scribes in the Sundanese society how this script should look like.

The use of a separate writing system shows a considerable degree of cultural independence and creativity in the Sundanese society, which has been overshadowed in the perception of earlier researchers by the glory of the Javanese writing culture. Inscriptions and poetry from that area are abundant. Central and East Java were also denoted as the centers of religious teaching. We can imagine

that many monks and nuns were coming to this area to study and become a high priest or priestress. Java as a place for learning is mentioned in old Sundanese poetry too. The Bujangga Manik text mentions that the author was proud to be able to speak Javanese, therefore, he could learn the *tangtu* (religion). This is only one of many indicators of a cultural relationship. As we discussed in subchapter 3.7c, some examples of Sundanese text, such as poems and didactic prose, are assumed to have been adapted from Javanese literature, especially the texts related to religious teachings. Not only the stories are far from the origin, but also the structure of the poems differs. The Sundanese adapted them to their poem structure, which has similarities to pantun (their oral tradition). In this case Sundanese bring up their locality, and such specific indicators have their counterpart in the script development. The Sewaka Drama text writes that Sundanese knew different rituals: Sundanese, Javanese, Baluk, Buwun, and Cempa (Champa or Vietnamese) rituals (see subchapter 3.5). So, the text confirms that Sundanese were able to define their cultural identity.

The transformations of the character forms in Sundanese lontar, bamboo, and later in daluwang and European paper manuscripts, which leave only a faint echo of the origin, allow us to assume an active writing culture with specific stylistic tendencies and innovative constructions. In some cases, like ṅ, ñ, and b, we can even see a range of variations that coexisted in documents. Compared to Kawi, which carefully preserved most of the basic structures and only made stylistic changes, the Sundanese culture seems to have allowed more freedom in these developments, while Kawi was observed quite strictly. After all, we are looking at a time span of ten centuries from Late Southern Brahmi to the Sundanese script. This freedom is mirrored to some degree in orthography: while Kawi adhered carefully to Sanskrit, the Sundanese adapted many Sanskrit loanwords to their spelling. If Hasan Djafar assumes that the Sundanese could not write Sanskrit correctly, we may dare to say that their cultural attitude was bolder in adaptation.

There is a considerable number of Sundanese documents, according to researchers like Sunkanda-Tessier, which still need to be transcribed and translated. If any of these are as rich as the Sańhyań Siksa Kandań Karesian text we should get further information about the daily life in the old Sundanese society.

To gain deeper insight into the time frame of use of the Sundanese script, it would be highly desirable to achieve some more precise dating and location of origin by the use of current technologies like carbon dating and biological assignment of available samples on organic material, which was beyond reach for my current research and the lack of funding. Even if we have to be aware that this approach would date the media and not the text, it would allow further investigation of smaller steps in development or local differentiation. In the case of samples on gebang, biological attribution of origin could clarify long-distance contacts between religious centers.

Based on the observation from Sulawesi regarding artifacts with the Bugis script, it would also be helpful to conduct a survey of Sundanese samples held in private custody. We might encounter texts that are mistakingly considered sacred books, but actually contain more profane information, like contracts. This should further establish a case for a script in general use. We would also like to encourage or carry out similar studies of the Bugis and the Lampung script systems, which show similar tendencies of simplification, stylization, and originality.

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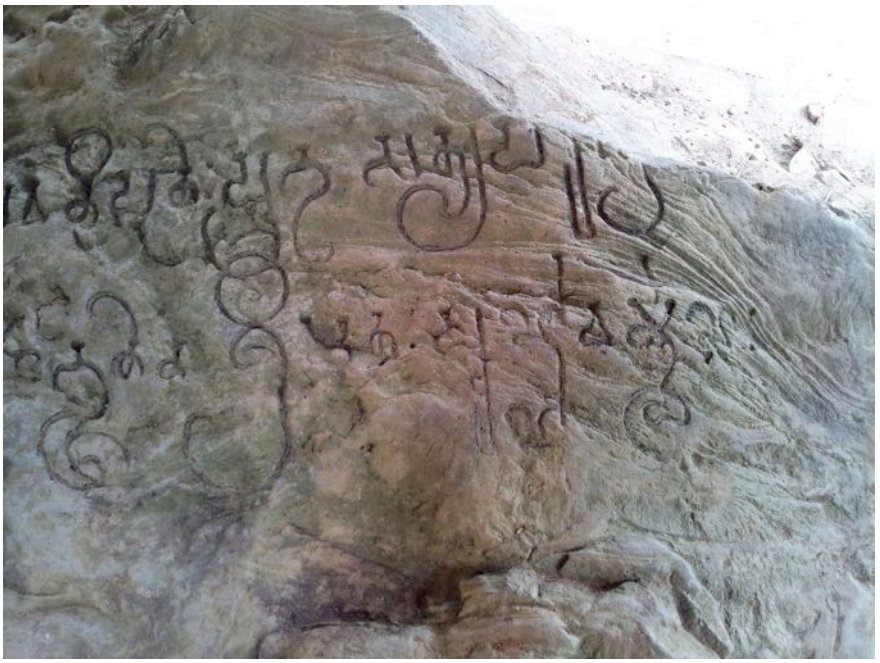
Appendix

Fig.1 Tugu Inscription
loc. National Museum, Jakarta
photography by the researcher

Fig.2 Footprints symbol of King Purnawarman,
photography by the researcher

Fig.3 Ciaruteun Inscription
loc. Ciaruteun River, Bogor West Java
photography by the researcher

Fig.4 Cidanghyang Inscription
loc. Munjul, Pandeglang
photography by the researcher



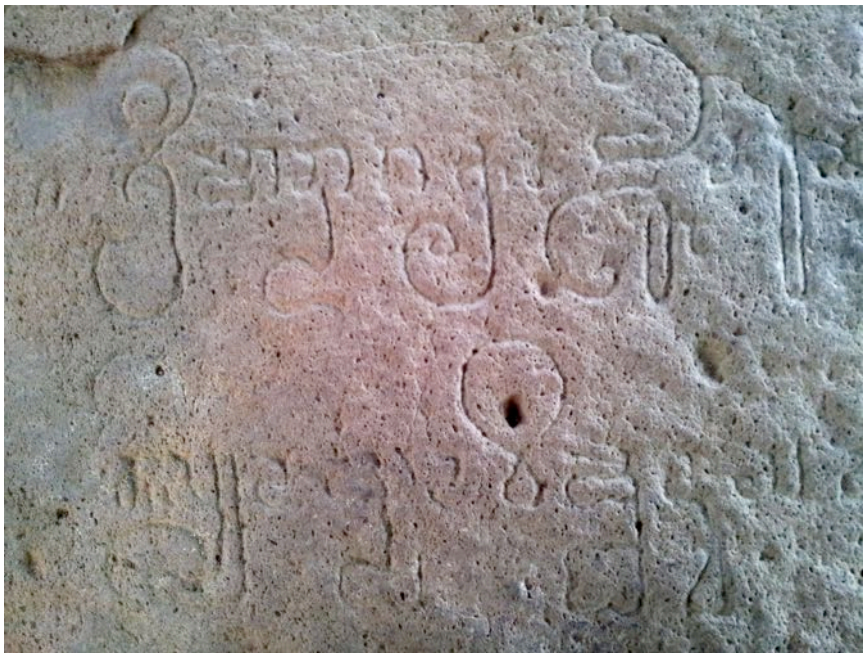


Fig.5 Koleangkak (Jambu) Inscription
loc. Pasir Gintung, Parakanmuncang Bogor
photography by the researcher

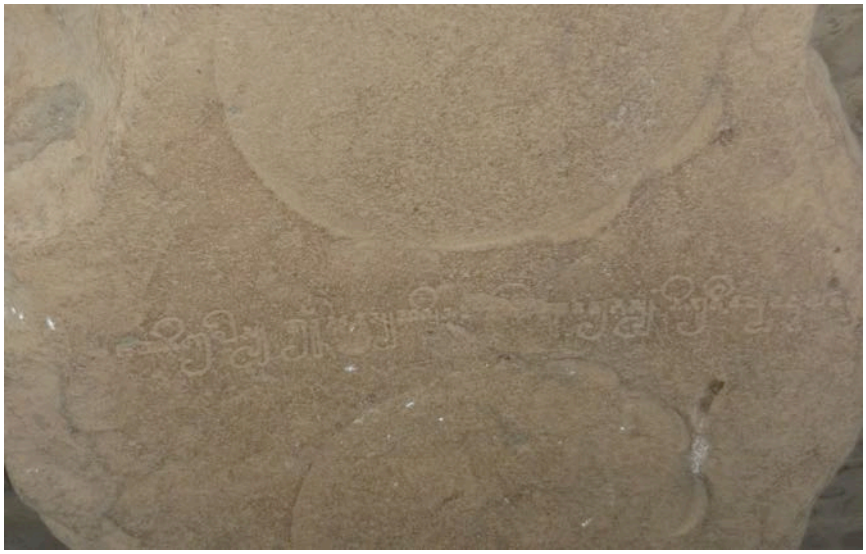


Fig. Kebon Kopi I Inscription
loc. Kampung Muara, Cibongbolang Bogor
photography by the researcher

Beschreven steen van Kebon Kopi.

Fig.7 Tugu Inscription
Bosch, 1941

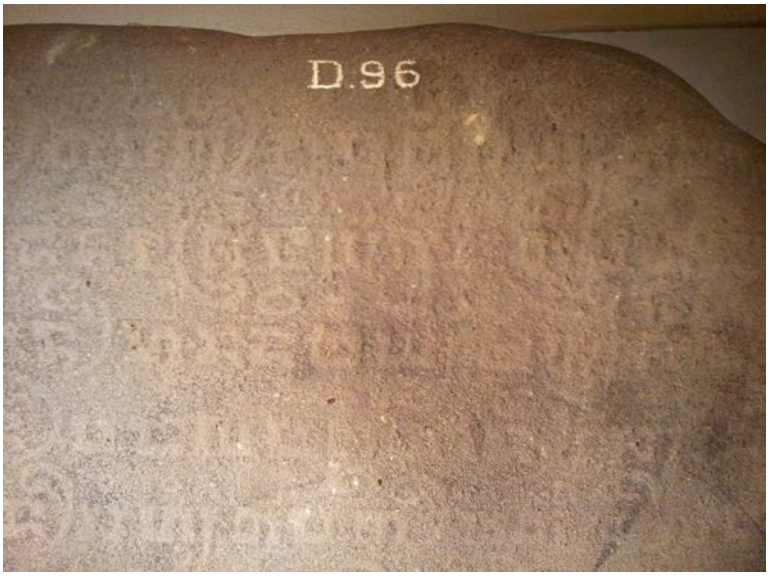


Fig.8 Saṅhyaṅ Tapak Inscription
loc. National Museum, Jakarta
photography by the researcher

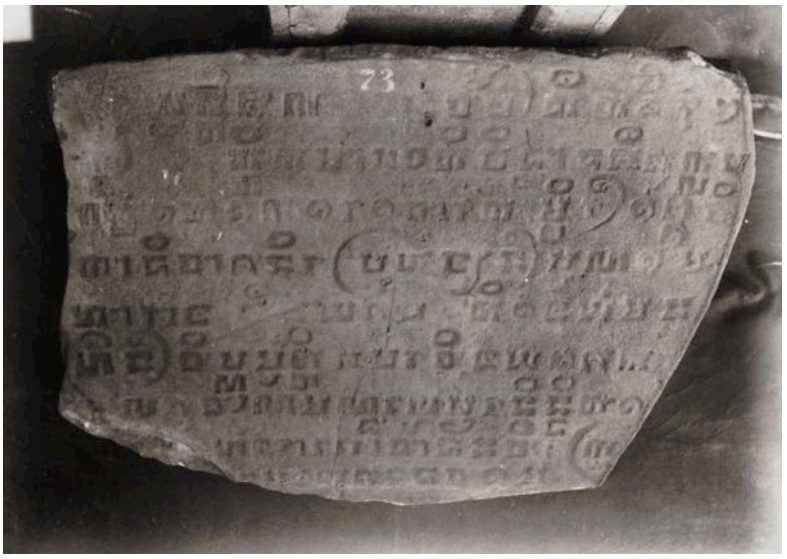


Fig.9 Saṅhyaṅ Tapak Inscription
Courtesy of Leiden University
OD 1456

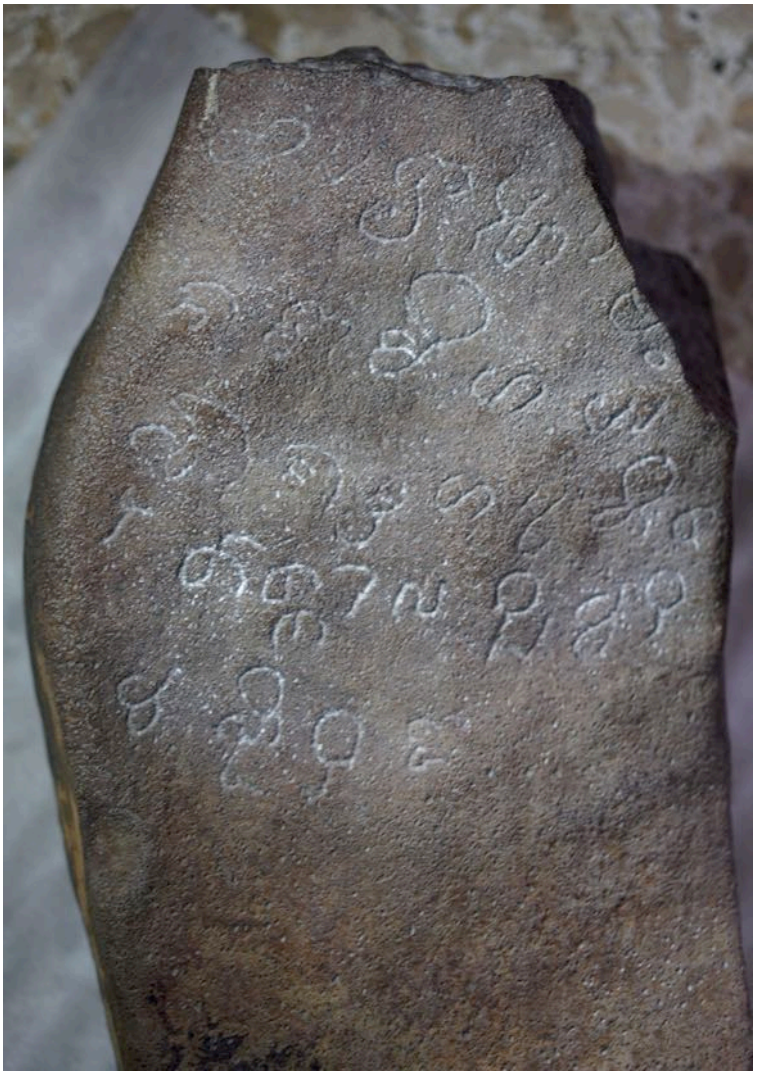


Fig.10 Maṇdiwuṅa Inscription
loc. Sri Baduga Museum, Bandung
photography by the researcher

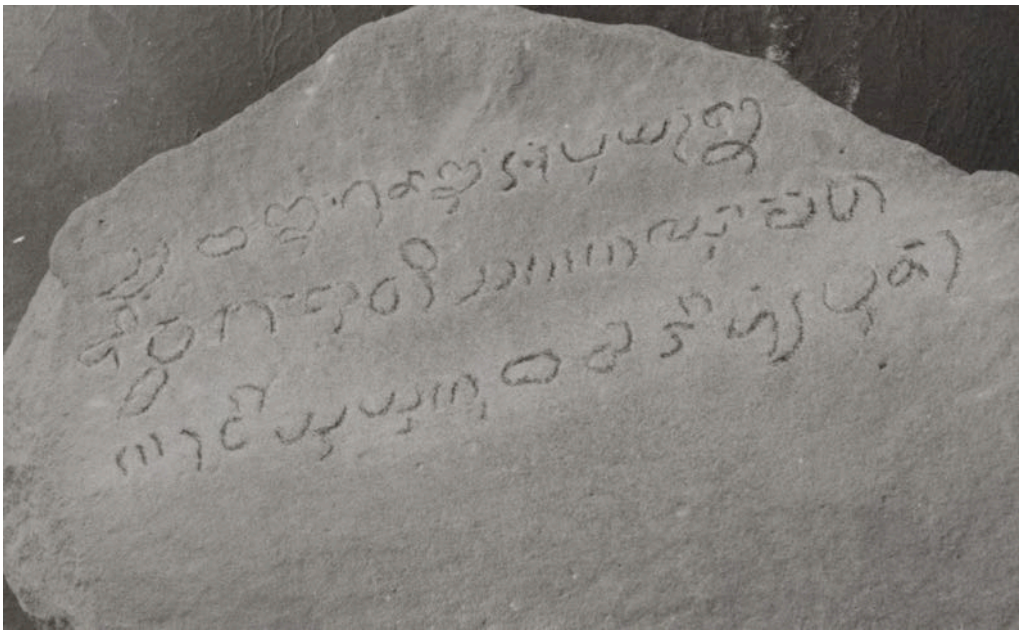


Fig.11 Rumatak Inscription
Courtesy of Leiden OD 1460

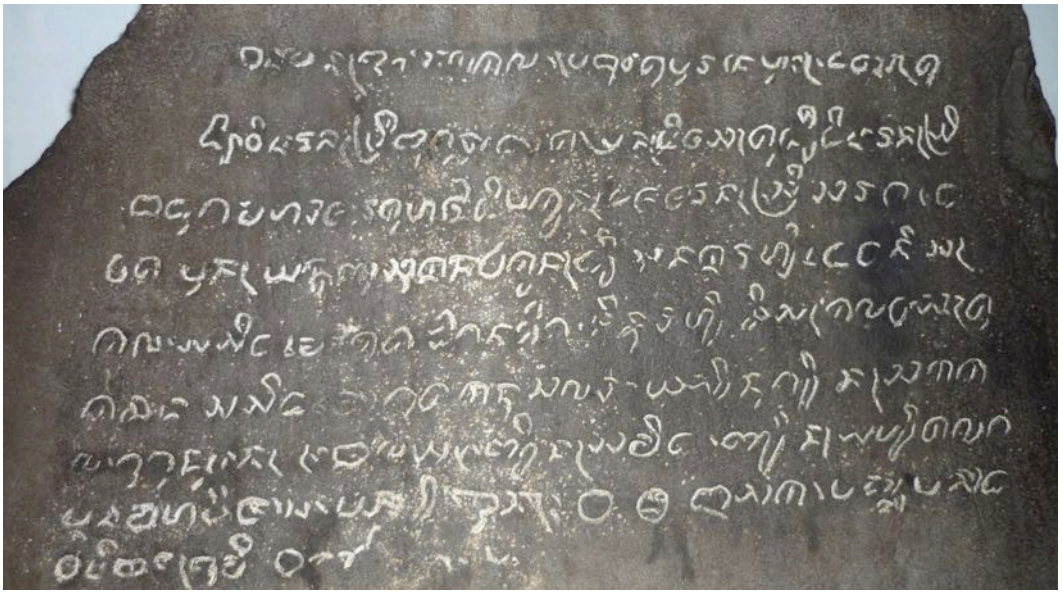


Fig.12 Batu Tulis Inscription
loc. Batu Tulis, Bogor
photography by the researcher

Fig.13 Kawali I Inscription
loc. Kawali, Ciamis West Java
photography by the researcher

Fig.14 Footprints and hand symbol of King Wastu, loc. Kawali, Ciamis
photography by the researcher

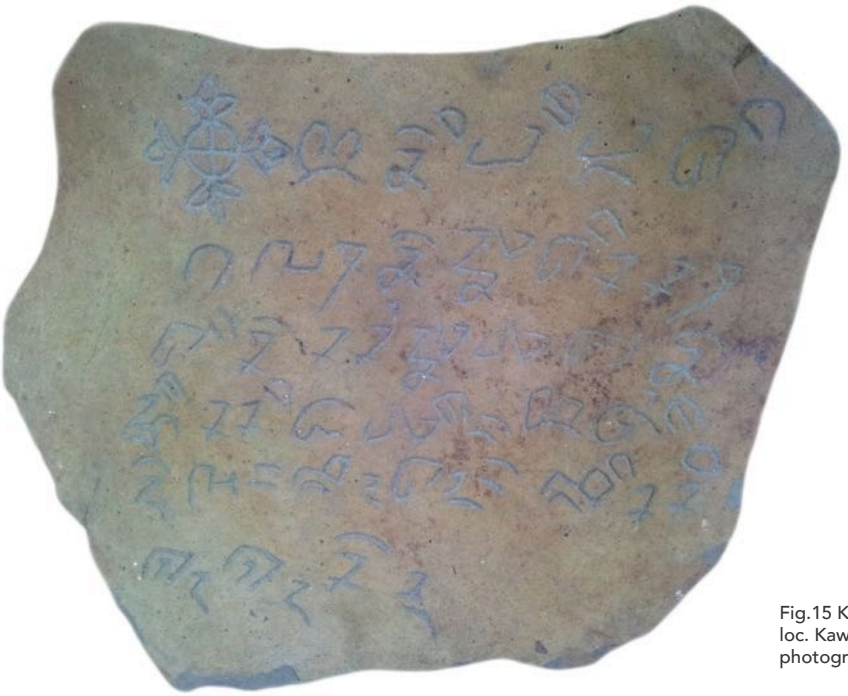
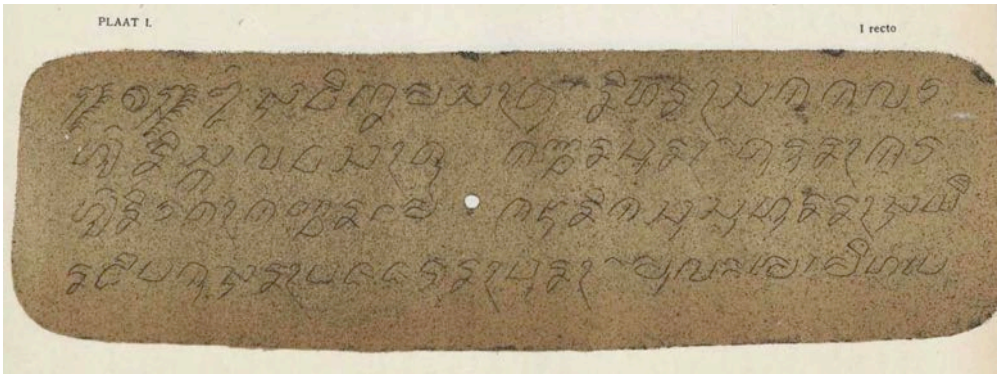
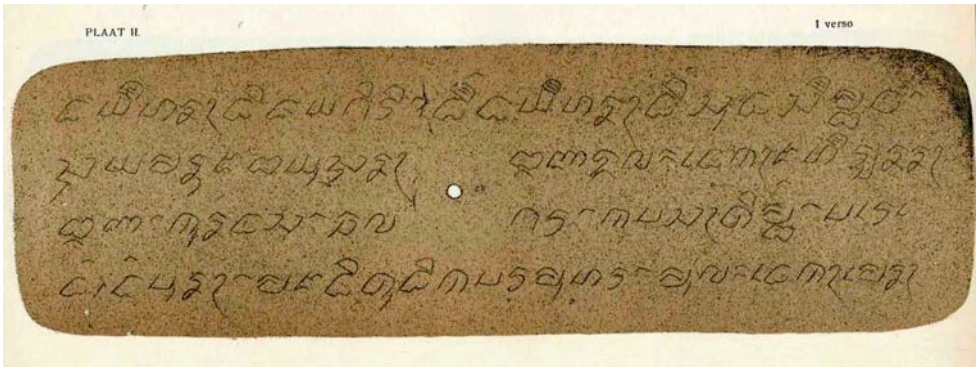


Fig.15 Kawali VI Inscription
loc. Kawali, Ciamis West Java
photography by the researcher

Fig.16 Kebantenan Inscriptions
loc. National Museum, Jakarta
photography by the researcher





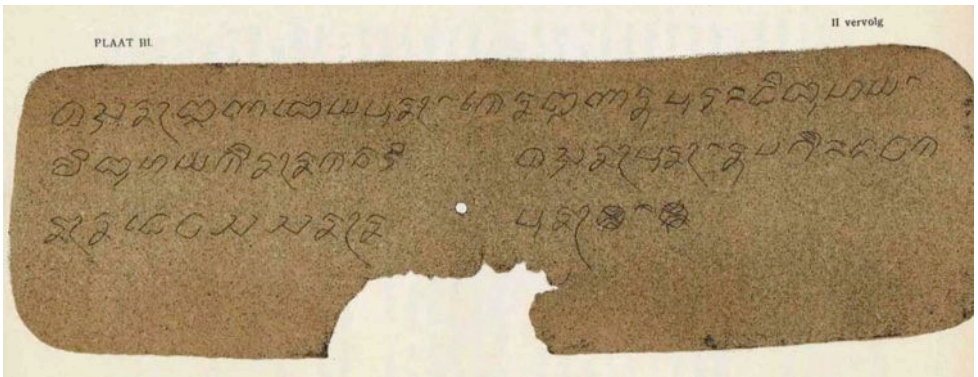


Fig.16 Kebantenan Inscriptions
Pleyte, 1911

Fig.17 Carita Jati Mula text (69 L 1097)
Courtesy of National Library of Indonesia

Fig.18 Saṅhyaṅ Siksa Kandaṅ (16 L 630)
Karesian text, Courtesy of
National Library of Indonesia

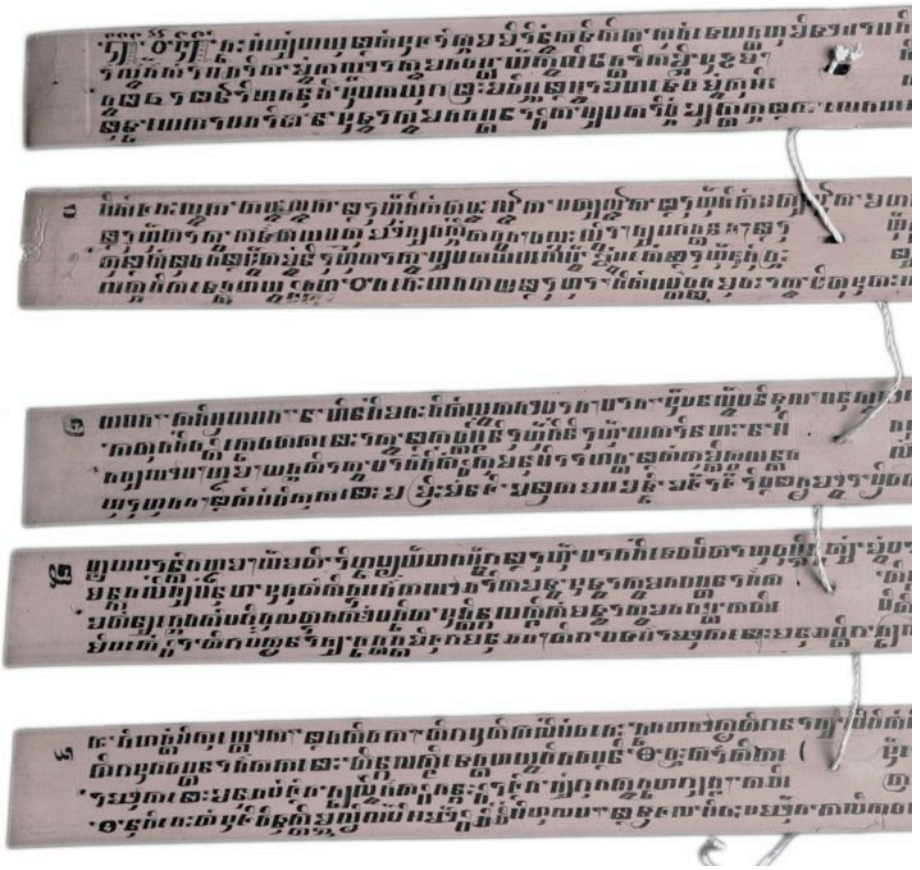


Fig.19 Saṅhyaṅ Hayu text (16 L 634)
Courtesy of National Library of
Indonesia

Fig.20 Bhīmasvarga text (16 L 455)
Courtesy of National Library of Indonesia

Fig.21 Pabyantaraan text (68 L 1101)
Courtesy of National Library of
Indonesia

Fig. 22 Kala Purbaka text (13 L 506)
Courtesy of National Library of Indonesia

Fig. 23 Saṅhyaṅ Sasana Maha Guru
Text (15 L 621) Courtesy of National Library
of Indonesia

Fig. 24 Bima Lĕpas (Bhīmasvarga Sundanese version) text (16 L 623) Courtesy of National Library of Indonesia

Fig. 25 Sewaka Darma text (16 L 408)
Courtesy of National Library of
Indonesia

Fig. 26 Fragment & Carita Parahyangan text (15 L 405)
Courtesy of National Library of Indonesia

Fig. 27 Pakeling text (15 L 413)
Courtesy of National Library of Indonesia

Fig. 28 Saṅhyaṅ Jati Maha Pitutur text (16 L 426 C)
Courtesy of National Library of Indonesia

Fig. 29 Kalĕpasan text (16 L 426 B)
Courtesy of National Library of Indonesia

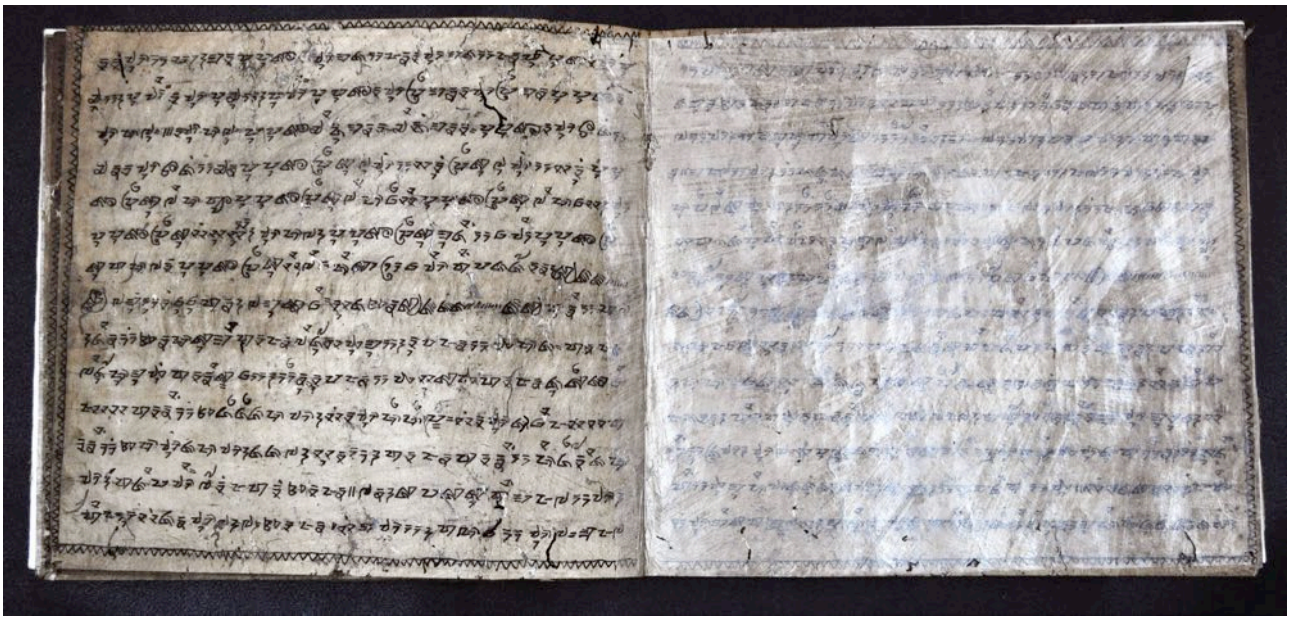


Fig.30 KBG 75 text, Courtesy of National Library of Indonesia

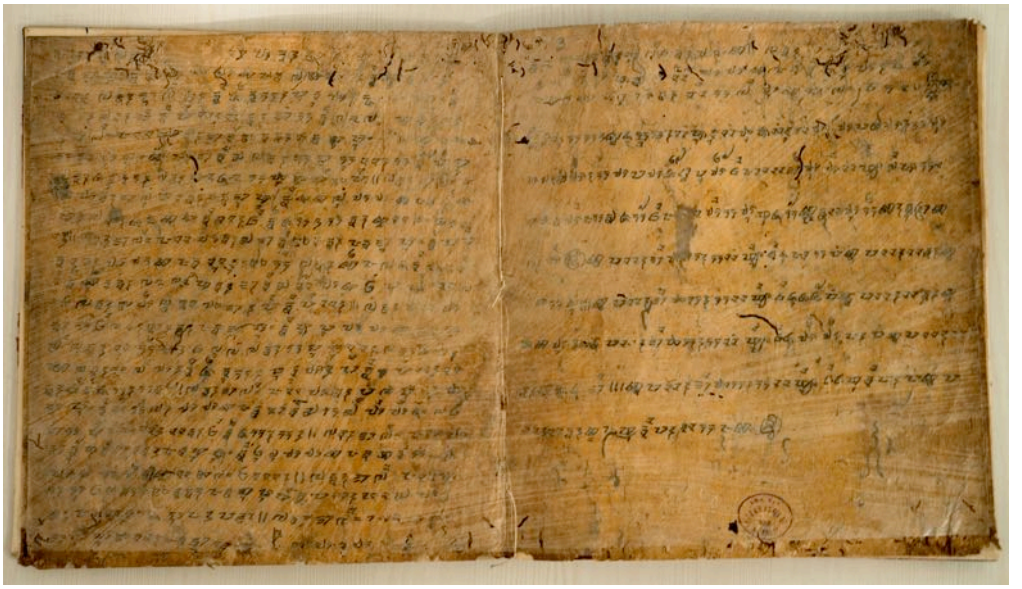


Fig.31 KBG 76 text, Courtesy of National Library of Indonesia

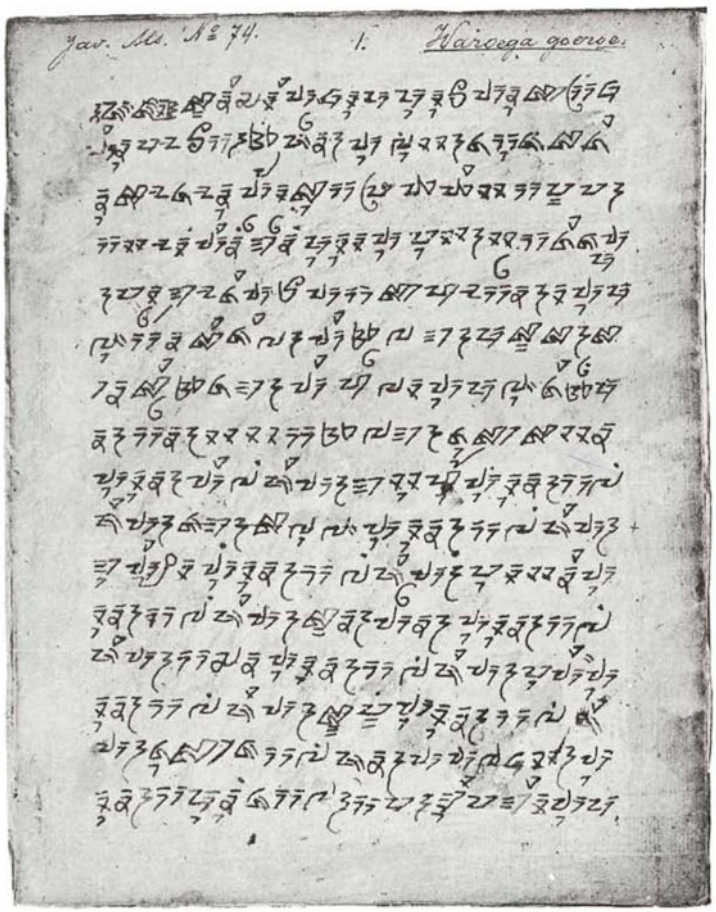


Fig. 32 KBG 74, Waruga Guru text, Pleyte, 1913

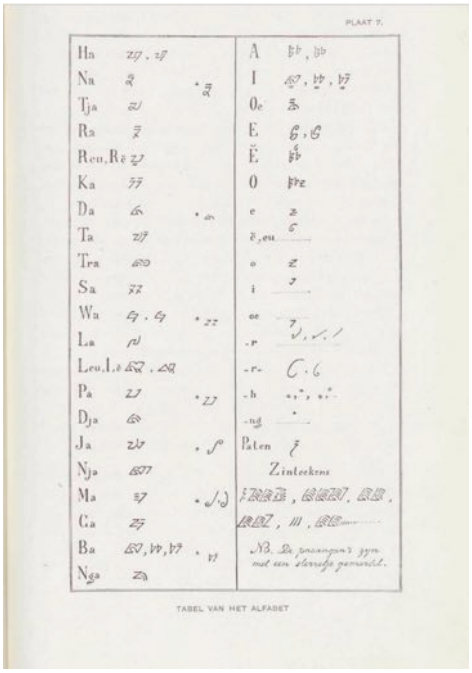


Fig. 33 Pleyte list of characters of Waruga Guru text, TBG,1913

Fig. 34 & 35 Manual tracing of the inscriptions

Fig. 36 Result of manual tracing of the Kawali VI inscription

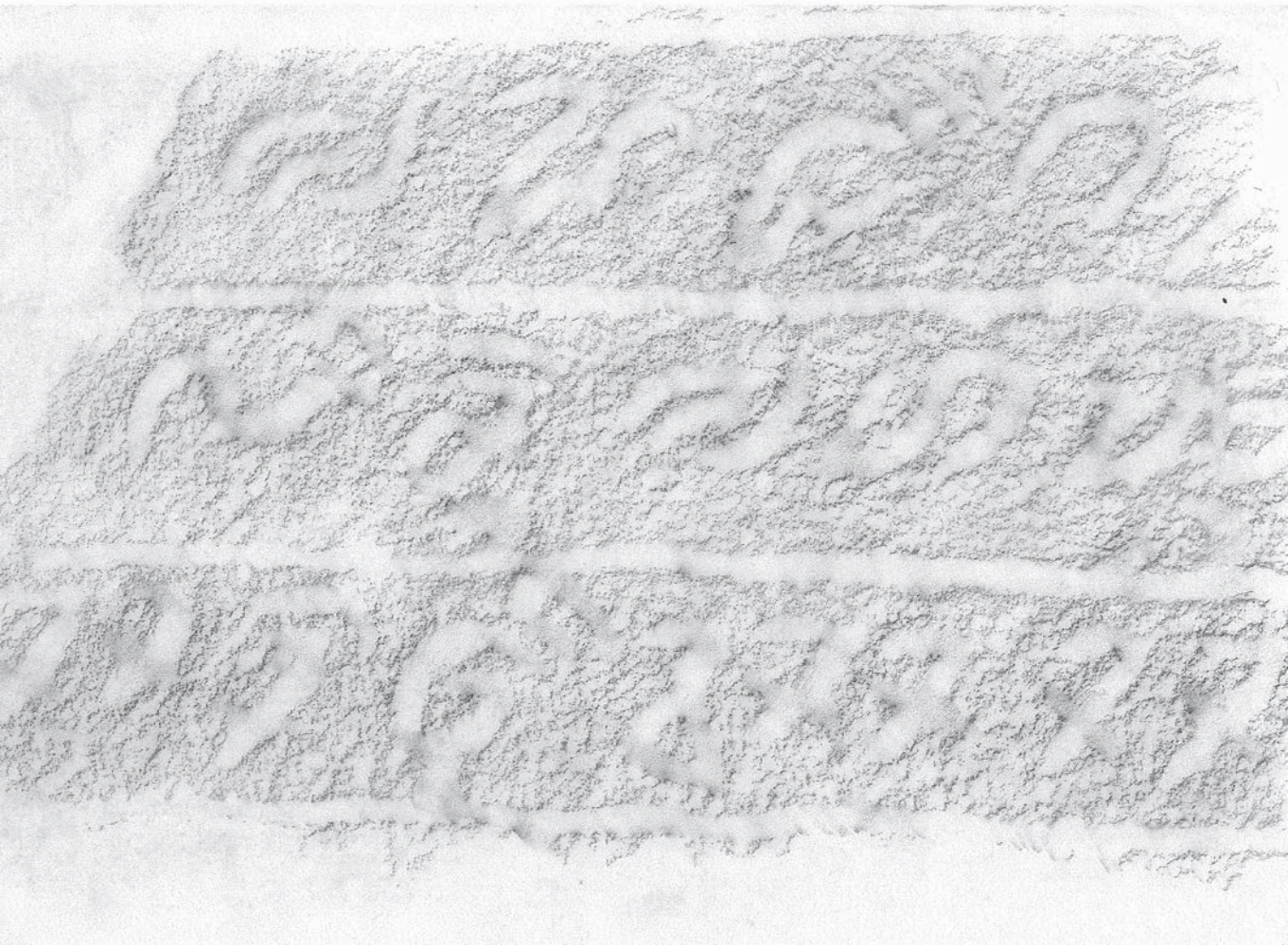


Fig. 37 Result of manual tracing of the Kawali I inscription

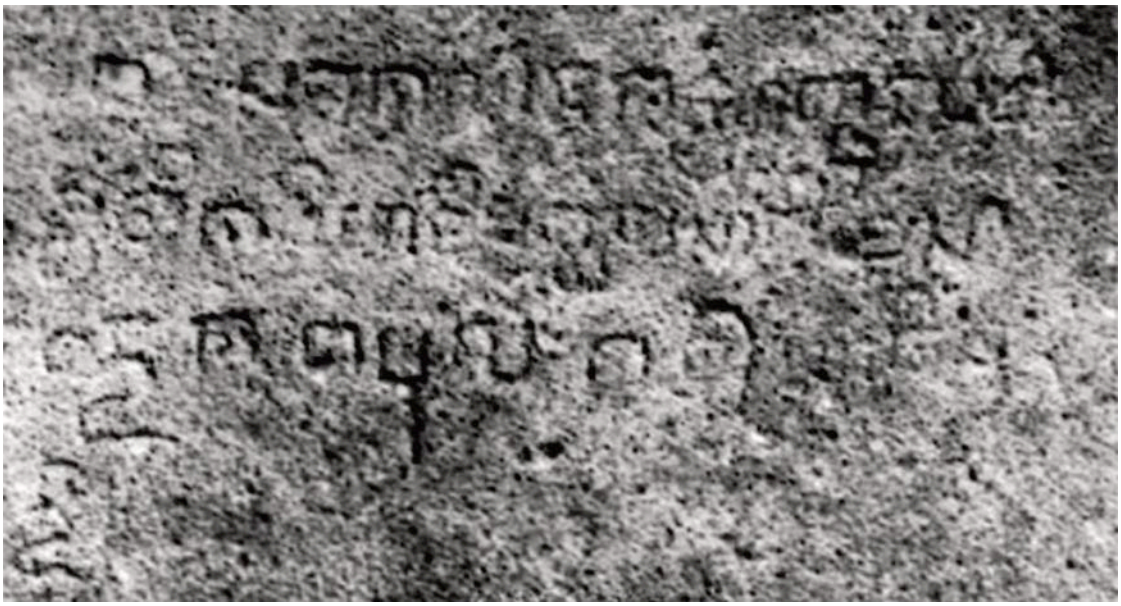


Fig. 37 Contrast enhancement example from Kebon Kopi II

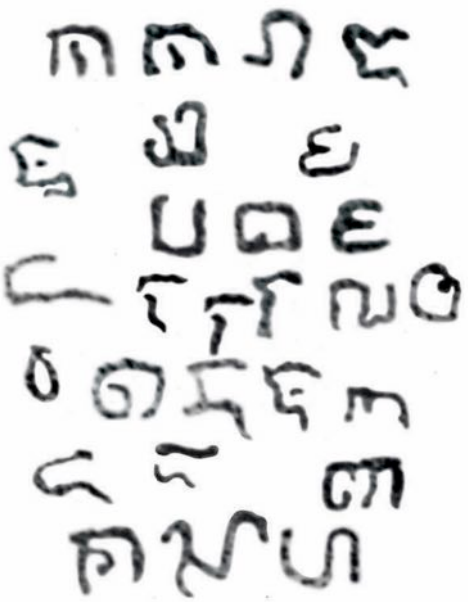
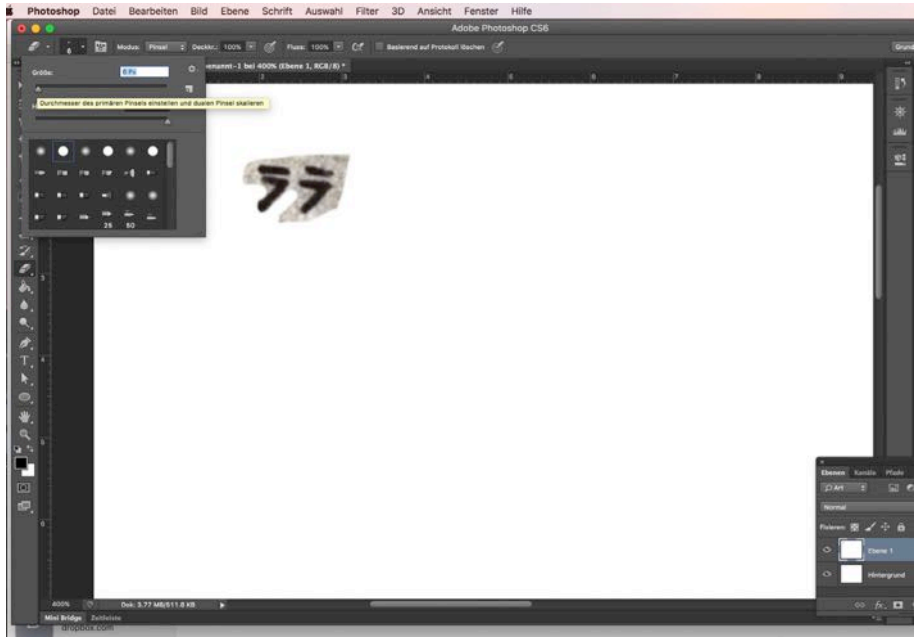


Fig. 38 Extracted results



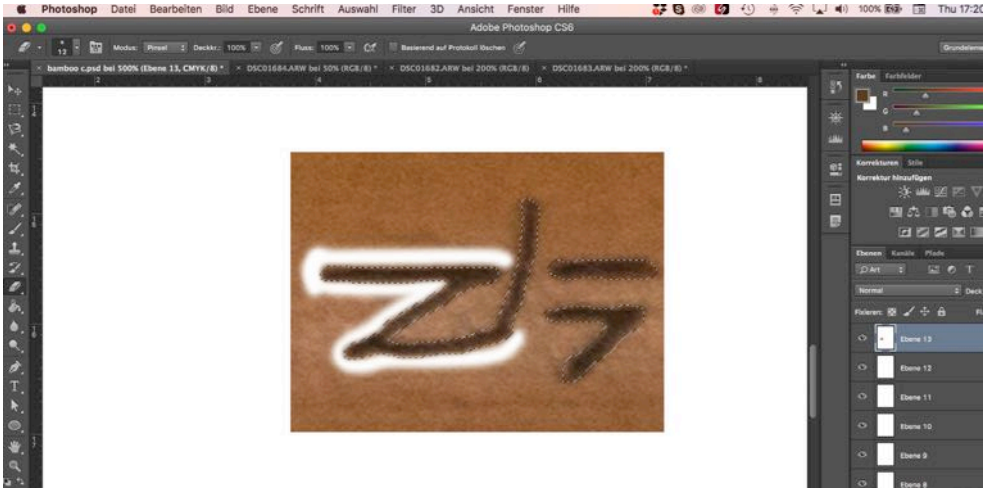


Fig. 39 & 40 Masking process