

**THE BUDDHIST BOUNDARY MARKERS  
OF NORTHEAST THAILAND AND  
CENTRAL LAOS, 7<sup>TH</sup>-12<sup>TH</sup> CENTURIES CE:  
TOWARDS AN UNDERSTANDING OF THE ARCHAEOLOGICAL,  
RELIGIOUS AND ARTISTIC LANDSCAPES OF  
THE KHORAT PLATEAU**

Stephen A. Murphy

Thesis Submitted to the School of Oriental and African Studies, for the Degree of  
Doctor of Philosophy

University of London

September 2010

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S. M.

## Abstract

This thesis focuses on the archaeological and art historic evidence for the earliest form of Buddhist boundary markers (sema) in Southeast Asia. Located in northeast Thailand and central Laos spanning the 7<sup>th</sup> - 12<sup>th</sup> centuries CE, they represent some of the earliest and clearest evidence for the emergence of Buddhism in the Khorat Plateau. The research looks at sema from three angles and approaches; their distribution throughout the region, their artwork, and the different forms and types that exist.

The distribution analysis recontextualises sema into their physical and cognitive landscape and in doing so traces the spread of the tradition into the Khorat Plateau, along the Chi, Mun and Mekong river systems. It divides sema into eight distinct clusters within the aforementioned river systems and analyses the relationship between sema and settlement patterns, particularly moated sites, as well as the distribution of sema artwork throughout the region. The analysis of the art and iconography of sema discusses the possible textual sources and the identification of narrative art. It analyses motifs such as stupa, stupa-*kumbha* and *dharmacakras* and proposes interpretations for these symbols. Also considered is the question of how much influence and appropriation there is from neighbouring Khmer or Dvaravati art and culture and the thesis attempts to identify a uniquely Khorat Plateau aesthetic for the artwork on sema.

A typology is proposed which functions primarily as an analytical and research tool to aid archaeologists identify sema in the field. The problematic claim that sema arose out of a pre-existing megalithic culture is also discussed and the evidence for and against the theory is reviewed and debunked. In conclusion, this thesis illustrates that sema represent a unique form of evidence to explain the spread, nature and development of Buddhism in the Khorat Plateau during the Dvaravati period.

## Acknowledgments

When first embarking on this doctoral thesis, I, like presumably most other PhD students, envisioned dedicating four long years to pretty much solitary research, punctuated by regular meetings with my supervisor, fieldwork, attending research seminars and presenting at conferences. It quickly became apparent, however, that a considerable amount of my time was not being spent in the pursuit of knowledge, but instead, in the pursuit of people. Whether they be academics, bureaucrats, archaeologists, museum curators, librarians, village officials or temple monks, by the time the start of the second semester of my first year had come around, it had become abundantly clear that in contrast to my initial ideas, this PhD would never have been possible without the help, time, advice and encouragement of a wide range of people. They are in fact too many to list, but those who played the greatest role and deserve the greatest thanks are as follows:

First and foremost, to my academic supervisor, Dr. Elizabeth Moore for always giving her time generously (a rare commodity in academia these days), whether it be to discuss the ideas and concepts underpinning my thesis or in reading and commenting on draft chapters. Her observations, suggestions and support throughout the four years have been invaluable. Thanks also to my two further PhD committee members, Dr. Crispin Branfoot and Dr. Kate Crosby for their advice and assistance. At the Department of Archaeology, Silpakorn University, Bangkok, Professor Phasook Indrawooth for imparting to me some of her vast knowledge of all things Dvaravati; to Associate Professor Surapol Natapintu for his help with research permission; at AIT Bangkok Dr. Surat Lertlum for his initial assistance with arranging my fieldwork.

For the fieldwork itself, the greatest debt of thanks must go to Mizuho Ikeda who relinquished three months of her life to accompany me on endless trips to remote Isan villages in the middle of the hot season. Her support and companionship kept me sane in what sometimes felt like an insane task. Further thanks go to Khun Kroo Surapol from Bahn Kruat, Buriram province for taking the time to show us around some key sites in Buriram province; Matthew D. Gallon for walking me through (and picking me up on more than occasion) the basics of ARC GIS software, which proved a vital tool in

mapping the distribution of sema; in Laos, Micheal Lorrillard of the EFEO Vientiane generously shared the results of his fieldwork while Anna Karlstrom provided me with my first data on sema in Vientiane province. Special thanks are offered to the staff at the Khon Kaen National Museum, who made me feel welcome from day one and were a great help not only with my research in regard to the sema at the museum but also in providing practical information on how to reach some of the more out of the way sites. Some of the fondest memories of my time in Isan are from days spent at the museum. Additional thanks also go to the staff at the Phimai National Museum and Ubon Ratchthani National Museum who were also very helpful.

Research permission for the fieldwork was kindly granted by the National Research Council of Thailand (NRCT). Funding for the fieldwork was provided by the Empowering Network for International Thai Studies (ENITS), Institute of Thai Studies, Chulalongkorn University with support from the Thailand Research Fund (TRF); The University of London Central Research Fund; and the SOAS Fieldwork Grant.

In terms of language, many thanks to Dr. Peter Skilling of the EFEO Bangkok for his advice regarding inscriptions on sema. His insights on Buddhism in general are also greatly appreciated. To Pimchanok Pongkasetkan for the help and assistance with Thai language, both in terms of its usage and spelling throughout the thesis as well as bringing to my attention countless Thai publications that were of great use to this study. For taking the time out to read, comment, proof and advise on various chapters and final drafts of the thesis my thanks goes to Alexandra Green, Don Stadtner, Chureekamol Onsuwan Eyre, and acting as the last line of defense, Ian Pettitt.

At the department of Art and Archaeology, SOAS, particular thanks go to Peter Sharrock, Tania Tribe, Charlotte Horlyck, George Manginis, and Julian Brown, for their support and encouragement throughout my MA and PhD, as well as to my fellow PhD students who have gone through the mill with me. At the Institute of Archaeology, UCL both Ian Glover and Vince Pigott have offered welcome advice and suggestions. At Silpakorn, to the BA, MA and PhD students that I have gotten to know at the departments of Art History and Archaeology who have offered me assistance and encouragement throughout. At River Books, my gratitude to Narisa Chakrabongse and

Paisarn Piemattawat for allowing me to fit my work with them around my PhD, their flexibility and understanding in this regard has been a great help.

On a personal level, thanks go first and foremost, to my parents. Without their constant support from day one, this PhD would not have been possible in so many ways. Also in need of thanks are my Aunt and Uncle, Maureen and Mick Sexton and also my cousin Angela Thompson and her husband Neil who over the last four to five years have provided this stray dog with a roof over its head on my annual returns from Bangkok to London.

It seems appropriate to finish by thanking the people of Isan, who in these troubled times are often much maligned and misunderstood. The welcome I received there was more often than not unconditional and the assistance given to me was never given with the expectancy of gaining something in return. Whether it be the drivers of *songtaows*, motorbike taxis or *tuk-tuks* who dropped me off at obscure archaeological sites, or the local villagers who had to drive me back to the main road long after the last form of public transport had finished for the day, to the monks who gave me access to their temples and storerooms, the memories I have of my time upon the Khorat Plateau are ones that I hope will remain with me always.

## Notes on Spelling, Terminology and Transliteration

The majority of Sanskrit and Pali terms in the thesis have today been generally accepted as part of the English language (for example, stupa or bodhisattva) and are therefore not given any special treatment or shown with diacritical marks. Words that are less commonly known have been italicised but again are not shown with diacriticals. All other foreign language words not in common usage in the English language are shown in italics, the one exception being the Thai word ‘sema’. As this word represents the subject matter of the thesis, it has been left unitalicised.

This thesis adheres as much as possible, to a phonetic transliteration of Thai words but without tonal marks and follows the ‘General System of Phonetic Transcription of Thai Characters into Roman’ as proposed by the Royal Institute, Bangkok in 1954. However, Thai place names, author names and publications have been transliterated into English following the methods used by the authors or organisations in question, which do not always conform to the Royal Institute’s system, thus resulting in some inconsistencies overall. To avoid confusion and to remain consistent with European language referencing conventions, Thai references in the English language bibliography and text are given surname first. This differs from Thai language publications where authors are instead referenced by their first name. In the English language bibliography, where a Thai publication provides a title of the work in Thai and English, both have been given. However, where the title is given in Thai only, an English translation has not been provided in order to avoid any potential confusion. References in the Thai Language bibliography follow Thai conventions of referencing.

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# Chapter 1

## Introduction

*'Space itself has no meaning if human beings have not encountered and mediated it by certain concepts and mediators'*

Thongchai Winichakul (*Siam Mapped*, 2004 [1994], 35-36)

Religion creates a cosmic order out of earthly chaos.<sup>1</sup> It fixes, binds and situates humanity within a universe larger than itself. In exploring the metaphysical, it explains the physical, in contemplating the divine it emphasises our mortality and in reaching for the transcendent we are grounded in the domain of worldly existence. Paramount amongst this process of ordering and rationalising the universe is the creation of sacred space. It anchors humanity, providing a fixed point of reference from which to view the world. All religions create and control this space by various ways and means. In Islam for example, Mecca represents the pilgrimage centre par excellence, accessible only to members of the faith, with all Muslims expected to perform the Hajj at least once in their lifetime. In Catholicism, crosses are often placed on hilltops, acting as a reminder of the crucifixion on Mount Golgotha and at the same time Christianising the landscape. In Hinduism, *dvarapalas*, guardians of gates and doorways protect temple thresholds while in ancient Persian, Zoroastrian Towers of Silence separated the space between the living and the dead.

In the Buddhism of Southeast Asia, sacred space is mediated by Buddhist boundary markers known as sema stones, a tradition that can be traced back to the origins of the religion in the region. The earliest archaeological evidence for these sacred objects comes from an area today known as the Khorat Plateau consisting of modern day northeast Thailand and parts of central and southern Laos. They date from the 7<sup>th</sup>-12<sup>th</sup> centuries CE, a chronological time span known in scholarship as the Dvaravati Period. Sema stones can range in size from anywhere between 80cm to 3 metres in height by 40 cm to 70 cm in width and are carved primarily from sandstone and to a lesser extent, laterite. They come in four main types; slab type, pillar type, octagonal type and

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<sup>1</sup> Alternatively, if abused, religion can quickly create chaos out of order.

unfashioned types (see fig. 1.1 and Chapter 6.1). It is these objects, their origins, dispersal, artwork and meaning that forms the subject matter of this thesis.



Figure 1.1: The four different types of sema. From left to right: Slab Type, Pillar Type, Octagonal Type. Unfashioned Type.

## 1.1 Rationale for the Thesis and Research Questions

This thesis is essentially an artefact analysis, but it is also a study of the development of a material culture, an art style, early historic societies and a religion over time in a specific region.<sup>2</sup> It is consequently a multidisciplinary thesis, primarily archaeological, but also incorporating methods, theories and approaches from art history, anthropology, the history of religions and Buddhist studies. In as much as there is a sub-discipline that can be defined as the Archaeology of Religion or more specifically, Buddhist Archaeology (see Barnes 1995), it falls within that category, although it also incorporates approaches, theories and methods from the discipline of landscape archaeology, particularly in terms of the survey work carried out and the analysis of the distribution of sema. From a regional perspective it is a study of Southeast Asian archaeology, or more specifically Thai archaeology. Finally in terms of the largely artificial dichotomy between prehistoric and historic archaeology, it falls within the latter but to a certain extent straddles the divide between these two sub-disciplines.

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<sup>2</sup> This thesis looks at sema from the Khorat Plateau in the Dvaravati period only. To cover later periods and other regions is beyond the scope of this PhD dissertation. For sema from the Ayutthaya period onwards see Paknam (1981) and Bunnag (2008).

The rationale for this study can be broken down into seven points containing the questions to be asked in this thesis:

1. At present no comprehensive database of sema exists. This thesis therefore fulfils such a function and contains detailed information in regard to the location, distribution, providing detailed maps, types, amounts, styles and artwork present on sema (see Appendix 1). It also provides a typology which allows for the identification, comparison and relative dating of sema. The database, therefore acts as a resource for scholars to aid in the preservation and research of these objects.
2. This thesis aims to remove as much as possible, the academic bias both archaeological and art historic in regard to sema. At present the majority of literature discusses only sema with artwork of Buddhist narrative scenes or sema from well known sites such as Muang Fa Daed. Furthermore, most studies conceive of and understand sema only in relation to central Thailand and Dvaravati culture in general. With a few notable exceptions sema are not seen or analysed as a phenomenon of the Khorat Plateau. This thesis therefore sets out to answer how much influence and appropriation there is from neighbouring Khmer or Dvaravati art and culture. Furthermore, it asks if it is possible to identify and propose a uniquely Khorat Plateau aesthetic from the artwork on sema? If so, would this facilitate a move away from the idea that the art of the Khorat Plateau is a derivative of Dvaravati and Khmer art, to seeing it as an art style in its own right? This thesis therefore, seeks to shift the perspective to seeing sema primarily from the viewpoint of the Khorat Plateau, and secondly in relationship to its surrounding regions and cultures. In summation, therefore, this thesis puts forward the argument that the Khorat Plateau is a distinct region in itself and that its culture, history and archaeology should be analysed from this perspective. This will be proven throughout the thesis particularly in regard to the distribution analysis (Chapter 4) and the art work on sema (Chapter 5).

3. By looking at sema locations the thesis will consider the question of whether there are discernable patterns in the distribution of sema throughout the Khorat Plateau. For instance, do they cluster into recognisable groups or subgroups and if so, can we trace the trajectory and spread of sema in the region through this. Can we locate a centre or centres of the sema culture? What types of sites are they found at? What is the relationship between the distribution of sema and the art depicted on them and can this help to produce a more refined dating sequence? Is there a correlation between the distribution of moated sites and the distribution of sema? Following on from this, what is the relationship between sema and the landscape, both physical and cognitive and can we read a Buddhist conception of this landscape from the study of sema?
4. This thesis records, studies and identifies the artwork on sema from a more inclusive perspective than previous studies. At present, due to the absence of a comprehensive database, the study of the iconography and style of the artwork on sema has been done primarily on an individual basis with few comparisons being made between various styles and narratives from different sites and regions. This thesis addresses this issue by analysing the art in conjunction with the distribution analysis of sema within the Khorat Plateau and draws its conclusions from this perspective. This raises further questions. Are there varying types and styles of sema and is this a result of a combination of regional, chronological, geographical or cultural factors? For instance, is there a clear development of these styles/types over time, reflecting a more linear development, or are the differences area-specific reflecting a more lateral evolution?
5. From the above questions, can we explain how the sema culture arose in the Khorat Plateau and challenge the argument that it evolved out of a pre-existing megalithic culture as has been suggested in various academic works on the subject?
6. Sema represent the most comprehensive surviving evidence for early Buddhism in the region. Furthermore, as opposed to bronze or terracotta Buddhist artefacts

that can travel easily both in antiquity and the present, sema due to their size and material are difficult to move (or steal), resulting in the majority still being located at or near their original sites. Therefore, this thesis will show by quantitative methods and analysis of the distribution patterns of sema and settlements, the spread and extent of Buddhism within the region during the period in question (7<sup>th</sup> - 12<sup>th</sup> centuries CE). It will also look at the issue of the types of Buddhism being practiced during the period and region in question. Subsequently the thesis will test whether sema are a viable case study to explain the spread and development of Buddhism in the Khorat Plateau during the Dvaravati period. If so, can it also provide answers to the wider question of how religion shapes and in turn is shaped by the societies, cultures and environments which it encounters?

7. As the majority of archaeological literature published in Thailand such as site reports, journal articles and conference proceedings are published in Thai language, they are largely inaccessible to the majority of Western academics who lack the language skills required to read them. Conversely Thai archaeologists for various reasons, ranging from the price and availability of Western academic publications to lacking sufficient language skills, may be unfamiliar with recent works.<sup>3</sup> This creates another form of archaeological bias with Western scholars largely referencing and entering into dialogue with other Western scholars and vice versa for the Thais. Furthermore, differing and at times conflicting views in terms of archaeological theory, methodology and interpretation also leads to a divide between these two 'groups'. This thesis acts as a case study in regards to the integration of Thai and Western scholarship and the consequences of such an approach in regard to the availability of data-sets and differing interpretations.

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<sup>3</sup> A Thai academic for instance may have excellent English language proficiency but might lack other European languages such as French or German. Furthermore, the average price as of 2010 for a Thai academic textbook is 300-400 Baht (US\$10-15) while Western publications can range from anywhere between 1000-10,000 Baht (US\$30-300).

## 1.2 Thesis Organisation

The thesis is organised into seven chapters, a glossary of terms, an appendices and a DVD. While chapters 1-3 follow on from each other in a progressive argument, chapter 4, 5, and 6 on the other hand are positioned more alongside each other. These three chapters look at sema from three different angles to build up a comprehensive and overall picture of the objects and as such do not need to be read in ascending order. The conclusion summarises and provides a synthesis of chapters 1-6. A summary of the contents and rationale of each chapter is given below.

Chapter 1: This introductory chapter outlines the rationale and research questions for the thesis. It then discusses the theoretical and methodological approaches employed and explains the extent and methods of the fieldwork, database organisation and means of analysis.

Chapter 2: This chapter provides the archaeological, social, cultural, artistic and religious backdrop within which the analysis of sema takes place. This is done by discussing the question of what is meant by the term 'Dvaravati'. In the majority of literature on the subject, sema are discussed as an aspect of Dvaravati art and culture. Therefore, a clear definition and detailed discussion of what Dvaravati is and the extent of its influence on the sema tradition is essential if we are to understand the archaeological and social milieu within which these sacred objects are located.

Chapter 3: This chapter provides a concise definition of what sema are. It is based on textual, archaeological, epigraphic, and typological evidence as well as the issue of re-use of sema today in a variety of religious contexts, illustrating that meanings of these objects are not clearly fixed, but fluid. It then presents a literary review of all academic work in Thai and European languages to date that deal specifically with sema. This illustrates not only the prevailing opinions, theories and assumptions currently held about sema, but also traces the origins and development of these ideas. As a number of these opinions and assumptions are challenged in this thesis, an overview and awareness of how they arose is essential.

Chapter 4: This chapter discusses the distribution and extent of the sema tradition in the Khorat Plateau. It also provides a geographic description of the study region and analyses the relationship between the distribution of sema and river systems. It divides sema locations into three groups; the Chi river System, the Mun river system and the Middle Mekong which are then subdivided into eight separate clusters. In doing so it recontextualises sema into the physical and cognitive landscape. It also addresses questions such as the relationship between sema and moated sites, the distribution of the artwork and sema from surrounding regions. Finally the validity of using sema as a case study for the spread of Buddhism into the region is tested by quantitative and qualitative approaches.

Chapter 5: This chapter analyses the art and iconography of the sema tradition. It first of all discusses the possible textual sources for the artwork and then goes on to the identification of narrative art. Following on from this, it discusses the motifs present such as the stupa, *stupa-kumbha* and *dharmacakra* motifs and proposes a number of interpretations for these symbols. Finally the chapter looks at the possibility of defining a Khorat Plateau aesthetic and identifying the types of Buddhism present by the analysis of the artwork.

Chapter 6: This chapter provides a detailed typology of sema arrived at from the study of their form, style, material, distribution, artwork and epigraphy. The typology functions first and foremost as an analytical and research tool to aid archaeologists in identifying Dvaravati period sema in the field. It also aids in the analysis of the distribution of sema into groups and clusters (Chapter 4) and provides a more refined dating sequence for these objects. Finally it looks at the problematic claim that sema arose out of a pre-existing megalithic culture within the region and discusses the evidence for and against this theory.

Chapter 7: This is the concluding chapter of the thesis and provides an overview and a synthesis of the issues and material discussed in the previous chapters. It evaluates the results, interpretations, hypotheses and proposals in light of the research questions and thesis rationale.

Appendices: Appendices 1, 2 and 3, along with the photographic record on the DVD make up the overall database of the thesis. Appendix 1 consists of 7 tables which make up the sema database compiled from fieldwork and research into sema and therefore represents the empirical data upon which the thesis is based and the subsequent analyses were built. Table A1a gives the precise details of the sema locations surveyed during fieldwork, Table A1b, gives the same information in Thai language; table A2 provides individual sema details such as current location, dimensions, types of motif present etc.; A3 lists publications used for site references; A4 lists *in situ* locations; A5 gives information regarding inscriptions on sema; A6 gives sema amounts per site and which sema are present at which sites; A7 lists sema with narrative art and their locations and finally A8 gives the identifications and types of narrative art per site. Appendix 2 consists of five tables and provides the data from which the sema typology was formed while Appendix 3 provides chronological tables for ease of reference.

DVD: The DVD contains a photographic record of every sema surveyed and listed in table A2. The photographs are classified numerically by their sema numbers (S1, S2 etc.) It therefore provides the reader with access to high quality colour photographs that can be studied and analysed in much closer detail than those provided in print. This is particularly relevant when analysing the narrative art on sema.

### **1.3 Theoretical Approaches**

The theoretical approaches taken in this thesis can be divided into two main disciplines, archaeological and art historic, however it should be emphasised that they are not mutually exclusive, but instead complementary.

#### **1.3.1 Archaeological Approaches**

The archaeological approach taken in this thesis can be broadly defined as that of landscape archaeology, particularly considering that the fieldwork was a regional survey as opposed to a site specific one. However, the conceptualisation of landscape goes beyond a purely physical one, and explains and understands sema in terms of the religious and cognitive landscapes within which they existed.

The multiple references that the term landscape can possess has been the subject of considerable debate within the last two decades. Tilley for example, states that within landscape, ‘Subjectivity and objectivity connect in a dialectic producing a place for Being in which the topography and physiography of the land and thought remain distinct but play into each other as an “intelligible landscape”, a spatialization of Being’ (1994, 14). For Tilley therefore, landscape is as much a cognitive concept as a physical one.

Layton and Ucko have expressed similar views, but in more understandable terms, stating once again that landscape is both conceptual and physical and that different people may understand the same physical landscape in many different ways (1999, 1). Cooney’s study of the Irish landscape illustrates this point quite succinctly and he does so by contrasting the concept of the land that the native Irish had in comparison to that of the colonial mindset of the 18<sup>th</sup> century English stating, ‘...in the eighteenth century there were competing perceptions of the Irish landscape. The traditional Gaelic perception was based on oral traditions, on the landscape as embodying the long history and genealogy of families and events. By contrast, the Ascendancy, landowners who had come to Ireland from Britain as part of the process of colonisation and land redistribution, saw it as dehumanised, bare, with rocks and tress’ (1999, 46). That both conceptions of the Irish landscape are valid goes without saying, however, what is significant here is that the understanding of this viewpoint comes primarily from the cultural and social milieu of the interpreter. Landscape, as Tilley has reminded us, is a subjective as well as objective phenomenon.

Perhaps the most succinct description of this phenomenon is given by Wendy Ashmore and A. Bernard Knapp who state that ‘...landscape is an entity that exists by virtue of its being perceived, experienced, and contextualized by people’ (1999, 1). In studies on sema to date<sup>4</sup> no consideration has been given to their role and place within the Buddhist sacred landscape that they inhabited and to a certain extent created. Instead, sema are looked at in isolation with no discussion of the sites or locations within which they were found and the implications thereof. The majority are studied and analysed as

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<sup>4</sup> See the literature review in chapter 3.6.

works of art and as a result become de-contextualised from their cognitive and physical landscapes. This thesis, on the other hand, re-contextualises sema by understanding them in terms of the sites and locations which they were part of, from a site, local, and regional perspective (see chapter 4).

Viewing Buddhism from a landscape perspective has been undertaken by a number of scholars to date, resulting in more developed and inclusive interpretations of Buddhist art and archaeology. Gina Barnes for example, looks at Buddhist rock and cave art from China and Korea and argues that certain natural features became clearly marked so ambiguity was taken out of the interpretation process resulting in the viewers definitely seeing and understanding them as part of a Buddhist landscape (1999, 101-121). Julia Shaw has focused on the Sanchi area and integrated art historical approaches with survey work, particularly in reference to irrigation systems, dams and the relationship between the *sangha* and agriculture (Shaw 2004; Shaw and Sutcliffe 2001). Lars Fogelin (2003) takes a similar approach at Thotlakonda, Andhra Pradesh and explores the religious-economic relationship between the laity and the *sangha*.

This thesis draws on the ideas, concepts and approaches described in the above works in order to provide a conceptual and theoretical framework within which to analyse sema as essential objects in the conceptual and physical landscape of the Khorat Plateau.

### **1.3.2. Art Historic Approaches**

*‘There really is no such thing as Art. There are only artists’*

(E.H. Gombrich, *The Story of Art* 1995, 15)

The art historic approaches undertaken in this thesis can be divided into two categories, those concerned with style and dating of the art and those concerned with the types of motifs and iconography found.

#### Style and Dating

Anyone involved in the process of interpreting ‘Art’ would do well to keep in mind the above quote from the opening lines of Gombrich’s seminal work *The Story of Art*. It reminds us that the categories, labels and stylistic definitions we assign to objects are, in

a sense, no more than methods of organisation and categorisation of the creations of artists. In the field of Southeast Asian studies the idea of Buddhist Art is a prevalent one despite the fact that more often than not we do not know who the artists themselves were. Therefore we analyse these ‘works of art’<sup>5</sup> by identifying prevailing styles, motifs and iconographic traits. After this, we attempt to match them, with varying degrees of success or failure, to known historical periods and chronologies. In many ways this allows for these artistic creations to be placed within an ordered and understandable schema which benefits those who wish to study and interpret these objects. However, on the other hand, it can lead to disputes and disagreements in terms of dating, influences, meaning and origins of a particular style of art.

The most problematic of these conceptualisations comes in the form of linear understandings of the development of style. By seeing objects as works of art, as opposed to creations of an individual artist, the human variable is taken out of the equation. Therefore, style is understood to develop along a largely uniform path at a uniform pace. The development or decline of an art style is not understood in terms of the ability of individual artists but as a seemingly independent entity in itself influenced and directed by the society and culture it finds itself a part of. Furthermore, this linear evolution has a pre-ordained pattern, one that in the Western mind at least, seems either consciously or unconsciously to be inextricably linked to ideas surrounding the development of Greek art. The model is quite simple. There is an early, middle and late phase with the early equated to the emergence of the style, the middle representing its flourishing and the late its decline and eventual end. This underlying conceptual model that art evolves in a linear fashion has begun to be challenged and re-evaluated in Western Art historic scholarship, however, it is still the dominant mode of interpretation among Thai scholarship and is still prevalent today being clearly visible in works discussing the art of South and Southeast Asia. This thesis wishes to conceptualise art on sema in a somewhat different way. While it does not discount the fact that artwork sometimes evolves along a linear line, it also looks at a lateral development of art. That is, the same art style can be observed in differing degrees of skill and aesthetic in

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<sup>5</sup> Another point to keep in mind is that Western art history and archaeology in the main views religious objects such as Buddha images, votive tablets, and *dharmacakra* not as they were originally conceived, that is as sacred objects or religious symbols, but instead views them as works of art. This viewpoint is a significant factor when considering why sema have been decontextualised by scholarship.

different geographical locations during the same time period. This illustrates that art does not simply evolve on a standard trajectory but that regional factors play a significant role. These factors can include the availability of high quality stone, the ability and number of the artists present in different areas, and the differing cultural and social influences at play in the different regions.

Furthermore, while this thesis does breakdown the art of sema into three distinct phases, it should not be understood that what is being argued here is that a linear progression is taking place. The division of art on sema into different chronological groups is arrived at through varying factors both lateral and linear. In conclusion this study recognises the fact that art changes over time and space, but these changes should not be considered in narrow ideas of progression or decline.

#### Narrative, Motifs and Iconography

The artwork depicted on sema can be broken down into two main categories, narrative art and motifs. Motifs cover a wide range of images and symbols, all almost entirely Buddhist in nature. There are also a few instances of brahmanical imagery but it is still Buddhist in context. The most common Buddhist motif is the stupa, however, we also find *kumbha* and *purnaghata* motifs, usually in association with stupas. *Dharmacakras* are found in a few instances while lotus petals, forming a band at the base of sema, are a common occurrence.

Analysing religious symbols, imagery and icons is an interpretive challenge even when the scholar has the full range of religious texts and scriptures available from which the motifs in question have been drawn. However, in the period in question, (7<sup>th</sup>-12<sup>th</sup> centuries CE), scholars are still uncertain which texts or manuscripts were in circulation in the Khorat Plateau. Furthermore, the power and pervasiveness of the oral tradition cannot be ignored. Reading these motifs therefore calls for a method of analysis and interpretation and in this regard the work of Erwin Panofsky is employed.

In his studies on iconography, Erwin Panofsky (1972) argued that symbols could be read on three levels, each with a growing degree of complexity. The first two levels are termed 'iconographic' while the third is 'iconological'. The first level is relatively

straight-forward. It is the recognition of the basic form of the motif. For example, the image may be a stupa, a lotus flower or a spoked wheel. The second level explains the meaning attached to the image. A stupa is a Buddhist reliquary monument, a lotus may represent enlightenment and a spoked wheel is a *dharmacakra*.

In terms of motifs on sema, the first two levels can in almost all instances be securely identified. Comparisons with Buddhist iconography from India or Sri Lanka can safely lead to correct interpretations without referring to a specific textual or canonical source. However, it is when we strive to reach the third level of interpretation, what Panofsky refers to as 'iconological', that difficulties emerge. This level represents what the image meant for the society that viewed it and in order to understand this level, we need sufficient knowledge of the particular society itself. Furthermore, as symbols have a surplus of meaning they may be interpreted in a variety of ways (Ricoeur 1976). For instance, we know that the spoked wheel represents a *dharmacakra* but what did the *dharmacakra* represent for the people of the Khorat Plateau. Did it represent the turning of *Dharma*, the act that put the teachings of the Buddha and consequently the whole Buddhist religion into motion or alternatively could it have represented the *chakravartin*, the universal Buddhist monarch?

In the analysis of motifs on sema Panofsky's methods of analysis are employed as an interpretive framework. Furthermore, by recontextualising sema into their cognitive and physical landscapes (chapter 4) the surplus of meaning present in symbols is to a certain extent overcome as readings are grounded in the social, cultural and historical milieu in which they were conceptualised and created.

The other major category of art depicted on sema is narrative. In this thesis narrative art is defined as any image or scene that conveys a specific story or episode from a given text or oral tradition. The majority of narrative tales represented on sema are Buddhist, however, there are a number of possible Hindu narratives present. In her study of Indian Buddhist narrative techniques, Vidya Dehejia (1990; 1998, 81-104) illustrates that there are seven distinct forms ranging from monoscenic, continuous and sequential to linear, synoptic and conflated. In a sequential narrative the artist presents multiple episodes from a story. Each episode is clearly framed by the use of architectural devices such as

pilasters. In continuous narrative, multiple scenes are also shown but there is no framing device so that the episodes, in a sense, run into each other. Synoptic and conflated narratives on the other hand, show multiple episodes within one scene.

Monoscenic narratives are more static in their conception. In this mode the artist chooses to display a single culminating episode of the story and in doing so, presents the result of the narrative sequence. Dehejia gives the example of the miracle of Sravasti depicted on the stupa at Bharhut in which the fully grown mango tree is depicted, that is, the culmination of the miracle, as opposed to the events leading up to it (1998, 84). Dehejia further points out that Buddhist visual narratives flourished for a period of about 600 years between 1<sup>st</sup> century BCE to the 6<sup>th</sup> century CE, particularly on the railings and gateways of Buddhist stupas such as at Bharhut and Sanchi. The favourite themes were the Life of the Buddha and *jataka* tales. She further asks the question as to whether the separation of narrative into seven distinct modes is merely a useful tool for modern scholars or whether such modes were also ancient indigenous distinctions. She concludes that as different artists were using different narrative modes on the same monument it must in fact have been a conscious decision on the part of the artist, illustrating that these seven modes were well known and understood at the time (1998, 104). For Dehejia therefore, narrative art's primary function is to represent verbal or oral texts and traditions in a visual medium, the purpose of which being essentially didactic.

Turning our attention back to *sema*, it is clear that the same themes predominate. The narrative art on these stones also depicts the Life of the Buddha and the *jatakas*. However, in terms of narrative modes, there are only two types present, the monoscenic narrative and the sequential narrative. There may be one or two instances of conflated narrative but the interpretation is uncertain. The monoscenic technique is by far the most common with the vast majority of *sema* depicted in this mode. On the other hand, there are only one or two instances of sequential narrative. Therefore, narrative on *sema* show one scene from one particular tale. However, in contrast to the Indian examples it is not always the culminating scene that is shown. For example, on *semas* S181 and S582, the *Temiya Jataka* is depicted (see chapter 5.2.7). However, the scene chosen is that of the charioteer digging *Temiya's* grave, not the culminating episode when the

Bodhisattva reveals himself by hoisting the chariot over his head. So while the artists of the Khorat Plateau choose similar narrative tales to their Indian counterparts, the modes and types of episodes selected were not always identical.

Robert Brown (1994, 10-32) proposes a number of 'rules' for why this may be so. For instance, he argues that Southeast Asians could consciously choose which works or modes of art they wanted to utilise depending on their own particular needs and that unlike their Indian counterparts, they could reject certain art forms if they so wished. Another possibility is the 'one-model-is-enough' rule (Brown 1994, 10-12) which postulates that Southeast Asia received fully formed artistic models and used them as templates for their works. Therefore, one model alone could conceivably account for an entire artistic movement. It is possible that both of the above rules had an impact on how narrative art on sema arose.

Brown however, also challenges the prevailing scholarly viewpoint that depictions of the *jatakas* are didactic (2002, 64-109). Instead, he argues that they are purely iconic in nature and acted as objects of worship and veneration in their own right. He reaches this conclusion by analysing the architectural placement of such scenes on a number of Buddhist monuments such as Stupa 1 at Sanchi and the Ananda temple at Pagan. As they are largely out of view and also out of narrative sequence, he concludes that they were not meant to function as visual cues for the verbal texts, but instead made up one symbolic aspect of the overall sacredness of the monument in question. While this may in fact be the case in certain instances such as the Ananda temple, the narrative relief on sema on the other hand, would have been clear for all to see. Placed around religious monuments, the *jataka* and Life of the Buddha scenes could easily be viewed and contemplated by those visiting or based at these religious sites. Therefore, while on one level they would have functioned in an iconic sense to add and create a sense of sacredness, on the other hand, they could also easily have functioned as visual reminders or didactic devices to instruct the Buddhist faithful.

## **1.4 Fieldwork and Methodology**

While the theoretical approaches provide a cognitive and interpretive framework within which the study and analysis of sema takes place, this methodology section explains the means by which the data was obtained, collected and analysed.

The first step consisted of reviewing and analysing the existing literature on the subject primarily in English and Thai language but also to a lesser extent in French and German. In the absence of a comprehensive and all inclusive database of sema and their locations the second step was to create such a database by carrying out extensive survey work in the Khorat Plateau. After this was completed, data obtained from the review of literature was also integrated into the database arrived at from survey work. Finally the data was analysed in the light of the rationale for the thesis and research questions posed. An explanation and account of the fieldwork techniques, extent and methods used for creating and analysing the sema database are discussed below. A review of the existing literature on sema is given in Chapter 3.6.

### **1.4.1 Fieldwork Survey Area and Extent**

Fieldwork consisted of extensive survey work throughout the Khorat Plateau and covered all the provinces of northeast Thailand, with the exception of Mukdahan where to date no sema have been recorded or discovered. Vientiane city and Vientiane province of Laos where sema have recently come to light were also included in the fieldwork. A number of sites were also surveyed in central Thailand and one further site, Bam Gre on Phnom Kulen, located in Cambodia was also visited. The majority of sema are still located at or near their original sites, however in some cases they have been moved to museums or local temples (see tables A1a, A2 and A4). Therefore, the survey work consisted of visiting the museums and sites themselves or the locations they had been moved to, usually either local temples, shrines or sometimes villagers' homes.

This thesis initially aimed to survey every sema location within the Khorat Plateau, however, it soon became apparent that this would not be possible for a number of reasons. Initial estimates from the review of the available sources and literature compiled before fieldwork commenced arrived at a figure of approximately fifty sites

within Thailand while the general consensus among scholars estimated the number of sema to be in the mid-hundreds. No literature at that time was available on sema in Laos. However, during the course of fieldwork, various other sites became known through a number of sources that were not accessible in the period before the survey work commenced, including information from local people, museum records, websites, correspondences with archaeologists working in Thai archaeology and research being carried out in Laos. This resulted in a doubling of the number of known sites from in the fifties to 111. Coupled with this was the amount of sema recorded, over 1200, far in excess of previous estimates.

In total, 116 sites were surveyed, 110 in the Khorat Plateau, five in central Thailand and one in Cambodia over a period dating from October 2007-November 2008. This resulted in the recording of 1289 sema in total. Due to the timescale allowed for fieldwork and budgetary considerations, it was not possible to visit all the locations in person. In total 80 out of the 116 sites were visited. However, information about sites not visited was obtained either from site reports, academic publications or correspondences with other researchers. Furthermore, sema locations are still being discovered as can be seen in a recent 2010 newspaper article (*Matichon Daily* 11<sup>th</sup> January 2010, 13) making fieldwork in a sense, an open-ended affair. This thesis, does however, represent the most comprehensive survey, database and analysis of Dvaravati sema to date.

In regards to concerns over a possible sampling bias, there is always the issue of whether more archaeological material gets discovered in areas of denser modern occupation as opposed to remoter areas. However, in terms of the Khorat Plateau this is not particularly the case. Important sites such as Muang Fa Daed, Phu Phra Baht, Bahn Fai and Bahn Korn Sawan for instance are all in rural areas with relatively low population densities. Furthermore, the increase in agricultural activity and settlement of land previous unoccupied in this region over the past forty years in particular, means that most, if not all remote locations have been occupied. Survey work over the past fifty years throughout the Khorat Plateau carried out by the FAD (1959, 1972, 1973, 1986, 1990) has also removed many of the possibilities of sampling bias as has the relatively new ability to view remote areas using Google Earth or similar applications.

### 1.4.2 Fieldwork Methods, Recording Techniques, Organisation of Database and Analysis

Sema were recorded by first assigning each stone a specific number prefixed by the upper case letter 'S' and recording its present location and site from which it was from. After that each sema was measured and its dimensions, type, style, artwork or lack of, and material was recorded. A brief sketch and description of each sema was then made. Finally each sema was photographed at high resolution by a digital SLR camera.<sup>6</sup> Next the amount and types of sema at each site were documented. Then the characteristics of the site were recorded, including details such as the type of site (moated, earthen mound, etc.), associated material present (such as stupas or other religious artefacts). Each site was given a specific number prefixed by the uppercase letter 'L' and longitudinal and latitudinal data was obtained through the use of a handheld GPS device<sup>7</sup> and the site characteristics were then further analysed using Google Earth and Google Maps ([www.googlemaps.com](http://www.googlemaps.com)).

The fieldwork allowed for the compilation of a database that incorporated and cross-referenced individual sema details with a site database and a photographic record (see Appendix 1 and DVD). Furthermore, the information was imputed into and analysed using an ArcGIS software application.<sup>8</sup> This allowed for the creation of accurate digital maps which facilitated the analysis of various data-sets in an integrative and multi-scaler framework. For instance, in regard to the analysis of the distribution of sema and sema locations, it allowed for the factoring in of other datasets such as the relationship of moated sites to sema locations which was achieved by superimposing one dataset over another (see figure 4.24). Various other forms of analysis were carried out such as the distribution of sema by groups, clusters, art styles, types and *in situ* locations.

As stated above, in this thesis sema numbers are prefixed by the upper case letter 'S', for example S1, S23 etc. Sites are prefixed by the upper case letter 'L', for example L1, L40 etc. When the name of a site is mentioned in the first instance of each chapter the

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<sup>6</sup> A Canon EOS 350D Digital was used with photographs taken at high resolution.

<sup>7</sup> Magellan eXplorer 100.

<sup>8</sup> ESRI ArcGIS 9.3 Desktop. Basemap data for Thailand courtesy of Marc Souris, IRD, <http://www.star.ait.ac.th/~souris/thailand.htm>

site number shall be given after it in brackets but will be omitted in each subsequent instance, for example, Muang Fa Daed (L1). Site location numbers (L) and sema numbers (S) are listed in tables A1a/A1b and A2 respectively and can be consulted in order to acquire relevant data about the site or sema in question. Table A2 also provides information in regard to sema dimensions, type, material, present location and motifs or artwork present. Table A1a on the other hand, gives data regarding individual sites' exact location, including village, sub-district, district and province as well as longitude and latitude. Table A1b gives the same information but in Thai language and script.<sup>9</sup>

## **1.5 Summary**

This chapter has reviewed the rationale for the thesis, its research questions, theoretical and methodological approaches. It has outlined the structure of the thesis, as well as explaining the extent of the fieldwork and recording techniques. In doing so the chapter provides a summary of the dissertation as a whole as well as locating the thesis within the broader discipline of archaeology.

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<sup>9</sup> Due to the inconsistencies and difficulties arising from the transliteration of Thai script, it is strongly recommended that anyone wishing to visit a given site listed in table A1 use the Thai version. This will greatly alleviate problems arising from obtaining directions or searching maps. It should be added that some of the sites listed are extremely remote and not always that well known even by local inhabitants of the particular area in question. This again is a strong reason to use the Thai as opposed to English language table.

## Chapter 2

### Dvaravati: The Cultural and Historical Milieu

The majority of literature on sema discusses them as an aspect of Dvaravati art and by extension, Dvaravati culture. However, as the heartland of Dvaravati is located in central Thailand, not the Khorat Plateau, the latter ends up being viewed as a peripheral zone of Dvaravati culture. At the same time, no real consideration has been given to seeing the Khorat Plateau as a distinctive region in its own right. Instead it is thought of as an area influenced by Dvaravati to the west and Khmer culture to the east. While this thesis does not deny that Dvaravati culture played a significant role in the Khorat Plateau, it does object to the latter being seen as a passive recipient of ideas from central Thailand. Instead it views the Khorat Plateau as a region in itself, that developed and utilised the influences and concepts flowing in from central and southern Thailand to suit its own needs and aesthetic, with sema representing the best evidence for this. In discussing what Dvaravati is, this chapter provides the archaeological, social, cultural, artistic and religious background against which sema have more often than not, been located.

It has often been stated that Dvaravati has no history<sup>1</sup> and to a certain extent this is correct. Unlike the great Khmer Empire that developed around Angkor, with Dvaravati there are no long lists of the genealogies of kings, nor is there any form of indigenous written history or chronicles that survives from this period. Instead we are left with oblique references in Chinese sources and scattered and infrequent inscriptions that allow only mere glimpses of a past culture. Despite this, it is possible to reconstruct a viable model of what Dvaravati is and represents. This has become a much more fruitful task in recent years due to the increasing wealth of art historic analysis, archaeological research, excavations and scholarship on the subject.

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<sup>1</sup> Woodward for example, argues that due to the paucity of epigraphic evidence a 'history' of Dvaravati cannot be written (1997, 43-45). However, Woodward here is referring to the concept of history in the traditional sense of a grand narrative. Brown also refers to this difficulty and states that a historical narrative of Dvaravati, should we still wish to write in this manner, is impossible (1996, 3).

The question of what Dvaravati is has dominated Thai and Western scholarship on the early history of Southeast Asia since archaeological and art historic research began in the region over a century ago. Questions of where it was located, when it came into existence, how long this period lasted, its geographical extent and the nature of its political organisation and control have largely remained unsatisfactorily defined. Some of the problems arising from the study of Dvaravati are in fact problems of modern making, created by the sometimes conflicting definitions given by scholars working within the discipline, as while there is evidence for the term Dvaravati, what exactly Dvaravati was remains open to debate. Peter Skilling has attempted to clarify the use of the term by indicating that modern scholarship uses Dvaravati in three senses (2003, 100-101). They are:

1. A kingdom, state or polity that existed in central Thailand from *circa* 6<sup>th</sup>-9<sup>th</sup> century CE.
2. An art style, *circa* 6<sup>th</sup>-11<sup>th</sup> century CE.
3. A Period of Thai history (Dvaravati Period *circa* 6<sup>th</sup>-11<sup>th</sup> century CE)

Skilling's work, while highlighting three of the most common uses of the term omits one other common usage, that of a Dvaravati culture. This fourth usage is particularly relevant for archaeologists as they work towards defining and delimiting the nature and extent of Dvaravati material culture in the archaeological record. It is also a useful term as it avoids tying a concept of Dvaravati to very narrow limits such as seeing it only as a political entity. One issue, however, that immediately becomes apparent from reviewing the four definitions is the chronological disparity. While Dvaravati as a political entity appears to have existed between the 6<sup>th</sup>-9<sup>th</sup> century, the art style, culture and period stretch to the 11<sup>th</sup> century and reach a much wider geographical area than that of the proposed political entity. This issue is discussed in some depth in this chapter.

This chapter outlines the evidence and discusses Dvaravati in light of these four definitions. This builds a picture of what is meant by Dvaravati in a political, artistic, cultural and chronological sense and provides the basis of understanding for the use of these terms throughout this thesis. Before discussing these four definitions, the chapter first outlines the prehistoric period and the phenomenon of early state formation in

Southeast Asia to provide a window on the wider cultural and historical contexts within which Dvaravati arose. It then discusses and reviews the evidence for the term Dvaravati. Then after a discussion of the four definitions, the chapter looks at the specific geographical subject area of this thesis, the Khorat Plateau, and how ideas of Dvaravati apply to it and the sema tradition. It also looks at the question of Khmer influence within the Plateau as this is an issue that also arises in discussions of sema throughout this study.

## **2.1 Prehistory and Indianisation**

The process by which Indian concepts, beliefs and ideas were amalgamated and subsumed into Southeast Asia is inextricably linked to the processes of urbanisation and Indianisation and the development of complex society. As society in Southeast Asia evolved throughout its prehistory, settlements became larger and trade networks more extensive. As maritime networks grew, contact with India and China began to increase. Consequently, exposure to new ideas, concepts, technologies and arts resulted (Bellina & Glover 2004). It is generally accepted within scholarship today that the phenomenon known as ‘Indianisation’ was not a process of India ‘civilising’ Southeast Asia, but more a case of Southeast Asia selectively adopting, adapting and reshaping Indian concepts such as art, religion and kingship to suit its own needs.<sup>2</sup> This process, however, could only occur once Southeast Asian societies had reached a sufficient level of development. In terms of technical abilities, rice based agriculture and metal technology were particularly important. In a Southeast Asian context this began to occur during the Bronze Age, *circa* 2000-500 BCE. Wet rice farming began to produce sufficient surpluses for large scale settlements to emerge, while metal technology facilitated the production of tools which produced greater efficiency in terms of labour, agriculture and specialised skills (Higham 2002, 224-226). Furthermore, by the Iron Age the ability to fashion high quality ornaments such as bronze wrist bangles, gold jewelry and etched stone and glass beads for instance, points to societies that have developed high levels of craft specialisation (Glover 1990; Bellina 2003).

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<sup>2</sup> This rethinking of the Indianisation concept was first proposed by Mabbett (1977) whose observations and conclusions have largely been proved correct by subsequent archaeological research over the past two decades. For further discussion on the subject see Wolters (1999), Stark (2006), O’Reilly (2007).

Consequently, the view that Indianisation was a form of colonisation carried out by India has long been dismissed by scholars and as research into Southeast Asian archaeology and art history progresses, a more balanced and objective understanding of this complex process is emerging. Southeast Asia, therefore had reached a sophisticated level of societal development prior to any large scale Indian influence. As Mabbett (1977, 2) points out, and archaeological research has confirmed over the past four decades, wet rice cultivation was not introduced via India as previously argued, but developed from Neolithic times onwards (Higham 2002). Rice chaff found in Ban Chiang pottery for example, places cultivation well within the Bronze Age (White 1982), while the moated sites so prominent in the Iron Age would not have been sustainable without surplus rice production (figs. 2.1 & 2.2). Due to this archaeological evidence, it can now be demonstrated that Southeast Asian prehistoric societies could support relatively large urban centres, which in turn led to the development of more complex societies. The idea that Indianisation brought with it the technology of wet rice cultivation and therefore the ability for large-scale urbanisation to occur can subsequently be dismissed.

However, while it is now clear that early Southeast Asian polities developed out of Iron Age societies, there is still considerable debate and uncertainty as to the nature of these early 'states'. Were they rigidly hierarchical, centralised societies with a strong ruler, who had a firm grip on all components of society, and whose influence and political domain stretched over relatively large areas (Higham 2002), or were they more loosely organised, heterarchical structures with less clearly defined social ranking and control (White 1995; O'Reilly 2000; Onsuwan Eyre 2010)? While the debate surrounding hierarchy versus heterarchy is as yet unresolved, what is clear is that by the middle of the first millennium CE, large-scale urban centres were beginning to emerge throughout Southeast Asia. In Burma, the Pyu culture began to form around cities such as Sriksetra, Beikthano and Halin while in Southern Vietnam and the Mekong Delta, Funan was growing on the back of its maritime trade based economy, focused primarily around the sites of Oc Eo and Angkor Borei (Khoo 2003; Stark 2004). On the Malay Peninsula, another maritime trading power was emerging in the form of Srivijaya, while in northern Cambodia, and along the Mekong and Mun rivers, the state of Chenla began to take shape. In central Thailand, Dvaravati was emerging with its cultural influence

stretching outwards into the Khorat Plateau to the northeast and Haripunjaya in northern Thailand.



Figure 2.1: *In situ* pottery and burials from Ban Chiang open air museum.

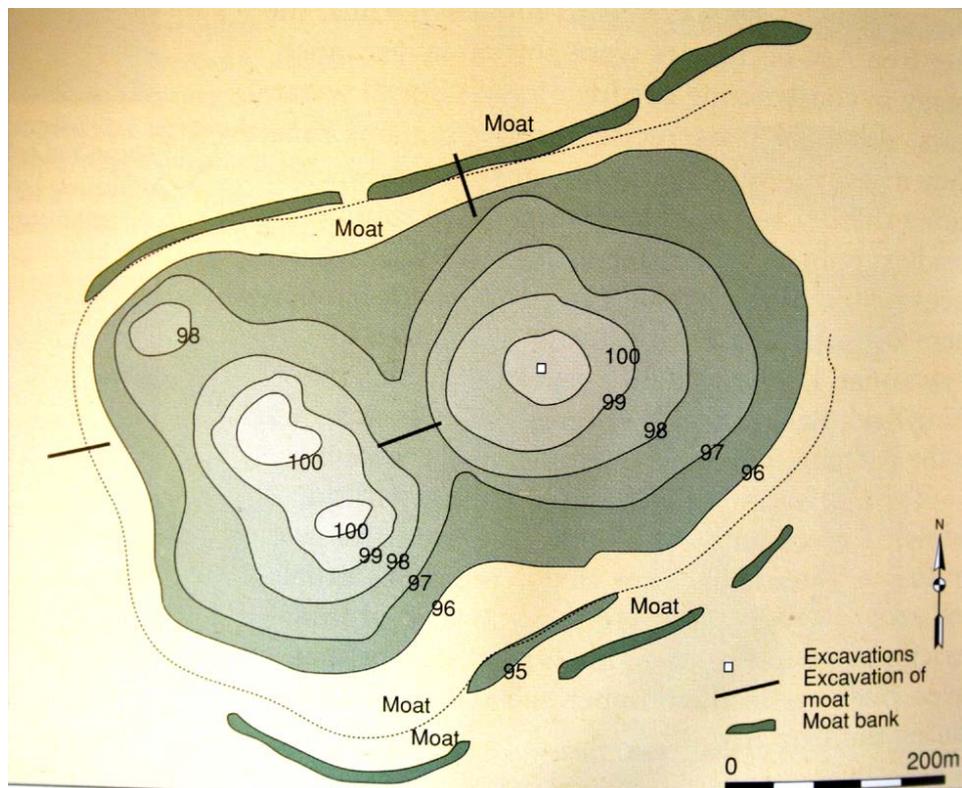


Figure 2.2: The Iron Age site of Non Muang Kao.

A brief overview of the archaeological record in regard to these early cultures illustrates that they developed out of pre-existing Iron Age societies. Work carried out at Minh Su Mound in southern Vietnam, for example, shows that the site of Oc Eo had been occupied as far back as the mid-first millennium BCE (Le Thi Lien 2006). Similarly, in Cambodia excavations carried out under the Western Baray at Angkor show that there was settlement here from the Bronze Age onwards (Pottier 2006). Work carried out by Moore and Freeman (Moore *et al.* 2007) using images and information acquired from the NASA Jet Propulsion Laboratory has also yielded evidence of moated sites and circular mounds in the vicinity of Angkor Wat, indicating early habitation of the site. In terms of Burma, sites in the Samon and Chindwin region show continuities with the Pyu Period (Moore *et al.* 2002, 6) while Bob Hudson (Hudson *et al.* 2002, 9-21) has attempted to investigate, somewhat inconclusively, the origins of Pagan in regard to the tradition of the nineteen founding villages.

While sharing similar characteristics and traits, the development, lifespan and histories of the various early states varied greatly. Some, such as Funan and Chenla acted as forerunners to the great Angkorian civilisation while others such as Dvaravati in central Thailand seemed to flourish for a brief period before falling into decline.

## **2.2 Evidence for the term Dvaravati**

Like the majority of early states in Southeast Asia the initial source of the name 'Dvaravati' was found in Chinese annals in the late 19<sup>th</sup> century with inscriptions being discovered by the mid-20<sup>th</sup> century allowing scholars to match the information provided in the Chinese sources with that arising at archaeological sites within central Thailand.

The Sanskrit term 'Dvaravati' literally means 'which has gates' with certain scholars suggesting that this refers to characteristics of this culture's urban planning (Indrawoath 2004, 120). The name itself is encountered earlier in the Indian epic the *Mahabharata* which is considered to have been compiled from the 8<sup>th</sup> century BCE onwards with its final form crystallising around the Gupta period, *circa* 4<sup>th</sup> century CE. Therefore, the

name Dvaravati, also transliterated as Dvaraka or Dwaravati in the *Mahabharata* (Sorensen 1978, 282), may have considerable antiquity. The reason why Dvaravati was chosen for the name of a city or early state in what is today central Thailand remains elusive, however, it may be that the rulers of this newly formed political entity were seeking to identify with the ancient city in the Indian epic, the capital of the Yadavas.

The first historical evidence for the term appears in the 7<sup>th</sup> century. Two Tang Dynasty Chinese monks, Hsuan-tsang and I-tsing, both refer to a country in Southeast Asia called Tu-hu-po-ti and Tu-hu-lo-po-ti respectively (Brown 1996, xxii). In the 19<sup>th</sup> century, scholars who translated their works proposed that this referred to the transliteration into Chinese of the Sanskrit name Dvaravati (Beal 1969; Chavannes 1894). Further evidence from Chinese sources comes from the recording of three diplomatic missions sent by a state named Dvaravati to China in 638, 640, and 649 CE (Brown 1996, xxiii). The Chinese evidence is significant from two angles. First, the fact that diplomatic embassies were sent to China clearly indicates that at this time there was a political entity that identified itself using the name Dvaravati and that it was actively seeking 'international' recognition. Secondly, the presence of Chinese monks in Southeast Asia during the period illustrates that Buddhist pilgrims were actively travelling around the region. The recognition by a Dvaravati entity of the importance of the Tang court should also emphasise the influence that China had in the region during this period and should act as a counterpoint to the often stated primacy of India in Southeast Asian culture and politics at this time.

Archaeological evidence confirming the Chinese sources came about with the discovery of the name Dvaravati inscribed in Pallava script in Sanskrit language on a group of medals/coins found during excavations of a stupa at Nern Hin near Phra Pathom Chedi at Nakhon Pathom in 1943 (Boeles 1964). The full inscription discovered on the coins reads '*sri-dvaravati-shvarapunya*' or 'Meritorious Deed of the Ruler of Dvaravati' (Boeles 1964; Coedès 1964b). Further evidence of this kind has been discovered at various other sites throughout central Thailand over the years, such as Ku Bua and Lopburi (fig. 2.3). This led to a consensus among scholars that the Dvaravati political entity was based in the Chao Phraya river basin of central Thailand with its centre most likely being located at either Nakorn Pathom or U-Thong.



Figure 2.3: Coin discovered at Ku Bua with an inscription in Sanskrit using Pallava script stating ‘*sri-dvaravati-shvarapunya*’.

A further piece of evidence for the existence of Dvaravati is retained in the official name of the Thai city of Ayutthaya founded in 1350 (Boeles 1964, 102-103). In it, the epithet ‘Dvaravati’ is placed in front the name of Ayutthaya. The title in Thai is;

กรุงเทพมหานครบวรทวารวดีศรีอยุธยา

This can be transliterated as *Krongteyp-pramahanakorn-bawara-tawarawadee-sri-ayutthaya*.<sup>3</sup> The fact that the Thais consciously chose to incorporate this name into the official title of their new capital illustrates the esteem in which they held the Dvaravati legacy and that they to a certain extent, saw themselves as the inheritors of this culture.

## 2.3 Early Statecraft: A Dvaravati Kingdom, Polity or Mandala?

### 2.3.1 Location and extent

Over the past century or so there has been considerable ink spilled as to what Dvaravati actually was and where it was located. Early scholars such as Coedès (1964a) considered it to be a unified kingdom with a capital city at its centre, whose reach and

<sup>3</sup> Dvaravati is transliterated in Thai as ‘*tawarawadee*’.

control covered most of modern day Thailand. Later scholarship became more cautious and began to rein in some of these assumptions, arguing that the evidence points to a much looser form of political organisation with there perhaps being a number of centres competing for control (Brown 1996; Mudar 1999). One of the main reasons for the various and at times contradictory interpretations of what Dvaravati is arose from ideas about its location and extent. Early works tended to plot the domain of Dvaravati political control by the geographical extent of its art style, thus leading to claims that it covered all of modern Thailand. Sema for example, being found throughout the Khorat Plateau became one of the primary sources of evidence to support this claim. Later, however, archaeological research began to look at settlement patterns and the archaeological record to gain a better understanding of this question.

Prince Damrong Rajanubhab (1973 [1926], 9-11) was the first to propose that the political extent of the Dvaravati kingdom and the distribution of Dvaravati style art and architecture were one in the same. In doing so, he argued that a Dvaravati kingdom spread out over all of modern day Thailand. Coedès continues this line of thought in his seminal work *The Indianized States of Southeast Asia* (1968) and in a further article (Coedès 1964a). In both works he includes the entirety of modern day Thailand into what he calls the Dvaravati kingdom or '*royaume*' in French. The idea that the geographical and chronological extent of the Dvaravati art style and the Dvaravati political entity were one in the same has led to numerous misunderstandings and confusion in regard to the study of Dvaravati. For instance Guillon (1999, 73) points out that Coedès' claim that Dvaravati covered the entirety of modern Thailand, has led to most or all artistic works in what he defines the Mon style being labelled Dvaravati.

To say, however, that it was only art historians who claimed that the Dvaravati political entity's geographical extent corresponded to the extent of Dvaravati style artwork is incorrect. The British archaeologist H. G. Quartich Wales (1969) also made the same claim in his work *Dvaravati, the Earliest Kingdom of Siam*. Like Prince Damrong Rajanubhab and Coedès before him, Wales used the then limited archaeological and art historic evidence available to him to reconstruct the possible extent and location of what he considered the Dvaravati kingdom.

However, an overview of settlement patterns and their extent quickly calls into question the claims of early scholars and instead illustrates that the Dvaravati 'kingdom' was restricted to central Thailand, or more specifically, the Chao Phraya river basin. As Indrawooth (2004, 125) points out, by the 7<sup>th</sup> century CE large moated sites had emerged within the central plain of Thailand. Some of these sites, such as Sab Champa (Lertlit 2004), Chansen (Bronson 1976), Kishkindha (Khunsong 2010) and Sri Thep (Indrawooth 2004, 132), show evidence of continuous occupation from the Iron Age onwards, while others such as Dong Mae Nang Muang seem to have developed from the late first millennium CE onwards (Murphy & Pongkasetkan 2010).

While Iron Age sites within central and northeast Thailand tended to be irregular in plan, sometimes developing and expanding their moats over successive phases, Dvaravati sites form a more regular and oval shape. They can also be defined by the existence of an interior moat (fig. 2.4a-b). At sites such as U-Thong, Sri Thep and Dong Mae Nang Muang this interior moat appears to have arisen due to the creation of an additional moat at one end and therefore gives the site a more oblong than oval characteristic. This growing uniformity of site plan was first noticed by Wales (1969), who argued that as society became more advanced and regulated, settlements also evolved more standardised ground plans. Indrawooth (1999, 228) on the other hand, argues that the oval shape ground plan was in fact imported from India and has parallels with the Ganges Valley and the site of Pataliputra in particular. Whether oval sites represent an indigenous development or one imported from abroad, what is clear is that this site plan is a significant Dvaravati characteristic.

There are over forty known Dvaravati sites in central Thailand (fig. 2.5), illustrating that this region represents a nexus for the urbanisation and development of large settlements from the mid-6<sup>th</sup> century CE onwards. Based primarily along large scale river systems such as the Chao Phraya and Tha Chin rivers, these settlements stretch as far as Ku Bua in upper-peninsular Thailand to Dong Mae Nang Muang in Nakorn Sawan province to the north.



Figure 2.4a: Satellite image of U Thong.

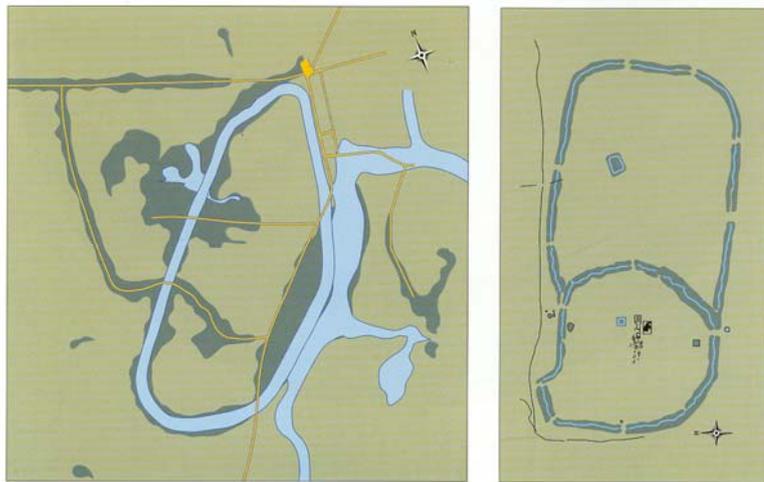


Figure 2.4b: Site plans of U-Thong (left) and Sri Thep (right).

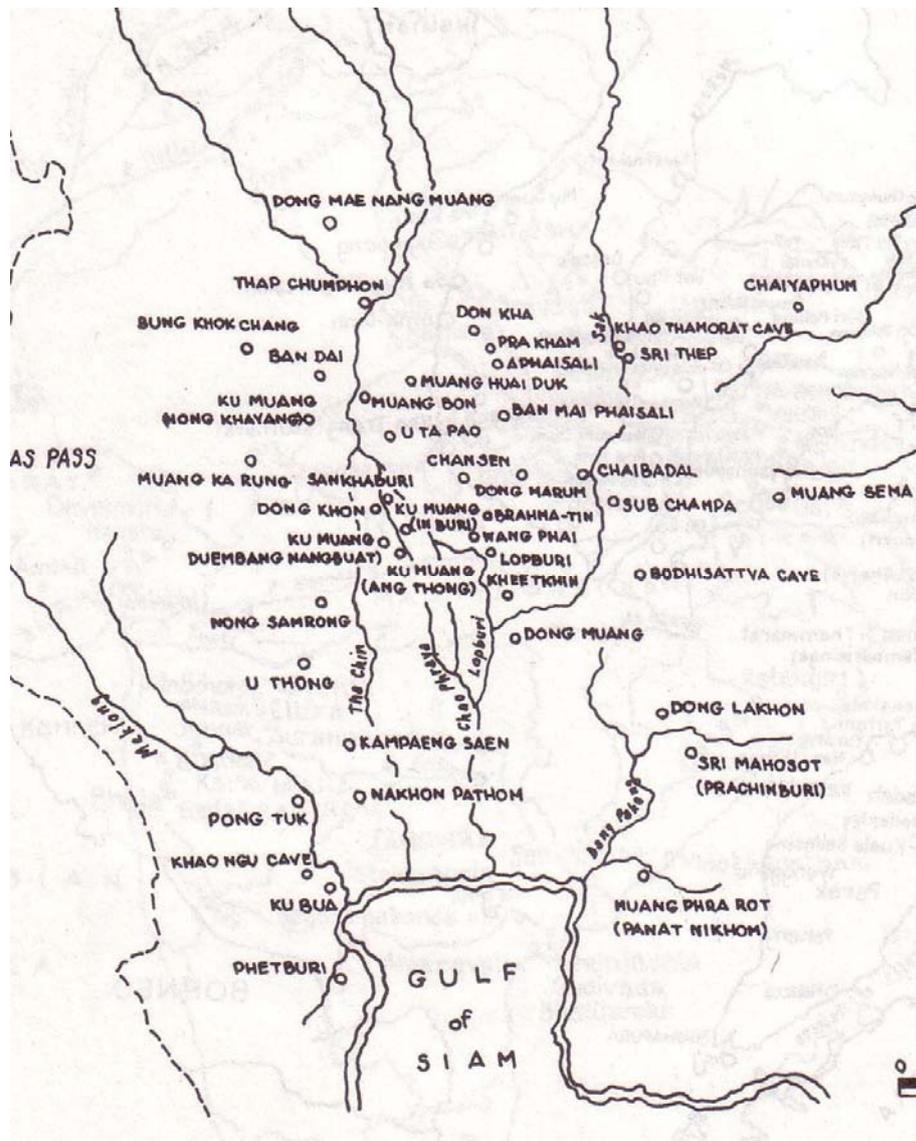


Figure 2.5: Map of the major Dvaravati sites in central Thailand.

### 2.3.2 A Dvaravati Kingdom

Early on Coedès (1929, 1-4) referred to Dvaravati as a kingdom or ‘*royaume*’, however, this term is problematic as it suggests a fully developed state in a European sense and can lead to misconceptions of what the actual social and political structure was. Certain scholars following the traditional Indianisation model made further inferences from the art historic evidence. Majumdar (1955) for example, states that the area of central Thailand where Dvaravati art was found must have been directly under the influence of India and even goes as far as to say that this area, and most of Southeast Asia had been colonised, and polities such as Dvaravati and Angkor in Cambodia were direct vassal states of India. As discussed previously, this outdated view of the Indianisation model

and interpretations arising from it can be dismissed due to the archaeological evidence gathered over the past five decades.

The kingdom model rests primarily on evidence from two sites, Nakorn Pathom and U-Thong. At both sites inscriptional evidence mentions a ruler or king and has therefore led to claims that either or both of these sites were the capital of a Dvaravati kingdom. U-Thong, in Suphanburi province has a distinctly oval ground plan and a wealth of archaeological finds have been discovered at the site. These include objects such as high quality stucco work, a *dharmacakra* and the remains of numerous stupas (Indrawooth 1999; 2004). One of the most significant finds from this site is the copper plate inscription, translated by Coedès (1958) who dated it to the 7<sup>th</sup> century (fig. 2.6). Part of this inscription, according to Coedès' translation refers directly to kingship stating:

*'Sri Harsavarman, grandson of the king, Sri Isanavarman, who spread the mass of his glory, obtained the throne of lions through regular succession.'*

It has been argued by scholars such as Coedès, therefore, that this inscription is evidence of a king at U-Thong who held sway over others in the area and the inference has been made that U-Thong was the capital of the Dvaravati kingdom in the 7<sup>th</sup> century. However, challenges have been made to this claim. Brown for instance argues that this inscription may in fact represent Khmer rule in U-Thong as there are two Isanavarmans who ruled in Cambodia in and around the same time period (1996, 49-51). This, however, is unlikely as the archaeological and artistic evidence strongly argue against it. It is more plausible that a Dvaravati ruler was either related to his namesakes in Cambodia by marital or familial ties or that his choice of the same honorific title was in fact coincidental.

Mudar on the other hand, points out that U-Thong was considerably smaller than other Dvaravati sites such as Nakorn Pathom and suggests that this inscription may represent a ruler from another Dvaravati settlement taking control over U-Thong (1999, 20). While, therefore, we cannot firmly establish the exact nature of U-Thong's status at the time when this inscription was commissioned, it does provide evidence that there was a

hierarchical leadership system in place. A more plausible interpretation is that this ruler held sway over the urban centre of U-Thong and its hinterlands only.

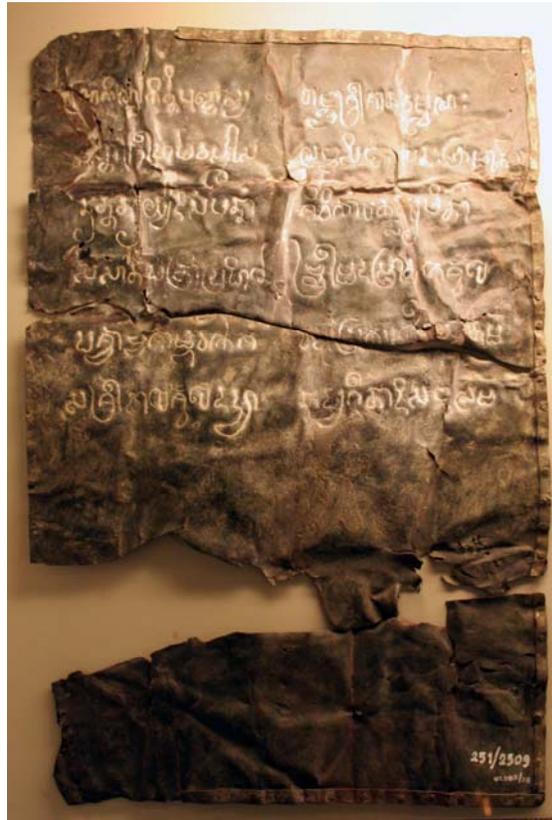


Figure 2.6: The U-Thong copper plate inscription now preserved at the U-Thong National Museum.

The other main candidate for the supposed capital of a Dvaravati kingdom is Nakorn Pathom. This arose due to its site size, the extent of its archaeological remains and the discovery of coins/medals referring to the ‘ruler’ of Dvaravati (*sri-dvaravati-shvarapunya*). Situated near the gulf of Thailand, it was well placed on the trade networks of the time and this was most likely one of the key factors in its development. Dupont’s excavation of Chula Phatton Chedi in the 1940s has provided vital evidence in terms of architectural remains and building techniques employed at this site (Dupont 1959). As well as the stupas, many significant artefacts have been found. For example, *dharmacakras* with Pali inscriptions show that the Pali canon was well known at this time (Brown 1996, 96-115) and Buddha images in stone and bronze further attest to the importance of this site, while vast quantities of Dvaravati pottery are also present.

At both U-Thong and Nakorn Pathom, therefore, there is inscriptional evidence mentioning a ruler or 'king' and this evidence confirms that there was some form of hierarchical leadership operating at the major urban centres during this period. However, if we argue that Dvaravati was a centralised kingdom, then the epigraphic evidence from these two sites appears contradictory, showing that there was a ruler at both U-Thong and Nakorn Pathom. One explanation for this is that U-Thong was originally a powerful urban centre during the 7<sup>th</sup> century. However, from the 8<sup>th</sup> century onwards as Nakorn Pathom grew in size, power shifted to this site and by the 9<sup>th</sup>-10<sup>th</sup> centuries it appears to have become the dominant urban centre in the region.

Further evidence for concepts of kingship has been discovered at sites in central Thailand. Two stone tablets (fig. 2.7), one from Nakorn Pathom and another from Dong Khon have been identified as ritual trays to be used in the sprinkling ceremony known as the *abhisecaniya* (Indrawooth 2004, 136). This ceremony is the second part of the *Rajasuya*, a royal consecration ceremony outlined in the Vedic text *The Satapatha Brahmana*. The stone tablets depict a number of royal insignia, such as flywhisks, conch shells, *vajra*, royal parasols and elephant goads. Both tablets have a small circular central depression which may have held the water for the ceremony. Additional evidence for the *Rajasuya* comes in the form of ivory or bone dice found at Nern Makok in Lopburi. The last part of the *Rajasuya* consists of the king playing a game of dice and it has been suggested that those discovered at this site may have served this purpose (Indrawooth 2004, 136). Finally coinage provides more evidence that Dvaravati had adapted ideas of Indian state and kingship. The coins often had images such as the conch or the *srivatsa* (the abode of the goddess Sri) on their inverse side (fig. 2.8), and stone coin moulds found at Chansen show depictions of a sun symbol (Indrawooth 2004, 133).



Figure 2.7: Stone tablet from Nakorn Pathom used in the *abhisecaniya* ceremony.



Figure 2.8: Dvaravati coins showing a conch design (left) and *srivatsa* motif (right).

### 2.3.3 Polities and City States

The idea that Dvaravati was a centralised kingdom has been repeatedly challenged in recent years. Attempts to understand settlement patterns and their distribution have tended to favour interpretations that see Dvaravati as a more de-centralised political phenomenon with perhaps various power-bases located around urban centres or polities throughout the region. Therefore, it has been argued that we should view Dvaravati as a

collection of early city-states sharing a common material, artistic and religious culture. Mudar's analysis in particular favours this interpretation.

Mudar's study looks at moated sites within central Thailand (Mudar 1999). By measuring their size and agricultural catchment area she calculates the approximate population of each site and the amount of food each could produce. She then looks at which sites have population levels larger than their food production levels and infers that sites that cannot produce enough of a surplus must therefore obtain it from elsewhere. She then organises sites into a settlement hierarchy. At 602 hectares Nakorn Pathom is the only site to fit within the top bracket as a primary centre while two other sites, Suphanburi and Praaksrigacha fall into the second category. Mudar then further organises the sites into an administrative hierarchy with Nakorn Pathom once again being the only site to fall within the top bracket classified as a 'supra-regional centre'. Significantly, U-Thong falls into the third level as a 'district centre' which counters earlier arguments that it was the capital of a Dvaravati kingdom.

The results of Mudar's study show that there was a definite need for interdependence among the sites of central Thailand during the Dvaravati period. Whether this interdependence was imposed from a central authority, or arose out of cooperation and necessity, remains unanswered. Furthermore, the study shows that by the 10<sup>th</sup> century Nakorn Pathom was by far the largest site, strongly suggesting that while it may not have been the capital of a centralised state, it must certainly have been one of the most influential and powerful urban centres within the region. Political power and influence could have shifted over time between the sites, and as stated previously this may explain U-Thong's apparent dominance in the 7<sup>th</sup> century and later decline.

The study of settlement patterns and environmental/geographical factors also suggests that there may have been an upper/lower Chao Phraya Basin divide and that different city states may have held sway in the different areas. While Nakorn Pathom and U-Thong represent key sites in the lower Chao Phraya Basin, in the upper Chao Phraya the site of Sri Thep appears to be culturally and perhaps politically dominant. It appears that the lower Chao Phraya basin controlled access to the lucrative maritime trade routes and it is likely that the majority of their wealth came from this source. Sites in the upper

Chao Phraya on the other hand would have benefited from control of the inland river systems and trade as well as the considerably large agricultural catchment areas.

Thai geographers Supajanya and Vanasin (1983) have proposed that during the Dvaravati period the sea levels were higher and therefore sites such as Nakorn Pathom, Ku Bua, U-Thong and Sri Mahasot were located close to or on the ancient shoreline. A certain amount of caution must be exercised in regard to the proximity of the coastline. While most Thai publications seem to have accepted Supajanya and Vanasin's proposal without question, and frequently reproduce a map of the hypothesised shoreline (fig. 2.9), the exact nature, chronological sequence and decrease in sea levels have not been sufficiently analysed or proven. It could well be that by the Dvaravati period sea levels had dropped considerably from their late Ice Age levels which would mean that sites such as Nakorn Pathom were not placed directly on the coast but could most likely reach it quickly and easily by navigatable rivers and canals. Further research into the exact nature of the sea level during this period needs to be carried out before definite conclusions or statements can be made about the location of the ancient Dvaravati coastline.

In the upper Chao Phraya basin settlements such as Lopburi and Sri Thep would have been dependent on sites such as Nakorn Pathom, Ku Bua and Sri Mahasot for access to goods and materials from the maritime trade routes. This therefore implies a certain amount of economic and commercial interaction between these major Dvaravati sites. The exact nature and extent of these economic and trading relationships are little understood at present and represents a key area for future research in Dvaravati studies.



Figure 2.9: Proposed extent of the Dvaravati ancient shoreline and location of major Dvaravati sites



Figure 2.10: The Khao Khlang Nok stupa at Sri Thep.

The settlement of Sri Thep, despite being placed well inland, flourished and became one of the largest and most fully developed Dvaravati urban centres of the period. Located in the Pasak Valley between the Chao Phraya valley and the Khorat Plateau to the northeast, it was well placed to benefit from the inland trade routes stretching from

northern, central and northeast Thailand (Jacques and Lafond 2007, 68-69). It has the characteristic Dvaravati site plan, being oblong with an interior moat. Excavations have shown that the site was occupied from the Iron Age onwards and continued to develop and flourish in the Dvaravati period (Indrawooth 2004, 132). The style and motifs on stucco work facing a number of stupas from the site is reminiscent of that found at Nakhorn Pathom and Ku Bua, while the discovery of a *dharmacakra* shows further affinities with the lower Chao Phraya basin and the Dvaravati art style. Excavations on Khao Khlang Nok mound carried out in 2008 by the Fine Arts Department in Sri Thep revealed one of the largest known Dvaravati architectural structures to date. Built almost entirely of laterite, apart from the top section which is fired brick, this stupa provides further evidence of the importance and scale of the settlement that existed here (fig. 2.10). Comparative architectural studies show there is a close resemblance with early Pala style architecture from Nalanda suggesting a 9<sup>th</sup>-10<sup>th</sup> century date (Tingsanchali 2009, 119-127).

#### **2.3.4 Expanding and Contracting *Mandalas***

A model favoured by some scholars to explain the political landscape of the period is the *mandala* concept which seems to best fit the available evidence to date and the idea of power shifting over time and loosely organised political structures. As Wolters (1999, 31) points out, this form of political organisation was clearly in use in 14<sup>th</sup> century Ayutthaya, and Winichakul (2004 [1994]) demonstrates that the Siamese government still functioned along similar lines until at least the reigns of kings Rama III and IV in the early to mid-19<sup>th</sup> century. However, while these insights are useful, caution must be taken when attempting to project this system back approximately seven hundred years.

The question of state formation and concepts of how early polities may have been organised and functioned has been a major area of study for both archaeologists and anthropologists alike for over a century or more (Wright 1977, 379). A brief review of these concepts can help situate the indigenous *mandala* concept within the larger theoretical framework of research into the origins of the state. Anthropologists such as Wright (1978) for example sought to create models and theoretical frameworks to understand the process of state formation. Essentially, he attempted to explain how political and economic structures of non-state societies such as 'chiefdoms' evolved into

early states (Parkinson and Galaty 2007, 114). Other scholars have attempted to identify key characteristics of state-level polities such as the control of economic and social administrations through delegation to specialised officials (Feinman and Marcus 1998). Feinman and Marcus (1998, 7) have also attempted with some success, to come up a consensus of criteria for defining 'archaic states' which include aspects such as; a four-tiered settlement hierarchy, three or more decision-making levels, an ideology of stratification and descent that separates rulers and the elite from commoners, the formalisation of a ruler's official residence as a 'palace' and a government that employs legal force and governmental laws and the ability to enforce them. These criteria therefore form a useful 'checklist' against which to measure state formation in general. However, as Parkinson and Galaty (2007, 116) have pointed out, all the above theories still hold to the basic premise of hierarchical organisation and political stratification as a key indicator of state formation. Some archaeologists have tried to move away from this strictly hierarchical approach and instead propose more heterarchical concepts (Crumely 1995). In a Southeast Asian context a number of archaeologists have begun to consider this possibility and have started integrating heterarchical approaches in their works (White 1995; O'Reilly 2000; Onsuwan Eyre 2010).

Perhaps the closest parallel to the *mandala* concept, however, is Renfrew and Cherry's (1986) Peer polity interaction theory. In Renfrew's own words, 'Peer polity interaction designates the full range of interchanges taking place (including imitation and emulation, competition, warfare, and the exchange of material goods and information) between autonomous (i.e. self-governing and in that sense politically independent) socio-political units which are situated beside or close to each other within a single geographical region, or in some cases more widely' (1986, 1). This framework of analysis avoids placing stress on relationships of dominance and subservience between societies or polities. Peer polities, according to Renfrew (1986, 2) are individual political units that are independent. However, this autonomy can be lost if one of the peer polities becomes dominant and extends its rule over others, perhaps eventually uniting many independent entities and thus forming a single larger unit. In this situation therefore, we no longer have peer polities but instead, depending on the context, a civilisation, kingdom, empire or nation-state etc. Renfrew also emphasises that structural similarities between peer

polities such as common language, religious beliefs, architecture and art are the result of interactions that have taken place between them over long periods of time (1986, 5).

While these general theories of state formation help in the conceptualisation of certain aspects of early polities, this thesis prefers to use the indigenous model of the *mandala* to explain this phenomenon in the Khorat Plateau specifically because of its regional origins. That said, anthropologically based approaches such as those outlined above regarding issues such as state formation and the peer polity interaction are avenues of investigation that are becoming more viable to Dvaravati studies, particularly with the increase in archaeological excavations of moated sites. The application and testing of these models may therefore be a beneficial line of enquiry for future research.

The *mandala* system comprises of a centre whose power and influence then spreads outwards in an ever-increasing circle. The centre, usually a large town or city, would contain the ruler's palace and government institutions. However, the further away from the urban centre the lesser the power of this centre would become. The limits of a *mandala* could be constantly in flux, expanding and contracting over time depending on the relative strength or weakness of the centre and its ruler. The centre could also incorporate other *mandalas* if it became powerful enough and reduce them in effect to vassal status. However, this situation could quickly be reversed if the centre weakened and the vassal managed to gain in strength and take over its former masters.

Tambiah (1976, 103) argues that this Indianised form of government could only have taken hold in Southeast Asia because the indigenous conditions and social practices favoured its incorporation. Brown therefore looks at inscriptional evidence from 7<sup>th</sup>-8<sup>th</sup> century Cambodia and Thailand to test the *mandala* model and argues that the data fits the picture of states that are constantly expanding and contracting (1996, 10).

Furthermore, he argues it provides some clues as to how and why Dvaravati art spread as far and wide as it did, stating that with a *mandala* system of government, 'There would be an impetus to spread this art to the surrounding polities as an expression of the ruler's control. In addition, if there was a concomitant local concern in copying the centre, there would be an equal interest by the local ruling elite to mimic the art of the centre. One might expect the art thus to be a fairly widespread, mutually intelligible

symbol...’ (Brown 1996, 10). Furthermore, the royal insignia on coinage suggests that it functioned as more than just a common means of exchange and may in fact have been used by more powerful rulers to express economic or political control over other less powerful urban centres. Brown’s assertion is similar in terms to Renfrew’s ‘symbolic entrainment’ concept (1986, 8) which proposes that there is a tendency for a developed symbolic system to be adopted when it comes into contact with a less-developed one.

The evidence discussed above outlines the possibility of a Dvaravati *mandala* system functioning within central Thailand from the 6<sup>th</sup>-9<sup>th</sup> centuries CE. Based around key sites such as Nakorn Pathom, Sri Thep and U-Thong, the Dvaravati *mandala* could have expressed and reinforced the concept of kingship through religious ideology and ritual. Objects such as *dharmacakras* and Hindu rituals such as the *Rajasuya* ceremony would have functioned to reinforce the legitimacy of the ruler. In terms of its extent it appears that this loosely organised Dvaravati *mandala* was functioning in central Thailand. Similar political arrangements seem to have been also present on the Khorat Plateau explaining to a certain extent why common art styles existed between the two regions but not political hegemony (see section 2.6 and chapter 4).

While there is still debate over what the actual nature of the Dvaravati political entity was, there is now considerable agreement as to its chronological and geographical extent. On epigraphic and archaeological evidence the Dvaravati political entity appears to have come into existence in central Thailand sometime in the 6<sup>th</sup> century CE and flourished until the late 7<sup>th</sup> or early 8<sup>th</sup> centuries. After that it appears to have waned and by the mid-8<sup>th</sup> to 9<sup>th</sup> centuries it has totally disappeared from epigraphic records and Chinese historical sources (Skilling 2003, 102). Wicks further notes that the Dvaravati numismatic tradition goes into sharp decline in the late 8<sup>th</sup> or early 9<sup>th</sup> centuries CE (1992, 157). Therefore, we can state that the Dvaravati political entity spanned the 6<sup>th</sup>-9<sup>th</sup> centuries and was restricted to central Thailand, particularly around the areas of the lower and upper Chao Phraya Basin. As is shown in the following sections, Dvaravati art, culture and settlement types continue up until the 11<sup>th</sup>-12<sup>th</sup> centuries and span a wider geographical area than central Thailand alone.

The idea that Dvaravati was a centralised kingdom has been largely disproven over the past two decades. The evidence instead points towards seeing it as a grouping of urban centres whose influence, control and interaction with each other shifted and changed over time with perhaps no one site ever gaining complete political and economic domination over the others. At times, certain city states may have entered into political or economic alliances with each other or at other times, more powerful urban centres may have reduced others to vassal status. Unfortunately, without substantial epigraphic evidence it is impossible to re-construct these types of relationships in any great detail. Further research into settlement patterns and the extent and forms of economic exchange should however, cast more light on this issue. Five main sites do, however, stand out as plausible major power centres during the period. In the lower Chao Phraya Basin they are Nakorn Pathom and U-Thong, in the upper Chao Phraya Basin there is Sri Thep while on the Khorat Plateau there is Muang Sema in the Mun river system and Muang Fa Daed in the Chi river system. These five sites therefore, were most likely the major centres around which to a certain extent, the other sites revolved. Viewing inter-site relationships using the *mandala* concept at present forms the best political model to fit the existing evidence.

## **2.4 The Dvaravati Art Style**

The concept of a Dvaravati art style originally came about in 1926 with the publication of *Monuments of the Buddha in Siam* by Prince Damrong Rajanubhab (1973 [1926]) as part of his formulation and classification of art styles in Thailand. This classification was based primarily on a group of sculptures found at Nakorn Pathom. Subsequently, this classification was further developed by Dupont (1959) and Boisselier (1975) among others, and the term Dvaravati art is today used freely in modern scholarship on the subject. The term however, is somewhat problematic and as Boisselier points out, ‘The name Dvaravati...is but a convenient designation of questionable historical significance’ (1975, 73). However, despite this statement he seems quite at ease with its use when developing and defining what this art style actually is.

In 1939 Pierre Dupont excavated the site of Wat Pra Meru in Nakorn Pathom in conjunction with the Fine Arts Department of Thailand. Out of this excavation came the

posthumous 1959 publication '*L'archeologie mone de Dvaravati*'.<sup>4</sup> This work not only discussed the excavation and its results, but also included a detailed analysis of Dvaravati art and its evolution. This analysis of Dvaravati art laid the foundations upon which all subsequent scholarship was built.

However, a challenge to these established norms came in 1977 when the Thai art historian Piriya Krairiksh, arguing along similar lines to Boisselier, stated that the linking of an art style to a particular historical period is problematic, especially when the evidence and nature of the historic period in question is so tentative. Therefore, Krairiksh (1977) instead proposes that art from this period should be defined along ethnic lines so that Dvaravati art should in fact be called Mon art, Lopburi art should be Khmer art and Srivijaya art should be referred to as peninsular art. Krairiksh was not the first to substitute the label Mon for Dvaravati. Dupont's 1959 publication for example actually uses both in the title. French scholars in particular seem to sometimes prefer the term Mon art with both Guillon (1999) and Lorrillard (2008) using this ethnic label instead of Dvaravati. In general, the term Dvaravati is favoured in most scholarship, although, at times both labels are used interchangeably. This thesis will limit itself to the term 'Dvaravati art' for the sake of consistency and also because as discussed below (section 2.5), there is no clear evidence to suggest that Dvaravati was an ethnically homogeneous Mon society.

#### **2.4.1 The Main Characteristics of Dvaravati Art**

The standing Buddha image is usually taken as the model to establish the main characteristics of the Dvaravati style as it is the most homogenous group of sculpture available. From these images, scholars such as Dupont and Boisselier created a definition of the art and a relative chronology based on stylistic changes and evolution. Some of the most striking characteristics of Dvaravati sculpture are the posture, the gestures and the drapery. The vast majority of Buddha images exhibit a perfect frontality with many of the earlier images showing a subtle sway of the hips. One of the most common *mudras* is the double *vitarka mudra* which is specific to the Dvaravati art

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<sup>4</sup> A 2006 English translation of this work has been produced by Joyanto K. Sen under the title *The Archaeology of the Mons of Dvāravatī*. While this is a welcome development in terms of vastly increasing the accessibility of this work, caution must be taken to a certain extent when using this edition as the translator has added his own 'corrections and updates' to Dupont's work which sometimes seem at odds with the original. The translation of the title of the work is a case in point.

style (fig. 2.11), and apart from a few examples of Lopburi period art it is not found in any other period or style of Thai, Indian or Southeast Asian art. The exact iconographic meaning or reason for the double *vitarka mudra* remains elusive but does point to a degree of originality amongst the Dvaravati artists.

Dvaravati Buddha images usually have an asexual quality, while the faces have a very particular stylisation, which Boisselier suggests may have been derived from local ideas of beauty (1975, 76-81). This stylisation includes a broad face with a flat nose and thick lips, elongated eyes which can be sometimes joined by curved lids, and clearly defined eyebrows that join in a sharp ridge which forms an arc with a triple curve. The hair of Dvaravati Buddhas is often depicted as thick heavy curls, while the *ushnisha* is either shaped like a truncated cone or is hemispherical (fig. 2.12). It can sometimes also be surmounted by a very small conical flame.

In terms of the attire, it is usually smooth and highly stylised, sometimes having a diaphanous quality which emphasises the asexuality of the images. The flap of the robe can be held in the left hand and the two edges on the back of the *uttarasanga* form two bunches of identical folds. The front edge is rounded off and reveals the lower part of the *antaravasaka*. In earlier images the waist is only depicted by a stroke or slight bulge while in later images the belt is clearly depicted. This creates a characteristic u-shaped robe which drops to just above the ankles revealing the bare feet of the Buddha (fig. 2.11). The attire of bronze images are somewhat different, with the right shoulder usually left uncovered and may represent a somewhat different tradition.



Figure 2.11: Dvaravati Buddha image from Sri Mahosot.



Figure 2.12: Detail of the facial features of a Dvaravati Buddha image.

While the standing stone Buddha image is considered the signature piece of Dvaravati art, bronze sculptures also represent a significant element in the classification of the style. Being more varied and innovative than their stone counterparts they perhaps represent a better indication of the creativity and artistic sensitivities of their creators. As Lee (1956) points out, bronze sculpture in first millennium CE Southeast Asia shows

more regional variation and deviation from Indian prototypes than those produced in stone. This may have more to do with the medium than anything else, with bronze allowing for more ease in experimentation and expression.

Stucco and terracotta mouldings are another medium in which Dvaravati art excelled. The stuccowork from sites such as Ku Bua and Sri Thep, along with the terracotta mouldings from the Chula Pathon stupa at Nakorn Pathom (fig. 2.13) show a high level of naturalism and grace which provide stark contrast to the austerity of some of the stone Buddha images. Functioning primarily as architectural embellishments and decoration, these images would have added refinement and grace to stupa exteriors. The terracotta *jataka* plaques from Nakorn Pathom could also have served a didactic purpose as suggested by their subject matter.

In terms of Indian influence on the art of Dvaravati, Dupont (1959) was the first scholar to carry out a detailed analysis of the links between it and the Amaravati, Gupta and Post-Gupta art of India. Gosling also highlights Singhalese influence with architectural studies and the flaming nimbus on certain images point towards Pala origins (2004, 66-83). Amaravati influence can be seen in the style of the drapery and there is strong Gupta/Post Gupta influence seen in elements such as the thick, ringlet hair curls of the Buddha (fig. 2.14), the holding of the robe in the left hand, and the compositional arrangement of the wheel of the law which is flanked by two deer at the base of seated Buddhas. However, Dvaravati art is no mere derivative of its Indian predecessors. The enigmatic beauty etched on the faces of the stone Buddha images matched by the direct frontality of their bodies represents a creation unlike any other. It is the beauty and power of this art style that has allowed it to leave such a distinctive mark on many later Thai styles.

Dupont identified three non-Indian characteristics which appear to be unique to Dvaravati. The first of these characteristics involves the monastic robe. Despite being similar in many ways to the Gupta and Post-Gupta style, its tightly-clinging appearance produces a diaphanous effect and gives the Buddha image's body an androgynous, asexual look that is unique.



Figure 2.13: Stucco work depicting the *Surupa Jataka* from Chula Pathon Chedi, now preserved in the Nakorn Pathom National Museum.



Figure 2.14: Gupta period Buddha image from the British Museum.

The second feature is in regard to the eyebrows, which usually join above the bridge of the nose while the third feature once again concerns the robe. In contrast to Gupta or Post-Gupta images in which the robe is held in the left hand with the right hand performing a *mudra*, Dvaravati Buddha's are sometimes depicted with both hands performing a double *vitarka mudra*.

Dupont proceeded to devise a relative chronology by dividing Dvaravati images into groups ranging from A-Q. Groups A and B are the earliest, dating from the late 6<sup>th</sup> -7<sup>th</sup> century. Group C dates from the 8<sup>th</sup> century to the late 10<sup>th</sup> to early 11<sup>th</sup> century. Groups D-J are variations of group C while groups K-Q discuss images cast in bronze. As stated previously, this analysis by Dupont formed the basis of all further study on Dvaravati art. This in turn influenced the ways and means by which the art of sema was analysed, with scholars attempting to place the narrative scenes of sema within this framework. This thesis also considers and draws upon the insights and classifications proposed by Dupont when discussing the art on sema, however, it does not follow this model verbatim but instead uses it as a starting point from which to build its own interpretation.

Later works on Dvaravati art tend to a large extent to follow this basic chronological outline. Woodward for instance, divides Dvaravati art into three phases, the early phase, 6<sup>th</sup>-7<sup>th</sup> centuries, the middle phase 8<sup>th</sup>-9<sup>th</sup> centuries where he argues for influence from Bengal (Pala style) and the late phase, 10<sup>th</sup>-11<sup>th</sup> centuries where we begin to see clear Khmer influence (1997, 50-52). Thai literature on the subject also expounds this basic model of early, middle and late stages and follows the same date ranges and sources of Gupta, Post-Gupta and Khmer influence respectively.<sup>5</sup>

One of the most striking religious objects unique to this culture is the *dharmacakra*, or wheel of the law (fig. 2.15). Found at the majority of Dvaravati sites, these three-dimensional stone sculptures were raised on a pillar (*stambha*) and held in place by a socle. The pillar was usually flanked on either side by a pair of deer. Iconographically, these wheels represent the first sermon of the Buddha which took place at the deer park in Sarnath. With this sermon, the Buddha set the wheel of the law in motion with the

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<sup>5</sup> For the most up-to-date publication in Thai language see Sukchai Saising (2004).

*dharmacakra* therefore symbolising both the beginnings and continuation of his teaching through the Buddhist *sangha*.

In his seminal work on the subject, Robert Brown (1996) points out that the significance of the *dharmacakra* was not just religious but political. He argues that the ruler's power would be maintained not only through military means but also through the use of symbolism and religion (1996, 10). *Dharmacakras* therefore, may also in some way suggest the *Cakravartin* concept, that is a universal emperor or divine Buddhist king. If so, these wheels of the law could have an equal amount of political as well as religious significance.

*Dharmacakra* are primarily a phenomenon of central Thailand with only a small number being found outside this region. Two have been discovered to date in Southern Thailand, one in stone from Chaiya and one in terracotta from Nakorn Sri Thammarat (Jacq-Hergoul'ch 2002, 148). In the Khorat Plateau they appear in two locations. At Muang Sema a *dharmacakra* wheel was found while at Bahn Po Chai (L18) in Khon Kaen province a possible *dharmacakra stambha* was found at the same location as a group of sema (fig. 2.16). Considering the proliferation of these objects at sites in central Thailand their relative absence in the Khorat Plateau is conspicuous, although it should be point out that they do appear as relief carvings on a number of sema (see chapter 5.10).



Figure 2.15: *Dharmacakra* from Sri Thep.



Figure 2.16: Possible *dharmacakra stambha* from Khon Kaen province.

Dvaravati cave art, while not as widespread as other forms, also developed throughout the period. Usually carved in low relief it depicted religious images such as the Buddha, bodhisattvas or sometimes Hindu deities. In terms of execution and technique it is also the closest in form to that found on sema and at Thamorat cave in Sri Thep for instance

a stupa-*kumbha* is depicted in a very similar fashion to those found on sema (See chapter 5.9).

In conclusion, Dvaravati art exhibits a level of uniformity of common elements and features to be legitimately considered an art style in its own right. Having its origins in Gupta/Post-Gupta, Pala and Amaravati art, it quickly developed its own distinct features, such as the asexual standing Buddha image, its own distinct iconography, such as the double *vitarka mudra* and its own distinct forms, such as *dharmacakras* and in the Khorat Plateau, sema stones. As it moved into the northeast, it began to evolve and develop further, incorporating regional features and leading to the formation of a Khorat Plateau based aesthetic. Dvaravati art also spread to peninsular Thailand as can be seen in votive tablets<sup>6</sup> recovered in the region (Chirapravati 1997, 22) and to Haripunjaya in the north.

Unlike the Dvaravati political entity that was restricted to central Thailand between the 6<sup>th</sup>-9<sup>th</sup> centuries, the Dvaravati art style spread throughout most of modern day Thailand being found as far south as Chaiya and Nakorn Sri Thammarat (Jacq-Hergoul'ch 2002, 147) and as far north as Lampun. It lasted up until the 11<sup>th</sup> century when it was finally eclipsed by the incoming Khmer. Its geographical and chronological extent illustrates the power and pervasiveness of not just the art style itself, but the religion and culture it represented. As Buddhism, and to a lesser extent Brahmanism spread throughout the region, it needed ways in which to express its ideas and concepts to the local populace. While these artistic and religious ideas originated in India, their form and nature quickly changed and grew into something new and unique as they came into contact and interacted with local beliefs, tastes and sensibilities.

## **2.5 Dvaravati Culture, Dvaravati Period**

### **2.5.1 Dvaravati Culture**

The term Dvaravati culture is used to describe various phenomena related to the term or idea 'Dvaravati' and covers areas such as religion, ethnicity, language and material

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<sup>6</sup> It should be noted that Peter Skilling (2005, 677-685) has questioned the term 'votive' and proposes using 'sealings' as an alternative. However, as the general academic consensus is to use the term 'votive' this therefore is what is employed in this thesis also.

culture. It, like the art style (which is by definition part of Dvaravati culture), spans a much wider chronological and geographical range than that of the proposed Dvaravati political entity. Dvaravati culture, is for example, found as far away as Bahn Viengkham in Vientiane province of Laos (Karlstrom 2009, 155-175) and modern day Lampun in northern Thailand. This section therefore looks at what constitutes Dvaravati culture in terms of religion, material culture and ethnicity and language.

One of the unifying factors of Dvaravati culture was its adoption of Buddhism from *circa* 6<sup>th</sup> to 7<sup>th</sup> centuries onwards. This formed the catalyst for an artistic and architectural revolution which originated in central Thailand and quickly spread outwards in all directions. Buddhism must have resulted in considerable social change as it brought with it not only literature, sacred texts and writing systems, but also new forms of thought and moral/ethical practice. The dependence of the *sangha* on the societies and communities it encountered would also have led to common forms of social interaction and religious praxis being shared throughout the areas influenced by Dvaravati culture. Buddhist religion, therefore, is one of the key components of Dvaravati culture.

Excavations and survey work carried out at sites throughout Thailand and central Laos, have, over the past thirty years or so, built up clear definitions of Dvaravati material culture. Objects show some degree of variation between sites and regions, however, their overall similarity is close enough for them to be classified as a single material culture tradition. Objects making up this culture include pottery, votive tablets, spindle whorls, terracotta oil lamps, glass, stone and gold jewelry and iron tools (figs 2.17 and 2.18).

Dvaravati ceramics incorporate forms and decorative techniques from both local and South Asian traditions and usually consist of open-fired earthenware. Cord or mat wrapped paddle impressions are common, thus showing affinities with traditions elsewhere in Southeast and East Asia. Line and wave incising or carved stamp impressions also characterise the pottery record at most sites (Bronson 1976; Indrawooth 1985, 2004). Dvaravati tools consist of distinctive styles of stone mortars and grinding platforms, clay spindle whorls, clay skin rubbers, and an assortment of

iron implements (Indrawooth 1999; 2004, 134). Objects such as large finger-marked bricks, glass, stone and metal jewelry, and silver coins are characteristic of Dvaravati assemblages but also occur at contemporaneous sites throughout Southeast Asia.



Figure 2.17: Dvaravati period terracotta oil lamp.



Figure 2.18: Dvaravati pottery with 'slot' style stamp impressions.

Based on the presence of these objects at individual sites, archaeologists have been able to identify a central area of Dvaravati material culture in the Chao Phraya basin that spread out to encompass the Khorat Plateau and peninsular Thailand. It should also be pointed out that differences and similarities in material culture do not always follow linguistic, ethnic, or political boundaries. The extent of the Dvaravati material culture, like the art style, is therefore wider than that of the political entity. Furthermore, a common material culture does not necessarily imply a common or homogenous ethnic group.

There is considerable debate, disagreement and misunderstanding as to the ethnicity and language(s) spoken by the inhabitants of Dvaravati culture. The most favoured theory is that the majority of people in central Thailand at least, were ethnically Mon and spoke Mon language. Today, the Mon are based primarily in Mon State in Lower Burma, however Diffloth (1984) has argued that the Nyah Kur people, still present to a very limited extent today in central Thailand, are the direct linguistic descendents of the Mon of the Dvaravati period.

Inscriptions in Mon language have also led scholars to argue that the Mon ethnic group was the dominant force in the Dvaravati settlements of central Thailand (Guillon 1999). While this could well be the case, it is worth pointing out that inscriptions in Mon only prove that it was one of the official and religious languages of the time. It does not prove that it was the common vernacular spoken by the majority of the population, and any statements purporting thus are no more than inferences from a very incomplete and fragmentary epigraphic record.

It appears likely that the Mon were one of the main ethnic groups in central Thailand at the time. This conclusion, however, is reached more on a lack of evidence for other ethnic and language groups than a wealth of evidence for the Mon. Without the ability to write or commission inscriptions other ethnic groups that may have been present, remain invisible to us today. This is also true of the archaeological record with it being extremely difficult and problematic to try and read ethnicity off material culture alone. We can only speculate therefore what other ethnic groups or languages may have been present.

What ethnic groups and languages were present outside of central Thailand is an even more problematic question. We cannot read ethnicity off art style and material culture alone and the fact that we find Dvaravati art and culture in the Khorat Plateau does not mean that the corresponding producers of this material were Mon. It is probable however, that those present were from Austro-asiatic groups such as the Mon-Khmer or others such as the Lawa people.

Dvaravati culture represents a distinct development characterised by predominantly Buddhist religious beliefs and a common material and artistic culture. It also shared some similarities in terms of language with inscriptions being found in Mon, Sanskrit, Pali and Khmer. However, while Dvaravati culture shows a sizeable degree of homogeneity in terms of art, material culture and religion on one hand, politically, linguistically, regionally and ethnically there are degrees of variation and plurality not yet sufficiently defined by modern scholarship.

### **2.5.2 The Dvaravati Period**

The term 'Dvaravati Period' arises out of the chronological range of the other definitions discussed above, that is, political, artistic, archaeological and cultural with the generally accepted date range spanning the 6<sup>th</sup>-11<sup>th</sup> centuries CE. The epigraphic record points to a start date of *circa* 6<sup>th</sup> to early 7<sup>th</sup> century. Analysis of the art supports this dating with the style clearly evolving out of Gupta and post Gupta precedents of the 5<sup>th</sup>-7<sup>th</sup> centuries. Inscriptions continue to be found into the 8<sup>th</sup> and 9<sup>th</sup> centuries however, they begin to gradually fade from the archaeological record after that. Dvaravati art still remains a driving cultural force into the 10<sup>th</sup> century but begins to wane in the 11<sup>th</sup> century with the ever growing Khmer encroachment. The material and archaeological record also supports the 6<sup>th</sup>-11<sup>th</sup> century time span and in recent years absolute dating techniques such as Carbon 14 and thermoluminescence dating have by and large confirmed this date range.

Barram and Glover (2008, 175-182) have recently called into question the date range of the Dvaravati period arguing for an earlier inception date. They have done so on the basis of a number of radio carbon dates pointing towards the Dvaravati period starting

from the 4<sup>th</sup> - 5<sup>th</sup> century. They also highlight comparative evidence from Cambodia, Vietnam and Burma to support their case, arguing that Buddhism and the phenomenon of Indianisation is present there from the 4<sup>th</sup>-5<sup>th</sup> centuries. They therefore question why central Thailand should be later. While, their argument highlights the need to keep an open mind in terms of an earlier phase of Dvaravati, without further and more comprehensive absolute dating from a sufficient sample of sites, at present the evidence is not sufficient to support this claim.

The term 'Dvaravati period' is one that is encountered often in the literature, particularly in Thai language, with the accepted date range conforming primarily to that of the Dvaravati art style and culture. This thesis therefore employs the term Dvaravati period to cover the time span of the 6<sup>th</sup>-11<sup>th</sup> centuries CE.

## **2.6 Dvaravati and the Khorat Plateau**

The Khorat Plateau as defined in this thesis encompasses the regions of northeast Thailand and the lowland areas of Vientiane and Savannakhet provinces of Laos and to this day remains a distinct cultural and geographical region.<sup>7</sup> Despite this fact many works on the art and archaeology of the Khorat Plateau view it not as a region in its own right, but instead as either a derivative of the Dvaravati culture based primarily in central Thailand or as an outer province of the Khmer Empire. Brown for instance (1996, 19-45) argues that the Khorat Plateau was an interface between the Khmers and Dvaravati and in doing so unintentionally reduces the region to a passive go-between caught in the middle of two 'great civilisations'. Diskul on the other hand, looking from the viewpoint of central Thailand and not even visiting the Khorat Plateau wonders how Dvaravati culture could have even reached such a location as Muang Fa Daed (Diskul 1954). Subsequently, interpretations of the art and culture of the Khorat Plateau, and in particular sema, have been explained in terms of Dvaravati influence from central Thailand and Khmer influence from Cambodia (see chapter 3.7). However, if looked at as a region in its own right the Khorat Plateau reveals a number of distinct cultural, religious and artistic expressions, not least of all the tradition of sema stones. The prehistoric archaeological record from the early Bronze Age onwards also supports this

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<sup>7</sup> The geography of this region is discussed in detail in chapter 4.1.

viewpoint and depicts a region that developed its own traditions and characteristics while also showing a certain degree of interregional variation (White 1995). The Khorat Plateau therefore, should be seen as a region that incorporated aspects of Dvaravati and Khmer culture while at the same time developing a distinct identity of its own.

As discussed in section 2.3 above the nature of Dvaravati political organisation is one that cannot be precisely defined, however, it seems clear that the polities of central Thailand did not exert any form of direct control over the Khorat Plateau and it is more plausible that as Buddhism spread into this region it brought with it the Dvaravati art style and aspects of its culture. The archaeological record from the Khorat Plateau also shows that the region adopted many of the material forms common to central Thailand, particularly in terms of pottery styles and construction materials such as finger-marked bricks. The two largest sites in the region, Muang Fa Daed and Muang Sema most likely functioned along similar political and economic lines to settlements such as Nakorn Pathom and Sri Thep. They were both located at key locations in the Chi and Mun river systems respectively and therefore, could have exerted considerable economic and political influence over these key routes of communication and surrounding settlements.

Khmer presence on the Khorat Plateau is however, less pervasive and while they left monumental stone temples which are still very visible in the landscape today, their effect on the material culture was far less pronounced than that of Dvaravati. Pre-Khmer presence comes in the form of the early state of Chenla which most scholars agree was based in the southern part of the region along the Mun River (Higham 2002; Vallibhotama 1990). It is in this southern region that the Khmers asserted their greatest influence from the 10<sup>th</sup> century onwards. The earliest Khmer presence comes from Surin province in the form of a 6<sup>th</sup> century inscription set up near Ta Muen and temples such as Prasat Phumphon dating from the 7<sup>th</sup> century (Siribhadra & Moore 1992, 25). There is no clear sign of Khmer political control in the 8<sup>th</sup> to mid-9<sup>th</sup> centuries and no temples were built in the region during this period. It is not until the late 9<sup>th</sup> to early 10<sup>th</sup> century under the reign of Rajendravarman II (944-968 CE), that substantial control was exerted over the northeast and it was from this period onwards that the majority of temples in the Khorat Plateau were built. However, Khmer control still seemed to be primarily restricted to the Mun River region (fig. 2.19) with Phimai, for example becoming part of

the Khmer kingdom sometime in the early 10<sup>th</sup> century (Woodward 1999, 76). By circa the 12<sup>th</sup> century, a royal road had been firmly established and ran directly between Phimai and Angkor, thus strengthening the Khmer ties to the region (www.larp.crma.ac.th). Areas such as the Chi river system and the Middle Mekong on the other hand, still exhibited strong Dvaravati cultural traits in the 10<sup>th</sup> and to a lesser extent 11<sup>th</sup> century. As is shown in chapter 4, the sema tradition flourished primarily in the area of the Chi river system from the 8<sup>th</sup>-10<sup>th</sup> centuries and seemed quite independent of Khmer influence. By the 11<sup>th</sup> centuries and for most of the 12<sup>th</sup> the entire Khorat Plateau, and all of central Thailand for that matter, came under Khmer political control. Lopburi served as the seat of overall Khmer control with Phimai also developing into an important regional centre. This period of Khmer domination is also reflecting in the sema tradition as from the 11<sup>th</sup>-12<sup>th</sup> centuries, Khmer style art begins to be depicted on these objects (see chapter 5).

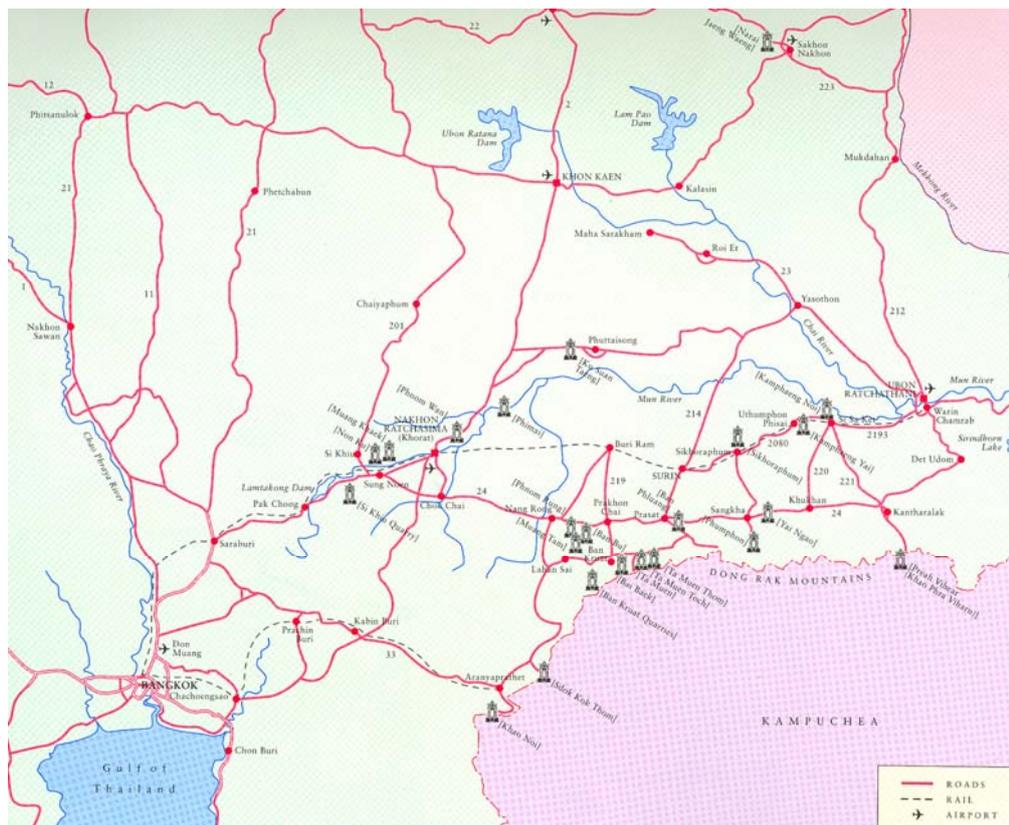


Figure 2.19: Map showing the location of Khmer temples in the Khorat Plateau with most being located along the border with modern day Cambodia or the Mun river system.

Khmer art differs from that of Dvaravati in a variety of ways. Sculptures in the round usually depict Hindu deities dressed in a *sampot* while bodhisattvas and female deities

are shown in a *dhoti*. Vishnu is usually depicted with a cylindrical mitre while Buddha images seated under *nagas* or on lintels are usually shown with a conical crown. An incised moustache is another detail that while common in Khmer art, never appears in Dvaravati. Lintel carving is another area in which the Khmers excelled and this art form seems to have directly influenced the 11<sup>th</sup> century sema carvings of Bahn Nong Kluem and Bahn Pailom (see chapter 5). Dvaravati art did however, have some influence on the Khmer. Standing Buddha images from the 8<sup>th</sup>-9<sup>th</sup> centuries onwards show the characteristic Dvaravati u-shaped robe, thick hair-curls and *vitarka mudra*. Seated Buddhas under the *naga* also seem to have spread to the Khmer Empire from central Thailand, via the Khorat Plateau.

Despite the competing influences of the Khmer and Dvaravati, it is shown throughout this thesis, that the Khorat Plateau developed its own aesthetic and religious culture that blended the traits of its eastern and western neighbours with its own. This is best illustrated in a number of objects and stylistic modes discussed below.

The *drápe-en-poché* is a stylistic variation in the robe that was first commented on by Diskul (1954) and Wales (1969). Both saw this as a borrowing from the Khmer, however, it is better to understand it as a trait specific to the Khorat Plateau as the form depicted in this region does not appear in Khmer art of any period. Essentially this term describes how the robe is tucked in at the waist and appears under the belt in two separate folds, forming a kind of pocket above. Another characteristic of depictions of the *drápe-en-poché* is that the robe flares out to the right in a triangular-shaped design (fig. 2.20). This type of robe configuration, where the folds create a pocket is never encountered in Dvaravati art of central Thailand and while it appears in Khmer art it is never accompanied by the flared robe (fig. 2.21). This form of *drápe-en-poché* should therefore be considered unique to the Khorat Plateau.

Another characteristic of the Khorat Plateau aesthetic is the depiction of bodhisattva with thick matted hair. This is seen on a number of depictions on sema and also from sculptures of the Prakorn Chai hoard. It is somewhat similar, but less rigidly stylised than the chignon of Shiva in Khmer art known as a *jata* and bodhisattvas shown with matted hair is a common motif throughout South and Southeast Asia. However, the

style of the depiction of this hairstyle in the Khorat Plateau is distinctive enough to warrant its classification as a particular stylistic trait.



Figure 2.20: *Drápe-en-poche* and flared robe depicted on a sema from the Khorat Plateau.



Figure 2.21: Standard depiction of a Khmer *sampot*.

The unearthing of the Prakorn Chai hoard in Buriram province in 1964, a group of well over 200 bronze sculptures that were quickly looted and subsequently entered the international art market, marks a significant discovery for the understanding of the art being produced on the Khorat Plateau. The find-spot was located at Plai Bat Hill, the site of two 10<sup>th</sup> century Khmer temples, Prasat Plai Bat 1 and 2 (Woodward 2005, 105). What is interesting about these bronzes, is that they represent a fusion of Dvaravati and Khmer art. The Maitreya image from the Rockefeller collection for instance (Woodward 2005, PL. 26) has the matted hair similar to that found on some bodhisattvas on sema, the classic Khmer moustache and a *sampot* in the style of the Vishnu stone sculpture found at Sri Thep. The sculptures were made with a relatively high tin composition of 14-20 percent representing a high level of craftsmanship (Woodward 1997, 66-7) and some of the images probably reached over 2 metres in height as evidenced by a head of a bodhisattva in the National Museum, Bangkok. The dates of these sculptures have been hard to ascertain however, a range of between 8<sup>th</sup>-12<sup>th</sup> centuries seems possible (Chutiwongs & Patry Leidy 1994).

Interestingly, three further bronze images from Bahn Fai, a Dvaravati period site also in Buriram province are on display at the National Museum, Bangkok. One is an image of the Buddha in double *vitarka mudra* while the other two are depictions of the Bodhisattva Maitreya. Stylistically, they are extremely similar to those belonging to the Prakorn Chai hoard and must therefore belong to the same tradition.

The final group of sculpture that make up part of the Khorat Plateau aesthetic are Buddha images in *parinirvana* posture. During the Dvaravati period these images seem particularly popular in this region and are usually found carved into hill and mountainsides such as those at Wat Doi Thepharat temple in Sakon Nakhon province (fig. 2.22) and Wat Phu Kao Poottimid temple, Bahn Soksai in Kalasin province. Also at Muang Sema an 11m Buddha in *parinirvana* has been sculpted in the round while at Phnom Kulen another image of this type has been carved into the rock and is most likely contemporary with the sema found approximately 5 kilometres away. In central Thailand, the Buddha in *parinirvana* is not usually encountered in this period and it therefore seems that the depiction of the moment of Gotama's passing is particular to the Khorat Plateau at this time.

Finally in terms of the art on sema themselves, the Khorat Plateau aesthetic, unlike later periods of art in Thailand, did not suffer from a chronic case of *horror vacui*. Instead it seems quite at ease in depicting images of the Buddha, narrative art or stupa-*kumbha* motifs against a plain background and felt no need to embellish the stones. This then, is another key characteristic of the art of this region.

The Khorat Plateau is a region that developed its own culture, traditions, art style and religious practices vis-à-vis its two powerful neighbours. A Khorat Plateau aesthetic can be seen in motifs such as the *drápe-en-poché*, iconography such as the Buddha in *parinirvana*, and the exceptional quality of the Prakorn Chai bronzes. Sema in particular, represent a key aspect of this region's material, religious and artistic culture and should be analysed from this perspective. That said, the influence of Dvaravati art and culture on these objects needs to be acknowledged and the analysis of connections between the Khorat Plateau, central Thailand and to a lesser extent, southern Thailand, can prove extremely fruitful. An understanding of how Khmer culture, art and political control came to affect the region is also a necessity. What is being argued here, therefore, is a shifting of perspective away from the idea that the Khorat Plateau was a peripheral zone, to seeing it as a region in its own right. It is not an argument against seeing Dvaravati and Khmer influence within the region. This in turn allows sema to be viewed, discussed and interpreted within their geographical and cultural context.



Figure 2.22: Buddha in *paranirvana* from Wat Doi Thepharat temple.

## 2.7 Summary

This chapter has discussed the definitions and evidence for Dvaravati in order to provide the cultural, artistic, political and archaeological backdrop within which the analysis of sema takes place. The chapter has shown that politically, Dvaravati was restricted to central Thailand, and this is an important factor when considering the influences at play in the evolution of the sema tradition. The absence of the centralised Dvaravati kingdom meant that while Dvaravati culture and art spread into the Khorat Plateau via trade, economic activity and establishment of Buddhism, it was free to be appropriated and shaped in any way the local populace saw fit. Consequently the influences that helped to shape and define the sema tradition were not imposed from a central power but selected and adapted from within the Khorat Plateau environment.

It also becomes apparent that the Dvaravati political structure was one based around a *mandala* system. Certain power centres such as U-Thong, Sri Thep and Nakorn Pathom would have directly controlled the surrounding areas of their cities and indirectly exerted power further afield by means of vassal/tributary arrangements. These arrangements and power relations could change over time, resulting in a shifting and fluid political landscape. In the Khorat Plateau similar political structures seem also to have been in place. Large sites such as Muang Fa Daed and Muang Sema must also have had considerable political reach and influence. As will be shown in the following chapters, these centres also have considerable artistic influence particularly in regard to the sema tradition.

This chapter has also reviewed the salient features of the Dvaravati art style as this forms the basis for understanding the artwork on sema. The means by which this art style was arrived at, its main characteristics and traits have been discussed so that they can be compared to those found on sema. The chronology of the Dvaravati art style has also been outlined to aid in the understanding and analysis of dating sema.

As sema have by and large been viewed as part of a larger Dvaravati culture, a clear picture of what this is has been presented so it can subsequently be contrasted against the sema tradition. A distinctive material culture, the presence of Buddhism, the

Dvaravati art style and oblong site plans all make up parts of this phenomenon. The idea of a Dvaravati period accepted as spanning the 6<sup>th</sup>-11<sup>th</sup> centuries, a prevalent and particularly entrenched concept in Thai scholarship, has been defined in this chapter to provide the chronological framework within which sema are placed.

In conclusion, it is argued that a shift in perspective is required for the study of sema. These objects and the religious tradition they represent are a unique expression of the Khorat Plateau and occur in this region before any other. The tradition drew on the Dvaravati art and culture from central Thailand and the Khmer civilisation to the east. In doing so it developed its own distinctive art style best described as a Khorat Plateau aesthetic which possesses a number of traits such as the *drápe-en-poche* and the matted hair styles of bodhisattva that are unique to the region. As is shown in chapter 5, these traits are characteristic features of the artwork in sema.

In order to fully understand the development, significance and aesthetic of sema we must do so from within the context in which they arose and this viewpoint is developed further in the next four chapters. In short, the Khorat Plateau is only a periphery if we chose to stand outside of it.

## Chapter 3

### Defining the Sema Tradition

This chapter defines the sema tradition from four angles, textual, epigraphic, archaeological, and in regard to their re-use today. In doing so it builds a succinct picture of what sema are, how they function in religious contexts and how they are classified and identified in the archaeological record. This definition then acts as the basis for the subsequent analysis of sema in this thesis. After this, the chapter undertakes a review of all literature to date specifically on sema published in Thai and European languages. In doing so it not only shows how sema have been defined in the existing literature, it also illustrates the prevailing opinions, theories and assumptions currently held about sema. Furthermore, it traces the origins and development of these ideas, showing how a number of them have become generally accepted despite a lack of clear evidence to support them. As a number of these opinions and assumptions are challenged in this thesis, an overview and awareness of how they arose is essential.

#### **3.1 Origins of the term ‘sema’**

Sema stones, or Buddhist boundary markers as they are often referred to in English, are essentially objects placed in a given pattern or formation as to demarcate certain types of Buddhist sacred space. These areas of sacred space may be an entire monastery, a particular building within the monastery or other religious areas such as a forest dwelling. Nowadays they are common throughout the majority of Theravada Buddhist countries of Southeast Asia including Thailand, Laos, Burma and Cambodia with sema usually being erected in sets of eight or sixteen. However, in the Dvaravati period there appears to have been no fixed number with some sites setting up as many as twenty-four sema. Also manuscripts from the 19<sup>th</sup> century Wat Suthat Dhepararam temple in Bangkok (fig. 3.1) show semas consisting of three, four or seven stones to demarcate the sacred space (Paknam 1997, 60). Therefore, while today the most common practice is to use sema in sets of eight, this is not the only accepted method to create sacred space.

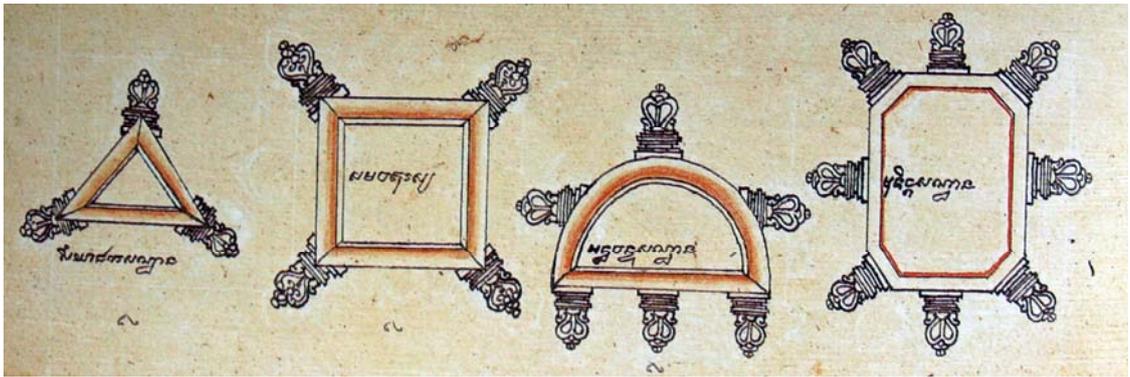


Figure 3.1: Manuscript from Wat Suthat Dhepararam showing four different configurations to create a *sima*.

The term *sema* comes from the Pali word, *sima*, meaning boundary and as Paknam (1981, 57) points out, in Thai the term *sema* (เสมา) is a vulgarisation of the Pali word *sima*. In Thai, therefore, *sema* stones are called *baisema* (ใบเสมา), with *bai*, meaning ‘leaf’ generally referring to the shape of the predominant slab type *sema*, particularly from the Ayutthaya period onwards. In Burma the word *sima* refers to both a boundary and an ordination hall (pronounced *thein* in Burmese), as in the Kalyani Sima at Thaton for example (Luce 1969, 252-253).

### 3.2 Textual Evidence

The canonical rationale for creating a *sima* is found in the *Mahavagga* of the *Vinaya Pitika* (*Mahavagga* II 5. 4-15. 2). In this text it states that a *sima* (boundary) must be created in order for certain rituals such as the *patimokkha*<sup>1</sup> and *uposatha* (ordination) to take place. This boundary is to be created by *nimitta* (boundary marks). However, as Indorf (1994, 19) points out, nowhere in this text does it state specifically what these *nimitta* are to consist of. It does give a few possibilities, stating that natural features such as rocks, trees and hillsides can be used but rivers and lakes are not suitable (*Mahavagga* II. 4-5, 12. 6-7). The decision to use *sema* as *nimitta* to create a *sima* appears to be a specific Southeast Asian response to this need and the archaeological evidence points towards this tradition arising in the Khorat Plateau during the Dvaravati period. It could be that at this time in other areas of Southeast Asia such as central

<sup>1</sup>This ceremony, which consists of the recitation of the rules of the order, is performed twice a month, on the full and new moon, and once a year at the end of the rainy season on the *pavarana* day.

Thailand, Cambodia or Burma, other forms of *nimitta* were being created out of perishable materials and therefore do not survive today.

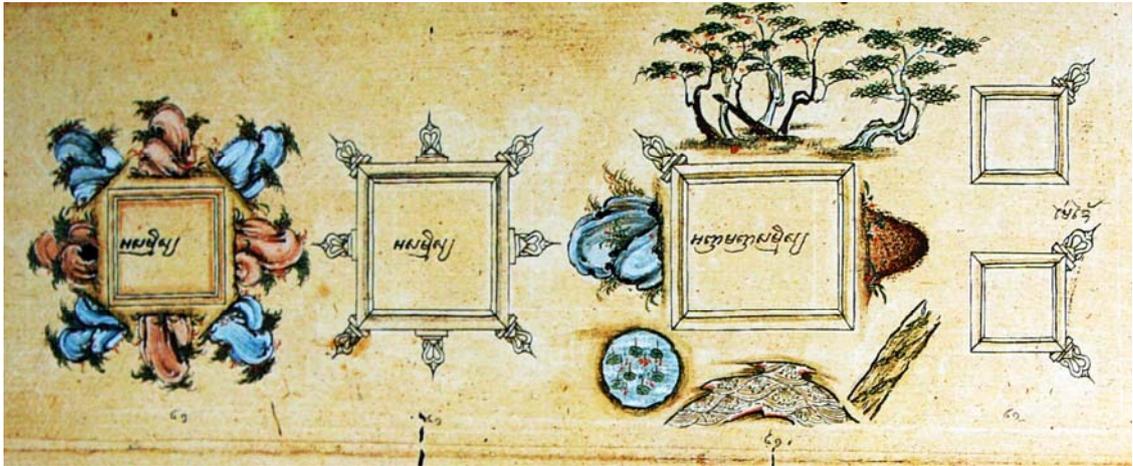


Figure 3.2: Manuscript from Wat Suthat Dhepararam showing various *nimitta* such as trees, rocks and an anthill.

In the modern Theravada Buddhism of Southeast Asia the *sima* can be subdivided into the *mahasima* and the *khandasima* (Giteau 1969, 6-7; Kieffer-Pülz 1993, 242-258). The *mahasima* refers to the entire monastery while the *khandasima* refers to a specific area within the monastery (or *mahasima*) where a number of specific rituals take place. The *khandasima* is the area in the monastery demarcated by *sema* and usually incorporating the *ubosot*.<sup>2</sup> Whether this division existed in the Dvaravati period or not is impossible to say due to insufficient evidence. However, it appears that in certain cases *sema* not only demarcated the *ubosot* and *khandasima* but also stupas. The large quantity found at sites such as Muang Fa Daed and Bahn Korn Sawan further suggests that in some instances they perhaps demarcated the *mahasima* as well, however, there is no *in situ* archaeological evidence to confirm this hypothesis.

The two most important rituals to take place within the *khandasima* are the *patimokkha* and *uposatha* ceremonies. The *Vinaya Pitaka* states that these rituals must be carried out in the presence of other monks within the *ubosot* (*Mahavagga* II 7.1-4). In Thailand

<sup>2</sup> The Thai term *ubosot*, sometime abbreviated as *bot*, is derived from the Pali term *uposathaghara* which technically means a house where any religious observances takes place (Silva 1988, 184). However, in both Sri Lanka, where it is known as a *poyage*, and in Thailand, the *uposathaghara*'s primary function is to hold the *patimokkha* and ordination ceremonies.

today, the ordination ceremony often holds a more important place in the lay-believer's psyche than does the *patimokkha* due to the merit gained by members of the initiate's family.

There are a number of other factors to be considered when creating a *sima*, some of which are discussed in the third volume of the *Vinayatthakatha*, a commentary on the *Vinaya Pitaka*. In Cambodia, these points were summarised in a booklet published by the Buddhist Institute of Phnom Penh, entitled the *Sima-vinicchaya-sankappa* (*Summary of the knowledge on sima*), in 1932 by Brah Visuddhivans Huot That (Gitaeu 1969, 6). This booklet included issues such as the size of the *sima*, stating that the land delimited by the *sema* should not be too small. It must accommodate twenty-four seated monks but alternatively must also not be too large. It also deals with setting up the *sima*, stating that the boundary markers should not be interrupted by any other object or structure and they need to be clearly marked. Furthermore, it discusses the topic of creating a *sima* over a pre-existing, earlier one and what needs to be done in such circumstances.

The textual evidence illustrates that from the early stages of Buddhism the demarcation and consecration of the *sima* was an important issue and that the particular rules and regulations concerning it have remained pertinent to this day. Nagasena Bhikkhu (forthcoming PhD), points out that the *uposatha* did not actually originate with the Buddha but was a practice already in existence at the time. According to the *Vinaya Pitaka* the first Buddhist *uposatha* actually came about at the request of King Bimbisara and as a result, the issue of where to conduct such a ceremony became a pressing one among the Buddha's disciples (*Mahavagga* II. 11). The Buddha, in order to clarify the matter, answered that such a place must be marked by *nimitta*. This then is the origin of the idea of consecrating a sacred space with boundary markers of some kind (Nagasena Bhikkhu, Forthcoming PhD).

From the textual evidence it is clear that from the time of the Buddha onwards the issue of consecrating and demarcating sacred space was one of considerable importance. This was done by the use of *nimitta* which could be set up in various forms and from various materials as long as they were clearly marked. In the Dvaravati period in the Khorat

Plateau this was accomplished by using sema. Whether they were used to demarcate both the *mahasima* and the *khandasima* as well as other religious structures besides the *ubosot* such as stupas, is a question that cannot be answered by looking at the textual evidence alone. This chapter now moves on to inscriptional and archaeological evidence to shed more light on the function and use of sema.

### 3.3 Inscriptional Evidence

Inscriptions on sema are unfortunately the exception and not the norm. This thesis has recorded twenty-six in total with the languages being employed including Mon, Khmer and Sanskrit (see Appendix 1, Table A5). Adding to the paucity of epigraphic evidence is their rather limited subject matter, with the inscriptions that have been read and translated<sup>3</sup> usually being votive in nature and containing little more than the name of the donor and formulaic dedications (Woodward 2005, 103-4). However, there are a number of inscriptions that do clearly state the function of sema and therefore provide welcome evidence in this regard.

One of the most informative inscriptions found to date is K981 (S105) from Wat Si Dhat (L7) in Udon Thani province (fig. 3.3). It was discovered during the Archaeological Salvage Expedition led by W. G. Solheim II and C. Gorman (1966, 159-161). This sema bears a Sanskrit inscription in Pallava script which has been translated by Coedès (1964c) who dated it to the late 7<sup>th</sup> to early 8<sup>th</sup> century. The importance of this inscription lies in the fact that it clearly states that the sema in question had a boundary function. The full translation rendered from French to English is as follows:

...this ascetic honoured by the Brahmans erected this stone having the function of boundary stone with the Bhikkhus.

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<sup>3</sup> Out of the twenty-six inscriptions recorded in this thesis only eleven have been read and translated, some into Thai language, some into English and others into French. A number of other inscriptions have been read and transliterated into roman script but not translated (Bauer 1991). Even where inscriptions have been read and/or translated at times there is still disagreement between the very few specialists able to do so in regard to issues such as the content and meaning of certain terms.

...In saka...in the first Suci, the tenth day of the crescent moon of Caitra, this boundary stone was fixed by the assembly.

Peter Skilling<sup>4</sup> has proposed a revised reading which differs somewhat in the nuance of the meaning. It is as follows:

[Name or epithet] the renunciant venerated by Brahmins and others caused, this stone in the form of a boundary by the monks to be established.

[Year in words] The 10<sup>th</sup> day of the bright half of Caitra, this boundary was agreed by the Sangha.

As Krairiksh (1974a, 42) states, this inscription leaves no doubt as to the function of sema. Furthermore, on Coedès' reading, it appears that the ritual was conducted by Brahmins, however, in Skilling's it looks as if Brahmins were present but perhaps did not in fact conduct the consecration. Either way the inscription does highlight the key positions that the Brahmins may have occupied in the 7<sup>th</sup>-8<sup>th</sup> century religious milieu. The inscription also appears to reference the passage in the *Mahavagga* (II. 7, 1-4) discussed above which states that a *sima* must be created within the presence of other monks, hence the statement 'fixed by the assembly.'

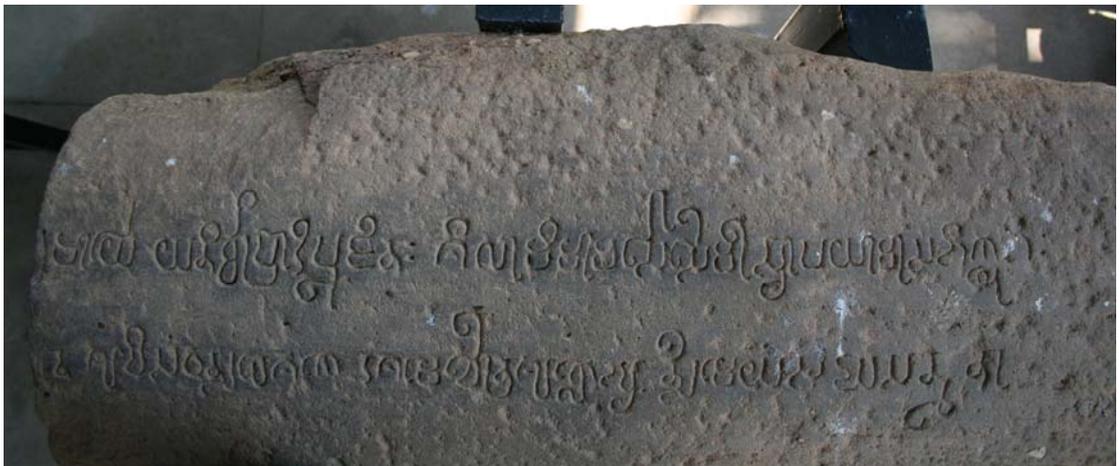


Figure 3.3: Sema S105 from Wat Si Dhat showing inscription K981.

For further clear epigraphic references to the function of sema we must look to 15<sup>th</sup> century Burma. The Kalyani inscription commissioned by King Dhammaceti in 1477-

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<sup>4</sup> Pers. Comm Peter Skilling.

78 CE outlines quite clearly the preferred arrangement for demarcating a *sima* with *sema*, stating that eight stones should be set up to form a rectangular or square shape. The relevant passage from Blagen's translation (1928, III. 2, 247) is as follows;

...the extent of the site, where the *sima* was to be made, having been marked (at) the corners (facing) the four quarters these four middle stones...it being an advantage to have eight boundary stones with a view to making (the plan) other than four-sided figure, the middle of each (side) to bulge somewhat (outwards) were planted (there also).

This inscription illustrates a number of important points. Firstly, that by the 15<sup>th</sup> century the *sema* tradition had been established not only in the Khorat Plateau but also in Lower Burma. It also shows that by this period a certain uniformity has arisen within the tradition with the number of *sema* seemingly restricted to eight and the boundary shape preferably square. As is shown below, this uniformity did not exist in the Khorat Plateau during the 7<sup>th</sup>-12<sup>th</sup> centuries.

Apart from their primary function as boundary markers, the handful of inscriptions that we have reveal that *sema* could also function in a votive capacity. A number of the inscriptions from the Khorat Plateau indicate that the *sema* were dedicated by high-ranking individuals as acts of merit-making and perhaps more importantly as a very visible display of power and status.

In Kaeokhlai's reading (1989, 65) of Inscription K404 from Bahn Kaeng (L31) in Kaset Somboon district of Chaiyapoom province she states that Cudamani, a high-ranking lady or queen was a person interested with making beneficial karma and was known for her moral integrity and '*dharma*-filled wisdom'. Interestingly according to Kaeokhlai, the inscription goes on to state that the power and glory of the kingdom of King Srijayasimahavarman was based on her support. However, this reading is somewhat problematic and it seems that there is no clear evidence from the inscription to even propose that Cudamani was the name of a person, never mind one of high rank.<sup>5</sup>

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<sup>5</sup> Pers. Comm. Peter Skilling.

The Hin Khon inscription (K 388) also mentions royalty as it was set up by a prince who had become a monk (*rajabhiksu*) and who had not only dedicated four sema of high quality stone but had also given large donations (Woodward 2005, 104; Filliozat 1981, 84). Inscription K388 therefore, not only provides us with a tantalising glimpse of society during the period but also emphasises the importance surrounding the fixing and consecration of a *sima* by the use of sema.

Inscription KhK 16 from Bahn Pai Hin (L17) Khon Kaen province provides further evidence that sema were dedicated for reasons of merit. The inscription, using Pallava script in old Mon language and dating to the 8<sup>th</sup> century, states that the donors wish to be reborn again in the time of Sri Aryamaitreya, the future Buddha (Champa & Mitem 1985, 83-89; Bauer 1991, 62; Varasarin 1995, 199-200). It also provides the names of three of the donors. Inscription KhK 17 from the same site, which seems likely to be contemporary with KhK 16, mentions the word ‘preceptor’ which is the title given to the monk who oversees the ordination ceremony. This therefore, provides further evidence for the role of sema in this ceremony.

Further evidence for the votive nature of the inscriptions comes from a sema in Bahn Panna (L93) in Sakorn Nakorn province. The sema was found in the backyard of a local villager’s house and given to the Ban Chiang Museum in 1997 for safe keeping (Weeraprajak 2007, 51-57). It is a two line inscription in post-Pallava script, old Mon language dating to the 9<sup>th</sup>-10<sup>th</sup> centuries. Weeraprajak’s reading of the inscription states that members of the Mipa Suraya Family had donated doors and windows to build a new temple (2007, 51). If his reading is in fact correct then this inscription illustrates that donors not only offered sema as merit but also sections of a temple’s architecture, a tradition that survives till this day.

One final inscription worth mentioning is from the 10<sup>th</sup>-11<sup>th</sup> centuries and found on sema S983 from Kaset Somboon province, now kept at the Phimai national museum (fig 3.4). It is in Sanskrit language in Khmer script and mentions a *sugatapratimavuddhasima* which can be interpreted as referring to a Buddha image being set up within a *sima* demarcated by sema (Kaeokhlai 1994, 59-65; Woodward 2005, 104). Interestingly, it appears that in this case the *sima* was not created as a place

for monks to assemble but as a sacred space within which to place a Buddha image. This further points to the fact that during this period, the function of sema was not restricted solely to demarcating the *ubosot* as it primarily was in later periods.

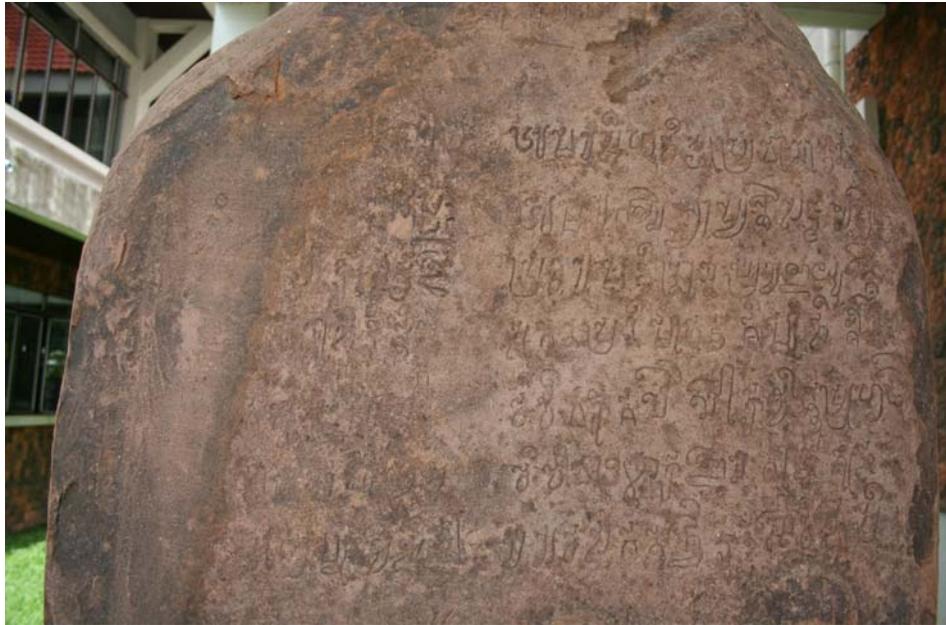


Figure 3.4: Detail of the inscription on sema S983 from Kaset Somboon province now kept at the Phimai National Museum.



Figure 3.5: Untranslated and unread inscription on sema S275 from Muang Fa Daed. The inscription covers the entire sema.

Woodward (2005, 104) argues that the inscriptions can also cast a small degree of light on the religious persuasions at the time. For example, he points out that the *dharma*-filled wisdom (*prajna*) mentioned in K404 is a Mahayana quality. However, he also notes that inscription K965 mentions the *Abhidharma* and this could be seen as a Theravada rather than a Mahayana feature. While it is tempting to make proposals upon such issues, reading religious persuasions off one or two isolated terms is problematic and speculative at best. It should also be kept in mind that the sema tradition during the Dvaravati period stretches over a large geographic area and a time span of over 400 years. It is not surprising therefore, to find both Theravada and Mahayana influence and to a lesser extent Brahmanic, arising within the tradition at different times and locations and we should not assume that the Buddhism being practiced at this time was homogenous.

The inscriptional evidence on sema, while sparse does provide us with a number of vital insights. Inscription K981 clearly indicates that semas' primary function were as boundary markers. Inscriptions K404, K388 and KhK 16 on the other hand, may indicate that they also played an important donative and social role providing a medium for influential individuals to not only exhibit their religious piety but to also flex their temporal power. When considered in conjunction with the textual evidence it allows us to build an increasingly clear picture as to the ways and means in which the sema tradition functioned during the Dvaravati period.

### **3.4 Archaeological Evidence**

Evidence for the function of sema is also provided by archaeological excavations and this thesis has documented twenty-five sites where sema are still *in situ* (see table A4, Appendix 1). Excavations that have taken place where sema are still *in situ* have to a large extent confirmed the textual and inscriptional evidence in regard to the function of these objects, however, there have also been certain discoveries that show deviation from the canonical norms. At Muang Fa Daed (L1) for example, sema were not only excavated around a Dvaravati period *ubosot* but also discovered on three sides of a stupa, indicating that they may have been used to demarcate a variety of religious buildings during the Dvaravati period (FAD 1969-1971). Furthermore at Phu Pra Baht

Historic park (L57), sema have been placed around pre-historic rock shelters suggesting that they were used to convert a pre-Buddhist sacred space into a Buddhist one (Chutiwongs 2000).

Muang Fa Daed as one of the largest Dvaravati Period settlements in the Khorat Plateau, and also being the site that possesses the largest amount of sema, is a key site in regard to the study of these objects and provides us with some of the most important evidence in regard to their development and function. It is a large moated site, measuring 171 hectares in total. Situated on the Pao River, a tributary of the Chi, it was not only placed close to a steady and reliable water supply, it also occupied an advantageous position in terms of trade and transportation along this river system facilitating access to the Sakon Nakhon Basin to the north and the Chi river system to the south.

In 1968 a series of archaeological excavations was carried out by the Fine Arts Department. These excavations uncovered fourteen monuments, including foundations of an *ubosot* dating from the Dvaravati period with a number of *in situ* sema placed around it (fig. 3.6). Furthermore, excavations at the Prataduyaku Stupa near the centre of the site revealed Dvaravati foundations and also three more *in situ* sema (FAD, 1969-71). These sema were placed on three separate sides of the stupa suggesting that they could have either been reused at a later date or that at this period sema may also have functioned as sacred boundary markers around stupas as well as around *ubosots*. By analysing evidence such as the style of bricks, the pottery record and the stylistic traits of the artwork and architecture found, this excavation concluded that the Dvaravati period chronology of the site stretched from the 7<sup>th</sup> - 11<sup>th</sup> centuries CE. Comparisons with other sites in the area and their artwork, particularly on sema provides further evidence to support this proposed chronology.

In 1991 further excavations were undertaken by Dr. Phasook Indrawooth of Silpakorn University and the Fine Arts Department (Indrawooth *et al.* 1991). This excavation succeeded in illustrating the close cultural links between the Dvaravati culture that flourished in the Chao Phraya Valley at the same period as that of Muang Fa Daed.



Figure 3.6: Remains of the *ubosot* at Muang Fa Daed. An *in situ* sema is visible at the far end of the foundations.



Figure 3.7: *In situ* sema placed around a rock-shelter at Phu Pra Baht Historical Park.

Further excavations in 2000 by the Fine Arts Department, again found sema associated with a stupa located just outside the moat, once again pointing towards the fact that at

this period sema were used to demarcate stupa as well as other religious structures (Baonoed 2000). The site of Muang Fa Daed therefore provides clear evidence for the function of sema during the Dvaravati period.

The other major Dvaravati period settlement in the Khorat Plateau is Muang Sema (L49), located on the Lam Ta Khong River in Nakorn Ratchasima province and covers an area of over 150 hectares (Moore 1988, 9). While the site was clearly important during the Dvaravati period, as is indicated by its size and finds such as a *dharmacakra* and a sandstone Buddha image in *mahaparinirvana* posture, 11 metres in length, this fact is not particularly represented in the sema present. First of all, they are relatively few in number, seventeen in total and furthermore, none bear any trace of narrative art or motifs, with the sema being either badly eroded or plain in appearance. The site does, however, possess some sema which are still *in situ* around a Dvaravati period structure which may have been an *ubosot*. The site therefore provides much welcome *in situ* evidence with the sema matching the canonical descriptions of their use.

The more versatile usage of sema during the Dvaravati period is attested to by the site of Phu Pra Baht Historic park. This site which straddles the Phu Phan mountain range in modern day Udon Thani province shows occupation from pre-historic times evidenced by rock shelters and rock painting. However, with the subsequent arrival of Buddhism during the Dvaravati period, the location became favoured by forest monks looking for a place of retreat and meditation. Consequently, the pre-Buddhist 'animistic' rock shelters were ringed by sema, usually eight in number in order to convert the sacred space to Buddhism (fig. 3.7). There are over sixteen such rock shelters on the site with the majority of them surrounded by sema. The site therefore not only provides evidence for *in situ* sema, it also illustrates how these objects could be used in a variety of ways, depending on the specific religious needs that presented themselves.

Other excavations carried out in Thailand show more differing practices. The sites of Bahn Nong Kluem (L52) and Bahn Pailom (L60) in Bahn Phue district of Udon Thani Province were excavated in 1998 by the Fine Arts Department (FAD 1998a). Their excavations showed that at both locations the sema had been set up in a regular pattern to clearly demarcate sacred space. At Bahn Nong Kluem (fig. 3.8) the sema were

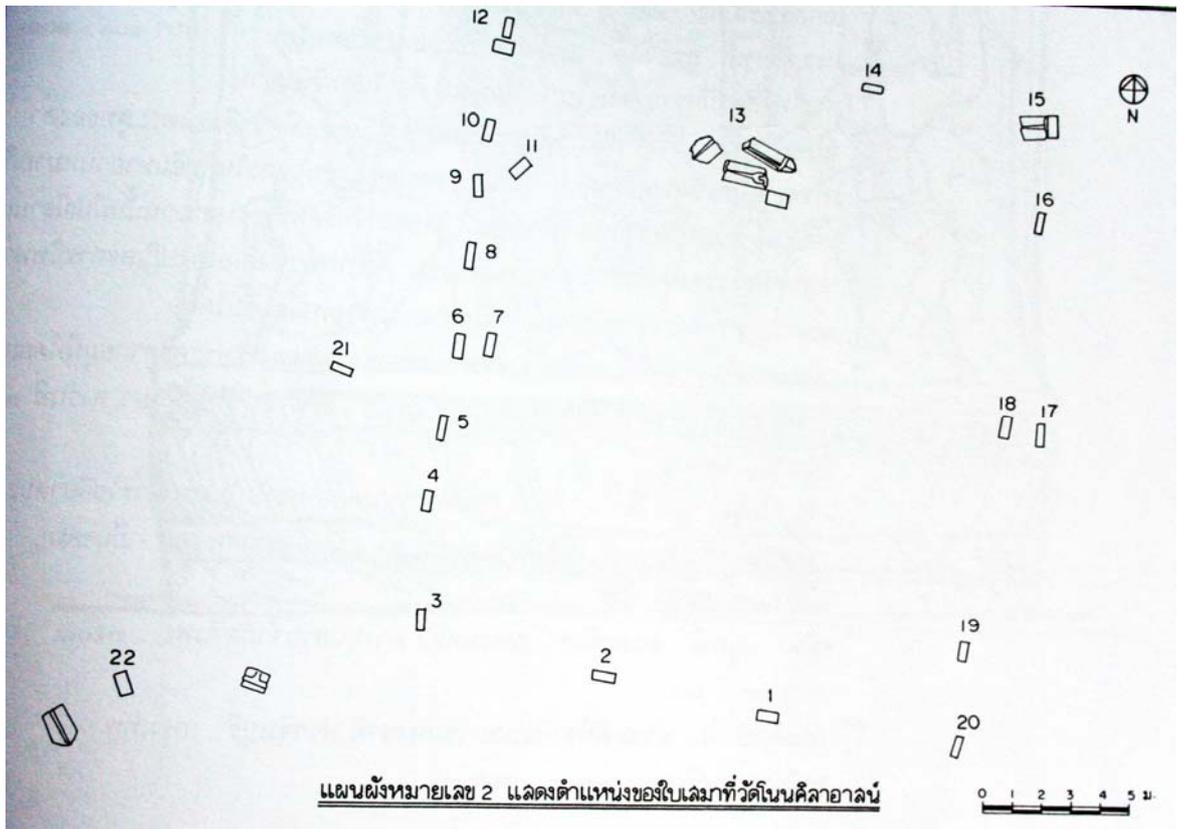


Figure 3.8: Plan of *in situ* sema from Bahn Nong Kluem.

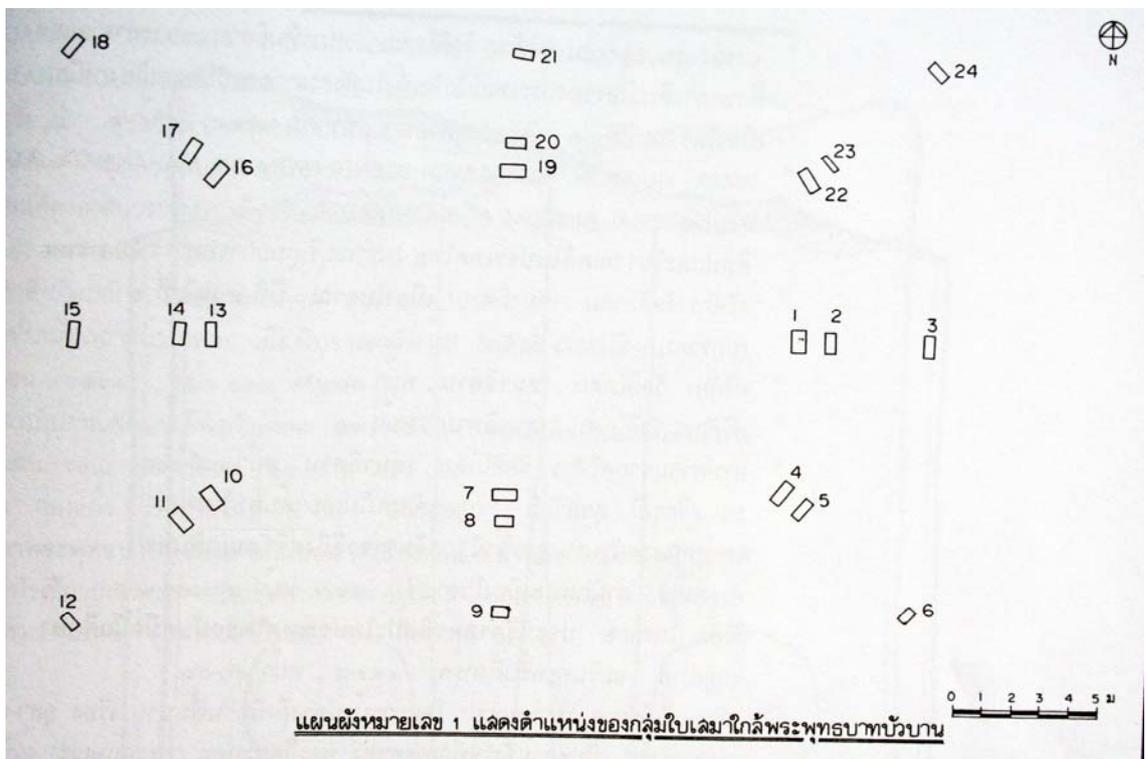


Figure 3.9: Plan of *in situ* sema from Bahn Pailom.

erected in a rectangular pattern numbering twenty-two in all, however it is unclear if all are still *in situ*. At Bahn Pailom on the other hand, the sema were again placed in a rectangular pattern, but this time in three concentric rows which expanded in size from the centre outwards (fig. 3.9). The sema at this site numbered twenty-four in total. These two sites illustrate that the number of sema used could total over twenty in some cases. Furthermore, no evidence for a structure was found in the centre of the areas demarcated by the sema, suggesting that it was either built of perishable materials or that there was no actual structure present.

A number of other archaeological sites show patterns that become more familiar in later periods, that is, demarcating a *sima* with eight sema. Bahn Na Ngam (L4) in Kalasin province and Bahn Ilai (L78) in Vientiane province of Laos both possess *in situ* sema placed in a circle, illustrating that the configuration of a *sima* as square/rectangular was not the only acceptable shape in this period. In both cases it is unclear if there is a structure present at the centre as no excavations have taken place at either of these sites. Once again, it could be that the religious structure was made from perishable materials and no longer survives or as the inscription on sema S983 indicates, perhaps the space was used to place a Buddha image within. *Ubosots* constructed from perishable materials continued up until the recent present with Thai examples often consisting of a wooden superstructure with walls built of either brick or in less wealthy monasteries, woven bamboo strips (Matics 1992, 23-24).

Alternatively, both Krairiksh (1974a, 42) and Matics (1992, 25) have suggested that perhaps in a number of cases there was no building present and the ceremonies took place in the open air. If this is the case, then the function of sema to create the *sima* becomes even more essential. Perhaps this goes some way to explaining semas' monumentality. In the absence of imposing religious architecture the semas could have functioned as a clear marker indicating the sacred nature of the space they enclosed. Sema therefore, would have had a vital function in defining and shaping the visual religious landscape of the time.

Mention should also be made of modern tradition of *luk nimit* which is an integral part of the consecration ceremony today (Matics 1992, 29). *Luk nimit* are round stones,

approximately 30 cm in diameter, buried in sets of nine, eight directly under sema and one in the centre of the *ubosot* (fig. 3.10). However, *luk nimit* have never been found in association with Dvaravati period sema from the Khorat Plateau. It seems clear therefore, that this tradition came in later, perhaps as early as the Sukhothai period but the evidence is not conclusive and it may in fact have occurred somewhat later (Indorf 1994, 22). The tradition is also related to chthonic beliefs, and perhaps more specifically *naga* worship, as these subterranean creatures are said to be responsible for making the precinct sacred (Indorf, 1994, 22). The absence of this tradition from the Dvaravati period suggests it represents a ‘Thai’ addition to the means by which sacred space is demarcated.



Figure 3.10: Modern sema with a *luk nimit* placed directly under it. From Wat Nuea temple, Roi Et town.

Looking further afield we also find evidence for the use of sema in both Sri Lanka and Burma (see chapter 4, section 4.9.3). During the 11<sup>th</sup> century at Thaton in Lower Burma, sema were placed around the Kalayani Sima ordination hall (Luce 1969, 253). More tentative evidence also comes from the city of Vesali in Rakhine State (fig. 3.11) where the excavators appear to have found fossilized wood sema around a brick structure which they identified as an ordination hall (pers. comm. U Nyunt Han). The site itself

has been dated between the 5<sup>th</sup>-9<sup>th</sup> centuries making it roughly contemporary with the sites in the Khorat Plateau. In 2009 excavations at Beikthano by Thein Lwin at what appears to be monastic structures north of the north wall have also uncovered fossilized wood sema. These structures are believed to be *circa* 4<sup>th</sup>-6<sup>th</sup> centuries in date, however, the dating evidence is not completely secure.<sup>6</sup> The evidence from Burma, therefore, while much more sparse than that in the Khorat Plateau does provide additional insights into the function of sema and the possible geographic extent of this tradition during the 6<sup>th</sup>-11<sup>th</sup> centuries.

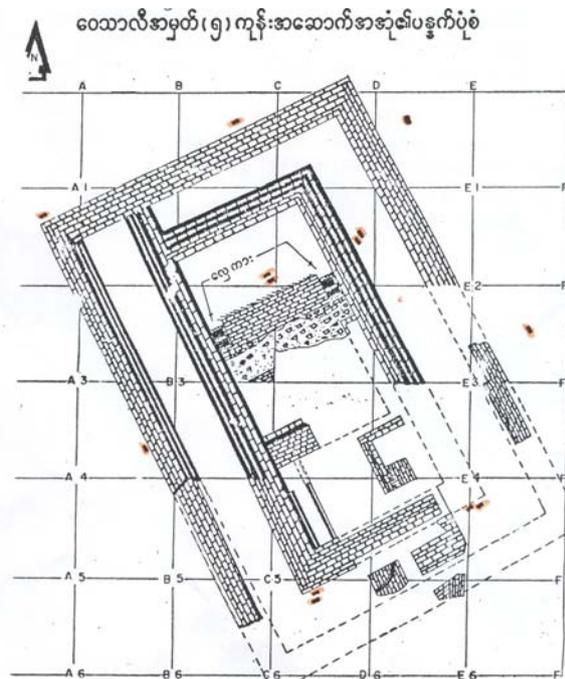


Figure 3.11: Ground plan of the excavated *thein* from the site of Vesali in Rakhine State of Burma with the sema marked in orange.

The Niki Vihara Chaitya at Anuradhapura also provides possible evidence for sema markers as it is surrounded by small stone posts at its corners and centre (Indorf 1994, figs. 7 & 8). If these are indeed sema they not only represent some of the earliest evidence for the tradition, but also the fact that in Sri Lanka as in the Khorat Plateau, these objects were used to demarcate stupa as well as *ubosots*. Definitive evidence for sema from Sri Lanka comes from the Baddhasimapasada and the small *poyage* at Polonnaruwa which have two sets of boundary stones around the building (Silva 1988,

<sup>6</sup> Pers. Comm. Elizabeth Moore.

185). They are therefore 12<sup>th</sup> century in date and typologically quite different to Dvaravati period sema.

The archaeological evidence for Sri Lankan *uposathaghara* however, is much earlier with the Lohapasada for example dating to circa 161-137 BCE. Other examples date from the 2<sup>nd</sup>, 5<sup>th</sup> and 7<sup>th</sup> centuries CE respectively illustrating a long and continuous architectural tradition (Silva 1988, 188). While none of these early Sri Lankan examples have surviving evidence for sema it is highly likely that they were demarcated in some way. It may be the case therefore, that the *nimitta* used were not made of stone, but instead perishable material such as wood. The fact that by the 12<sup>th</sup> century stones, begin to appear around *uposathaghara* raises the interesting possibility that the Khorat Plateau sema tradition may have been influential in this development. If so, this would represent one of the few examples of Buddhist concepts and ideas flowing in the opposite direction, that is, from Southeast Asia to Sri Lanka.

In Thailand, archaeological evidence for the function and use of sema paints a more varied picture than that given by the textual and epigraphic evidence. While it is clear that from the Ayutthaya and Sukhothai periods onwards, the sema tradition becomes more uniform, usually being restricted to eight or sixteen in number and placed only around an *ubosot* to create a *khandasima*, during the Dvaravati period the archaeological evidence illustrates that the sema tradition was less fixed and more fluid. It appears that sema were not only used to fix the *khandasima* but also set up to create other forms of Buddhist sacred space. It also seems clear from the evidence at Muang Fa Daed that they surrounded stupas as well as *ubosots*. The archaeology therefore shows that while sema were used to fulfill the doctrinal requirements laid down in the *Mahavagga*, they were also employed in more flexible ways and it seems that they provided a ready solution at any time Buddhist sacred space needed to be clearly demarcated.

### **3.5 Modern Worship and Re-use**

A distinctive characteristic of Thai Buddhism is its re-use of ancient sacred objects with sema being no exception. At a number of sites and locations, Dvaravati period sema

have been re-used and are worshiped as sacred Buddhist objects in their own right. Therefore, in one sense they cease to be *sema* and take on other religious functions. A number of examples are discussed to emphasise how a *sema*'s meaning can either change or stay the same depending on the context within which it is used.

The most common form of re-use encountered throughout the Khorat Plateau is employing Dvaravati *sema*, sometimes fragmentary ones, to create a new *sima*. This usually occurs when a temple builds a new *ubosot*. Instead of carving new *sema* from new stone, they collect up Dvaravati *sema* and place them around the *ubosot*, usually eight in number (fig. 3.12). Sometimes gold leaf, paint or candles are placed on these *sema* as part of modern ceremony, ritual and belief. In this context therefore, *sema* retain their original use and meaning.

Another common form of re-use which can occur in the same context of creating a new *sima*, is that a *sema* will be carved with a modern inscription, sometimes recording the year and month that the new *sima* was created (fig. 3.13). Some inscriptions can be older and contain horoscopes or spells of an apotropaic nature. In these cases the antiquity of the stone presumably adds to its sacredness. In examples such as this we see the meaning of *sema* begin to shift.

Other common forms of re-use include Dvaravati *semas* being set up in *viharas* alongside Buddha images or in shrines of their own and worshipped as sacred objects in their own right. In these incidences the stone can sometimes be covered in gold-leaf or candles may be placed on top of it as offerings. There is usually also an incense stand placed in front of the stone and a matt for devotees to kneel and pray (fig. 3.14). In this context the meaning of *sema* has shifted from an object used to define sacred space to that of an object of religious devotion.



Figure 3.12: Dvaravati period sema set up around a modern *ubosot* in Bahn Kum Ngoen, Yasothon province.



Figure 3.13: Sema S797 from Bahn Na Dee, Yasothon province with a modern inscription stating the date of the consecration ceremony.



Figure 3.14: Dvaravati period sema placed in front of a Buddha image at Wat Nohn Sila temple, Khon Kaen province. The notice in Thai language is a request from the Fine Arts Department for worshippers not to place gold leaf offerings on the sema.



Figure 3.15: A Dvaravati period sema functioning as a town pillar (*lak muang*) at Wang Sapung, Loei province.

In one particular instance, at Wang Sapung in Loei province, a Dvaravati sema has been set up as the town pillar (*lak muang*). In Thailand, every city or town possess a town pillar which marks the centre of the settlement and these shrines are regarded as extremely sacred areas housing the local guardian spirits. That a sema was chosen as a town pillar, once again illustrates not only the lasting sacred resonance that these objects possess but also the fluidity in meaning that they can possess (fig. 3.15).

One last example is worth mentioning, in Bahn Bua Semaram (L21) in Khon Kaen province, a sema is used to mark the boundary of the village and is placed directly under a modern road sign. This example points to the variety of different re-uses that sema can be put to in modern day Thailand and in this case reveals the ingenuity of the local villagers who in a certain sense used the sema to form a *sima* demarcating the village's boundary (fig. 3.16).

The re-use of Dvaravati period sema illustrates the latent sacred power still possessed by these objects today. It reminds us that Buddhism is a living tradition in Thailand and that the meanings of religious objects are not fixed but constantly shifting to serve specific religious needs. In doing so it serves to illustrate that while textual and canonical definitions of sema restrict them to demarcating sacred space, in actual religious practice the uses can be more varied. Furthermore, while sema may be considered by certain sections of the academic community as objects that should not be re-used but only stored or displayed in museums, with their meanings fixed and static, we must also remember that if the past is not relevant to the present and the local communities whose heritage it is, then does it have any relevance at all?



Figure 3.16: Dvaravati period sema placed in front of the village sign post of Bahn Bua Semaram, Khon Kaen Province.

### 3.6 Literature Review

Reviewing the literature published to date on sema allows for a number of issues to come to the fore. What initially strikes the reader is that the primary focus of the majority of the works is on the aesthetic and artistic aspects of sema, with the earliest writers on the subject being drawn to the numerous fine relief carvings of Buddhist imagery and symbols depicted upon these sacred objects. Upon encountering this artwork their immediate response was to analyse it and attempt to place it within the larger framework of Thai art history. Initial attempts to do so led scholars such as Seidenfadan (1954) and M.C. Subhadradis Diskul (1954) to conclude that the artwork on sema belonged to the Dvaravati style so prevalent in central Thailand from the 6<sup>th</sup> -

11<sup>th</sup> centuries CE. This connection between the art of central Thailand and that of the northeast set the tone for the majority of the scholarship that followed (see chapter 2).

This review discusses works that specifically deal with sema. Works that mention sema in passing or in the context of larger topics such as discussions on the nature of Dvaravati art are not dealt with here as in the majority of occurrences they reference and draw their conclusions from the literature reviewed here. The review has been organised chronologically by publication date to illustrate how the ideas, arguments and conclusions about sema grew and developed over time.

### **3.6.1 1950s-1960s: The Earliest Works on Sema**

The first mention of sema in the academic literature was in an article by Major Erik Seidenfaden entitled '*Kanok Nakhon, An Ancient Mon Settlement in Northeast Siam (Thailand) and its Treasures of Art*' published in 1954 in the *Bulletin de l'Ecole française d'Extrême-Orient*. Seidenfaden discusses the site of Muang Fa Daed on the basis of reports he received from a Thai civil servant living in the area. He refers to the site as Kanok Nakhon, as opposed to Muang Fa Daed, after a local myth. On observing photographs of sema present at the site, he quickly concluded that they were Mon in origin stating that they were 'the handiwork of Mon artists wearing the distinct impression of the Dvaravati School of Art' (1954, 643-647). To confirm his identification he consulted George Coedès, who replied in a personal communication that he agreed with Seidenfaden. However, despite this Seidenfaden does not provide a detailed art historic analysis of how he reached this conclusion and as such the reader is left to assume that he and Coedès did so on account of certain features of the Buddha images, such as the u-shaped robe and the depiction of the hair curls in tight ringlets, which are characteristics of Dvaravati art. Seidenfaden also reports that there were over one hundred sema at Muang Fa Daed, most of which had been collected by the inhabitants of the modern day village in either 1935 or 1936 and placed around the local temple.

As a result of this article, Seidenfaden became not only the first person to write about sema but also, with the aid of Coedès, to suggest a link between the artwork found on sema and the Dvaravati art of central Thailand. Following Seidenfaden's initial

observations the Fine Arts Department of Thailand undertook a survey of the site in 1954 (Diskul 1956, 362). This survey was not published, however, the results and information gathered was made available to M.C. Subhadradis Diskul and formed the basis of his article '*Muang Fa Daed, An Ancient Town in Northeast Thailand*' published in *Artibus Asiae* in 1956.

This article was the first work to deal specifically with the art on sema located at this site. By analysing seven photographs from the Fine Arts Department's survey, Diskul like Seidenfaden and Coedès before him, concluded that the artwork of the sema was similar to that of central Thailand stating, 'They [sema] immediately suggest the Dvaravati style, which flourished in the Menam Chao Phraya Valley, especially at Nakhon Pathom, from the 6<sup>th</sup> to the 11<sup>th</sup> century A.D.' (1956, 363).

Diskul comes to this conclusion by analysing a number of stylistic features on the sema. First, he identifies a strong Gupta influence in the drapery of the Buddha imagery. This is consistent with that found on Buddha images from central Thailand. Furthermore, he argues that the headdresses of the deities in figure 1 of his article and the arch in the background of the sema on figure 2 are very similar to those found on stucco work from Nakorn Pathom (1956, 364).

However, while Diskul identifies the artwork on sema as Dvaravati in style, he qualifies this identification by referring to it as 'provincial Dvaravati style' (Diskul 1956, 364). The reason he does so arises from the way in which some of the deities' clothing has been depicted. The fully developed *drâpe-en-poché*, held in place by a second belt ornamented with jewellery is not found in central Thailand (see chapter 2.6). Diskul, therefore, concludes that this may represent Khmer influence entering the region.

While Diskul succeeds in identifying a number of common stylistic characteristics linking sema with the Dvaravati art style of central Thailand, his definition of Muang Fa Daed art as 'provincial' seems to arise from viewing the northeast in terms of its relationship to central Thailand and not as a region in its own right, a viewpoint still entrenched in the urban-based Bangkok elite of today. He therefore concludes that the art of central Thailand was superior to that of the northeast. This viewpoint quickly set

the tone for subsequent research on sema with scholars viewing and understanding them in relation to central Thailand. However, as argued throughout, this thesis re-orientates this perspective and sees sema as a specific phenomenon of the Khorat Plateau.

Diskul's article also represents the first attempt to classify sema chronologically by style. He divides the sema into three phases. The first phase, he argues, is characterised by a strong Gupta influence and carving in high relief. In the second phase the relief carving becomes shallower and the fully developed *drápe-en-poche* appears. What constitutes the third phase is not specified in the article. This classification closely follows that devised by Dupont (1959) as discussed in chapter 2.4.

It must be noted, however, that like Seidenfaden and Coedès, Diskul did not visit the site and his analysis was made from photographic evidence alone. He was therefore exposed to only a very small number of sema, with his chronology being based on only seven photographs. This is obviously far too small a sample to produce a meaningful relative chronology. However, the proposed chronology does raise useful insights and lines of investigation. The identification of an early Gupta influenced stage, which subsequently developed into a style in its own right before merging with Khmer influence is to a certain extent borne out in this thesis.

Diskul's article therefore represents the first attempt to analyse the art of sema. Furthermore, with this article the connection between the Dvaravati art of central Thailand and the art on sema became more firmly established and this set the tone for subsequent scholarship on both sema and the subject of Dvaravati art in general in the Khorat Plateau.

In 1968 the results of the 1963-1964 Archaeological Salvage Program were published in the *Journal of the Siam Society* by Wilhelm G. Solheim II and Chester F. Gorman. This program was carried out in advance of dam construction in areas of the northeast which would be subsequently flooded or transformed permanently into reservoirs. The survey recorded sema at a number of sites, particularly in the Lam Pao area. A rescue excavation at Lam Pao site 7 also resulted in a number of sema being excavated, however, the site report was not published until 2004 by Jane Allen (Allen 2004). The

Archaeological Salvage program represents one of the first incidences when sema locations were systematically recorded and excavated. Information about sema outside the site of Muang Fa Daed was therefore made available for the first time.

In 1969, H. G. Quaritch Wales published '*Dvaravati: The Earliest Kingdom of Siam (6<sup>th</sup> to 11<sup>th</sup> century A.D.)*'. In his chapter on the northeast, he discusses sema in relation to the sites of Muang Sema and Muang Fa Daed. It is in this work that the hypothesis that sema evolved out of megaliths was first proposed (1969, 111). Wales argues this in part due to information gathered from a report published in 1959 by the Fine Arts Department of Thailand entitled '*Plan and Report of the Survey and Excavations in N.E. Thailand*'. In this report it states that megaliths are found throughout the northeast either arranged in circles or in straight lines (1959, 61). Secondly, Wales argues that a cult of semas grew up at Muang Fa Daed. His evidence for this cult is the large number of sema present at the site, more he argues, than were needed to fulfill the boundary function. However, Wales' megalithic hypothesis quickly came under criticism. Krairiksh (1974a, 43) in an article on the sema at Khon Kaen museum (discussed below), argues that the megaliths reported in a circle in the 1959 report by the Fine Arts Department were in fact sema. However, arguments in support of Wales's claim arose in later literature, with two scholars, Paknam (1981) and Vallibhotama (1985) both arguing that megaliths existed in the northeast. One of the aims of this thesis was to test the megalithic hypothesis by carrying out systematic survey work throughout the Khorat Plateau in order to discover whether there is an empirical basis for such a claim. The results of this research are discussed in chapter 6.3.

In terms of the art style, Wales agreed with Diskul that the art is Dvaravati style, however, he objects to its description as provincial (1969, 110). He sees this as an extension of the Indianisation argument and instead prefers to see it as the art of an '...incipient Khmer culture' (1969, 111). So while Wales rejects the provincial tag, he still reduces the art on sema to a phenomenon of its neighbours with the only difference between him and Diskul being that he looked east instead of west.

### 3.6.2. The 1970s and 1980s: Beginnings of in-depth research into sema

The 1970s and 1980s saw the development of more systematic and thorough research into sema with the three leading scholars Srisakra Vallibhotama, Piriya Krairiksh and No Na Paknam all being Thai. Before these works were published, however, an article documenting sema on Phnom Kulen in Cambodia appeared in *Arts Asiatiques* which aroused considerable interest and debate which continues to this day.

In 1973, Boulbet and Dagens published '*Les sites archeologiques de la region du Bhnam Gulen*' discussing the results of their survey of the monuments and remains located on Phnom Kulen north of Angkor. At two of the sites surveyed, Bam Gre and Tun Mas, *in situ* sema were discovered (1973, 43-47). In both instances, the sema were set up in pairs of eight, four pairs at the cardinal points and four pairs in between, forming a rectangle surrounding a low mound in the centre. The majority of the sema were decorated with either *stupa-kumbha* or *dharmacakra* motifs (see chapter 5.9-5.10).

In their conclusion (1973, 51-52) the authors noted that the sema from Phnom Kulen are very similar to those found at Muang Fa Daed and remark that this poses an interesting question as to how this Buddhist religious practice existed in Cambodia some 300 kilometres away (1973, 51). The sema from Phnom Kulen represent a fascinating, if somewhat problematic question which is dealt with in some detail in chapter 5 of this thesis.

The most comprehensive art historic study of sema to date was published in 1974 by Piriya Krairiksh (Krairiksh, 1974a). Entitled '*Semas with scenes from the Mahanipata-Jatakas in the national museum at Khon Kaen*' the article sets out to identify the narrative scenes on the sema located at Khon Kaen national museum. However, before doing so Krairiksh classifies the semas into two types, the slab type and the pillar type and their variations such as the tapered pillar and octagonal pillar type (1974a, 38-40). This classification is adopted by most, if not all, of the later literature on sema and forms the starting point for the typology proposed in this thesis (see chapter 6).

Krairiksh proceeds to identify scenes on sema from the *Mahanipata-Jatakas*, (Ten Great Previous Lives of the Buddha). He identifies twelve separate scenes in total

including two instances of the *Maha-ummagga/Mahosadha Jataka*, one instance of the *Khandahala Jataka*, two instances of the *Vidhurapandita Jataka* and one instance of the *Vessantara Jataka*.

While Krairiksh's work is extremely valuable in terms of its identification of scenes on sema, like Diskul before him, his work only focuses on sema with narrative episodes. In doing so he unintentionally misrepresents the extent of the artwork carved on sema. The vast majority of sema at Khon Kaen museum are in fact pillar or slab type and have little or no narrative art on them. Furthermore, the sema located at Khon Kaen museum come primarily from only two sites, Muang Fa Daed and Bahn Nong Hang. Therefore, like Diskul and Seidenfaden before him, Krairiksh looks at only a comparatively small sample of sema from a very limited geographical area.

Krairiksh dates the sema on stylistic grounds, arguing that the mane-like hair worn in ringlets commonly found on the depiction of demonic characters is datable to the 9<sup>th</sup> century, while the conical headdress which is also found in central Thailand dates to the 11<sup>th</sup> century (1974, 57-58). He then goes on to discuss the possible connections between the sema of northeast Thailand and those found at Thaton in Lower Burma (1974a, 59-63). Both the issue of dating sema by style and possible connections with Lower Burma are dealt with in chapter 5 of this thesis.

In terms of the style of the art on the sema, Krairiksh agrees with Diskul's analysis that there is strong influence from the Dvaravati art of central Thailand. He concludes that there is a definite connection between those who set up the sema and the Mon Dvaravati of central Thailand stating, 'Hence, there is little doubt that the semas were created by the people who were artistically and linguistically related to the Mons in central Dvaravati' (1974a, 37). However, Krairiksh does not discuss this in any depth whatsoever, taking for granted it seems, the conclusions already reached by Seidenfaden and Diskul. In fact, Krairiksh's main evidence for this link between the northeast and central Thailand is in the stylistic similarities he sees between the narrative art on sema and terracotta plaques found at the Chula Pathom Chedi in Nakorn Pathom.

Krairiksh's classification of the sema and the episodes depicted on them is a significant piece of scholarship representing the first systematic treatment of these objects. His initial organisation of sema into types and his identification of a number of *jatakas* has greatly added to our understanding of the development of sema and also the nature of the Buddhism being practiced in the region. However, like Diskul before him, he is much more interested in establishing a connection with the Dvaravati art of central Thailand than seeing sema as a uniquely northeastern phenomenon. Furthermore, while his comparison with the sema from Thaton highlights some interesting similarities, his hypothesis, building on a suggestion by Wales (1947) that the Mons of northeast Thailand fled to Thaton under increasing pressure from the encroaching Khmer, lacks any substantiating evidence (see chapter 5.7).

The following year another significant piece of scholarship was published. 'Sema Isan' by Srisakra Vallibhotama (1975) was written in Thai language and published in the first edition of Thailand's leading archaeological journal, *Muang Boran*. This article is a comprehensive survey of the locations and extent of sema throughout the northeast of Thailand. It divides sema into three areas, the Mun River system, the Chi River system and the Udon Thani-Sakon Nakhon Basin. The article gives details of where the semas are located, the motifs found on them and the style of the artwork. In terms of archaeological scholarship, it was the first work to study sema in a systematic manner and show the extent of their distribution throughout the northeast. However, after compiling a list of over thirty sites, Vallibhotama does not analyse or interpret the distribution to any great extent. Despite this, his work is an invaluable source of information on the location and extent of sema throughout the region. Being written in Thai however, this work is inaccessible and to a certain extent unknown by many Western scholars working on this period in Southeast Asia's history. This article formed the initial basis and database of sites surveyed in this thesis. Furthermore, Vallibhotama's division of sema into three geographical groups is largely confirmed by the survey work in this thesis. Modifications needed to be made to the Udon Thani-Sakon Nakhon Basin group due to the discovery of sema in Laos, however, the Mun and Chi river systems form similar grouping to Vallibhotama's with the major difference being the quantity of sites recorded.

Further archaeological analysis and attempts to understand the distribution of sema appeared in 1980 in a paper by Bernard Groslier entitled '*Prospection des sites Khmers du Siam*'. Groslier attempted to show the extent of Khmer presence in northeast Thailand through the identification of archaeological remains, arguing that circular sites found throughout the region represent indigenous settlements (1980, 33-60). The Khmer practice of building the temples in the middle of these sites, he took as representing a statement of dominance over the local populace. Circular sites that possessed sema on the other hand, he considered as a separate civilisation, referring to it as the '*civilisation des steles*' (stele civilisation). He argues that this culture was independent of both Khmer and Dvaravati and sees it as being centred around Kalasin, Sakon Nakhon and Muang Fa Daed in particular.

Postulating a separate independent culture purely on the practice of setting up sema and circular town plans is a somewhat problematic claim. The artwork on the sema clearly shows cultural affinities with the Dvaravati of central Thailand and the archaeological record shows that circular sites in the northeast shared a considerable degree of similarity in their material culture.

The real value of Groslier's work, however, is that he was the first scholar to look at sema as a purely Khorat Plateau phenomenon. In doing so, he turned the attention away from seeing them as a mere derivative of central Dvaravati art and culture and put the focus squarely on the Khorat Plateau as a region and culture in its own right. By looking at sema in the wider context of settlement patterns throughout the region he attempted for the first time to contextualise the sema by correlating them to specific sites. However, as Brown (1996, 22) points out and this thesis also confirms (chapter 4.6), one of the major weaknesses of Groslier's work is that sema are found over a much wider geographical area than his proposed '*civilisation des steles*'.

In 1981, Thai art historian No Na Paknam published a book entitled '*The Buddhist Boundary Markers of Thailand*' in both Thai and English. This book deals with sema from every period in Thai History starting with Dvaravati right through to the Rattanakosin period of the 19<sup>th</sup> and 20<sup>th</sup> centuries. The book is somewhat light in terms of analysis and discussion, however, it does represent an excellent source of

photographic evidence for sema. In fact, the book is more a compendium of photographs of sema from the different periods than an in-depth analysis of them.

Concerning the question of whether sema developed out of a pre-existing megalithic culture, Paknam (1981, 60-62) agrees with Wales and Vallibhotama that they evolved out of an indigenous forerunner. Apart from surveys by the Fine Arts Department in 1981 and 1982, he is the only scholar to actually give proposed locations for megaliths in the northeast, stating that in Maha Sarakham province, stone alignments are regularly found in rice fields, spaced about one hundred metres apart with some alignments continuing for over a kilometre (1981, 60). He identifies further evidence in Chaiyapoom where he argues that menhirs were set up in a stone circle. His view on this matter is best summed up by his statement ‘...the menhir was brought to the monastery’ (1981, 61). Fieldwork carried out for this thesis however, calls into question Paknam’s claims and at a number of the sites that he mentions no megaliths were found when visited in 2008 (see chapter 6.3).

In 1985 Srisakra Vallibhotama published a further article, again in Thai entitled ‘*Sema Stone Boundary Markers from the Northeast: Survey and the Study on the Continuation of Megalithic Culture in the Region*’.<sup>7</sup> In this article he argues that a megalithic culture existed in the transitional period from the Neolithic to the Bronze Age, but in certain areas of the northeast this tradition lasted longer and was still active at the start of the historic period (1985, 32). He goes on to state that the practice of planting standing stones in connection with burial sites had a long tradition in the areas of the Mun and Chi river systems, and that the space for ritual activity was a mound surrounded by megaliths. As Buddhism moved into the area the practice adapted to the new religion (1985, 32-33). Vallibhotama builds his argument by showing that at various sites throughout the northeast, sema are found in association with moated sites. These moated sites, such as Muang Fa Daed and Bahn Taht Tong in Yasothon, in turn have clear evidence of inhumation burials. Vallibhotama argues therefore, that the presence of sema at these sites harkens back to their pre-Buddhist function as megaliths. While

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<sup>7</sup> Both this and Vallibhotama’s 1975 article ‘*Sema Isan*’ were republished in a collection of essays in 1990 under the somewhat sensational title ‘*A Northeastern Site of Civilization: new archaeological evidence to change the face of Thai History*’.

Vallibhotama succeeds in highlighting the connection between sema and moated sites his work does not show a clear connection between the practice of setting up sema and inhumation burials and his argument is more conjectural than anything else. He provides no empirical evidence to show the existence of megaliths in the prehistoric period and his evidence for megaliths at Dvaravati period sites is circumstantial. In actuality what he is basically stating is that, megaliths are associated with burials, at a later date sema are also found at sites with burials, therefore sema must have evolved from megaliths. The one clear fact that refutes this argument is that Vallibhotama cannot provide one single example of a megalith from anywhere in the northeast of Thailand. This lack of any substantiating evidence for megaliths is discussed in chapter 6.3.

### **3.6.3 The 1990s to the present: Continuing research on sema**

Research on sema from the 1990s to the present has mainly been carried out by Arunsak Kingmanee in the form of a series of articles published in Thai language in both *Muang Boran* and *Silpakorn* journals. Kingmanee's approach is to focus on one particular sema in each article and attempt to identify the particular *jataka* or Life of the Buddha scene depicted upon it. He also discusses style and derives relative dates for the sema by looking at both their iconography and stylistic traits. Essentially, he is continuing the work started by Piriya Krairiksh and his articles are an invaluable source and contribution not only to the subject matter of sema reliefs, but also to Dvaravati art in general. The only criticism of his work is that due to his research/publication methods, he looks at sema in isolation and seldom, if ever, discusses their wider archaeological or geographical context. To date he has published twelve articles in total from 1996 to 2007.

Two other articles which take the same approach as Kingmanee have also been published in Thai language. In 1991 Suksavasti Suriyvudh published an article in *Muang Boran* identifying a scene from the *Ramayana* on a sema and in 2002 Rungroj Piromanukul also publishing in *Muang Boran*, identified a *jataka* with Mahayana and Khmer influence. It should also be noted that Rungroj Piromanukul contributed an article on sema in the recently published Dvaravati catalogue of the Musée Guimet (2009) entitled '*Les bornes rituelles du nord-est de la Thaïlande*'. However, while this

article is a concise summary of all research carried out to date on sema it does not contribute anything particularly new on the subject.

In the last three to four years (2005-2009) new research findings have begun to emerge from Laos as a result of a number of projects that have been initiated by Western scholars and institutions. Two publications in particular provide evidence for the extent and reach of the sema tradition into the Laotian provinces of Vientiane and Savannakhet. These publications illustrate that the sema tradition's boundaries are somewhat greater than was understood by previous scholarship which focused on northeast Thailand alone.

Anna Karlstrom's 2009 PhD thesis entitled '*Preserving Impermanence. The Creation of Heritage in Vientiane, Laos*' studies the development of the city of Vientiane from prehistory up to the modern day from a heritage management perspective. As part of her research she carried out excavations at Bahn Viengkham where a number of *in situ* Dvaravati period sema were discovered. Her research, while not focusing specifically on sema or the Dvaravati period, nonetheless, provides important empirical and archaeological evidence. She assigns an 8<sup>th</sup>-9<sup>th</sup> century date for the excavated sema.

The second publication of note is by Michel Lorrillard (2008) of the EFEO Vientiane entitled, '*Pour une Géographie Historique du Bouddhisme au Laos*'. This article discusses the research findings of survey work carried out by Lorrillard and the EFEO in central and southern Laos focusing on the development of Buddhism. In the first section of his article, Lorrillard documents fourteen sites in Vientiane province and three in Savannakhet province where Dvaravati period sema are found, some of which are still *in situ*. He also documents further evidence for Dvaravati culture in the region such as a number of Buddha images and a Mon inscription. By comparing motifs such as the *stupa-kumbha* which is found at a number of sites in Laos and *in situ* archaeological evidence, Lorrillard concludes that the sema found throughout Vientiane and Savannakhet are part of the same tradition that existed in northeast Thailand. Lorrillard is at present carrying out further survey work in southern Laos and is

planning to publish articles in the near future that should provide additional evidence for the spread of sema into this region.<sup>8</sup>

### 3.6.4 Summary

From reviewing the work published to date on sema, we can divide the literature into three categories. The first consists of looking at sema from an art historic standpoint with the main priority being the analysis of the style, iconography and content of the art on sema. In doing so important early contributions were made and it became possible to talk about a Dvaravati art style that extended beyond central Thailand. The second category consists of surveys of sema throughout the Khorat Plateau. These works, such as Vallibhotama's 1975 article and Lorrillard's 2008 publication provide invaluable information in regard to the location and geographical extent of sema. The third category is in regard to the origins of sema. On the one hand there are works such as Seidenfaden and Krairiksh which place sema well within the sphere of influence of central Dvaravati art. On the other hand, there are works which see sema as a uniquely northeastern phenomenon. Groslier, with his proposed '*civilisation des steles*' and Vallibhotama's 1990 publication, have done a lot to place sema within a Khorat Plateau context.

Furthermore, by reviewing the existing literature on sema, a number of issues arise which have helped to define and shape the research questions being asked in this thesis. They can be expressed as four distinct points.

First, the earliest scholarship focused primarily on sema with narrative episodes and consequently to some degree misrepresents these objects, as the vast majority of stones do not have such pictorial scenes. In fact, most sema are either plain, apart from a carved band of lotus petals around the base or have a number of motifs such as an axial stupa or stupa-*kumbha* motif. This misrepresentation not only exists in the literature but also in the illustrations available in publications. Once again, with the exception of Paknam's 1981 work, illustrations and photographs of sema in most publications favour sema with representations of either *jataka* tales or scenes from the Life of the Buddha.

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<sup>8</sup> Pers. comm. Michel Lorrillard.

Plain pillar and slab type sema on the other hand, which make up a large majority, are seldom shown. This thesis therefore readdresses the imbalance by giving substantial emphasis to sema without narrative episodes on them (see chapter 5).

Secondly, apart from Groslier's article it is also apparent that there is little treatment of the context within which sema are found and no detailed analysis has been done in regard to their distribution throughout the Khorat Plateau. While Vallibhotama's 1975 article is a survey of the locations of the sema throughout the northeast, he does not attempt to correlate these locations with either the motifs found on them or their relationship to Dvaravati period sites within the region. Other authors, by focusing on the artwork alone, decontextualise sema from their geographical and cultural environment. This thesis therefore recontextualises sema by studying them within their historic landscape and analyses their distribution throughout the region (see chapter 4).

Thirdly, a prevailing idea present in the literature is that of a pre-existing megalithic cult within the region out of which sema may have developed. This proposal was first put forward by Wales (1969) but he provided little in the way of archaeological evidence to back this up. Despite the lack of evidence and the absence of any systematic or thorough research into the question of whether sema evolved out of megaliths, this view gained in popularity as the scholarship on sema developed. Apart from a brief critique and challenge to this position by Krairiksh in 1974, this view continues to be put forward in articles.<sup>9</sup> A key research question of this thesis, therefore, has been to test this proposition by surveying the region and recording the evidence of megalithic culture. Furthermore, by creating a typology, possible megaliths have been compared to the forms of the earliest sema in order to analyse their dimensions and shape and see if this evolution is in fact plausible (see chapter 6).

Fourthly, when we look at the literature on sema in the larger context of scholarship on Southeast Asia and particularly on Thailand from the 5<sup>th</sup> century CE onwards, further issues arise. In the majority of art historical and archaeological work published on Dvaravati, the Khorat Plateau in many senses is not considered as a region in itself, but

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<sup>9</sup> See for example, Piromanukul (2009).

as part of, or at times, subsidiary to central Thailand. This view colours the interpretation of sema and as shown above, the first art historical analysis of sema did not view the art as a unique style of the northeast but as a derivative of central Dvaravati art. The sema tradition and its art therefore, became something to be explained in terms of central Thailand. In doing this, scholars overlooked the possible unique northeastern aspects of this art. For example, is there a particular Khorat Plateau aesthetic that can be identified on sema and if so would this be representative of the people who created these stones? This is another question that this thesis attempts to answer as this study aims to readdress this balance in the scholarship on sema. It therefore views sema first and foremost as an expression of early Buddhism in the Khorat Plateau, both in terms of the art produced and the culture it represented (see chapter 5).

### **3.7 Summary**

This chapter has reviewed a variety of different types of evidence to build a definition of what sema are and how they functioned. The textual evidence provides the basis for our understanding of the need to demarcate sacred space in order to carry out certain essential rituals. It also informs us that this is to be done by the use of boundary marks (*nimitta*). Significantly though, it does not state exactly what these *nimitta* are to be.

Archaeology, however, provides an answer to this question in regard to the Khorat Plateau during the Dvaravati period. The solution was to use large carved stones, usually sandstone but sometimes also in laterite, that in Thailand became known as sema. Furthermore, in the absence of more monumental religious structures, sema could have functioned as clear markers illustrating the sacred nature of the space they enclosed. Sema therefore, would have also have functioned as one means to define and shape the visual religious landscape of the time.

What other Buddhist communities outside of the Khorat Plateau used for *nimitta* during this period is uncertain, however, they could have been using a variety of methods such as natural features including trees, rocks and rivers or perishable materials such as wood. Evidence from Vesali in western Burma and Beikthano in central Burma, suggests that

they were using fossilized wood while at Thaton in Lower Burma they appear to begin to use stone by the 11<sup>th</sup> century.

The question of the number of uses sema were put to in the Dvaravati Period has also been raised as has the issue of projecting back modern day Buddhist practice onto the past. In Thai Buddhism today, sema are used almost exclusively in sets of eight or sixteen to consecrate and demarcate a square or rectangular area around the *ubosot* and in doing so create a *khandasima*. However, archaeological evidence from a number of Dvaravati period sites shows differing usages, configurations and placements indicating that at this time the function of sema was perhaps not firmly fixed and a degree of flexibility existed. This would explain why sema are found not only around *ubosots* but also around stupas, Buddha images and rock-shelters and created square, rectangular and circular shaped *sima*. Sema may also have functioned to fix sacred space when no buildings were present or when religious structures were modest and built of perishable materials. In the absence of monumental architecture, sema with their monolithic quality perhaps fulfilled a primary role in defining the religious landscape.

Inscriptional evidence sheds light on the social and political importance that was attached to sema and the demarcation of sacred space. It appears from the limited epigraphic evidence available that the sema consecration ceremonies were sponsored by local dignitaries or rulers and that the stone was at times donated by royalty. Brahmans may have been employed to supervise the ritual while merit was accrued by those who made the dedications. It appears therefore, that sema at times acted not only as objects of religious worship but also as vehicles for social and political design.

Looking at modern worship allows us to view the continued importance of sema within Buddhist communities to this day as seen in the many examples and variations of re-use found throughout the Khorat Plateau, reminding us that they are still potent religious objects. Just as important is the fluidity of meaning illustrated by these examples. It cautions us not to restrict our understanding of sema to a narrow definition of an object used only to create sacred space. That today they are found in a variety of other religious contexts highlights the possibility that this may also have been the case in the past.

Reviewing the literature on sema allows us to build up a picture of how they are viewed and understood in modern scholarship and also illustrates how certain explanations, classifications and theories arose and remain present today. It provides the basis for forming a number of the research questions present in this thesis with some of the assumptions and hypotheses in the literature being challenged in the following chapters of this thesis. In particular this study challenges the viewpoint of seeing sema in terms of the Dvaravati culture of central Thailand as opposed to being a phenomenon of the Khorat Plateau, as well as the idea that sema arose from a megalithic cult and the process of decontextualising the art of sema.

In conclusion, sema arose as a specific response to a doctrinal need and while their function was to a certain extent limited by this, their varied usage throughout the Dvaravati period illustrates that the forms of Buddhism being practiced possessed a fair degree of flexibility and creativity in their praxis. This is further emphasised by the skill and expression of the artwork on many sema and their re-use to this day, which allows them to function not only as boundary markers but as objects to inspire and invoke religious piety.

## Chapter 4

### The Distribution of Sema throughout the Khorat Plateau

Representing an integral part of the religious and cultural landscape of the Khorat Plateau past and present, Dvaravati period sema are found throughout the entire length and breadth of the region, as illustrated by the 111 sites documented in this study. However, in order to fully understand and appreciate the nature and significance of this tradition, it must be looked at from the vantage point of the Plateau itself if our interpretations are to do it any justice.

Consequently, this chapter discusses the distribution of sema throughout the Khorat Plateau from a variety of viewpoints and approaches. First and foremost, it looks at the tradition from the perspective of landscape archaeology allowing it to recontextualise sema back into the physical and cognitive environments in which they belong. In doing so, it first discusses the geography of the Khorat Plateau and the types of sites where sema are located. Following on from this, the question of provenance shall be addressed. How many sema are actually still *in situ* and how secure is the provenance for those that are not?

Having discussed the broader contextual issues, the chapter then focuses on an in-depth analysis of the distribution of sema. First of all, the sites are divided into three groups, the Chi river system, the Mun river system and the Middle Mekong. After this, the distribution analysis goes a step further and subdivides the three groups into eight distinct clusters, each with its own defining characteristics and geographic areas. Following on from this, the distribution analysis discusses the question of whether there is a direct correlation between moated sites and the sema tradition as has been argued by Groslier (1980).

Next the relationship between the distribution of motifs, narrative art and types of sema and the groups and clusters within which they are found is discussed. The chapter then broadens its approach to look at the wider distribution of sema outside of the Khorat Plateau. Areas discussed range from Phnom Kulen and the Bayon terraces in Cambodia, to the sites of Vesali and Thaton in Burma and also to certain areas of central Thailand such as Ratchaburi, Petchaburi, Sri Thep and Nakorn Sawan.

Finally this chapter turns its attention to the wider issue of the movement of Buddhism and Dvaravati culture into the region by using sema as a case study. It traces the spread and routes of transmission of this religion and culture highlighting its dependence on pre-existing settlement patterns and river systems. It also shows that a number of Buddhist centres emerge from this study.

#### **4.1 The Khorat Plateau**

The Khorat Plateau as defined in this thesis encompasses the regions of Northeast Thailand and the lowland areas of Vientiane and Savannakhet provinces of Laos (figs. 4.1a, 4.1b, 4.1c). This definition is arrived at, not by the limits and boundaries created by modern nation states, but on the natural topography of the region itself. The modern international border between Thailand and Laos centring on the Mekong River actually distorts the geographical homogeneity of the region. Furthermore, sema and Dvaravati culture in general were not subjected to this division and were free to spread along both sides of this river system. In actuality, the Mekong River should be seen as a vital route of trade, transport and communication as opposed to a modern boundary between nation states.

Interestingly, Thongchai Winichakul (2004) points out that until the arrival of British and French colonial powers into the region, which brought with them the modern technology of mapping, the Thais and Burmese in particular did not conceive of boundaries in the sense of a dividing line drawn on a map. Instead, they viewed their borders as more fluid spheres of influence based around local towns or settlements. That territories could overlap, which was often the case on both sides of the Mekong region, was not seen as in any way conflicting or contradictory.



Figure 4.1a: Map showing the modern day boundaries, provincial capitals, road, rail and river systems of the Khorat Plateau.

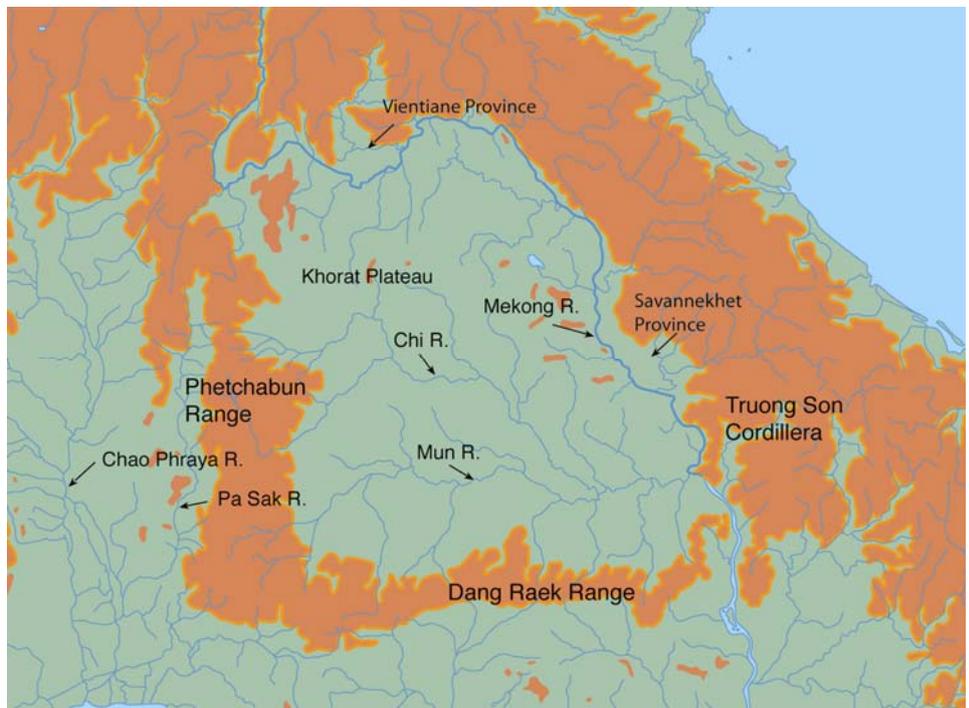


Figure 4.1b: Topographic map showing the Khorat Plateau encompassing modern day northeast Thailand and Vientiane and Savannakhet provinces of Laos.

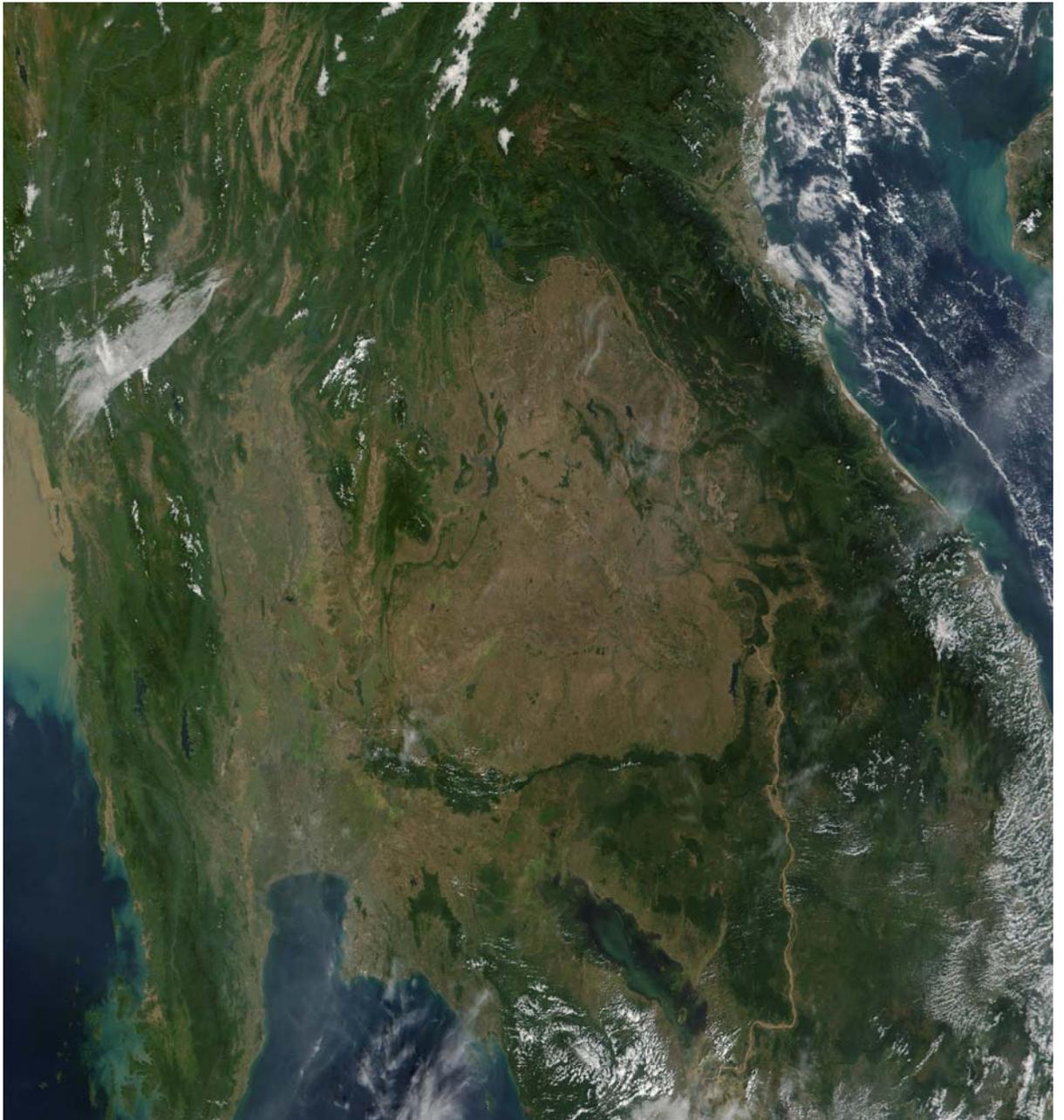


Figure 4.1c: Satellite image showing the Khorat Plateau and its surrounding regions.

Northeast Thailand, or Isan (ภาคอีสาน in Thai) as it is more commonly known, is the largest region in Thailand making up about one third of the country's total area. Modern day Thailand itself covers a total area of 513,000 square kilometres with northeast Thailand making up 170,000 square kilometres (Kermel-Torres 2004, 28, 161). The lowland area of Vientiane Province makes up an area of approximately 15,927 square kilometres while the area of Savannakhet is approximately 21,774 square kilometres. Therefore, the total area of the Khorat Plateau, and subsequently the study area of this thesis is approximately 207,701 square kilometres.

The Khorat Plateau lies at an average height of about 170 metres above sea level and dominates the physical geography of the area. The majority of the plateau lies at a height of about 90 to 200 metres above sea level with its lowest point, located around the area of modern day Ubon Ratchathani, lying at no more than 60 metres above sea level (Pendleton 1962, 43). The Plateau is bordered by the Phetchabun and Dang Raek Mountains ranges to the west and south respectively and to the north and east by the Truong Son Cordillera in central and southern Laos (figure 4.1a). The plateau itself is formed of sub-horizontal Mesozoic sandstone which slopes in the general direction of northwest to southeast (Kermel-Torres 2004, 28). Its colour is usually a red or violet hue (Pendleton 1962, 56) as can be seen in a number of examples of sema. Furthermore, the relatively plentiful availability of sandstone is an important factor to bear in mind when attempting to explain the proliferation of sema throughout this region.

Unlike the central plains of Thailand which are blessed with a great alluvial plain drained by the Chao Phraya River and criss-crossed by various other lesser waterways which as a result provide excellent conditions for rice cultivation, the Khorat Plateau on the other hand is comparatively ill-suited for this type of agriculture (Kawaguchi & Kyuma 1977, 26-33). Soils are poor in quality and prone to salinity. Furthermore, rainfall throughout the region is irregular and can cause a combination of drought and flooding at various times throughout the year (Kermel-Torres 2004, 162). The latter factor means that the low lying flood plains of the major rivers would have been difficult areas in which to settle, at least until sufficient water management technologies were developed (Higham & Thosarat 1998, 18). The lower terraces and stream tributaries with their less severe flooding, on the other hand provided more suitable locations for habitation.

It is unsurprising therefore, that the majority of archaeological sites, from prehistory to the Dvaravati period, are located along tributaries or within close proximity to the Chi, Mun and Middle Mekong river systems (see section 4.5 below). This settlement pattern has remained relatively unchanged until present day with the majority of villages, towns and provincial centres still located on or close to major rivers. As Kawaguchi and Kyuma (1977, 27) point out, in Southeast Asia one-third of the potentially arable land is alluvial lowlands, and this necessitates that these areas be cultivated for rice crops. Furthermore, fieldwork and archaeological surveys over the past fifty years (FAD 1959, 1973, 1990) or so have by and large confirmed this with few moated sites for instance being found in areas not closely located to river systems.

#### **4.1.1 The Chi River System**

The Chi river system rises in the Phetchabun mountain range to the east of the modern town of the same name and flows south towards Chaiyapoom Province before moving northeast towards the modern day city of Khon Kaen. From here it takes on a southeasterly course, passing through the provinces of Mahasarakham, Kalasin, Roi Et and Yasothon respectively before joining the Mun River, the confluence being located some 10 kilometres or so west of the city of Ubon Ratchatani. Its total length is approximately 450 kilometres.

Due to the climatic and geomorphological conditions that exist in the Khorat Plateau, the Chi river system has always been highly susceptible to severe flooding. The low terraces in particular are rich in alluvial and semi alluvial deposits with poor drainage and low fertility. Rice therefore, is the only suitable crop available to be cultivated, particularly during the rainy season. Similarly, soil types on the middle and high terraces also produce low yields of rice (Lam Pao Project 1978, 8-9). Despite these factors the Chi river system, cutting a roughly diagonal path across the middle of the Khorat Plateau, provides essential water resources and opportunities for agricultural cultivation and serves as a vital conduit for the human habitation of this region.

#### **4.1.2 The Mun River System**

The southern part of Isan is dominated by the Mun river system, which measures approximately 673 kilometres in length. Originating in the San Kamphaeng Mountain Range in close proximity to Khao Khieo Mountain this river system flows in a

northeasterly direction towards the modern city of Nakorn Ratchasima. After this, it flows in an easterly direction through the provinces of Buriram, Surin, Sri Saket and Ubon Ratchathani respectively before joining the Mekong River at the modern day town of Khong Chiam. As with the Chi River in central Isan, the Mun River represents an important geographical feature, which to a large extent has defined settlement patterns and agricultural possibilities from antiquity to the present day.

Constant risk of flooding coupled with the need to preserve and manage water resources has resulted in settlements, both moated and unmoated, in the Mun River system being located on three different zones (Moore 1988, 60-61). These zones have been classified by Moore (1988) as floodplain, low, and upper terrace areas. Taking the provinces of Buriram and Nakorn Ratchasima as an example, Moore points out that in the latter province thirty percent of sites are located on the floodplain while fifty-five percent are located on the low-middle terraces. In Buriram, only eleven percent of sites are located on the floodplain while seventy-five percent are located on the low-middle terrace (Moore 1988, 61-62, fig. 4.8). Moore's research therefore, clearly illustrates the close relationship between settlement patterns and the Mun river system.



Figure 4.2: The Mun River at Phimai.

### **4.1.3 The Middle Mekong**

Northern Isan and central Laos are geographically dominated by the Mekong River, which today forms the modern border between Thailand and Laos. However, as discussed previously, geographically speaking this divide is an artificial one, resulting more from European colonial expansion into former Indochina than cultural or ecological factors. Therefore, it is unsurprising that we find evidence for the sema tradition on both sides of this river system.

In this thesis, the term 'Middle Mekong' is employed to describe the area of the Mekong river system and its tributaries, flowing from Vientiane province in central Laos to Pakse in Champassak province of southern Laos. This stretch of the Mekong therefore, encompasses locations such as Loei, Udon Thani and Nong Khai provinces and the Sakon Nakorn Basin of Thailand, the lowland areas of Vientiane province in central Laos and Savannakhet province in southern Laos. The total length of this area of the Mekong River is approximately 900 kilometres.

The north of Isan is largely characterised by the Phetchabun mountain range to the west and the Sakon Nakorn Basin to the east, both of which are bordered by the Mekong River to the north. The Sakon Nakorn Basin is bordered to the south by the Phu Phan Mountain Range, which at its highest point reaches an elevation of 666 metres. The basin itself is drained by the Songkhram River and its tributaries the Lam Nam Yam River and the Huai Nam River and eventually drains into the Mekong River. The modern basin is characterised by paddy fields and swamps, while the Phu Phan Mountain Range is still relatively densely forested (Kermel-Torres 2004, 164).

The physical geography of the Sakon Nakorn Basin sub-region therefore, makes it much more unsuitable for substantial rice cultivation than the areas of the Mun and Chi river systems and is today characterised by the growing of cash crops. This fact is further emphasised by the much lower numbers of both sema locations and Dvaravati period moated sites throughout this sub-region (see section 4.2 and 4.6 below).

Vientiane Province is dominated by the Mekong River to the south and the Nam Ngum River to the north which flows southward and meanders through the centre of the province before draining into the Mekong close to the modern Thai town of Phon Phisai. The majority of Vientiane province is upland and mountainous with only a

relatively small area being lowland. It is within this lowland area, particularly along the Nam Ngum and Mekong Rivers that we find evidence for the sema tradition.

Overall therefore, the Khorat Plateau represents a distinct geographical zone within the area of modern day northeast Thailand and central/southern Laos. Characterised by poor soils and unpredictable rainfall, ancient settlements therefore had to locate themselves primarily along the lower terraces of the Mun, Chi and Mekong rivers or on their tributaries. It was in these locations therefore, where there were rich alluvial soils and manageable flood regimes, that agriculture could successfully take place. As a result these river systems came to dominate the direction and spread of the cultures that took hold within the region. By the Dvaravati period in particular, the predominance of these rivers is clear to see with the vast majority of moated settlements and earthen mounds being located within alluvial floodplains. It should come as no surprise therefore, that over the centuries the Khorat Plateau has developed its own customs, traditions and particular sense of identity, and to this day still maintains a large degree of cultural autonomy.

## **4.2 Site Types**

The primary form of settlement in the Khorat Plateau during the Dvaravati period is the moated site. Moated sites, in turn can also have earthen mounds, however this latter site type is also at times found independently of the former. Sema, subsequently are found at three types of site in the Khorat Plateau. They are; moated sites, earthen mounds and what have been classified as undefined sites. In total, twenty-five sema locations are situated at moated sites, fifteen are located at earthen mounds while the remaining seventy-one locations are undefined sites (see table 4.1).

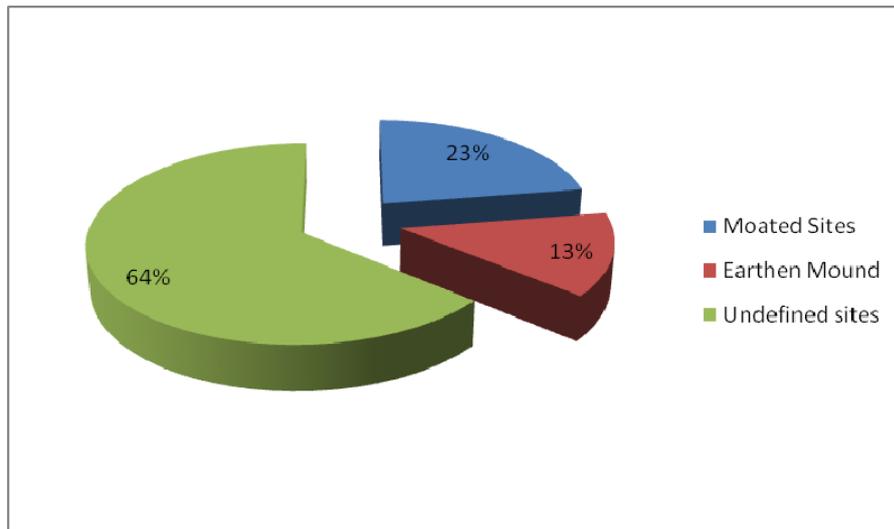


Table 4.1: Sites types represented in percentages.

#### 4.2.1. Moated Sites

Moated sites are a phenomenon found throughout central and northeast Thailand and date from a variety of periods stretching from the Bronze Age up to the Dvaravati Period and beyond. The sites of Noen U-Loke and Bahn Nohn Wat for example, date as far back as the Bronze Age and were inhabited until the Iron Age (Higham 2002, 196-206) while other sites such as Non Muang in Khon Kaen Province (Wattanatum...Khon Kaen 2000, 83-84) and Muang Fa Daed in Kalasin province



Figure 4.3: View of the moat at Muang Fa Daed at the end of the rainy season in late October 2007.



Figure 4.4: Aerial view of the moated sites of Bahn Muang Fai, left and Non Muang, right.

(Indrawooth 2001; Indrawooth *et al.* 1991) reveal habitation stretching from late prehistory and continuing into the Dvaravati Period. Sites in central Thailand, show similar patterns with some, such as Chansen spanning the prehistoric and Dvaravati periods (Bronson 1976) while others such as Dong Mae Nang Muang being only occupied for a short span of circa the 9<sup>th</sup>-12<sup>th</sup> centuries CE (Murphy & Pongkasetkan 2010, 57).

Moated sites largely consist of an earthen mound surrounded by a number of concentric moats, usually between three and five in number, interspersed with earthen ramparts. To this day, many of the moats are still visible and retain water particularly during the rainy season (figure 4.3). The ramparts on the other hand are in many instances no longer visible, and as Moore (1988, 6) points out, this is largely due to a combination of modern farming practices and the increasing demand for available land particularly for rice cultivation (figure 4.4). The earthen mounds themselves, having been built up over centuries of habitation, can have an elevation of anywhere between 1-5 metres above the surrounding landscape (Moore 1988, 8).

According to Moore (1988, 8-10) the actual size of moated sites can vary depending largely on what type of settlement they are. In her study and survey of moated sites in the Mun river system, Moore classifies them into two types, water-harvesting and

territorial sites. As the plan of water-harvesting sites is governed to a large extent on local topography, their site size is therefore also determined to a certain extent on this geographical factor. Territorial sites on the other hand, are not determined by topographical conditions and therefore form a more variable group (Moore 1988, 9). In the main, therefore, territorial sites are larger than water-harvesting sites and Moore cites two examples to illustrate this.

The first, the site of Muang Fang, is a water-harvesting site possessing four moats in total. The area of the innermost earthwork and mound is approximately 23.7 hectares. However, when the second earthwork is also incorporated the area expands to around 32.5 hectares (Moore 1988, 9). Muang Sema on the other hand, is a territorial site and while the area of the original mound and moat is comparable to Muang Fang, measuring about 37.5 hectares, the size of the site increases dramatically when we include the second moat into the calculation, bringing the total area to about 150 hectares, or approximately four times the size of Muang Fang (Moore 1988, 9).

This thesis has mapped and located a total of forty-five Dvaravati Period moated sites of various size and type, the majority of which are located along the Chi and Mun river systems (see table 4.2). As is shown section 4.6, the vast majority of Dvaravati Period moated sites along the Chi river system possess sema while those in the Mun and Middle Mekong do not. Therefore, in the Chi river system there is a correlation between moated sites and sema, suggesting that they played an important role in the religious beliefs of many moated sites throughout this region.

#### **4.2.2. Earthen Mounds**

Less common than moated sites, but also prevalent throughout the Khorat Plateau are Dvaravati Period earthen mounds. A total of fifteen sema sites are associated at earthen mounds, the majority of which are situated along or in close proximity to the Chi River. As discussed above, earthen mounds are usually located within or close to moated sites. In some instances therefore, earthen mounds that are found in isolation, may have in fact once been part of a moated site, however, the moats may no longer be visible or survive today.

At certain sites such as Lam Pao 7 in Sahat Sakhon Kalasin Province, sema have been recovered *in situ* around the mound (Allen 2004, 544-551) while at Bahn Tat Tong

(L9) in Yasothon Province, a large number of sema have been recovered around and in the immediate vicinity of the mound.

The earthen mound at Bahn Tat Tong seems to have been inhabited from pre-historic times onwards with excavations revealing three phases of occupation. The first two periods show evidence of jar burials and were therefore assigned to pre-historic habitation while the final phase revealed stones wares, Lopburi wares and sema from which we can infer that the site was occupied throughout the Dvaravati and Lopburi Periods (Dumrignon 2006, 33-45). Excavations at the earthen mound Lam Pao 7 on the other hand reveal that the occupation period was shorter in duration spanning the Dvaravati and Lopburi periods only (Allen 2004, 544-551).

Earthen mounds therefore, do not necessarily represent sites of long-term occupation and can in certain cases have a habitation span of only three to four centuries. In some instances such as at Lam Pao 7, brick foundations have been discovered (Allen 2004, 548) raising the possibility that these may represent evidence for Dvaravati period religious buildings. However, at other sites such as Bahn Tat Tong and Nong Sila Layk no evidence for structures has been uncovered, suggesting Buddhist rituals may have taken place in the open with the area demarcated by sema. As discussed in chapter 2, it is also possible that Buddhist buildings during this period were made from non-durable materials such as wood and consequently have left no recoverable evidence in the archaeological record. However, evidence from the site of Dong Mae Nang Muang in Nakorn Sawan province of central Thailand, clearly shows that at this site earthen mounds were Buddhist religious structures, most usually small stupas (Murphy & Pongkasetkan 2010, 58, 65-69).

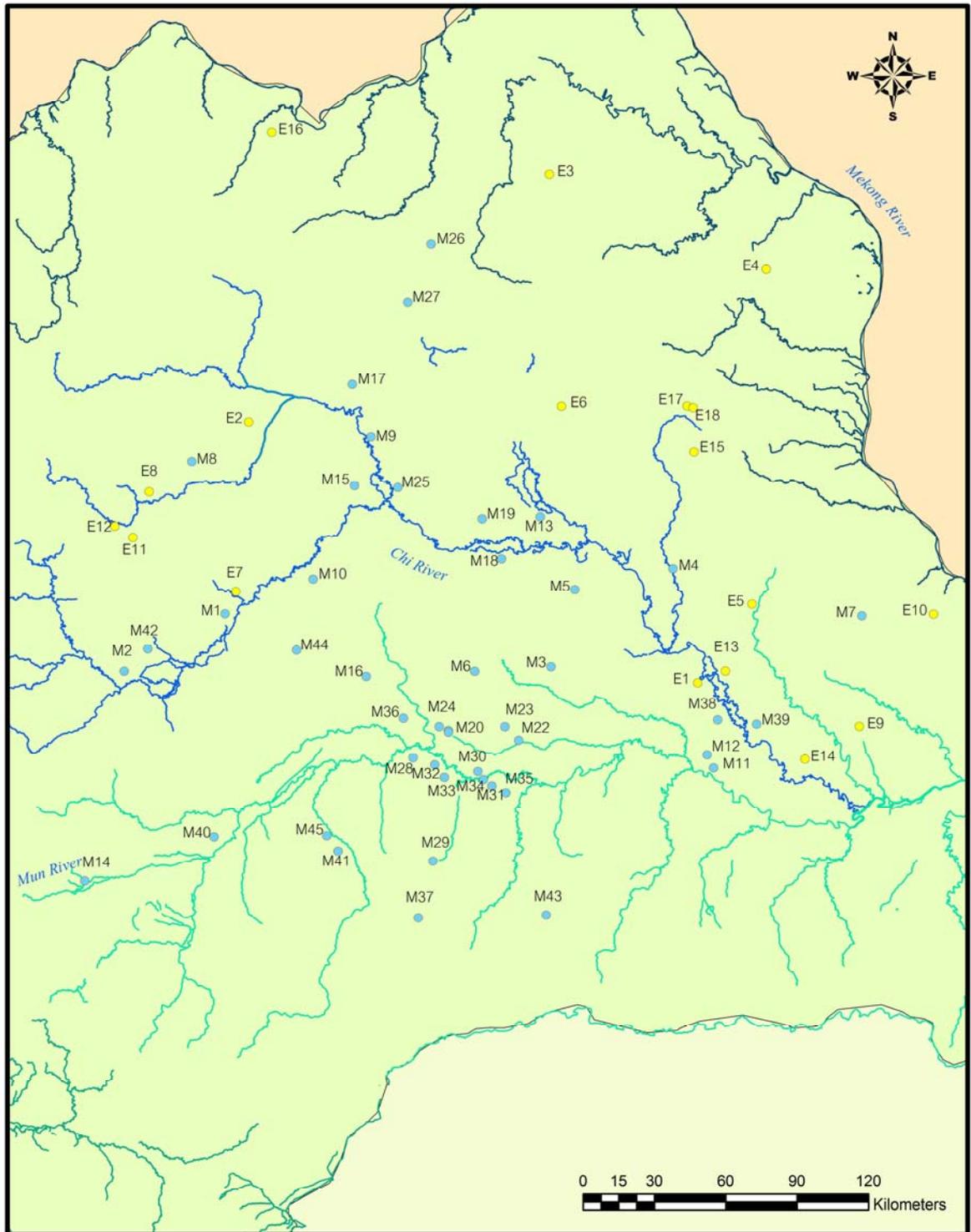


Figure 4.5: Map showing the distribution of Dvaravati Period moated sites and earthen mounds located throughout the Khorat Plateau. Moated sites are shown in blue, earthen mounds in yellow.

<b>Number</b>	<b>Province</b>	<b>District</b>	<b>Village</b>
M1	Chaiyapoom	Korn Sawan	Bahn Korn Sawan
M2	Chaiyapoom	Bahn Kao	Bahn Nong Kai Non
M3	Roi Et	Chaturaphak Phiman	Bahn Muang Lang
M4	Roi Et	Selaphum	Bahn Maung Prai
M5	Roi Et	Roi Et Town	Roi Et Town
M6	Maharakham	Na Dun	
M7	Amnat Chareon	Hua Taphan	
M8	Khon Kaen	Chum Pae	Bahn Nohn Muang
M9	Khon Kaen	Nam Phong	Bahn Tah Krasoem
M10	Khon Kaen	Bahn Pai	Bahn Muang Phia
M11	Sri Saket	Rasi Salai	Bahn Lupmohk
M12	Sri Saket	Rasi Salai	Bahn Dorn Glue
M13	Kalasin	Kamalasai	Bahn Sema
M14	Nakorn Ratchasima	Sung Noen	Bahn Hin Tang
M15	Khon Kaen	Khon Kaen Town	Bahn Sri Than
M16	Khon Kaen	Nong Song Hong	Bahn Nong Ku Bua
M17	Khon Kaen	Khao Suang Kwang	Bahn Dong Muang Aem
M18	Maharakham	Maharakham Town	Bahn Chiang Heean
M19	Maharakham	Kantawichai	Bahn Sra
M20	Maharakham	Phayakkhaphum Phisai	Bahn Muang Sairng
M21	Maharakham	Phayakkhaphum Phisai	Bahn Nam Om Noi
M22	Maharakham	Phayakkhaphum Phisai	Bahn Nam Om Yai
M23	Maharakham	Phayakkhaphum Phisai	Bahn Muang Tao
M24	Maharakham	Phayakkhaphum Phisai	Bahn Hahn Hee
M25	Maharakham	Chiang Yuen	Bahn Muang Peng
M26	Udon Thani	Nong Hahn	Bahn Nohn Hahn
M27	Udon Thani	Kumpawapi	Bahn Don Kaeo
M28	Buriram	Khu Muang	Bahn Pa Khiap
M29	Buriram	Buriram Town	Bahn Paer
M30	Buriram	Satuek	Bahn Krabueng
M31	Buriram	Satuek	Bahn Kohk Muang Sai
M32	Buriram	Satuek	Bahn Muang Noi

M33	Buriram	Satuek	Bahn Dong Plong
M34	Buriram	Satuek	Bahn Kohn Muang
M35	Buriram	Satuek	Bahn Tong Wang
M36	Buriram	Phutthaisong	Muang Phutthaisong
M37	Buriram	Prakorn Chai	Saleang Thong
M38	Yasothon	Mahachanachai	Bahn Hua Muang
M39	Yasothon	Mahachanachai	Bahn Bueng Kaeo
M40	Nakorn Ratchasima	Non Sung	Bahn Non Sung
M41	Buriram	Nong Hong	Bahn Muang Fai
M42	Chaiyapoom	Chaiyapoom Town	Muang Gao
M43	Surin	Surin Town	Ban Then Mi
M44	Khon Kaen	Phon	Bahn Muang Phon
M45	Nakorn Ratchasima	Huai Thalaeng	Ban Mai Phut Thai Chan
E1	Roi Et	Phanom Phrai	Phanom Phrai town
E2	Khon Kaen	Chum Pae	Bahn Bua Sema
E3	Sakon Nakon	Sawang Din Daeng	Bahn Mah
E4	Sakon Nakon	Sakon Nakon Town	Wat Glang Sri Chiang Mai
E5	Yasothon	Yasothon Townland	Bahn Tat Tong
E6	Kalasin	Sahat Sakan	Bahn Nong Mak Kha
E7	Khon Kaen	Minor District Khok Pho Chai	Bahn Pho Chai
E8	Chaiyapoom	Phu Khiao	Bahn Kaeng
E9	Ubon Ratchathani	Muang Samsip	Bahn Phon Muang Mathan
E10	Amnat Chareon	Phana	Bahn Phon Muang
E11	Chaiyapoom	Kaset Somboon	Bahn Non Song
E12	Chaiyapoom	Kaset Somboon	Bahn Phan Lam
E13	Yasothon	Yasothon Townland	Bahn Kum Ngoen
E14	Ubon Ratchathani	Khuang Sang Tho	Bahn Si Bua

E15	Kalasin	Kuchinarai	Bahn Nong Hang
E16	Nong Khai	Tah Bo	Bahn Khok Khon
E17	Kalasin	Khao Wong	Bahn Nong Phu
E18	Kalasin	Khao Wong	Bahn Phon Na Di

Table 4.2: Names and locations of the moated sites and earthen mounds surveyed and shown in figure 4.5.

### 4.2.3. Undefined Sites

The third type of location where sema are discovered has been classified as ‘undefined sites’. In total, seventy-one sites fall into this category. These sites have no clear boundaries or features such as moats or earthen mounds to delimit or distinguish them as a site type and are therefore unclassifiable to a certain extent. In a number of instances such as Bahn Ilay (L78) in Vientiane Province (figure 4. 6) sema are still *in situ* but the site itself cannot be determined without the undertaking of excavations. At the majority of undefined sites, however, sema are not *in situ* and have been gathered together in local temples or sheds in the villages (figure 4.7).



Figure 4.6: *In situ* sema stones at Bahn Ilay, Vientiane province.



Figure 4.7: Sema collected and stored in a pavilion at Bahn Kut Ngong, Chaiyapoom province.



Figure 4.8: Sema lying partially buried at Bahn Na Ngam in Kalasin province.

Bahn Na Ngam (L4) in Kalasin province provides a good example of an undefined site. The sema are located *in situ* in a rice field on the outskirts of the village (figure 4.8) and at present lie horizontally on the ground, partially covered in the soil. While no structures or archaeological features are detectable to define the extent of the site, the sema themselves are still located in a circular alignment, placed at regular

distances from each other. The diameter of the circle itself measures approximately 21 metres, while the sema are interspersed at a distance of approximately 8 metres. Therefore, it is clear that the area which the sema enclose would have been sufficient in size to carry out the requisite rituals. It would also have been a sufficient area to build a religious structure of some kind. We can speculate that the structure in this case was a wooden one, perhaps an *ubosot* and consequently no remains are visible today. Excavation in this area may provide evidence for such a structure in the form of postholes or an earthen floor however, the field itself has been intensively farmed for rice cultivation so archaeological features at this stage may be difficult to detect.

While therefore, a fair proportion of sites fall into the category of undefined sites, it is still possible to establish provenance in a large number of instances, and as such the phenomenon of undefined sites is not overly problematic to the study of sema distribution.

Overall it can be seen that sema are found at three types of site, moated sites, earthen mounds and undefined sites. These three site types are found throughout the Khorat Plateau, with moated sites in particular, located primarily along the Mun and Chi river systems.

### **4.3 Sema Provenance**

The issue of sema provenance is a key factor in determining the accuracy and validity of the sema distribution analysis. As discussed above, sema can be found at three types of site and while moated sites and earthen mounds usually provide clear provenance for sema, there are instances particularly with undefined sites, where the provenance is not readily apparent. However, by accessing survey and excavation reports, articles and publications it is possible to confirm definite provenance for ninety-one out of 111 sites surveyed (see Appendix 1, Table A3).

The provenance for sema from the fifteen remaining sites relies mainly on the testimony of local villagers and written documentation that discusses the sema in a more general sense. Therefore, more often than not, there is still a record for these objects' original locations. When combined with typological and stylistic analysis it becomes clear that the sema from these sites with locally confirmed provenance match

very closely with sema from sites with definite provenance. We can thus infer that the sema from sites with locally confirmed provenance are also Dvaravati period sema. There were occasions during the fieldwork where at certain sites it was unclear whether the material being looked at was in fact sema stones. On other occasions the semas' provenance could not be satisfactorily confirmed. In these instances therefore the site/sema has been omitted from the database and subsequent analysis. Therefore, the sites included in the distribution analysis have to a large extent secure provenance.

In terms of actual *in situ* sema locations there are twenty-six sites in total (see Appendix 1 table A4). There are a further nine sites where the sema are possibly *in situ* however, this cannot be established for certain without the undertaking of archaeological excavations. Therefore, a total of twenty-three per cent of locations have sema *in situ* while a further eight percent have possible *in situ* sema. Unfortunately, at sixty-nine percent of sema locations therefore, sema are no longer *in situ*.

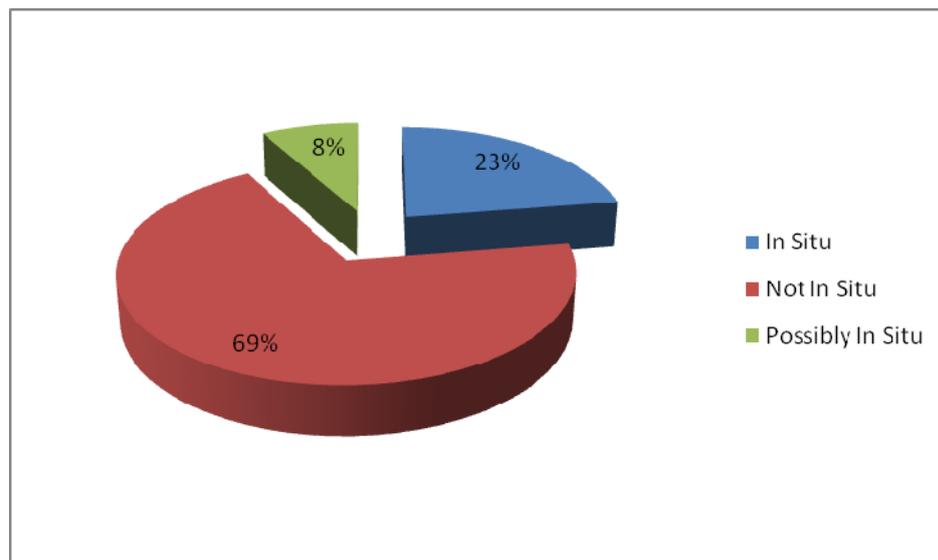


Table 4.3: *In Situ* sema locations.

The issue of provenance therefore, has been addressed by the careful analysis and study of the available sources. These include publications to a large extent in Thai language, excavation and survey reports, local testimonies and photographic archives of the Fine Arts Department of Thailand which have been listed in Appendix 1, A3.

#### 4.4 Distribution by Group

Looking at the distribution analysis of sema locations throughout the Khorat Plateau, the first clear pattern to emerge is that they can be clearly grouped into three general geographic areas. They are; the Chi river system, the Mun river system and the Middle Mekong (figure 4.9). With this division, this thesis departs somewhat from a similar grouping first proposed by Vallibhotama (1975). Vallibhotama also divides sema into three groups, the Mun river system, the Chi river system and Udon Thani-Sakon Nakon Basin. At that period, however, the existence of sema in Laos was unknown.<sup>1</sup> However, Dvaravati Period sema have recently been discovered in Vientiane and Savannakhet provinces of Laos (Lorrillard 2008; Ngaosrivathana 2009, 27). Therefore, in light of this new data, Vallibhotama's Udon Thani-Sakon Nakon Basin group has been replaced with the Middle Mekong group. The distribution analysis here is also much more comprehensive, totalling 111 sites as opposed to the thirty-two sites discussed by Vallibhotama. As discussed in section 4.1 above, the Mun, Chi and Mekong river systems dominate the geographical landscape of the Khorat Plateau and it is no surprise therefore that the location of sema sites closely follow these river systems.

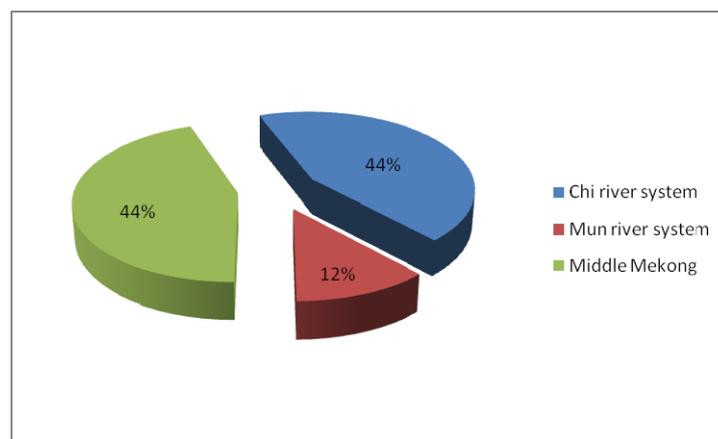


Table 4.4: Group distribution by percentage.

In terms of distribution by amounts, the Chi and Middle Mekong river systems have almost identical proportions of sites (table 4.4). Out of the 111 sites surveyed, forty-

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<sup>1</sup> The civil war and communist take over of Laos from the late 1960s-mid-1970s made the country virtually inaccessible to Thai and foreign researchers alike up until relatively recently.

eight are located along the Chi river system, forty-nine are in the Middle Mekong and thirteen are located along the Mun river system.<sup>2</sup> In percentage terms, the Chi possesses forty-four per cent of sema locations, the middle Mekong possesses also forty-four percent while the Mun possesses twelve percent.

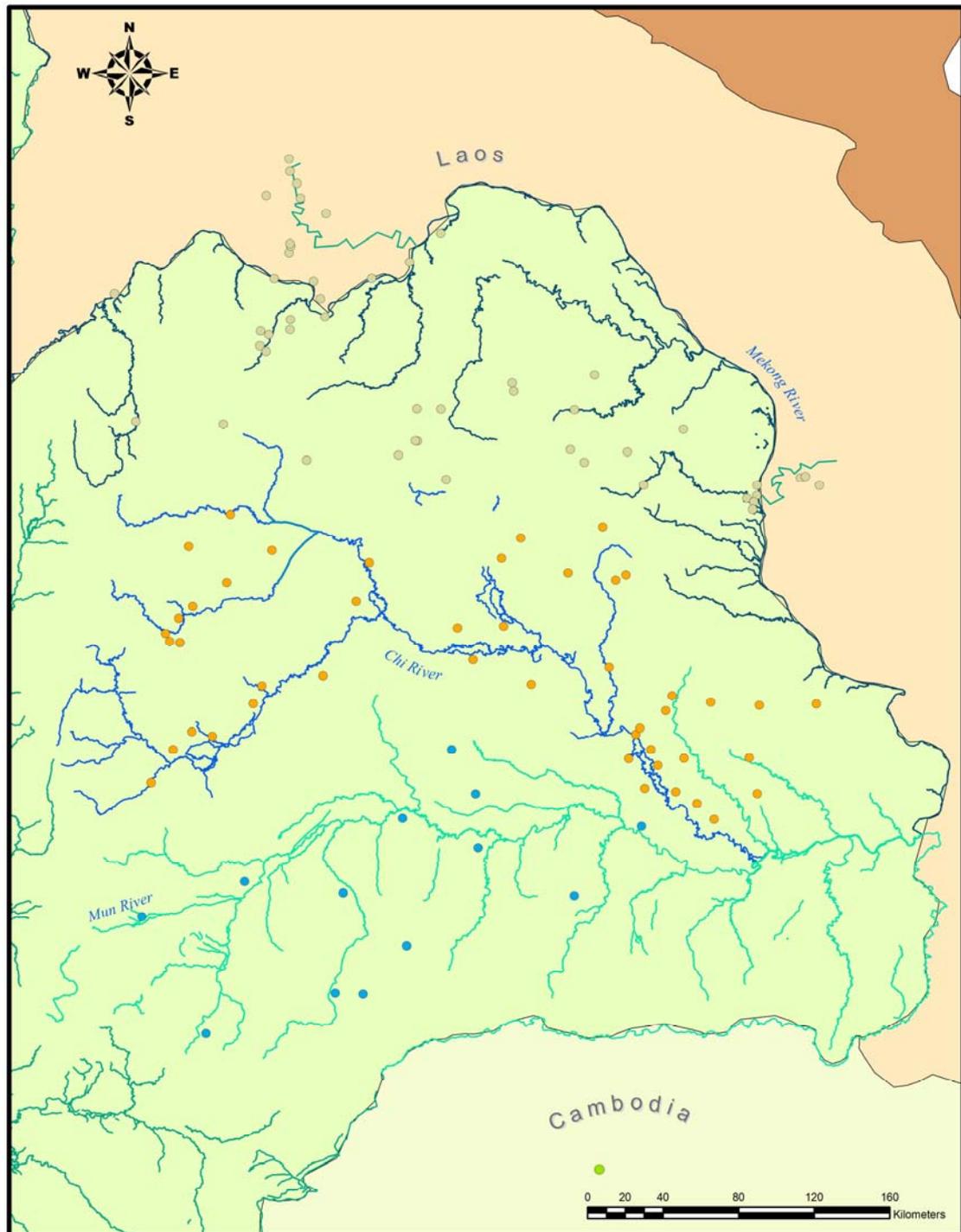


Figure 4.9: Distribution of sema locations throughout the Khorat Plateau with the Chi river system shown in orange, the Mun river system in blue, the Middle Mekong in grey and Phnom Kulen in green.

<sup>2</sup> This gives a total of 110 sites. The remaining site is Ban Gre on Phnom Kulen (L75), which gives a total of 111 sites. Phnom Kulen does not fall in to one of the three main groups.

#### 4.4.1 The Chi River System

The distribution of sites along the Chi river system spans the entire length of its course from Chaiyapoom in the west to its confluence with the Mun river in Ubon Ratchathani province in the east. The largest concentration of sites is located in the area surrounding the modern day province of Yasothon. However, significant amounts of sites are also found in Kalasin, Khon Kaen and Chaiyapoom in particular. Figure 4.10 and table 4.5 below illustrate and list all forty-eight sites and their locations in terms of the modern day provinces of Thailand.<sup>3</sup>

Site#	Province	Village/Town
L1	Kalasin	Bahn Sema
L2	Kalasin	Bahn Sohksai
L3	Kalasin	Bahn Nong Hang
L4	Kalasin	Bahn Na Ngam/Bahn Dorn Sila
L5	Kalasin	Bahn Sangkhom Phathana
L6	Kalasin	Kunchinarai Town
L8	Yasothon	Yasothon Town
L9	Yasothon	Bahn Tat Tong
L10	Yasothon	Bahn Song Bueai
L11	Yasothon	Bahn Hua Muang
L12	Yasothon	Bahn Bueng Kaeo
L13	Yasothon	Bahn Ku Chahn
L14	Yasothon	Bahn Nahm Kum Yai
L15	Yasothon	Bahn Kum Ngoen
L16	Khon Kaen	Bahn Nohn Muang
L17	Khon Kaen	Bahn Phai Hin
L18	Khon Kaen	Bahn Pho Chai
L19	Khon Kaen	Non Sema Fa Rangeum

<sup>3</sup> Over the past thirty years in particular provinces (*Jangwat*), districts (*Ampore*) and sub-districts (*Tambon*) throughout Thailand have been reorganised to a greater or lesser extent. For instance, the province of Amnat Charoen was until recently part of Ubon Ratchathani province while in other provinces such as Buriram, district boundaries have been moved or changed in order to accommodate shifting demographic conditions. Therefore, the site information listed in this thesis represents their current locations as of September 2008 and in some instances the provincial, district and sub-district details will differ from those given in earlier publications.

L20	Khon Kaen	Bahn Nohn Chat
L21	Khon Kaen	Bahn Bua Semaram
L22	Chaiyapoom	Bahn Non Song
L23	Chaiyapoom	Bahn Hua Kua/Bahn Bua
L24	Chaiyapoom	Bahn Nong Hin Tang
L25	Chaiyapoom	Bahn Pao
L26	Chaiyapoom	Bahn Kut Ngong
L27	Chaiyapoom	Bahn Nong Kai Non
L28	Chaiyapoom	Bahn Nong Hin Tang
L29	Chaiyapoom	Muang Gao
L30	Chaiyapoom	Bahn Phan Lam
L31	Chaiyapoom	Bahn Kaeng
L32	Chaiyapoom	Bahn Korn Sawan
L33	Roi Et	Bahn Maung Prai
L34	Roi Et	Phanom Phrai Town
L35	Roi Et	Roi Et Town
L37	Maharakham	Bahn Sra
L38	Maharakham	Maharakham Town
L39	Amnat Chareon	Bahn Puey Huadong
L40	Amnat Chareon	Bahn Chat
L41	Amnat Chareon	Bahn Nah Mo Ma
L42	Ubon Ratchathani	Muang Samsip Town
L43	Amnat Chareon	Bahn Phon Muang
L64	Khon Kaen	Bahn Tah Krasoem
L65	Khon Kaen	Bahn Sri Than
L73	Yasothon	Bahn Kor
L74	Kalasin	Bahn Kud Namkin
L94	Ubon Ratchathani	Bahn Si Bua
L100	Kalasin	Bahn Non Sala
L109	Ubon Ratchathani	Bahn Thung Yai

Table 4.5: List of sites in the Chi river system.



Figure 4.10: Distribution of sema locations in the Chi river system.

Looking at the distribution analysis of sites along the Chi river system we can clearly see these locations follow the course of this river and its tributaries. In Yasothorn and Chaiyapoom in particular, sites are seen stretched out along the Chi River in close proximity to each other. The effect and importance of the Chi river system in the spreading and transmission of the sema tradition becomes clearly apparent when we look at the question from a landscape approach.

#### 4.4.2 The Mun River System

The Mun river system exhibits much fewer sites than the Chi and Middle Mekong, however, once again the locations that are present are closely tied to, and dependent on this river system and its tributaries. Apart from one site in Sri Saket province (L51) and one in Surin (L111), the majority of sites are in either Buriram or Nakorn Ratchasima province. Sites in this region are located further apart than those found in the Chi river system and the sema tradition was much less prevalent in this area than in the rest of the Khorat Plateau. This could in part be a result of the much stronger Chenla and later Khmer influence in the region, which could have made its way here by following the Mekong River, originating from the area around Sambor Prei Kuk in

present day Cambodia. From the Mekong, Khmer influence would then have followed the course of the Mun River into the southern part of Isan (Vallibhotama 1990, 114-147). The thirteen sites in the Mun river system are illustrated in figure 4.11 and listed in table 4.6 below.

<b>Site#</b>	<b>Province</b>	<b>Village/Town</b>
L36	Maharakham	Bahn Po Tong
L44	Buriram	Bahn Salaeng Thon
L45	Buriram	Bahn Brakum
L46	Buriram	Bahn Muang Fai
L47	Buriram	Bahn Pa Khiap and Bahn Nohn Soong
L48	Buriram	Phu Phra Angkhan
L49	Nakorn Ratchasima	Bahn Hin Tang/Muang Sema
L50	Nakorn Ratchasima	Bahn Nohn Sung
L51	Sri Saket	Bahn Lupmohk
L66	Maharakham	Bahn Muang Dao
L69	Nakorn Ratchasima	Bahn Nong Pai
L101	Buriram	Bahn Thung Wang
L111	Surin	Bahn Truem

Table 4.6: List of sites in the Mun river system

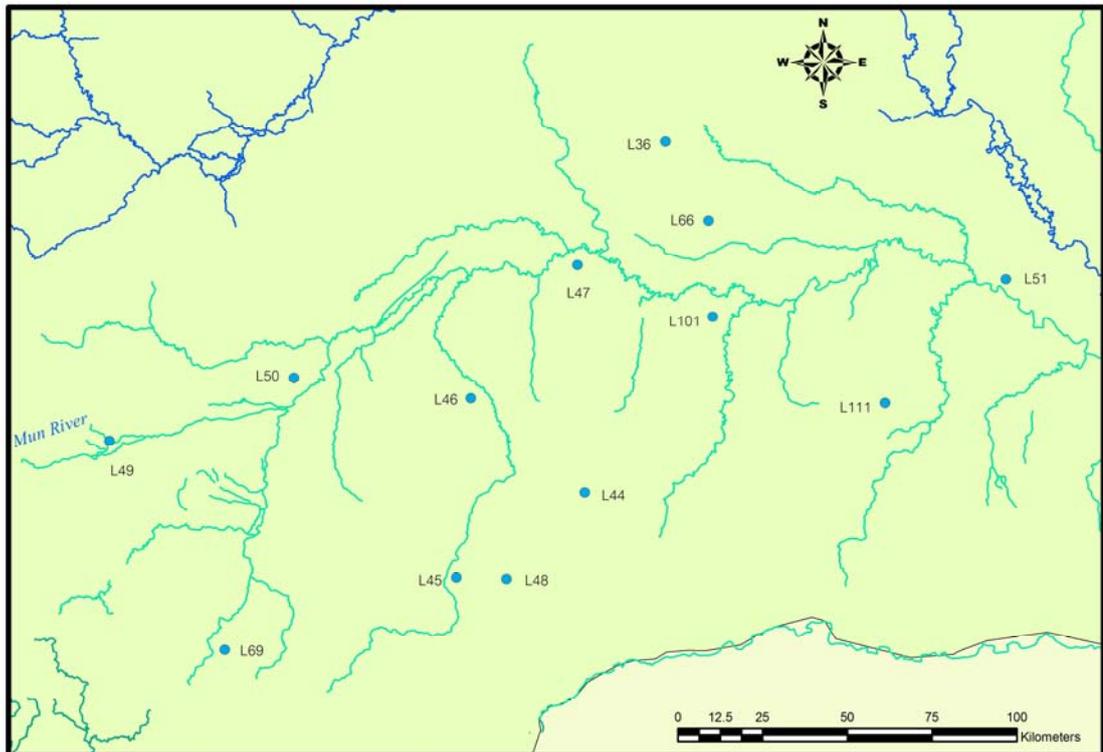


Figure 4.11: Distribution of sema locations in the Mun river system.

#### 4.4.3 The Middle Mekong

The Middle Mekong shows a less uniform distribution pattern than the two previous areas, however, most sites are located either close to the Mekong River or on tributaries of it. For instance the area around modern day Vientiane province shows that sites cluster around the Nam Ngum River while on the southern side of the Mekong there is also a high concentration of sites around the area of modern day Bahn Phue district in Udon Thani Province. Sites in the Middle Mekong group stretch from Wang Sapung in the modern day province of Loei in Thailand to three locations in Savannakhet province of Laos (Lorrillard 2008, 171).

As with the Chi and Mun Rivers, the majority of sema locations in the Middle Mekong closely follow the course of the river and/or a number of its tributaries, yet again emphasising the important role waterways and pre-existing trade routes played in the dissemination of this tradition. The forty-nine sites in the Middle Mekong group are shown in figure 4.12 and listed in table 4.7 below.

<b>Site#</b>	<b>Province</b>	<b>Village/Town</b>
L7	Udon Thani	Bahn Don Kaeo
L52	Udon Thani	Bahn Nong Kluem
L53	Udon Thani	Bahn Hin Tang
L54	Sakon Nakon	Bahn Ma
L55	Loei	Wang Sapung
L56	Nakorn Panom	That Panom Town
L57	Udon Thani	Bahn Muang
L58	Udon Thani	Bahn Chiang
L59	Udon Thani	Nong Hahn Town
L60	Udon Thani	Bahn Pailom
L61	Nong Khai	Bahn Podahk
L62	Nong Bua Lampoo	Bahn Pu Noi
L63	Sakon Nakon	Bahn Tah Wat
L67	Udon Thani	Bahn Khon Sai
L68	Sakon Nakon	Bahn Na Oi
L70	Udon Thani	Bahn Daeng
L71	Sakon Nakon	Bahn Na-ang
L72	Sakon Nakon	Phon Phaeng
L76	Vientiane	Bahn Na Sone
L77	Vientiane	Bahn Nong Khan Khu
L78	Vientiane	Bahn Ilai
L79	Vientiane	Bahn Simano
L80	Vientiane	Bahn Thoun Loua
L81	Vientiane	Bahn Nong Khon
L82	Vientiane	Bahn Nam Pot
L83	Vientiane	Bahn Thalot
L84	Vientiane	Bahn Muang Kao
L85	Vientiane	Bahn Viengkham
L86	Vientiane	Bahn Sa Feu
L87	Vientiane	Bahn Somsanouk
L88	Vientiane	Vientiane City
L89	Vientiane	Muang Sanakham
L90	Savannakhet	Bahn Sikhai

L91	Savannakhet	Bahn Kang
L92	Savannakhet	Bahn Na Mouang
L93	Sakon Nakon	Bahn Panna
L95	That Panom	Bahn Lak Sila
L96	That Panom	Bahn Fang Daeng
L97	That Panom	Bahn Saphang Thong
L98	That Panom	Bahn Na Ngam
L99	Nong Khai	Wiang Khuk
L102	Sakon Nakon	Bahn That
L103	Sakon Nakon	Bahn Choeng Doi
L104	Sakon Nakon	Bahn Phu Phek
L105	Nong Khai	Bahn Khok Khon
L106	Nong Khai	Bahn Peng Chan
L107	Udon Thani	Bahn Cham Pi
L108	Udon Thani	Bahn Khon Sai
L110	Udon Thani	Bahn Oup Mong

Table 4.7: List of sites in the Middle Mekong.



Figure 4.12: Distribution of sema sites in the Middle Mekong.

#### 4.4.4 Summary

By separating the locations of sema into three clear groups it allows for the analysis of their distribution patterns and characteristics. It is clear for instance, that the Chi river system in particular played a major role in the transmission and development of the sema tradition with many of the largest and most important sites, such as Muang Fa Daed, Bahn Tat Tong and Bahn Korn Sawan being located along its course. In the following sections this importance shall be further illustrated when looking at the correlation between Dvaravati Period moated sites and sema locations, and also when discussing issues in regard to the quality, amount and type of artwork depicted on sema from the Chi river system.

The Mun river system on the other hand seems to have been dominated to a greater extent by the Chenla/Khmer culture and as a result the sema tradition failed to establish as strong and prolific a presence as it did further north. Therefore, there are only a handful of sites in this region and no tradition of narrative art emerged.

The Middle Mekong presents a more varied picture of the sema tradition. Sites such as Bahn Don Kaeo are clearly important early settlements as is evidenced by inscription K981, while sites such as Bahn Pailom (L60) and Bahn Nong Kluem (L52) show clear Khmer influence in their artwork and styles. It appears therefore, that the sema tradition reached this area of the Khorat Plateau early in its development and remained in existence even after the region began to become subjected to the influence of the predominantly Hindu Khmer culture in the 10<sup>th</sup> and 11<sup>th</sup> centuries.

The possibility of Buddhism being transmitted along land routes is another distinct possibility and may help to explain the placement of sites that are located at some distance from river systems. However, at present there is no clear archaeological evidence to illustrate where these routes may have been. Higham and Thosarat (1998, 13) for example, state that even up to approximately 100 years ago transport by water was the easiest way to get around and that during the monsoon season travel by land was near impossible. They also cite the example of Gerald van Wusthof, a Dutch merchant who in 1641 travelled from the Mekong Delta to Vientiane by way of the Mekong river. In his accounts he emphasised the key role waterways played in terms of transportation (Higham and Thosarat 1998, 17).

Today therefore, the best we can do is to extrapolate back from modern road systems in an attempt to get some indication of where ancient roadway may have been located (see fig. 4.1a). This is an imperfect solution at best as most of the transport infrastructure in the Khorat Plateau has only been in place from circa 19<sup>th</sup> century onwards, with many of the major roads having only been constructed in the last fifty to sixty years. Further archaeological research needs to be carried out into this aspect of the region's past, however it is beyond the scope of this thesis which will therefore restrict its discussion primarily to transmission by river systems.

#### **4.5 Distribution by Clusters**

Having divided sema locations into three distinct groupings, a closer analysis of distribution patterns within these allows for the subdivision of sema locations into clusters. A total of eight clusters have been identified in all (figure 4.13), four in the Chi river system, three in the Middle Mekong and one in the Mun river system. The criteria used to create the clusters are as follows;

- Geographical Proximity
- Iconographic and stylistic similarities
- Typological similarities
- Chronological correlation
- Statistical factors
- Relationship to Dvaravati Period moated sites

The first criteria, geographical proximity is used to group sites together that are within an approximately 35 to 40 kilometre-radius of each other. After this has been established, other factors are brought to bear to further refine the analysis.

Iconographic and stylistic similarities are considered to ascertain whether there is a common artistic culture within the cluster (see chapter 5). Typological considerations can also be looked at in conjunction with the second criteria and if there are clear similarities in form and design (see chapter 6) then this too becomes a factor in assigning sites to specific clusters. Where different styles, motifs or types of sema are encountered within a cluster, the site in question may have to be reconsidered and

perhaps reassigned to another cluster, which may be within a similar geographic radius.

In certain instances chronological factors are considered also. If a group of sites show close chronological correlation then they may be assigned to a cluster particularly if the geographic proximity criterion is also met. Chronological factors are usually established through epigraphic evidence, however stylistic analysis is also employed.

Statistical factors can also help to decide cluster groupings. For instance, if there is correlation between the amounts of sema at different locations, the types of sema or motifs being depicted, this too has a bearing on which cluster sites should be assigned to. For example certain sites within clusters may show markedly higher or lower amounts of sema than other areas. Finally, the relationship between clusters and Dvaravati Period moated sites is considered. If certain clusters also contain groupings of moated sites and these moated sites in turn reflect sema locations then this is another factor to be considered.

It should also be noted that fourteen sites could not be assigned to a specific cluster and have therefore been left as separate sites to be considered in relation to their group and other clusters. What follows is a discussion and description of each individual cluster and its characteristics.

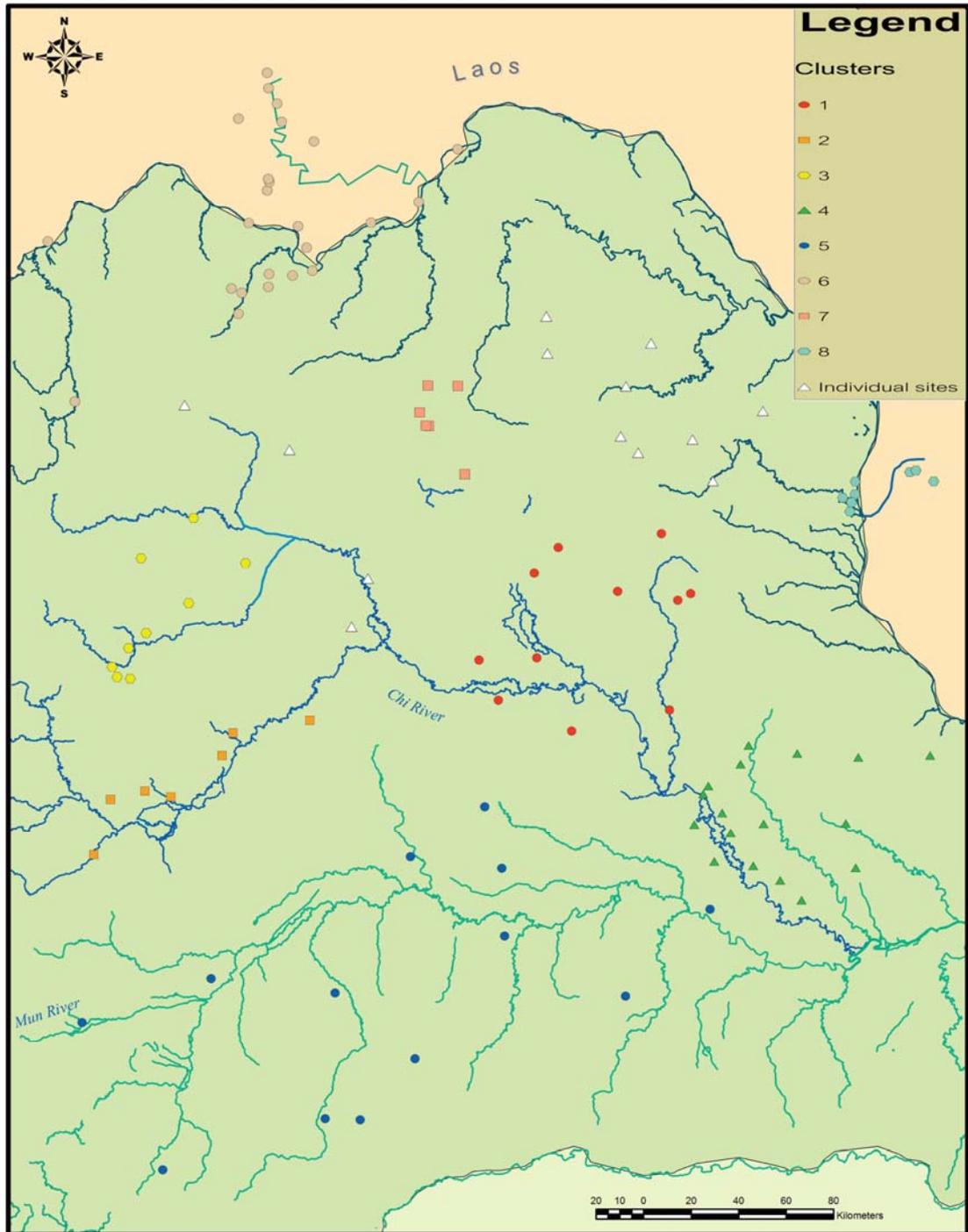


Figure 4.13: Sema clusters in the Khorat Plateau.

### Cluster 1

The first and most significant cluster is located around the area of the modern day provinces of Kalasin, Roi Et and Mahasarakham (figure 4.14). This cluster includes sites such as Muang Fa Daed and Bahn Nong Hang (L3), both of which possess high numbers of sema depicting narrative scenes. Furthermore, five of the locations are also moated sites further emphasising the proliferation of Dvaravati culture in this area. The sites in this cluster are situated in the vicinity of the Chi River and three of its

tributaries. The tributaries are Huai Kaeng River, the Lam Phan River and the Lang Nam Yang River. The eleven sites are as follows:

Site#	Village/Town	No. of Sema
L1	Muang Fa Daed	172
L2	Bahn Sohksai	7
L3	Bahn Nong Hang	23
L4	Bahn Na Ngam	5
L5	Bahn Sangkhom Phathana	4
L6	Kunchinarai Town	30
L33	Bahn Muang Phrai	37
L35	Roi Et Town	40
L37	Bahn Sra	6
L38	Maharakham Town	38
L74	Bahn Kud Namkin	1
L100	Bahn Non Sala	6
		<b>Total:</b> <b>369</b>

Table 4.8: List of sites and sema amounts in Cluster 1.

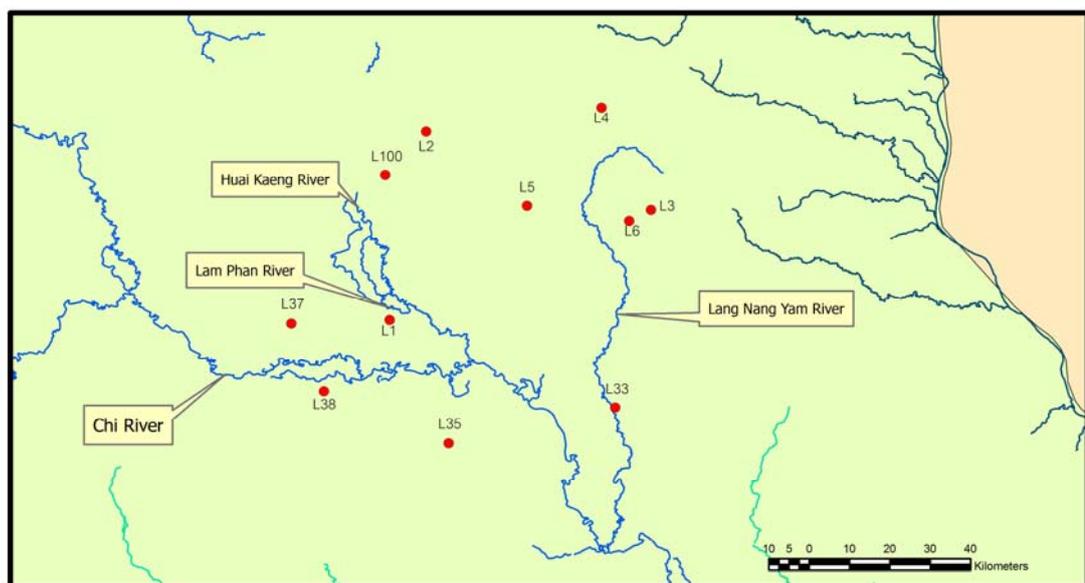


Figure 4.14: Map showing the locations of sites in Cluster 1.

As table 4.7 above indicates, Muang Fa Daed, which is ideally placed near the confluence of the Lam Phan and Huai Kaeng Rivers, far exceeds any other site in this cluster or in all of the Khorat Plateau for that matter, in terms of the amount of sema present. Furthermore, with over fifty sema carved with narrative art, it also possesses the highest amount of sema of this type of any site in the Khorat Plateau.

Two factors in particular single out Muang Fa Daed as the most significant site in the Khorat Plateau in regard to the sema tradition and Dvaravati culture in general. They are, firstly the sheer quantity of sema found at this site, 172 in total, not including fragments and sema that have possibly been removed to undocumented locations. Secondly, in conjunction with quantity, these sema also display a high level of artistic skill and aesthetic sensitivity. Carvings from stories of the Life of the Buddha and *jataka* tales are particularly noteworthy in this regard (see chapter 5).

To the east of the modern day town of Kalasin, is the district of Kuchinarai. This district contains two important sites, Bahn Nong Hang and Kunchinarai town (L6), both located in close proximity to the Lang Nam Yang River. The site of Bahn Nong Hang possesses both slab and pillar type sema. Along with Muang Fa Daed this site exhibits some of the finest carved sema in the area. Furthermore, as at Muang Fa Daed, a number of its sema possess *jataka* scenes and images of the Buddha and show a large degree of uniformity in terms of style and iconography. In addition, Muang Fa Daed and Bahn Nong Hang are the only two sites in the entire Khorat Plateau where we find tapered pillar type sema. Therefore, it is clear that there is a close cultural and artistic connection between these two sites.

To the north of Bahn Nong Hang, in Khao Wong district, is the site of Bahn Na Ngam. The sema at this site were discovered lying face down on the ground and are still *in situ*. The sema at this site are of the slab type variety and have stupa designs depicted on them. Most of these depictions take the form of a stylised stupa with the base of the stupa being depicted using the *kumbha* or water pot motif.

The remaining sites in cluster 1 have no examples of sema carved with narrative art and are for the most part, plain slab type sema or sema carved with the axial stupa design. At certain sites such as Mahasarakham town (L38) there are large amounts of

laterite sema present. However, these are also found at other sites in the cluster such as Roi Et town (L35) and Bahn Muang Phrai (L34).

Cluster 1 also has a large amount of associated Dvaravati Period material from a number of sites. This evidence therefore, helps to develop a wider picture of Dvaravati culture in the area. The site of Muang Fa Daed in particular provides much evidence in this regard and as shown in chapter 2 has numerous Buddhist structures present. Other associated material comes from the site of Bahn Sohksai (L2) where there is a Dvaravati Buddha image in *mahaparanirvana* posture carved into the mountain side. Another important site is Bahn Sra (L37) in Mahasarakham Province where sixty-six silver repoussé plaques were discovered in 1972 (Diskul 1973; Brown 1996, 93-94). These plaques, now kept at Khon Kaen National Museum have a number of motifs on them including Buddha images, *cakras* and *kumbhas*. Furthermore, the stupa at Wat Nuea in Roi Et Town also has foundations possibly dating to the Dvaravati Period (Wattanatum...Roi Et 2000, 43).

Cluster 1 therefore, is the most significant cluster in terms of the amount of sema present and also the artwork depicted on them. It becomes apparent that there was a homogenous culture existing in this area during the 6<sup>th</sup> –11<sup>th</sup> centuries, particularly in terms of religious and artistic traditions. The proliferation of sema throughout this area and their uniformity of style, iconography and form further strengthens this view. Being the largest and most significant site in the area, it is plausible to conclude that Muang Fa Daed was the centre of Dvaravati culture and the sema tradition in this area and most likely beyond into the Chi river system at large. Its influence may, therefore, not only have been religious and artistic, but also economic and perhaps to a certain extent political.

### Cluster 2

Cluster 2 is located in the area of modern day Chaiyapoom and Khon Kaen provinces. As with cluster 1, this cluster also has two sites where sema are depicted with narrative art. Furthermore, four out of the seven sites are moated sites while all seven sites are located along or in close proximity to the Chi river system. The seven sites are as follows:

Site#	Village/Town	No. of Sema
L18	Bahn Po Chai	39
L19	Non Sema Fa Rangeum	5
L26	Bahn Kut Ngong	27
L27	Bahn Nong Kai Non	15
L28	Bahn Nong Hin Tang	8
L29	Muang Gao	6
L32	Bahn Korn Sawan	46
		<b>Total:</b>
		<b>146</b>

Table 4.9: List of sites and sema amounts in Cluster 2.

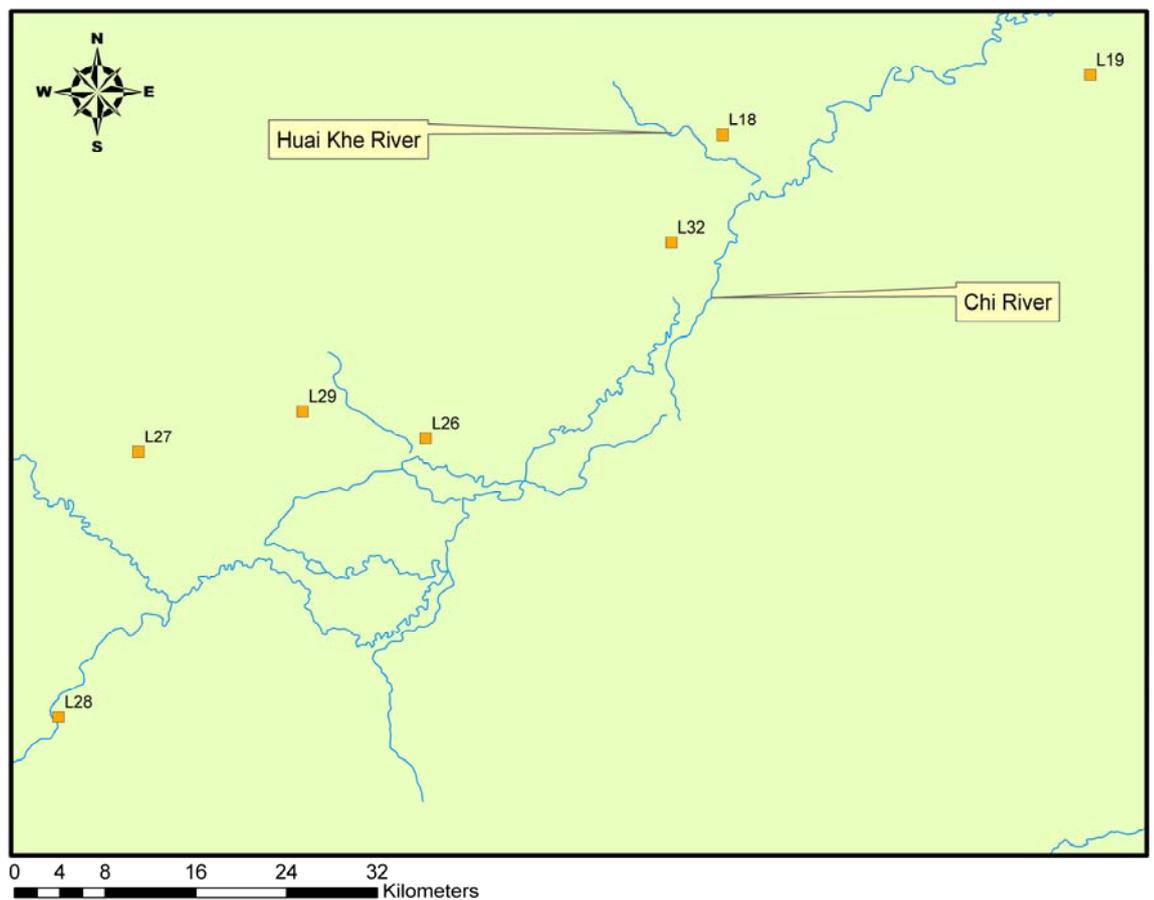


Figure 4.15: The location of sites in Cluster 2.

The two most significant sites in this cluster are Bahn Kut Ngong (L26) and Bahn Korn Sawan (L32). Both these sites possess sema with narrative art showing either *jataka* scenes or scenes from the Life of the Buddha. Stylistic analysis (see chapter 5) shows very close similarities between the art depicted on these sema and that found at Muang Fa Daed and Bahn Nong Hang in cluster 1. Typologically there are also close connections with Pillar Type 3 only being found in clusters 1 and 2 (see chapter 6). Furthermore, epigraphic evidence (Bauer 1991, 58-60) points to a similar date with most sema dating from the 8<sup>th</sup>-9<sup>th</sup> centuries CE.

The other five sites do not possess sema with narrative art and in the main have either plain sema with only a lotus band or are carved with the axial stupa motif. However, the site of Bahn Po Chai (L18) is interesting as some of the sema present show Khmer artistic influences. Sema S357 in particular shows signs of this with its base elaborately carved with floral motifs and designs. Therefore, it seems that Bahn Po Chai dates to a somewhat later period than the other six sites.

Associated Dvaravati Period material from this cluster comes from two sites, Bahn Korn Sawan and Muang Gao in Chaiyapoom town. Both sites also have Dvaravati Period Buddha images present, further emphasising the extent to which this art style was embedded in this region (see figure 4.16).

Cluster 2 therefore, provides further evidence to illustrate the extent to which the sema tradition spread along the Chi river system. Narrative art is found at two sites while axial stupa motifs proliferate at all other sites. Artistic and typological similarities allow us to draw comparisons with cluster 1 and in doing so it becomes clear that sites from cluster 2 and those from cluster 1 are contemporaneous in many respects. This further emphasises the significance of the Chi river system in regard to the dissemination and flourishing of the sema tradition. Furthermore, the fact that four of the locations are moated sites illustrates that Dvaravati culture was well established along this stretch of the Chi River during the period in question.



Figure 4.16: Dvaravati Buddha image now kept in Wat Bahn Korn Sawan Temple.

### Cluster 3

Cluster 3 is located in the modern day districts of Chum Pae in Khon Kaen province and Kaset Somboon in Chaiyapoom province. The cluster consists of ten sites in total, all of which are located on tributaries of the Chi River. The majority of sites are located on the Nam Phom River, which nowadays drains into the Ubolratana Dam and its adjoining reservoir. The dam, located about 50 kilometres north of the modern day city of Khon Kaen, was constructed in 1964 and the reservoir today covers an area of over 12,104 square kilometres.

The other sites in this cluster are located in close proximity to the Huai Soen River, which also flows into the Ubolratana Dam. The Nam Phong River itself enters the reservoir to the north and exits to the east after which it flows to join the Chi River near the modern day city of Khon Kaen. Before the dam and reservoir were constructed, the Nam Phong and Huai Soen Rivers joined the Nam Phong River in the area today submerged by the reservoir.

There is only one moated site in this cluster suggesting that it was not the most densely inhabited of Dvaravati areas, however, despite this fact this cluster has a high proportion of sema with inscriptions and also possesses a number of sema with narrative art. The ten sites in this cluster are as follows:

Site#	Village/Town	No. of Sema
L16	Bahn Non Muang	19
L17	Bahn Phai Hin	9
L20	Bahn Non Chat	14
L21	Bahn Bua Semaram	14
L22	Bahn Non Song	6
L23	Bahn Hua Kua	3
L24	Bahn Nong Hin Tang	6
L25	Bahn Pao	2
L30	Bahn Phan Lam	21
L31	Bahn Kaeng	10
		<b>Total: 104</b>

Table 4.10: List of sites and sema amounts in Cluster 3.

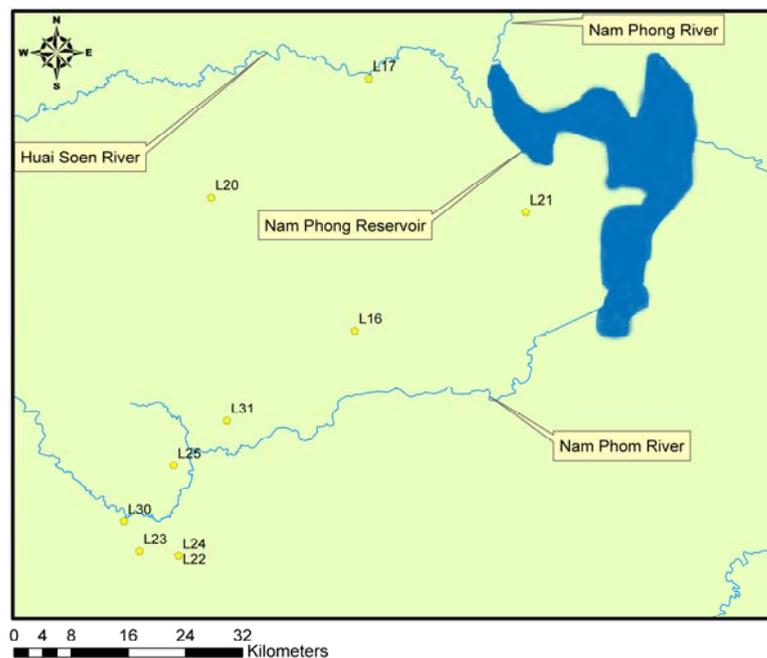


Figure 4.17: The location of sites in Cluster 3.

As with clusters 1 and 2, cluster 3 also possesses sema depicting narrative art, however, they are present in much smaller numbers, amounting to seven in total. Two are from Bahn Nohn Chat (L20), while another two are from Bahn Hua Kua (L23), one comes from Bahn Phan Lam (L30) and two more are now kept at the Phimai National Museum, but originally come from Kaset Somboon Province. Sema S317 from Bahn Nohn Chat depicts a *jataka* tale identified as the *Mahajanaka Jataka*, and is stylistically very similar to those found at Muang Fa Daed (see chapter 5). On these grounds therefore it is most likely 8<sup>th</sup>-9<sup>th</sup> century in date. Sema S987, now at the Phimai National Museum, also shows a *jataka* scene identified as the *Mahosadha jataka* and once again the style and portrayal of the narrative is consistent with those found in clusters 1 and 2 (see chapter 5). Therefore we can assign it to the 8<sup>th</sup> - 9<sup>th</sup> centuries and it is clearly part of the Dvaravati artistic culture that had spread throughout this area at this time. At Bahn Phan Lam however, a Buddha image is depicted on sema S634 in a more Khmer style (see chapter 5) pointing towards the encroachment of Khmer influence into the region from the 10<sup>th</sup> century onwards.

Further evidence for dating, and the presence of Dvaravati culture in this area comes in the form of inscriptions found on sema from this cluster. So while this cluster cannot match clusters 1 and 2 in terms of the quantity of narrative art, it does possess the highest number of sema with inscriptions, amounting to nine in total.

At Wat Nohn Sila temple in Bahn Nohn Chat two sema, S300 and S301 have been found with inscriptions in Mon dating to the 8<sup>th</sup> century (Bauer 1991, 61-65; Champa & Mitem 1985, 83-89), while sema S305 also has an inscription but it is now illegible. At Bahn Kaeng three sema stones, S643, S645, and S646 all have Mon inscriptions, again dating to the 9<sup>th</sup> century while three further sema at the Phimai National Museum from Kaset Somboon district also bear inscriptions. Sema S983 has an inscription in Sanskrit using Khmer script dating to the 10<sup>th</sup>-11<sup>th</sup> centuries, while semas S984 and S985 also have Sanskrit inscriptions in Khmer script dating to the 10<sup>th</sup> -11<sup>th</sup> centuries (see Appendix 1, table A5).

The majority of remaining sema are of slab type design and are either plain or depicted with an axial stupa motif on either one or both sides. Typologically it is also quite distinct with Pillar Type 4 found only at sites in cluster 3 and Unfinished Type sema also coming almost exclusively from here (see chapter 6). However, one other motif is

worth noting from this cluster. At Bahn Phan Lam and Bahn Bua Semaram *dharmacakra* type motifs are present on two of the sema (see chapter 5). S631 from Bahn Phan Lam shows a *dharmacakra* possibly placed on top of a stupa motif while at Bahn Bua Semaram, S323 shows a *dharmacakra* type motif placed on top of what could be interpreted as a stalk or stylised socle. These two particular forms of the motif are only found in this cluster and may be interpreted as a local iconographic manifestation.

Therefore, from a combination of artistic, typological and epigraphic evidence we can see that cluster 3 was an area belonging to the Dvaravati culture spanning a period of some four hundred or more years, from the 8<sup>th</sup> - 11<sup>th</sup> centuries. Sema depicting Buddhist narratives and Mon inscriptions point towards a 8<sup>th</sup> - 9<sup>th</sup> century date for the flourishing of the sema tradition in this area. However, inscriptions such as those found on S983, S984 and S985 and depictions such as those on sema S634 also illustrate that while sema continued to be employed into the 10<sup>th</sup> and 11<sup>th</sup> centuries, by this period Khmer influence was beginning to make its presence felt.

#### Cluster 4

Cluster four is located primarily in the modern day province of Yasothon, but also stretches into Ubon Ratchathani, Amnat Chareon and Roi Et provinces. The majority of sites are situated along a stretch of the Chi river system, which starts around the modern day town of Yasothon and continues southward for approximately 30 kilometres. A number of other sites in this cluster are located along the Huai Phong River, a tributary which runs on a parallel course to the Chi River and joins the Mun River close to the modern day city of Ubon Ratchathani. One site, Bahn Puey Huadong (L39) is located on the Huai Se Bok River while Muang Samsip (L42) is located in close proximity to the Huai Chaevanae River.

Geographically, this cluster represents a very homogenous group with only a number of outlying sites such as Bahn Phana (L43) and Muang Ngio (L40), both located in Amnat Chareon province. Furthermore, this cluster is also extremely homogenous in terms of the iconography and style of art depicted on sema. The seventeen sites in this cluster are as follows:

Site#	Village/Town	No. of Sema
L8	Yasothon Town	13
L9	Bahn Tat Tong	26
L10	Bahn Song Bueai	3
L11	Bahn Hua Muang	10
L12	Bahn Bueng Kaeo	6
L13	Bahn Ku Chahn	1
L14	Bahn Nahm Kum Yai	1
L15	Bahn Kum Ngoen	19
L34	Phanom Phrai Town	4
L39	Bahn Puey Huadong	48
L40	Muang Ngio	9
L41	Bahn Nah Mo Ma	16
L42	Muang Samsip Town	23
L43	Bahn Phana	10
L73	Bahn Pai	u/d
L94	Bahn Si Bua	15
L109	Bahn Thung Yai	u/d <sup>4</sup>
		<b>Total: 192</b>

Table 4.11: List of sites and sema amounts in Cluster 4.

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<sup>4</sup> The abbreviation u/d stands for 'undocumented'.

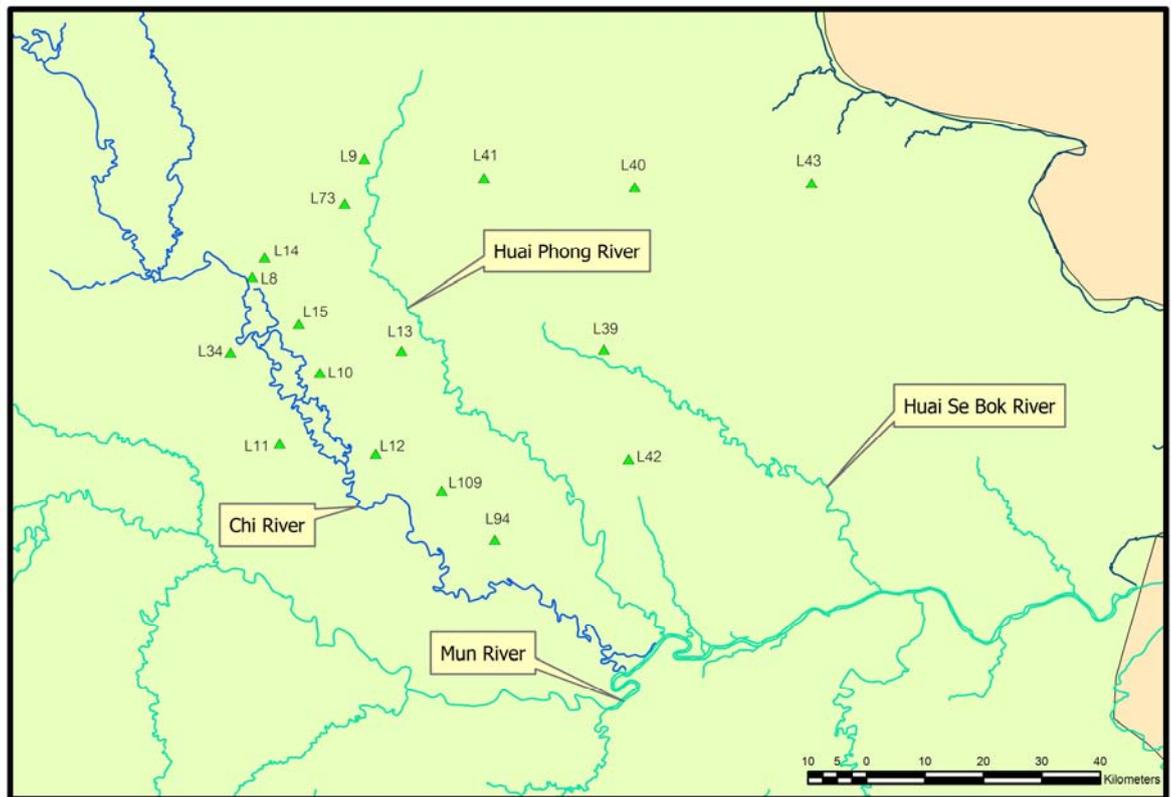


Figure 4.18: The locations of sites in Cluster 4.

The most defining characteristic of cluster 4 is its iconography, which in the main takes the form of *stupa-kumbha* motifs (see chapter 5). This motif, while present in other areas of the Khorat Plateau, is not found to the same extent or level of artistic execution as it is in cluster 4 and as a result we can conclude that the *stupa-kumbha* motif had particular relevance to the inhabitants of this area. In terms of narrative art, there is only one sema S764, from Bahn Kum Ngoen (L15), that depicts a *jataka* scene, but even at this site, *stupa-khumba* motifs predominate.

Perhaps the most important site in cluster 4 is that of Bahn Tat Tong. An earthen mound site, it is located approximately 10 kilometres outside the modern day town of Yasothon and provides five excellent examples of the *stupa-kumbha* motif. Furthermore, Wat Si Thammaram temple (L8) in Yasothon town also has three sema with this motif and it is highly probable that the sema from this temple actually come from either Bahn Tat Tong or Bahn Kum Ngoen as on stylistic grounds they are extremely similar. However, it has not been possible to confirm this in terms of local testimonies or documentary evidence. Bahn Kum Ngoen, located only 30 kilometres from Bahn Tat Tong, is also an earthen mound site and possesses five extremely fine examples of the *stupa-kumbha* motif.

The three sites of Bahn Tat Tong, Bahn Kum Ngoen and Wat Si Thammaram represent a clearly defined group sharing similar artistic and iconographic characteristics. Two further sites can be considered at this point, Bahn Puey Huadong where twelve sema have stupa-*kumbha* motifs and Muang Ngio where two *in situ* sema also have this motif depicted on them. Furthermore, all five sites also share another motif in common, that is the *dharmacakra* finial (See chapter 5.10) which is usually depicted at the top of stupa-*kumbha* motifs.

The sema at all other sites in this cluster, while not having stupa-*kumbha* motifs are instead carved with the more common axial stupa motif. Interestingly, there is an almost complete absence of pillar type sema from this cluster, while Slab Type 8 are unique to it, further emphasising the homogenous nature of the sema tradition in this region. While at sites such as Muang Samsip (L42) and Bahn Peuy Huadong there are laterite sema present, these are also fashioned as either slab type or in some instances as octagonal type (see chapter 6).

In terms of site type, this cluster has only three locations where sema are found at moated sites. They are Bahn Hua Muang (L11), Bahn Bueng Kaeo (L12) and Muang Ngio. Six further sites, Bahn Tat Tong, Phanom Phrai town (L34), Muang Samsip and Bahn Phana, are all located on or close to earthen mounds. Therefore, the settlement pattern in this area is somewhat different to that found in clusters 1 and 2 where there is a higher degree of correlation with Dvaravati period moated sites.

Cluster 4 therefore, represents an extremely homogenous group in terms of geographical proximity and iconographic characteristics. Located along the lower part of the Chi river system close to the confluence with the Mun River, this cluster developed its own expression of the sema tradition and chose to depict stupa-*kumbha* motifs as opposed to narrative art. The highly accomplished narrative scene from Bahn Kum Ngoen (S764) further illustrates this point evidencing that even though the artists of this area were well able to depict scenes such as the Life of the Buddha, they instead chose to embellish their sema differently.

The profusion of stupa-*kumbha* motifs in this region may reflect certain differences in the belief structure of the Buddhism being worshipped in this region or could perhaps

reflect an urge to develop certain regional identities vis-à-vis their Dvaravati counterparts further north along the Chi river system.

#### Cluster 5

Cluster 5 is located along the Mun River and its tributaries. However, as this cluster does not match the geographical proximity criteria it is, therefore, more of a convenient grouping than a definite subgroup per se with the Mun river system as its common unifying characteristic. There are only thirteen sites in total along the Mun river system and they are spread out over a distance of over 200 kilometres. However, nine out of the thirteen sites in this cluster are located within moated settlements so this in turn represents a common factor in this grouping.

In terms of motifs and types of sema the results vary, however, there is a marked absence of narrative art from this region with the exception of Phu Phra Angkhan (L48) which in turn dates from the 10<sup>th</sup>-11<sup>th</sup> centuries and shows markedly Khmer influence. Therefore, while we do find motifs such as stupa-*kumbhas*, axial stupas and *dharmacakra* motifs in this region, the sema tradition never flourished in the Mun river system to the same extent as it did in the Chi or Mekong river systems. The thirteen sites are as follows:

Site#	Village/Town	No. of Sema
L36	Bahn Po Tong	5
L44	Bahn Salaeng Thon	15
L45	Bahn Brakum	3
L46	Bahn Muang Fai	1
L47	Bahn Pa Khiap	46
L48	Phu Phra Angkhan	15
L49	Muang Sema	17
L50	Bahn Nohn Sung	16
L51	Bahn Lupmohk	4
L66	Bahn Muang Dao	u/d
L69	Bahn Nong Pai	u/d
L101	Bahn Thung Wang	u/d
L111	Bahn Truem	8
		<b>Total: 115</b>

Table 4.12: List of sites and sema amounts in Cluster 5 (u/d = undocumented).

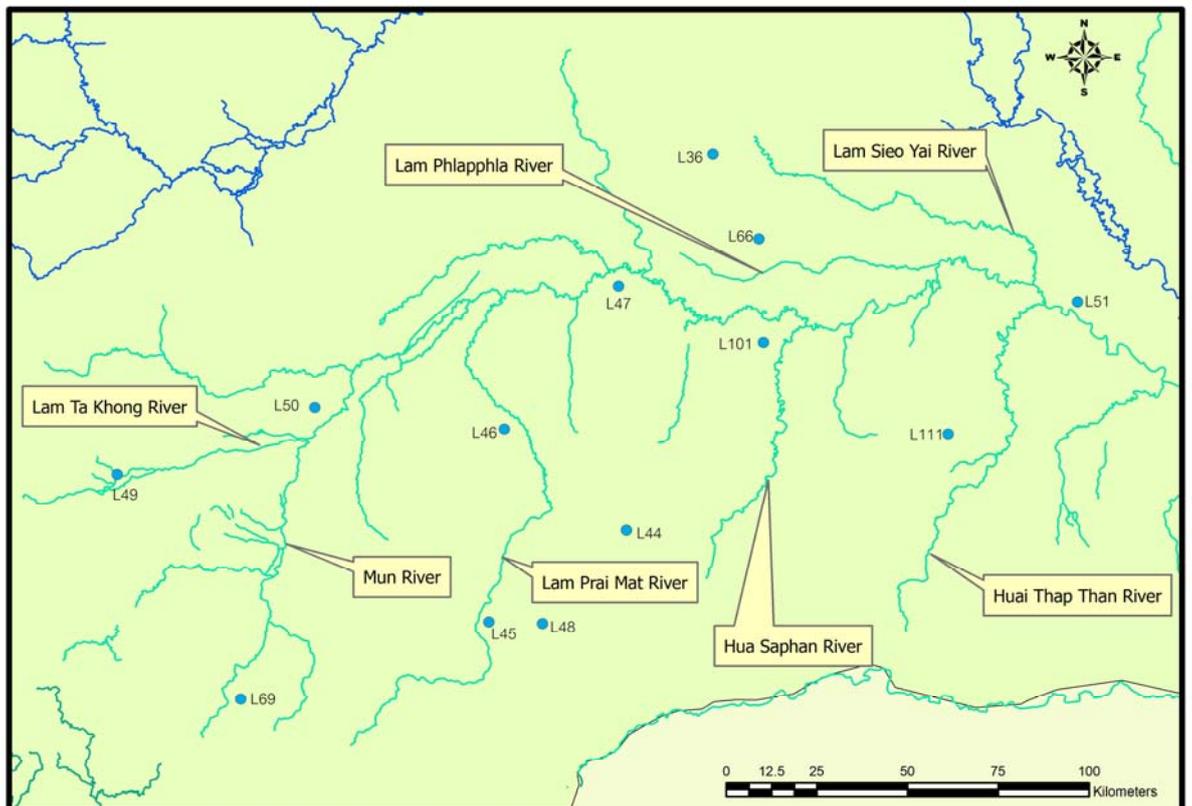


Figure 4.19: Location of sites in Cluster 5.

The most well known site in this cluster is Muang Sema (L49) located on the Lam Ta Khong River in modern day Nakorn Ratchasima province. This large Dvaravati period moated site covers an area of over 150 hectares (Moore 1988, 9) and as Higham (2002, 264) points out, its location on the western limits of the Mun River makes it an important link between the Chao Phraya River/central plains of Thailand and the Khorat Plateau.

The discovery of the Bo Ika inscription (S1290) at Muang Sema and the Hin Khom inscription 55 kilometres south of Nakorn Ratchasima have led a number of scholars to suggest that Muang Sema was actually the location of Sri Chanasa, a Buddhist polity mentioned in the inscriptions (Moore 1988, 5). However, while the evidence from the inscriptions is tantalising in its content, no conclusive evidence has been found to confirm this attribution.

While the site of Muang Sema was clearly an important one during the Dvaravati period, this fact is not particularly represented in the sema present. First of all, they are relatively few in number, seventeen in total and furthermore, none bear any trace of narrative art or motifs with the sema being either badly eroded or plain in appearance. The site does, however, possess some sema which are still *in situ* around a Dvaravati period *ubosot* (S562-S569) and therefore provides much welcome provenance in this regard.

The site of Bahn Pa Khiap (L47), located on the Mun River in Buriram province is also a moated site and has the most well developed sema tradition in the Mun river system. A total of forty-six sema have been located at this site, twenty of which are depicted with the *stupa-kumbha* motif. Another five are depicted with axial stupas, however, none of the sema show any evidence of narrative art. The *stupa-kumbha* motifs from Bahn Pa Khiap are shallower in relief than those found in Yasothon and are less accomplished artistically. Therefore, while the sema tradition flourished in this area, it never reached the heights that were occurring further north along the Chi River.

Phu Phra Angkhan located close to the Lam Prai Mat River, also in Buriram province, is noteworthy for its narrative art, however, it is later in style than that found predominantly in the Chi river system. A total of fifteen sema were discovered at this

mountain top site (S912-S926), twelve of which are depicted with narrative art. Unfortunately, all but one of the twelve have had their faces considerably remodelled in recent times (see chapter 5). This site is interesting as it shows that the sema tradition, while not as well established in this region as it was in the Chi river system, still manages to exist as the Khmer influence increased throughout southern Isan.

The moated site of Bahn Muang Fai in Buriram province while today providing little evidence in terms of sema (there is only one left on site) is nonetheless an important Dvaravati site. This is evidenced by the discovery of an exquisite bronze cast Dvaravati Buddha image and two bodhisattva images which are now on display at the National Museum in Bangkok. Further associated Buddhist Dvaravati Period material comes from the Prakorn Chai hoard also in Buriram Province (Chutiwongs & Patry Leidy 1994). This collection of bronze cast bodhisattvas, Buddha images and ascetics comprises of an interesting group which show the particular features of what can be termed the 'Khorat Plateau Aesthetic'.

The Muang Fai Buddha and bodhisattva images, along with the large scale Buddha in *mahaparanirvana* posture from Muang Sema and those found in the Prakorn Chai hoard illustrate that while Buddhism and the sema culture did not flourish as profusely here as it did in the Chi river system the art of bronze casting did nevertheless reach a high level of skill and expertise.

Cluster 5 represents a more inconsistent grouping of sites than those found in the Chi river system. While important sites such as Muang Sema and Bahn Pa Khiap are significant in showing that the sema tradition took hold in the region they also reveal that it was in no way as well developed or prevalent as it was in the Chi river system. The strong Khmer cultural presence in the region from the 7<sup>th</sup> century onwards with a Hindu religious persuasion meant that the Buddhist sema tradition found it harder to sustain itself and flourish in the Mun river system during the period of the 7<sup>th</sup> - 11<sup>th</sup> centuries.

#### Cluster 6

Sites forming cluster 6 are located in Vientiane province of Laos and Nong Khai, Loei and Udon Thani provinces of Thailand. There are twenty-four sites in total making this the largest cluster in the distribution analysis. Sites from this cluster show significant

correlation in terms of geographical proximity and stylistic and iconographic similarities in particular. The sites are located on a number of rivers, including the Mekong which flows east-west through the cluster, the Nam Ngum River which flows southwards from northern Laos before joining the Mekong, the Loei River which flows north, also into the Mekong and finally the Huai Mong River that flows from Bhan Phue northwards and joins the Mekong near the modern day city of Nong Khai. The sites and their locations are as follows:

<b>Site#</b>	<b>Village/Town</b>	<b>No. of Sema</b>
L52	Bahn Nong Kluem	22
L53	Bahn Hin Tang	12
L55	Wang Sapung	35
L57	Phu Phra Baht	37
L60	Bahn Pailom	33
L61	Bahn Podahk	10
L70	Bahn Daeng	u/d
L76	Bahn Na Sone	3
L77	Bahn Nong Khan Khu	2
L78	Bahn Ilai	9
L79	Bahn Simano	4
L80	Bahn Thoun Loua	4
L81	Bahn Nong Khon	4
L82	Bahn Nam Pot	4
L83	Bahn Thalot	1
L84	Bahn Muang Kao	1
L85	Bahn Viengkham	4
L86	Bahn Sa Feu	4
L87	Bahn Somsanouk	4
L88	Vientiane City	9
L89	Muang Sanakham	1
L99	Wiang Khuk	1

L105	Bahn Khok Khon	u/d
L106	Bahn Peng Chan	u/d
		<b>Total:</b> <b>204</b>

Table 4.13: List of sites and sema amounts in Cluster 6.

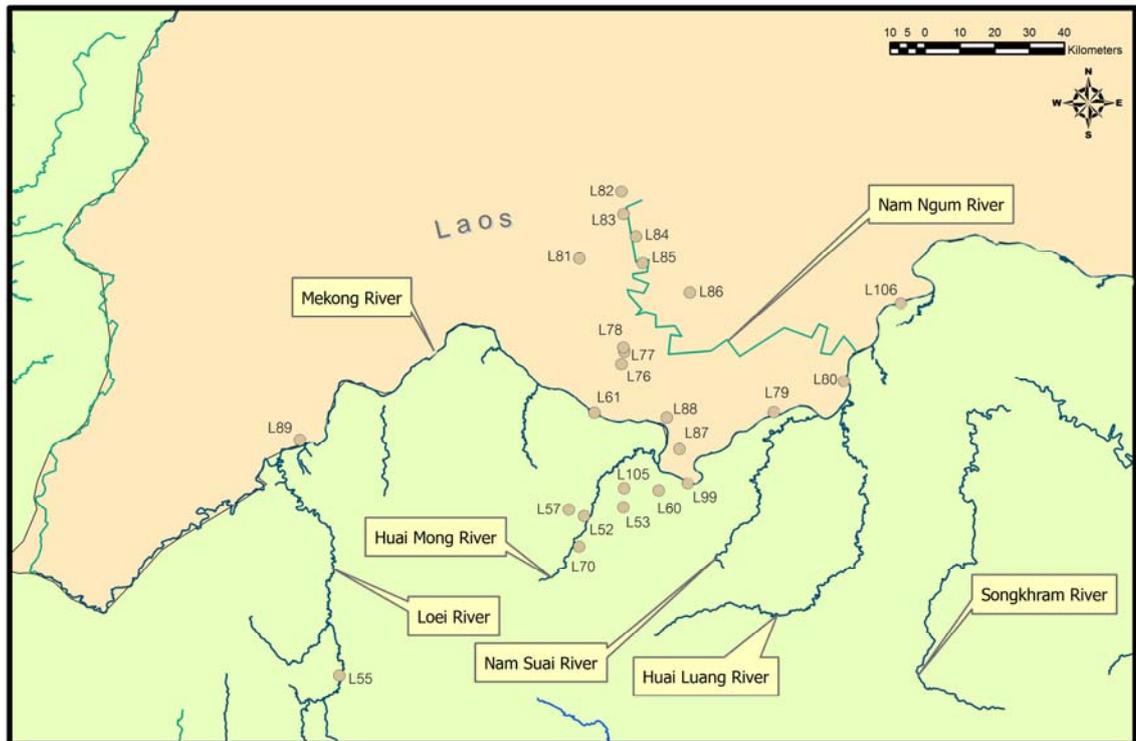


Figure 4.20: Location of sites in Cluster 6.

Two of the most significant sites in this cluster are Wat Prapottahtbuabahn temple in Bahn Pailorm and Wat Nohn Sila temple in Bahn Nong Kluem. These two sites, located within 10 kilometres of each other, close to the Huai Mong River in Bahn Phue district of Udon Thani Province, were clearly connected and it appears that the same artists were at work at both sites (see chapter 5). This is also reflected in their form as Slab Type 4 comes almost exclusively from these two sites (see chapter 6).

Both of these sites were excavated by the Thai Fine Arts Department (1998a) who concluded that they date to the 11<sup>th</sup>-12<sup>th</sup> centuries. The sema tradition that flourished here was a fusion of Khmer artistic influences and the local Buddhist tradition that had already established itself in the region from around the 8<sup>th</sup> century onwards, as evidenced by sites such as Phu Phra Baht (L57) and Bahn Podahk (L61).

Some of the most interesting sema in this cluster are located at Phu Phra Baht historical park in Bahn Phue district. The historical park is located on the Phu Phan mountain range and shows evidence of prehistoric habitation (Chutiwongs 2000, 48). As discussed in Chapter 2, the sema at this site are located around ancient rock shelters and it appears that they were placed there to convert these pre-Buddhist habitations into Buddhist sacred spaces. There are approximately forty sema still present at this site. Originally however, there must have been more as evidenced by the remains of foundation holes to place the stones in still present on site. Along with sema, there are also a number of well executed Buddha images carved into the rock at certain locations in the park further evidencing the sacred nature of this site.

The site of Phu Phra Baht, along with the sites of Bahn Hin Tang (L53), Bahn Nong Kluem and Bahn Pailom illustrate that the sema tradition flourished in the area of modern day Bahn Phue from as early as the 8<sup>th</sup> century and continued into the 11<sup>th</sup>-12<sup>th</sup> centuries CE.

The sites of Dan Sung and Vang Sang in Vientiane Province compare favourably with Phu Phra Bat even though they do not possess sema (Lorrillard 2008, 116-127, 168-172). Dan Sung is located approximately 50 kilometres to the north of Phu Phra Baht while Vang Sang is approximately 40 kilometres further north again. Both sites are located in mountain foothills and as at Phu Phra Baht, have many Buddha images carved into the rocks in small grottos. These ancient Buddhist locations most likely functioned as places for monks to practice meditation and retreat from the predominantly lowland society.

Evidence for cultural and artistic connections between sites in cluster 6 and those lower down in the Chi river system comes in the form of sema with narrative art. The site of Bahn Podahk, located on the banks of the Mekong River in modern day Nong Khai province is one of the only sites in the area to possess a sema (S1238) depicting a *jataka* tale and is datable to the 8<sup>th</sup>-9<sup>th</sup> centuries (Kingmanee 1998, 107-112). While the rest of the sema at this site are either plain or depicted with stupa or stupa-*kumbha* motifs, S1238 depicts a scene from the *Vidhurapandita Jataka*. It is possible to speculate that there were more sema from this site with *jataka* scenes that are no longer present today. If so, then it would appear that Dvaravati cultural and artistic

influence, so prevalent in the Chi river system, also made its way up the Mekong to the area of Bahn Podahk and also into the region of Vientiane province in Laos.

This is further confirmed by the presence of a sema (S1216) with narrative relief now located at Wat Ho Pra Keo (L91) in Vientiane city. The relief possibly shows the Buddha seated with two attendants and is comparable in style with S1238 from Bahn Podahk emphasising the religious and artistic homogeneity that existed within this cluster (see chapter 5).

The site of Bahn Viengkham in Vientiane province also provides evidence for the sema tradition in this area. During excavations carried out between 2003-2004 Karlstrom (Karlstrom *et al.* 2005) excavated a number of sema and concluded that while the stones themselves were Dvaravati in date, they had been re-used as the site itself was 17<sup>th</sup>-18<sup>th</sup> century in date (2009, 170). The sema do, however, seem to come from the surrounding area. A number of the sema recorded show stupa and stupa-*kumbha* motifs while others have just lotus bands at their base (Karlstrom 2009, 134-136).

A number of further sites in Cluster 6 also exhibit evidence for the stupa-*kumbha* motif. The site of Wang Sapung (L55) in Loei province is located on the Loei River, a tributary of the Mekong. The sema from this site are situated at local temples in two of the surrounding villages. What is remarkable about the thirty-five sema present at this site is that twenty-eight of them are depicted with the stupa-*kumbha* motif. The quality and quantity of these depictions point towards the existence of a skilled group of craftsmen who were extremely familiar with the iconographic components of this motif. Sema depicting almost identical stupa-*kumbha* designs are also found in Bahn Muang Kao (L86) and Muang Sanakham (L89) in Vientiane province illustrating the close link between these two areas.

In terms of style, the stupa-*kumbha* from Loei and Vientiane province are more elaborate than those found at sites such as Bahn Tat Tong and Bahn Kum Ngoen in cluster 4. It may be that they represent a later phase in the development of this motif, however, while they are stylistically somewhat different, iconographically the content appears the same (see chapter 5).

Other sites in this cluster however, show more typical forms of the *stupa-kumbha* motif found throughout the entire Khorat Plateau region. Sites such as Bahn Viengkham (L88) and Muang Vientiane (L91) have sema depicting *stupa-kumbha* in low relief without the highly elaborate floral designs or finials found at Wang Sapung. These motifs, therefore, represent common links with sites such as Bahn Pa Kiap in Buriram and Bahn Tat Tong in Yasothon Province (see chapter 5).

Overall the sema tradition being practiced in cluster 6 shares a high degree of common characteristics with the lower Chi River in particular, and to a much lesser extent with sites along the Mun river system. This is further illustrated by associated Buddhist material found in this region. For example, at the site of Bahn Nong Khan Khu there is a Dvaravati Period Buddha head kept in the local temple while at Wat Ho Pra Keo in Vientiane city there is a Dvaravati Period Buddha image from Bahn Thalats.<sup>5</sup> Cluster 6 therefore, represents a significant concentration of sites and artistic motifs allowing us to conclude that Buddhism and the sema tradition were firmly established within this region by the 7<sup>th</sup>-8<sup>th</sup> centuries.

#### Cluster 7

Cluster 7 consists of six sites all located in modern day Udon Thani province in close proximity to the Songkhram River. Bahn Don Kaeo and Bahn Chiang are Dvaravati period moated sites and represent the only two in the middle Mekong group. The sites are as follows:

Site#	Village/Town	No. of Sema
L7	Bahn Don Kaeo	10
L58	Bahn Chiang	5
L59	Nong Hahn Town	0
L67	Phang Khon Sai	u/d
L107	Ban Cham Pi	u/d
L108	Bahn Khon Sai	u/d
		<b>Total: 15</b>

Table 4.14: List of sites and sema amounts in Cluster 7.

<sup>5</sup> For a review of Mon/Dvaravati period material in Laos see Lorrillard (2008).

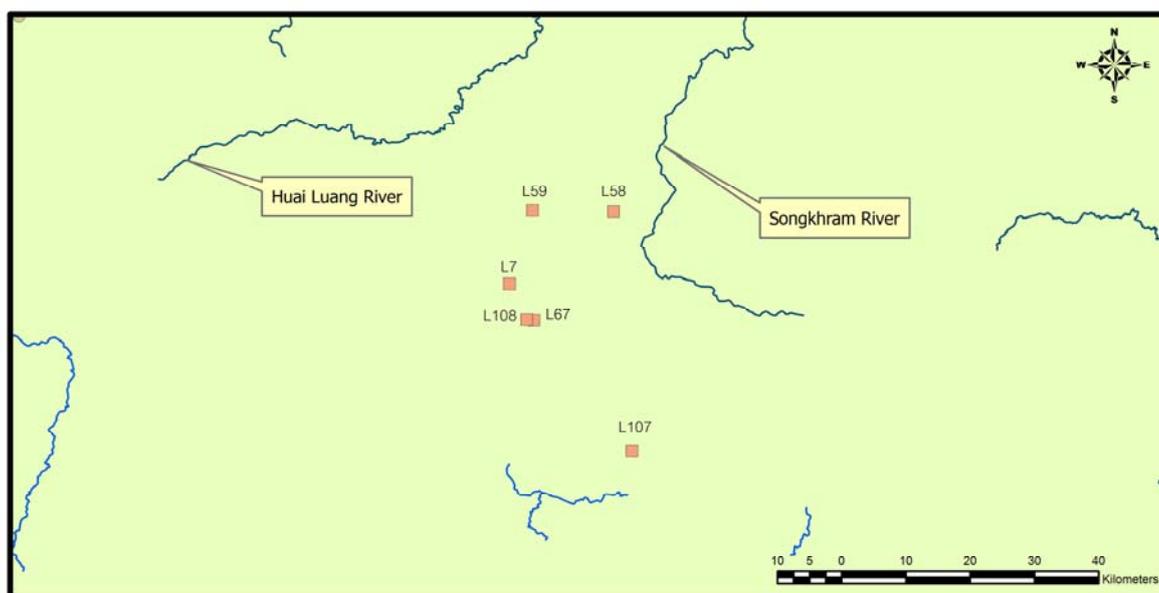


Figure 4.21: Locations of sites in Cluster 7.

The most important location in this group is Bahn Don Kaeo, a large moated site possessing ten sema, one of which bears a two-line inscription. This inscription (K981) is in Sanskrit language, stating that a boundary was set up using this stone. The sema itself (S105) is unique in that it is almost cylindrical in design. Three other sema from this site are also similar typologically and are classified as Octagonal Type 3. This type is much more cylindrical than the more normal octagonal type found elsewhere in the Khorat Plateau, which in turn are more tapered and sometimes ‘bullet-like’ in shape (see chapter 6).

Inscription K981, has been dated to the 7<sup>th</sup>-8<sup>th</sup> centuries CE (Solheim & Gorman 1966, 159-161). By comparing S105 typologically with the other octagonal sema present we can infer that they are contemporaneous and this therefore gives us a reliable date for the practice of setting up sema at this site.

Unfortunately the sema from Nong Hahn Town (L59) are no longer present and the sema from Bahn Chiang (L58) are only fragmentary. Therefore it is not possible to make direct comparisons between these two sites and Bahn Don Kaeo. The two criteria for this cluster therefore, are geographical proximity and the existence of moated sites. Cluster 7 seems to represent an early area for sema usage with large octagonal types being preferred over the more usual slab type.

### Cluster 8

Cluster 8 consists of eight sites, three in northern Savannakhet Province of modern day Laos<sup>6</sup> and five in Thailand, located in That Panom district. The sites are given below:

Site#	Village/Town	No. of Sema
L56	That Panom Town	9
L90	Bahn Sikhai	7
L91	Bahn Kang	9
L92	Bahn Na Mouang	8
L95	Bahn Lak Sila	u/d
L96	Bahn Fang Daeng	u/d
L97	Bahn Saphang Thong	u/d
L98	Bahn Na Ngam	u/d
		<b>Total:</b>
		<b>33</b>

Table 4.15: List of sites in Cluster 8.

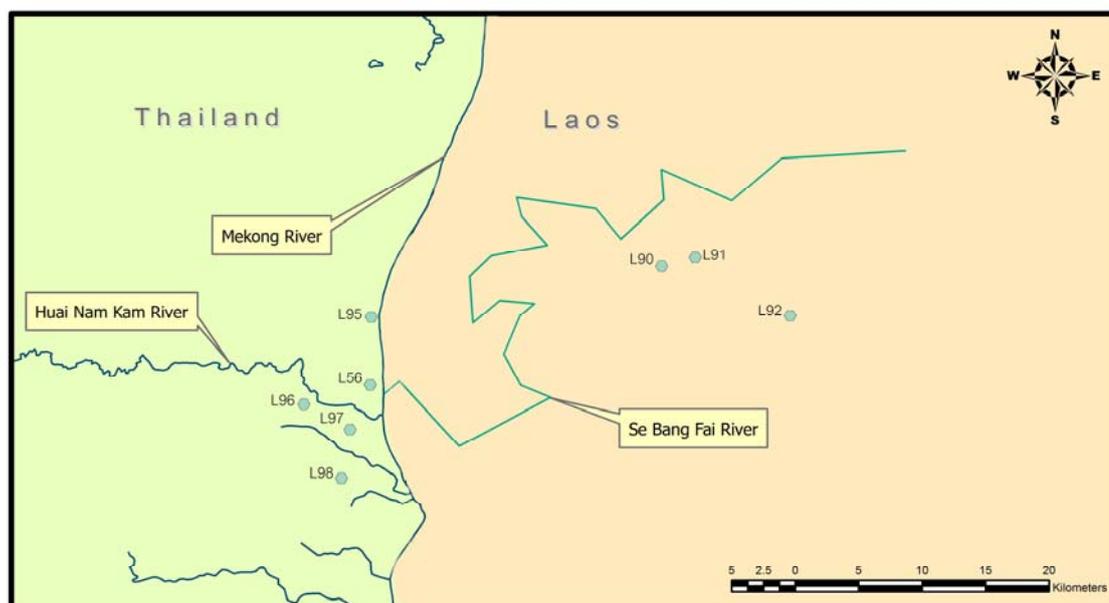


Figure 4.22: List of sites and sema amounts in Cluster 8.

<sup>6</sup> Pers comm. Michel Lorrillard.

The three sites in Laos, Bahn Sikhai (L90), Bahn Kang (L91) and Bahn Na Mouang (L92) are located in close proximity to the Se Bang Fai River, which flows into the Mekong on the opposite bank of the river to That Panom. The sites are grouped close together and a number of the sema have the stupa-*kumbha* motif depicted on them (Lorrillard 2008, 171 fig. 6). They therefore clearly belong to the same artistic tradition as the sema found in areas such as Yasothon in cluster 4 and Loei and Vientiane province further north along the Mekong. On stylistic and typological grounds they have been dated to the 7<sup>th</sup> -10<sup>th</sup> centuries (see chapter 5).

Just across the Mekong River, on the Thai side is the town of That Panom, in Nakorn Panom Province, famous for its Buddhist Stupa, which is considered one of the most sacred in all of Thailand. Placed at the four corners of the inner terrace of the highly revered stupa are four sema, three octagonal types (S907, S908, S909) and one slab type (S910). Typologically these sema are very similar in design and dimensions to those found at Bahn Don Kaeo and it is possible that there is a connection between these two sites (see chapter 6). Geographically, however, they are much more closely related to those found in Savannakhet. On typological grounds the sema of That Panom may date to the 7<sup>th</sup> - 8<sup>th</sup> centuries making them contemporaneous with those found in Savannakhet (see table 6.3, chapter 6).

The three further sites in this cluster are all located in close proximity to That Panom in the same modern district. Cluster 8, with its location on the banks of the Mekong, points to it receiving the sema tradition by way of this river, which would have been a major source of trade and transportation during the period in question.

#### Individual Sites

There are fourteen sites which do not fall clearly into one particular cluster with a number of them meriting discussion in and of themselves. They are:

Site#	Village/Town	No. of Sema
L54	Bahn Ma	16
L62	Pu Noi	14
L63	Bahn Tah Wat	15

L64	Bahn Tah Krasoem	5
L65	Bahn Sri Than	1
L68	Bahn Na Oi	u/d
L71	Bahn Na-ang	u/d
L72	Phon Phaeng	u/d
L93	Bahn Panna	u/d
L75	Phnom Kulen	10
L102	Bahn That	u/d
L103	Bahn Choeng Doi	u/d
L104	Bahn Phu Phek	u/d
L110	Bahn Oup Mong	u/d
		<b>Total: 51</b>

Table 4.16: List of individual sites.

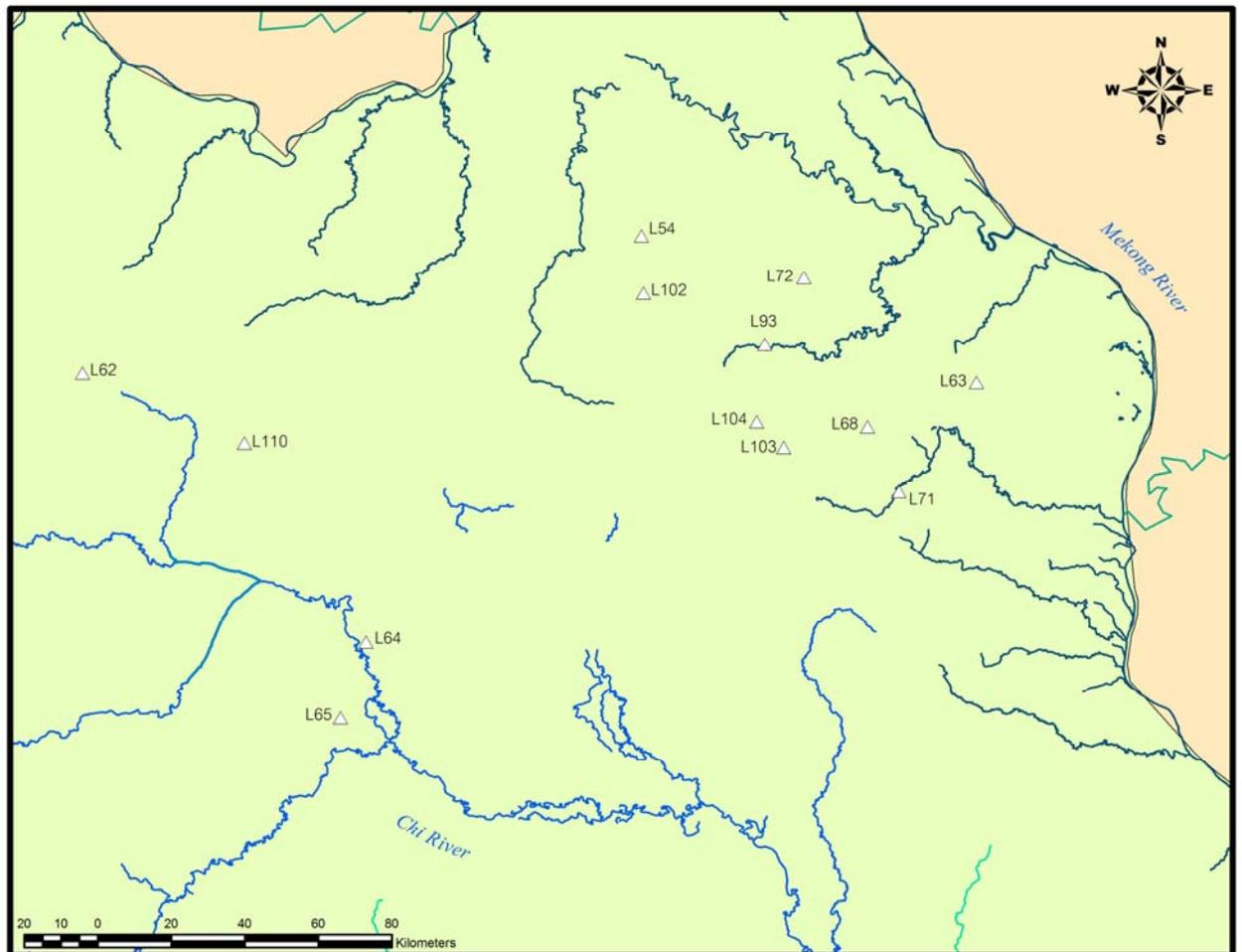


Figure 4.23: Locations of individual sites.

#### Bahn Ma, Sawang Deang Din (L54)

The site of Bahn Ma in Sawang Deang Din district of Sakon Nakorn Province presents a fine example of how Khmer influence fused with the local Buddhist sema tradition. Unfortunately, the key piece of evidence for this, sema S1206 was stolen in 1981 (Silpakorn 1982, 8) and has not been recovered. However, photographic evidence for this sema shows two scenes from the *Ramayana* (see chapter 5). On one side the episode where Sita is kidnapped by Viradha is depicted while the other side is thought to depict Kuberu, the guardian god of the north, who is also the protector of sacred space (Suksavasti 1991, 105). While, therefore the sema is no longer present, this site does provide an example of how Khmer traditions did not replace those already in existence in the Khorat Plateau, but instead blended with them.

#### Pu Noi (L62)

This site is located in modern day Nong Bua Lampoo province at the hilltop temple, Wat Sundtitumbupot. One sema, S1198 is of particular interest as it shows a narrative relief in Khmer style (see chapter 6) while another sema S1202 also shows some form of narrative relief but it is too fragmentary to make out clearly. This site, as with Bahn Ma (L54), illustrates the fusion that took place between Khmer art and the predominantly Dvaravati-Buddhist sema tradition. Stylistically therefore, this sema can be dated to circa 10<sup>th</sup> century onwards.

Furthermore, archaeological remains discovered at the nearby temple of Wat Pratahdtomuangpin (Wattanutum...Nongbua Lampoo 2000, 89) also possess small sema still *in situ*. However, it is unclear if this site is Dvaravati period in date or later.

#### Bahn Tah Wa (L63)

This site is located in Sakon Nakorn province with the sema, which are possibly *in situ*, located at Wat Glang Sri Chiang Mai temple, beside the ruined foundations of a Khmer monument. Typologically these sema are similar to those found throughout the Khorat Plateau during the 8<sup>th</sup>-9<sup>th</sup> centuries with two of the sema depicted with stupa-*kumbha* motifs while the remaining thirteen are depicted with axial stupa motifs.

#### Bahn Sri Than (L65) and Bahn Tah Krasoem (L64)

Bahn Sri Than and Bahn Tah Krasoem are both Dvaravati Period moated sites located along the Chi River system, in close proximity to each other but geographically distant

from any of the other clusters in the Chi River. Therefore, they have not been assigned to a specific cluster and are instead treated together. Today, Bahn Sri Than is in effect, a suburb of the modern day city of Khon Kaen, however, its moats are still clearly visible from satellite imagery. There is only one sema left at this site however, and it is now located at the local temple.

Bahn Tah Krasoem on the other hand, is located approximately 20 kilometres north of Khon Kaen in close proximity to the Nam Phong River. The central mound of the moated site is still visible and five sema stones are also still present. The style and form of these sema clearly place them within the Dvaravati period.

The sites of Bahn Sri Than and Nakorn Seum represent two further examples of moated sites along the Chi river system where the sema stone tradition took hold and as such provide important evidence in this regard.

#### **4.5.1 Summary**

The subdivision of sema locations into eight distinct clusters allows for a more refined and detailed analysis of the distribution and spread of these objects. With four clusters, the Chi river system, has the highest density of sema locations and clearly represents the area in which the tradition reached its height. The Middle Mekong also shows that sema flourished in this region, particularly in cluster 6 and to a lesser extent in cluster 8. The Mun river system on the other hand, presents a less uniform and more dispersed picture.

As discussed in the next chapter, certain workshops or schools of art seem likely to have existed and the division of sema locations into clusters allows for a more refined and precise study of this phenomenon.

#### **4.6 The Relationship between Sema and Dvaravati Period Moated sites**

As the major settlement type in the Khorat Plateau, moated sites provide an important indicator of how societies and cultures developed in the region during the Dvaravati period. Subsequently, their relationship to the location of the sema tradition also reveals further patterns in how the latter spread into the region.

In his survey work of northeast of Thailand, Groslier (1980) proposed that there was a direct link between Dvaravati Period moated sites which he refers to as '*villes rondes*' and sema. He referred to sema and the area in which they are found as '*civilisation des stèles*' or 'the culture of steles' and argued that these objects were part of a larger Buddhist culture that spread throughout the region. Furthermore, he argues that the *villes rondes* sites in the northeast and their accompanying *civilisation des stèles* formed a separate distinct culture. However, Groslier's knowledge of the extent of sema locations throughout the northeast was not complete and he seemed unaware of the presence of sema in Laos. Consequently, Groslier's proposed *civilisation des steles* requires re-evaluation in light of the new evidence presented in this thesis.

Figure 4.24 and table 4.17 show the relationship between the distribution of sema and the forty-five Dvaravati moated sites and eighteen earthen mounds located throughout the Khorat Plateau. The map clearly reveals that moated sites and earthen mounds closely follow the courses on the Mun and Chi river systems. The Middle Mekong on the other hand has only two moated sites (M26 and M27) located on a tributary of the Songkhram River. As discussed above, moated sites were dependent on a constant and reliable water source and as a result they were necessarily located in close proximity to the major river systems of the region.

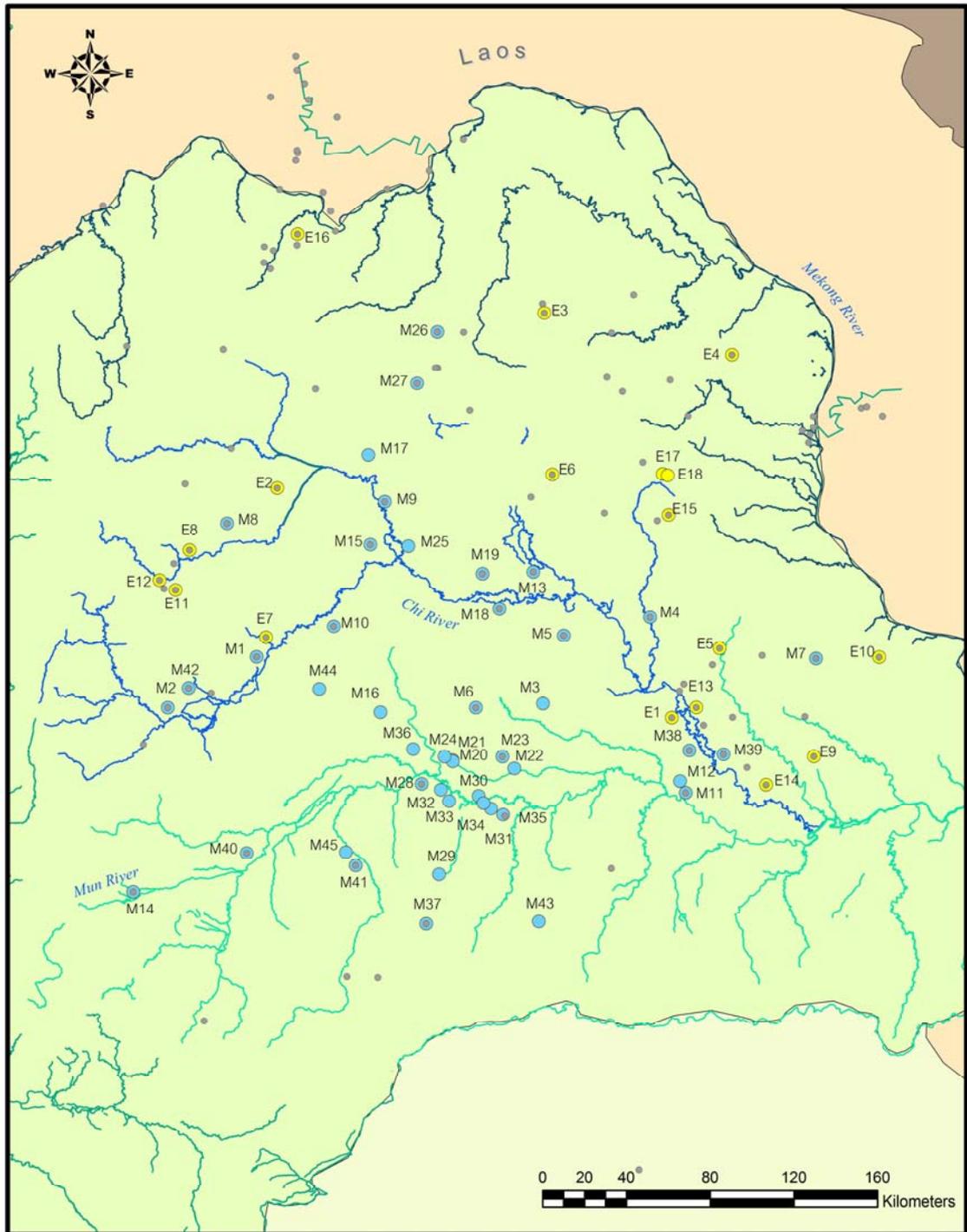


Figure 4.24: Map showing the distribution of moated sites and earthen mounds in relation to sema locations. Sema locations (shown in grey) encircled by a moated site (blue) or earthen mounds (yellow) site represent locations where sema are present at these sites.

<b>Moated Site</b>	<b>Sema Site</b>	<b>Group</b>		<b>Earthen Mound</b>	<b>Sema Site</b>	<b>Group</b>
M1	L32	Chi		E1	L34	Chi
M2	L27	Chi		E2	L21	Chi
M4	L33	Chi		E3	L54	Middle Mekong
M5	L35	Chi		E4	L63	Middle Mekong
M6	L36	Mun		E5	L9	Chi
M7	L40	Chi		E6	L2	Chi
M8	L16	Chi		E7	L18	Chi
M9	L64	Chi		E8	L31	Chi
M10	L19	Chi		E9	L42	Chi
M11	L51	Mun		E10	L43	Chi
M13	L1	Chi		E11	L22	Chi
M14	L49	Mun		E12	L30	Chi
M15	L65	Chi		E13	L15	Chi
M18	L38	Chi		E14	L97	Chi
M19	L37	Chi		E15	L3	Chi
M23	L102	Mun		E16	L05	Middle Mekong
M26	L59	Middle Mekong				
M27	L7	Middle Mekong				
M28	L47	Mun				
M35	L101	Mun				
M37	L44	Mun				
M38	L11	Chi				
M39	L12	Chi				
M40	L50	Mun				
M41	L46	Mun				
M42	L29	Chi				

Table 4.16: Correlation between moated sites/earthen mounds and sema locations.

The distribution analysis shows that the Mun river system contains the highest amount of moated sites, twenty-five in all, while the Chi river system contains a slightly lesser number, eighteen in total with the Middle Mekong only possessing two. The majority

of Mun River moated sites are located around the area of modern day Buriram Province and to a lesser extent the southern part of Mahasarakham province. However, while there are a larger number of moated sites in this area, only nine out of the twenty-five moated sites have sema present.

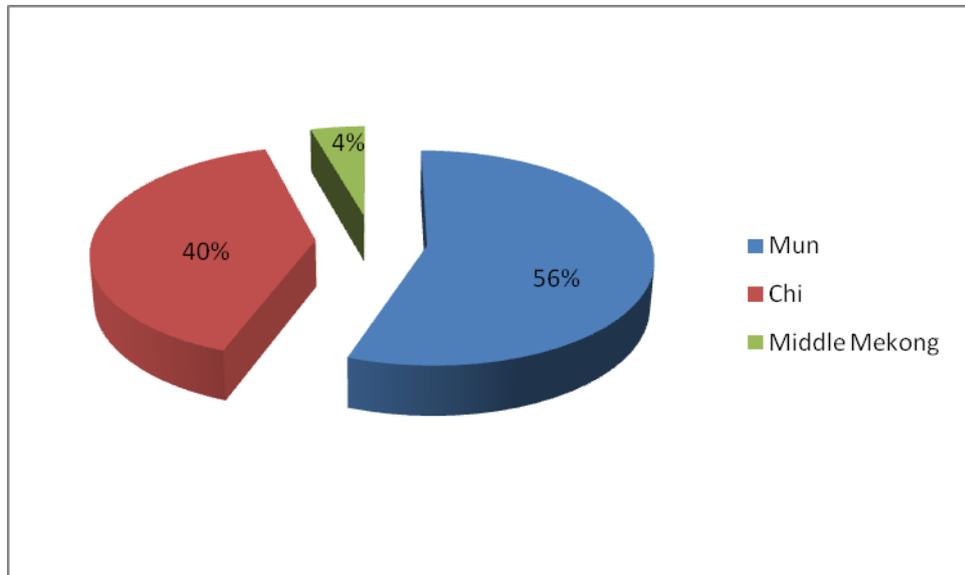


Table 4.17: Distribution of moated sites by river system in percentage terms.

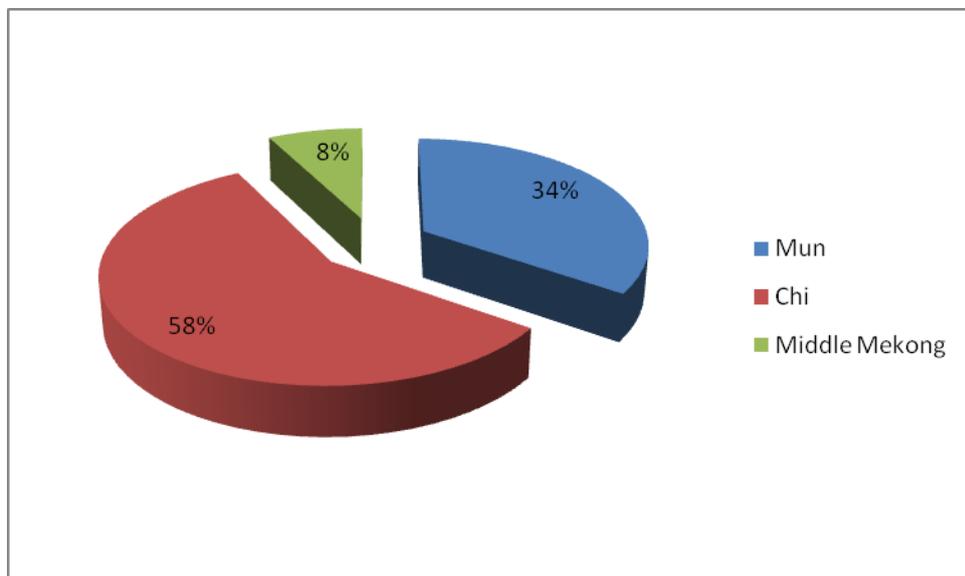


Table 4.18: The distribution of sema locations at moated sites by river system in percentage terms.

Therefore, while this area shows a high density of moated sites, the density of sema on the other hand, is very low in comparison. The high numbers of moated sites in this region may in fact be due to the propensity of the Mun River to ox-bow in this area, therefore making it an ideal location for this type of settlement.

The Chi river system on the other hand, shows a much higher instance of moated sites with sema. Out of a total of eighteen moated sites in the Chi river system, fifteen of them are also sema locations.

Therefore, in the Chi river system there is a direct correlation between sema locations and moated sites. This correlation is particularly apparent in two key areas, namely along the course of the Chi river in modern day Chaiyapoom province (cluster 2) and around the modern day area of Roi Et and Kalasin provinces which corresponds to cluster 1 (see figure 4.24). In these two areas, sema are located almost exclusively at moated sites. As is shown in section 4.7 below, these two areas also contain the highest amount of sema with narrative artwork. It is therefore possible to propose that these two areas were significant centres of the sema tradition.

Turning back to Groslier's assertion that sema and moated sites are directly linked, the distribution analysis shows otherwise. Out of a total of 111 sites surveyed only twenty-six sema locations or twenty-three per cent are moated sites. Therefore, it is not possible to say that there is direct correlation or that sema are synonymous with moated sites. In the Middle Mekong region in particular, sema locations are not associated with moated settlements while in the Mun river system, although nine out of the thirteen sema locations are situated in moated sites, there are a large number of further moated sites that show no evidence for sema whatsoever.

The Chi river system, however, does show a large degree of correlation between sema and moated sites, with all but three sites having sema present. It is clear therefore that while there is no direct correlation between sema and moated sites across the Khorat Plateau, the Chi river system does show a common link between these two traditions.

In conclusion, it is clear that at moated sites the sema that are associated with them are part of a larger Khorat Plateau culture and cannot be treated as a separate independent civilisation as proposed by Groslier.

#### **4.7 Distribution of Artwork and Motifs**

As discussed in the literature review (Chapter 2, section 2.7), the majority of previous studies on sema have focused on the narrative art carved on these objects. However,

little to no consideration has been given to the distribution of this art, the contexts within which it was produced or the actual number of sema that have narrative art in relation to those that do not. This section therefore, addresses this issue and looks at the distribution of sema artwork and motifs in the Khorat Plateau.

#### **4.7.1 Narrative Art**

Upon plotting the locations of narrative art, it becomes immediately apparent that it has a very limited and restricted distribution, being confined to no more than nineteen sites in total. Of these nineteen sites, only six sites have more than ten sema with narrative art and only one site, Muang Fa Daed, has more than fifteen (see figure 4.25 and Appendix 1, tables A7&A8). Another factor to consider is that plain sema and sema carved with other motifs such as stupas and *stupa-kumbha* outnumber sema with narrative art at a ratio of approximately 10:1. Consequently, sema with narrative art should be viewed as the exception not the norm, a perspective that does not always come across in most literature on the subject.

The distribution of narrative art closely follows three clusters in particular. The sites of Muang Fa Daed and Bahn Nong Hang in cluster 1 possess the highest number of sema of this kind. Muang Fa Daed has a staggering fifty-five sema with narrative art, Bahn Nong Hang, has fourteen and Kunchinarai has one sema of this type. This cluster therefore has a total of seventy sema with narrative art, by far the highest concentration anywhere in the Khorat Plateau.

The second largest concentration is found in cluster 2. Bahn Korn Sawan has twelve sema with narrative art while Bahn Kut Ngong has ten, giving twenty-two in total. The vast majority of the narrative art on sema from clusters 1 and 2 date to the 8<sup>th</sup>-9<sup>th</sup> centuries, with some examples from Muang Fa Daed and Bahn Nong Hang also dating to the 10<sup>th</sup>-11<sup>th</sup> centuries (see chapter 5). Therefore, these two clusters, located along the course of the Chi river, clearly reflect the region in which the art of the sema tradition reached its apex.

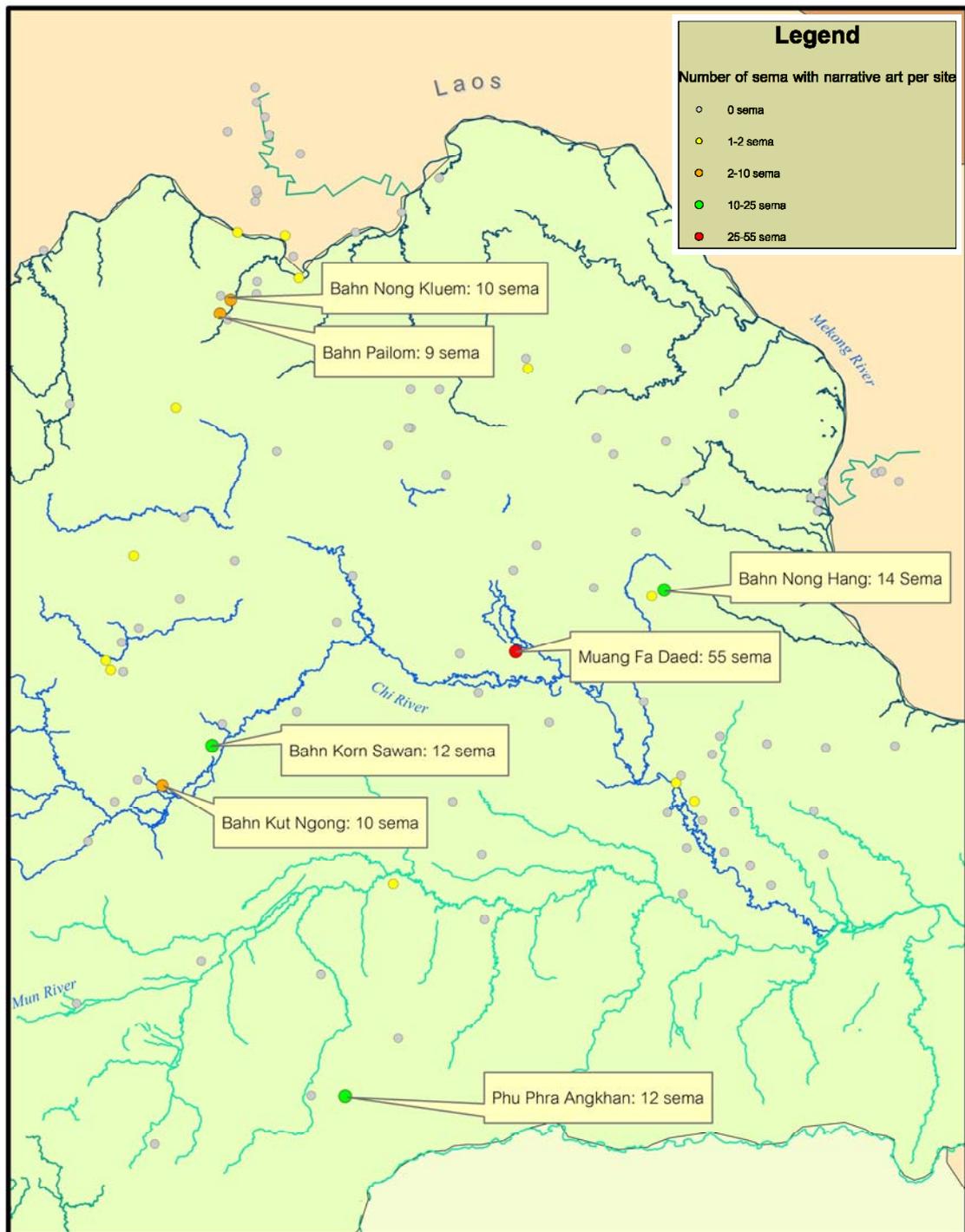


Figure 4.25: Distribution of narrative art showing the amounts present at key sites.

The sites of Bahn Nong Kluem and Bahn Pailom in cluster 6 reflect a further significant grouping of narrative art, however, they are later in date, circa 10<sup>th</sup>-11<sup>th</sup> centuries and stylistically different from the majority of other examples, being executed in a style similar to Khmer lintel art (see chapter 5). The two sites combined have a total of nineteen sema. The narrative art, their close proximity to each other and

artistic style strongly suggests that the same workshop or artists were responsible for the carving at both sites.

The site of Phu Phra Angkhan in cluster 5 is unusual from the point of view that no other sites in its proximity have narrative art. Also, the art depicted, mainly consisting of Buddha and bodhisattva images, is quite unique stylistically (see chapter 5). It is therefore, somewhat of an outlier in the distribution of narrative art.

The remaining eleven sites possess either one or two semas with narrative art and therefore do not represent significant clustering of this tradition. However, their distribution is still informative in revealing how far the medium of narrative art spread throughout the Khorat Plateau. Sites such as Bahn Podahk and Muang Vientiane reveal that narrative art had spread as far north as modern day Laos while the site of Bahn Kum Ngoen in Yasothon shows that it was also present to a very limited extent in cluster 4.

From the analysis of the distribution of narrative art, it is most probable that this tradition originated in clusters 1 and 2, with perhaps Muang Fa Daed as the centre of this tradition. It appears to have flourished here from the 8<sup>th</sup> century onwards and to a very limited extent spread out amongst other sites throughout the Khorat Plateau. A study of the artwork in the following chapter also reveals that workshops or schools could have been in existence within these areas thus explaining to a certain extent the concentration of narrative artwork at these sites.

#### **4.7.2 Axial Stupa and Stupa-*Kumbha* motifs**

The axial stupa is found throughout the Khorat Plateau and is the most ubiquitous and unifying motif of the sema tradition. It is an integral part of sema art and to a certain extent is seen as synonymous with sema from the Khorat Plateau. The distribution of the stupa-*kumbha* motif on the other hand shows a more limited spread than the axial stupa, but at the same time a much wider one than narrative art.

The stupa-*kumbha* is found in all three groups and every cluster except cluster 7. There is some variation in the skill and execution of these motifs with the most accomplished form being found in cluster 4 (see chapter 5.9). Due to its relatively wide distribution, it is difficult to pinpoint where this motif may have originated, however cluster 4,

clearly represents the area where it reached its apex. Its presence in sites in cluster 6 along the Mekong shows that the motif was well established in this region, particularly during the 11<sup>th</sup> century (see chapter 5.9.5) while the high amounts found at Bahn Pa Kiap along the Mun River also shows that it was well known in lower Isan as well. It appears therefore, that this motif along with the more standard axial stupa motif was a common component in the sema tradition and formed an integral part of the creation and carving of these objects.

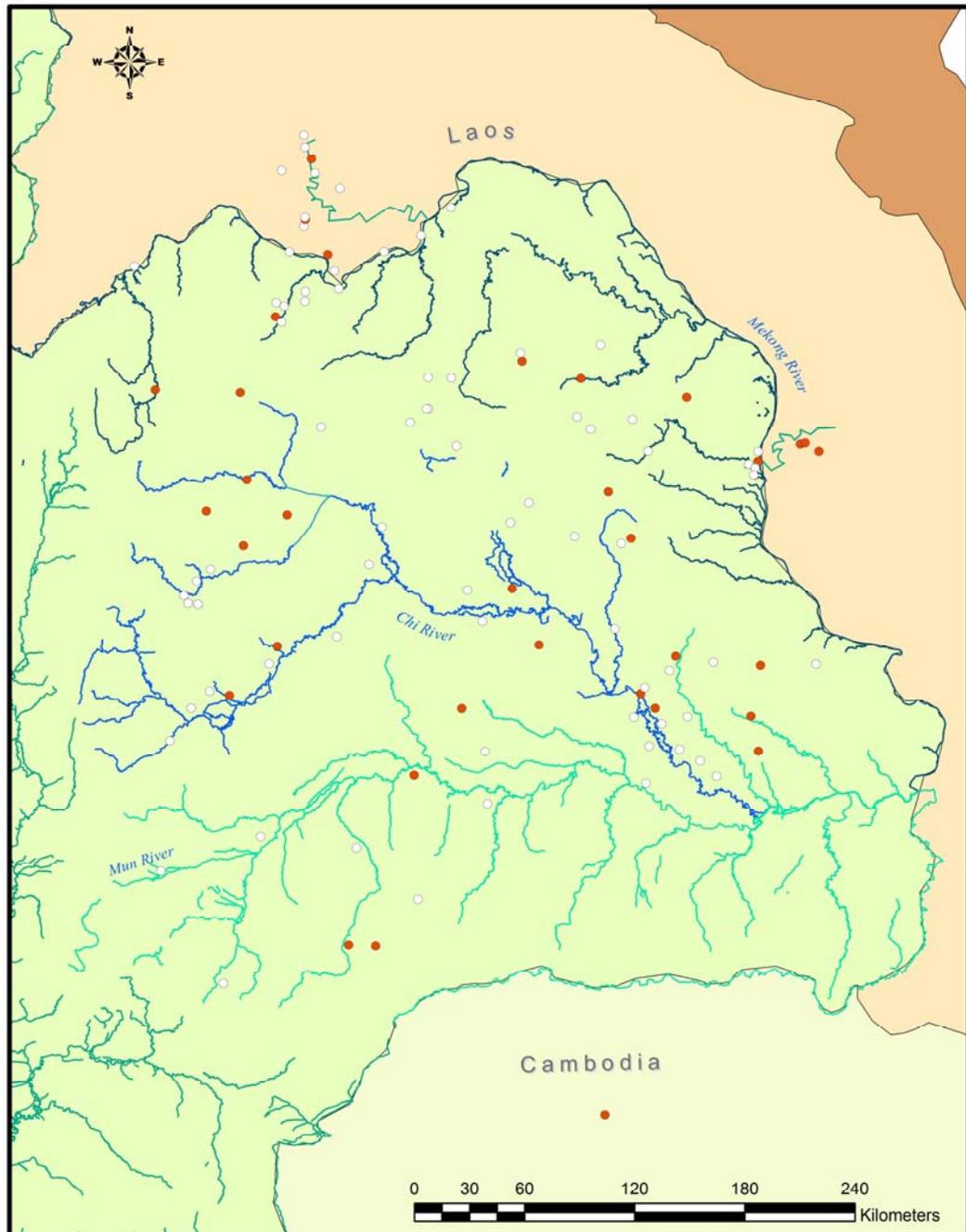


Figure 4.26: Distribution of the stupa-kumbha motif throughout the Khorat Plateau.

Sites with stupa-kumbha motifs shown in red.

### 4.7.3 Summary

Focusing on the distribution and location of art on sema allows for a clearer perspective of its nature and extent. The axial stupa and stupa-*kumbha* motif have a wide distribution throughout the region and both form a common component in the carving of sema. Narrative art, on the other hand, has a much more restricted distribution and should be considered the exception not the norm. It only truly flourished in very restricted areas and was not a pre-requisite for sema. Instead it seems to represent the work of a number of schools located at a handful of key sites in the Chi river system in particular.

### 4.8 Sema and their wider distribution

While the largest concentration of early sema are located in the Khorat Plateau, there is evidence for a more widespread distribution of these sacred objects outside of this region (figure 4.27). An in depth discussion and analysis of these sites is, however, beyond the scope of this study. Therefore, this section outlines these locations and their characteristics while the artwork and form of the sema are discussed in chapters 5 and 6 respectively.

Within central Thailand several sites, such as Wat Mahathat in Petchaburi and Wat Kohk Mor in Ratchaburi possess sema which date from either the late Dvaravati period or the early Ayutthaya period (see Semas S1239-S1268). In Cambodia, sema are present at the Bayon Terraces in Angkor Thom dating to circa 12<sup>th</sup> century CE, while on Phnom Kulen a remarkable group of Dvaravati Period sema are located at two separate locations (Boulbet & Dagens 1973). Finally in Burma, sema have been reported at the 5<sup>th</sup>-7<sup>th</sup> century sites of Vesali and Beikthano while at the Kalyani Sima in Thaton, Lower Burma, there is a group of 11<sup>th</sup> century sema with *jataka* tales carved upon them (Luce 1985).

Therefore, the sema tradition occurs across a number of locations throughout mainland Southeast Asia, and appears to be clearly linked with the spread of Buddhism. An overview of the above-mentioned sites is given below in order to further illustrate this connection.



Figure 4.27: Map showing the location of sites outside the Khorat Plateau.

1. Ratchaburi, 2. Petchaburi, 3. Sri Thep, 4. Dong Mae Nang Muang, 5. Thaton, 6. Vesali,
7. Sukhothai, 8. Ayutthaya, 9. Phnom Kulen. 10. Beikthano

#### 4.8.1 Central Thailand

Four sites from Central Thailand are discussed to highlight the existence of sema in this region, however two of the sites, Ratchaburi and Petchburi perhaps represent late Dvaravati-early Ayutthaya period sema.

The sema from Rachaburi province are located at two temples, eighteen coming from Wat Mahathat and fourteen from Wat Khok Mor. Both temples are located within the modern day city of Ratchaburi and today the sema have been set-up in the temple grounds. Wat Mahathat is situated on a Dvaravati Period site with excavations being conducted at the time the site was visited in January 2009.

Wat Mahathat in Petchaburi is located in the centre of the modern day town and the sixteen sema present have been placed in pairs around the temple's *ubosot* (see figure 4.28). Significantly, despite the geographical proximity of Petchaburi and Ratchburi (approximately 60 kilometres apart) the sema at this temple differ greatly to those found at Ratchaburi or anywhere else in Thailand for that matter. The artwork depicted upon them suggests a later date of circa 12<sup>th</sup> – 13<sup>th</sup> century (see chapter 6).



Figure 4.28: Sema set up around the *ubosot* at Wat Mahathat, Petchaburi.

In the upper Chao Phraya Basin, two sites, Dong Mae Nang Muang in Nakorn Sawan Province and Sri Thep in Petchabun province possess roughly shaped sema stones. At Sri Thep the sema, which are pillar type in form, are placed around various religious buildings (see figure 4.29). At Dong Mae Nang Muang, the sema are cruder in form, being fashioned from limestone (figure 4.30) and have been found placed around earthen mounds that upon excavation have turned out to be religious structures, most likely stupas (Murphy & Pongkasetkan 2010, 58, 65-69).

The absence of Dvaravati Period sema from key sites in central Thailand such as Nakorn Pathom and U-Thong and their presence in Ratchaburi and Petchaburi suggests that in this period the tradition was not firmly established in the region and most likely only really began to move in at a later stage. The evidence from sites such as Dong Mae Nang Muang and Sri Thep on the other hand, suggests a degree of cultural affinity with the Khorat Plateau and it is likely that the sema tradition moved into the upper Chao Phraya Basin from northeast Thailand.



Figure 4.29: Pair of sema set up around a monument at Sri Thep.



Figure 4.30: Sema lying at the site of an earthen mound from Dong Mae Nang Muang.

#### 4.8.2 Phnom Kulen

The sema at Phnom Kulen are located at two sites, Bam Gre and Tun Mas (Boulbet & Dagens 1973), however, these sites are located in a heavily forested area which today is extremely overgrown. The sema themselves are unfortunately in an alarmingly bad state of preservation, having been left exposed to the elements and have also been looted in recent years.<sup>7</sup> Many are now in a fragmentary state and covered by moss, making identification of the carvings extremely difficult and in some cases almost impossible.



Figure 4.31. *In situ* sema located on Phnom Kulen.

The occurrence of sema at this location poses an interesting, if not somewhat problematic question. How did this tradition reach this far south and how did it function and survive in a primarily Hindu environment? Inscriptional evidence (K388) shows that Buddhism was being practiced in Cambodia in the 7<sup>th</sup> century (Filliozat 1981). However, there is no epigraphic evidence for Buddhism during the period spanning the 8<sup>th</sup>-11<sup>th</sup> centuries illustrating the extent to which Hindu religion had come to dominate Khmer society.

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<sup>7</sup> Pers. comm. Im Sokrithy. One of the sema from Tun Mas appears to have had narrative artwork on it, though badly effaced (Boulbet & Dagens 1973, fig. 134). Another has an image of Lakshmi (see chapter 5.5.1). The whereabouts today of both these sema is unknown.

As is discussed in greater detail in Chapter 6, the art style and iconography of the sema clearly link them to those found in 8<sup>th</sup> -9<sup>th</sup> century Khorat Plateau (see also Brown 1996, 93-95). Furthermore, a reclining Buddha image located on Phnom Kulen, approximately 5 kilometres from the sites of Bam Gre and Tun Mas, is also indicative of Dvaravati art.

The presence of sema at Phnom Kulen illustrates the extent to which traditions and belief systems travelled during this period. Buddhism, it seems, was able to a limited extent, to function alongside the predominantly state sponsored Hindu religion, however because of the latter's political dominance, the Buddhism that took root on Phnom Kulen probably had little opportunity to spread extensively as it had done on the Khorat Plateau. However, it is possible to speculate that as further and more extensive archaeological survey work begins to be undertaken to the north of Angkor and south of the modern Thai border along Buriram, Surin and Sri Saket provinces in particular, perhaps more evidence of sema may be uncovered, and if so, they may provide vital evidence in further explaining the existence of this tradition at Phnom Kulen.

#### **4.8.3 Burma**

Evidence for the use of sema in Burma comes from three locations. The first, Vesali<sup>8</sup> in western Burma provides evidence for their use from circa 5<sup>th</sup> -7<sup>th</sup> centuries CE, the second, Beikthano also falls into this approximate date range while sema from Thaton in lower Burma date to the 11<sup>th</sup> century CE.

The ancient city of Vesali is located in the modern day province of Rakhine, a coastal region of western Burma, close to the border with modern day Bangladesh. The site itself lies about 10 kilometres north of the modern town of Mrauk-U. Excavations at Vesali between November 1983 and February 1984 led to the discovery of a brick building (Mound no. 5), which was square in shape and measured 22 x 15m. Surrounding this building were found thirteen fossil wood pillars which stood at a height of about 60cm above the ground (see chapter 3, figure 3.11).

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<sup>8</sup> The information about this site was kindly supplied by U Nyunt Han.

This building was identified by the excavation team as a *thein*, or ordination hall, due to factors such as its ground plan and its location in relation to other buildings excavated during the course of their research. The thirteen fossil pillars were therefore identified as *sema*, set-up to mark out the *sima* precinct of this *thein*. The site itself was dated from between the 5<sup>th</sup>-9<sup>th</sup> centuries. This site, therefore, provides the only evidence for the use of *sema* in Burma from circa the 5<sup>th</sup> century CE onwards.

Evidence for the *sema* tradition in 11<sup>th</sup> century Lower Burma comes from the Kalyani Sima at Thaton (Figure 4.32). These *sema* also demarcate the precinct of an *ubosot*, in this case the Kalyani Sima, and are carved in relief with *jataka* tales and ornate decorative motifs. This group is similar to those found in the Khorat Plateau in regard to their iconographic content, however, stylistically there is a great degree of variation (see chapter 5).



Figure 4.32: Sema set-up around the Kalyani sima at Thaton now kept in cages.

At present therefore, evidence for the use of *sema* in Burma before the 12<sup>th</sup> century CE is restricted to two areas. It is difficult therefore to make definite conclusions from such limited evidence. However, it does appear that the tradition of using *sema* to demarcate sacred space around an *ubosot* was in existence to a certain extent.

#### 4.8.4 Sema in the Sukhothai and Ayutthaya Periods

By the Sukhothai and Ayutthaya Periods, the sema stone tradition had firmly taken hold within central Thailand. Evidence for the early usage of sema by these cultures can be seen in locations such as Wat Na Phra Mane (figure 4.33) and Wat Glang in Ayutthaya, Wat Jolahmnee in Pitsanulok and Wat Momlunggah in Sukhothai (Boonag 2008, 51-52). The sema tradition taken up by these two early Thai kingdoms insured that it was eventually disseminated throughout all of central, northern and southern Thailand and as a result is an integral part of the Buddhism being practiced today within modern day Thailand, Cambodia and Laos.



Figure 4.33: Ayutthaya Period sema located outside the *ubosot* of Wat Phra Mane Temple, Ayutthaya.

#### 4.9 Sema and the Distribution of Buddhism throughout the Khorat Plateau

A key aim of this thesis is to use sema as a case study to analyse and ascertain the extent to which Buddhism had spread and established itself throughout the Khorat Plateau during the Dvaravati period. This can be done by a number of ways. First, the location and placement of sema sites can be said to a certain extent to reflect the distribution of Buddhism as a whole throughout the region. Secondly, by looking at the amounts of sema present at individual sites and clusters, certain estimates can be

made as to the size of the Buddhist communities present. Thirdly, analysis of the artwork can shed light in regards to the location of possible Buddhist centres.

Looking at the distribution of sema throughout the region it becomes clear that Buddhism during this period was primarily restricted to lowland areas close to the alluvial plains of the major river systems. This should come as no surprise as the Buddhist *sangha* has always been dependent on local communities and urban centres alike in order to thrive and function. The tradition of patronage of temples and monasteries coupled with the ritual of giving daily offerings and alms to the temple monks ensures an interdependent relationship between the *sangha*, local leaders and lay people alike.

#### **4.9.1 Sema amounts**

Analysing the amounts of sema present at individual sites (see Appendix 1, table A6) and at clusters can allow for certain estimates of the extent and size of Buddhist communities to be made. For example, sema were usually set up in pairs of eight or sixteen. It is therefore possible to propose that a site with thirty-two sema present may have had either four or two *sima*, depending on whether we consider sema being set up in sets of eight or sixteen.

There are a number of problematic variables with such an assumption, however. For example the idea that the amounts of sema surviving today reflect a close approximation to the amounts present during the Dvaravati period is far from certain and it is difficult to estimate with any certainty the actual percentage of sema that may have existed during the period in question. Also, the numbers used to set up a *sima* vary from site to site and perhaps even within a site itself. However, despite these issues the following proposed figures on the sizes of the Buddhist communities should at least give an approximate indicator of how extensive the religion could have been in the period in question.

If we take cluster 1 for example, the total amount of sema present is 369. Muang Fa Daed alone has 172, which would give twenty-one religious buildings or consecrated spaces if eight sema per *sima* were used, or ten if in sets of sixteen. Taking the cluster as a whole would give a figure of forty-five (for eight sema) or twenty-three (for

sixteen) *sima*, be they stupas, *ubosots*, *viharns* or open air ritual spaces. This therefore, represents a significant Buddhist presence in the cluster.

Using similar calculations, cluster 2 would have between eleven and nineteen *sima*, cluster 3, between seven and thirteen, cluster 4 between thirteen to twenty-three, cluster 5 between six and nine, cluster 6 between twelve and nineteen, cluster 7 between two to three and cluster 8 between three to four. Taking *sema* numbers as a whole throughout the entire Khorat Plateau would give a figure of between eighty to 140 *sima*. Taking this postulation one step further it could also be argued that each *sima* could have between five to ten monks present, giving a possible figure of an over 1000 member strong *Sangha* throughout the region. However, as outlined above these are conservative estimates with the actual figures possibly higher. Even still it becomes readily apparent that Buddhism had established a strong and widespread presence by the 8<sup>th</sup>-9<sup>th</sup> centuries CE.

Looking at the distribution of Buddhism from this quantitative approach it becomes clear that cluster 1 has the highest density. This confirms conclusions drawn from the distribution analysis and also the study of the artwork in the next chapter which both point to this cluster being the most prominent centre of Buddhism in the Khorat Plateau. Cluster 6 also shows high numbers of potential *sima* emphasising that Buddhism had taken a strong hold along the Middle Mekong region. Also clusters 2, 3 and 4 show mid-range figures in comparison, illustrating that the religion had also settled in these areas, but perhaps not in as high a concentration as clusters 1 and 6.

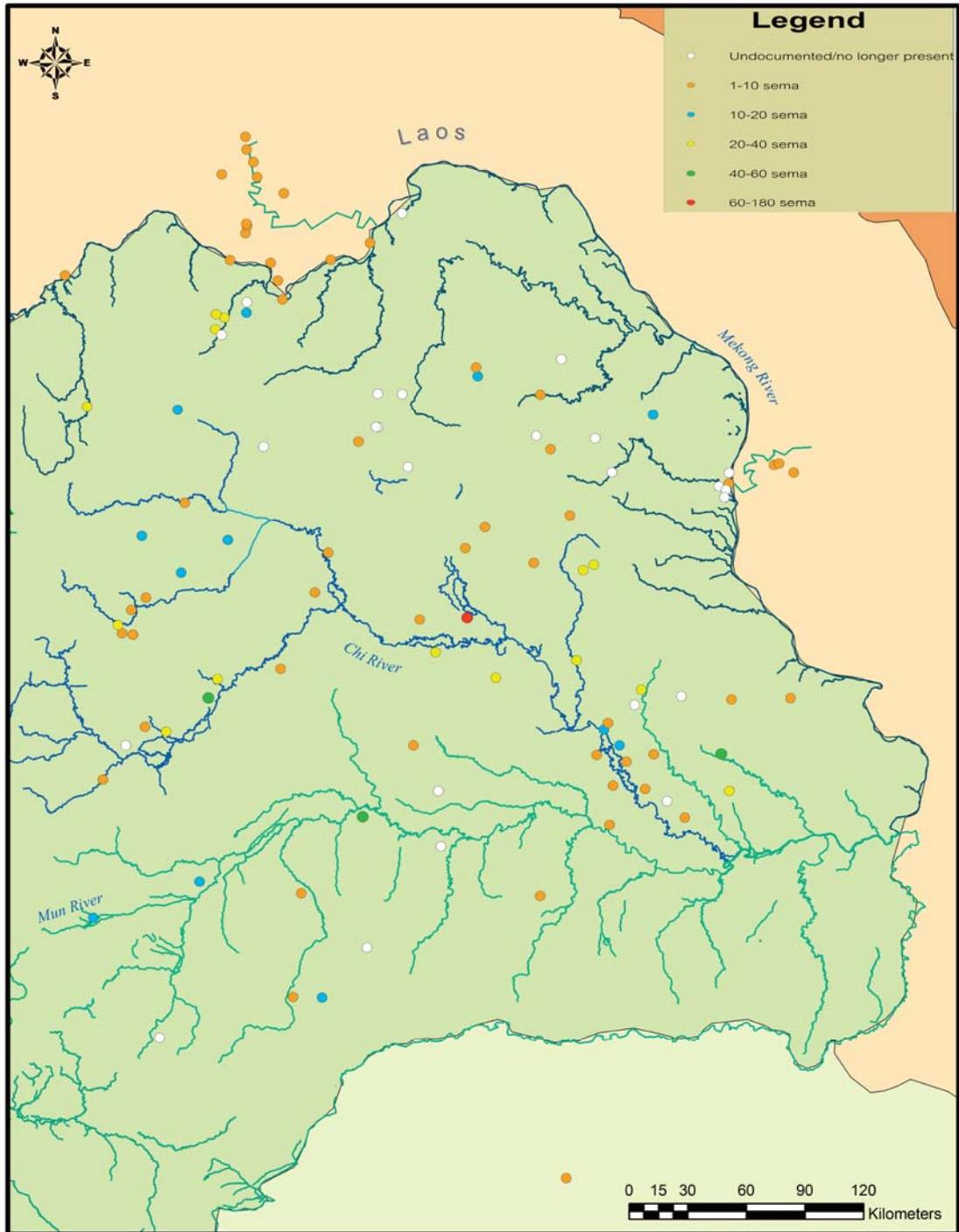


Figure 4.34: Amounts of sema per site.

#### 4.9.2 Buddhism and River Systems

The distribution analysis also illustrates that the dissemination of Buddhism was closely linked to the river systems, in particular along the Chi and Middle Mekong. As with settlements in the preceding and later periods, sites in the Dvaravati period were dependent on constant and reliable water sources in order to survive and flourish. Buddhism in turn was dependent on these settlements in order to take root and

develop. Therefore, its distribution and proliferation was largely defined by the courses of the major river systems and their tributaries. Furthermore, as the aforementioned river systems were also the major transport and communication routes at this time, Buddhism and its monks would undoubtedly have entered the region by this means further emphasising the close connection between the physical geography of the region and the dissemination of Buddhism.

However, evidence from the distribution analysis shows that Buddhism was not entirely restricted to lowland areas. A number of highland/mountain sites have also been located illustrating that during this period the practice of mountain and or forest retreats for meditative purposes was well underway in Southeast Asia. Phu Pra Baht in Udon Thani Province and Dang Sun in Vientiane province provide evidence for this, while Phu Pra Angkhan in the Mun river system may also have functioned along similar lines.

#### **4.9.3 Summary**

Buddhism flourished in the Chi river system in particular, as illustrated by the combined evidence from clusters 1-4. In the Middle Mekong, there is a strong Buddhist presence represented by Cluster 6, which spans the areas of Vientiane, Udon Thani, Loei and Nong Khai provinces. It is probable, therefore that Buddhism moved into the region from three directions (see figure 4.35). The first was via the Chi river system from central Thailand, perhaps along the Pasak River and then over the Phetchabun Mountain range before reaching Chaiyapoom province. From the Chi river system it may have spread throughout the Khorat Plateau until it reached the Middle Mekong from where it would have entered areas such as Vientiane province and Wang Sapung in Loei province. It is also possible that Buddhism spread from the upper Chi to the Loei river and then down to the Mekong river, however, this route is more problematic due to the presence of the Petchabun mountain range.

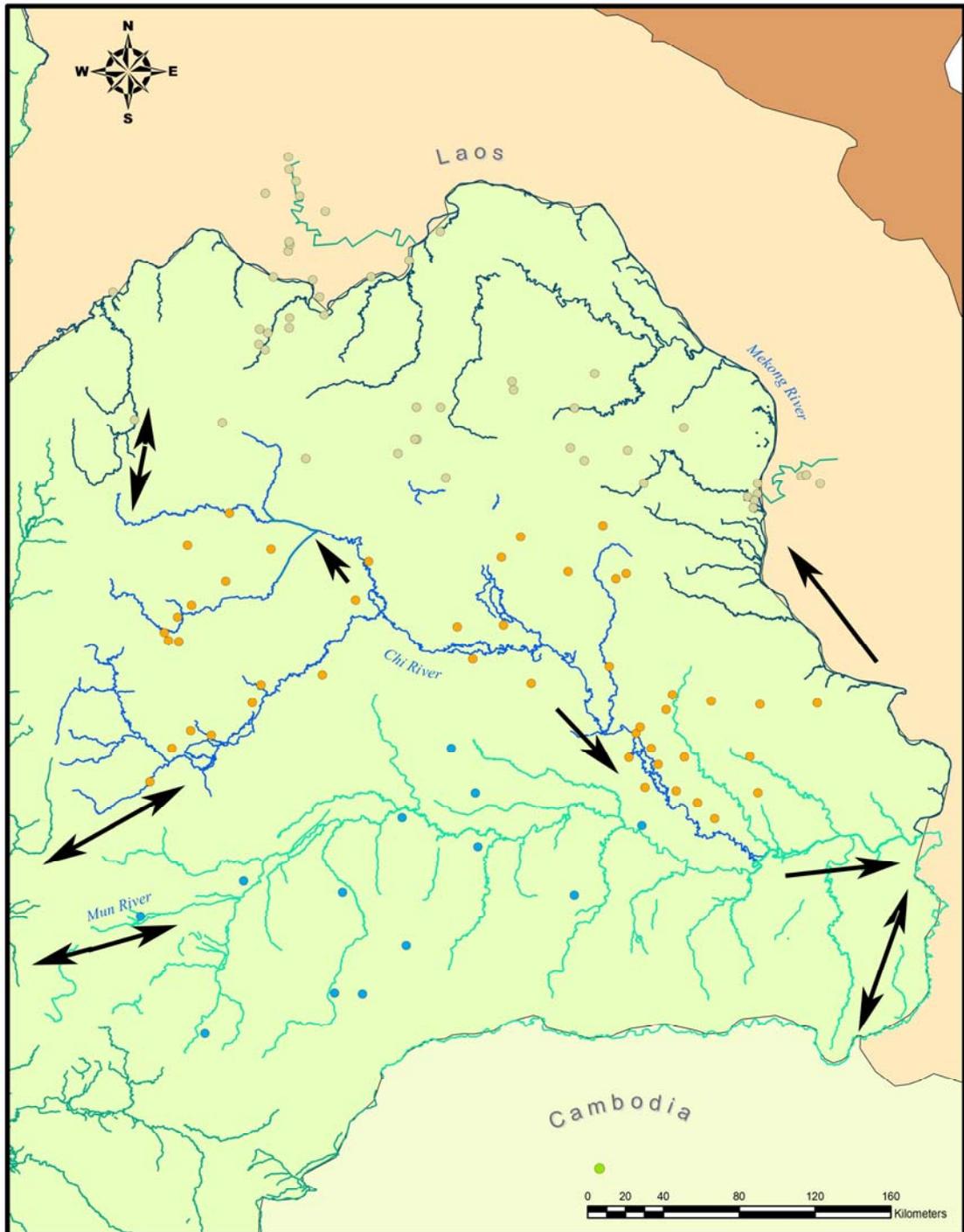
The second route is along the Mun river system. The Lam Ta Khong River which merges with the Mun near modern day Nakorn Ratchasima may also have formed a vital communication route with central Thailand. This is suggested not only by the geography but by the presence of the site of Muang Sema, a major Dvaravati period site. It is likely that its positioning here was strategic allowing it to control access to

and from the Khorat Plateau. From here, Buddhism could have spread and reached all of southern Isan before reaching the Mekong River.

The third route is along the Mekong River itself. Buddhism had established itself in the Mekong delta by circa the 4<sup>th</sup> century onwards, particularly around the early trading 'state' of Funan (Higham 2002, 235-238). It most likely also moved northwards along the Mekong until it met with the confluence of the Mun River. From there it could have continued to spread northwards along the Mekong or turn west along the Mun, thus entering the southern regions of Isan. The Buddhism that spread along the Chi and Mun in turn would have eventually reached the Mekong. After that it would have turned north eventually reaching Vientiane province and the Nam Ngum River.

However, the direction of Buddhism's movement was most likely not all one way. It is highly likely that as this religion flourished in the Khorat Plateau its influence spread back towards central Thailand as well. The presence of sema at certain sites in central Thailand and similarities in the earthenware pottery record between sites such as Muang Fa Daed, Muang Sema and Dong Mae Nang Muang in Nakorn Sawan province (Murphy & Pongkasetkan 2010, 61-62) point toward this movement.

However, as discussed, Buddhism is less prevalent in the Mun river system than it is along the Chi and Mekong and appears to have been overshadowed by the more dominant Hindu beliefs of the Khmer or Chenla polities, which also reached southern Isan by way of the Mekong River. Unlike in the Chi river system, therefore Buddhism in the Mun river system had to compete with the ever-increasing Hindu/Khmer sphere of influence and to a certain extent came off second best.



4.35: Proposed movement of Buddhism into the Khorat Plateau with arrows indicating the possible directions of transmission.

## 4.10 Summary

By recontextualising sema back into the physical and cognitive landscape of the Khorat Plateau a more complete and comprehensive understanding of these sacred objects emerges. Seeing them from the perspective of the geography of the region and

their relationship to settlement patterns, the distribution of their artwork and the amounts of sema present allows for a number of conclusions to be drawn.

First, the division of sema into three distinct groups and eight clusters reveals that the Chi river system is the most prominent area in regard to the sema tradition. It has the highest proportion of both sites and sema, and also exhibits the finest examples of carved sema in terms of artistic, iconographic and aesthetic qualities. From this we can conclude that the areas around cluster 1 and 2 in particular represent centres of the sema tradition. This assertion is further confirmed in the next two chapters, which focus on the art of the sema and their typology respectively.

The concentration of sites around Vientiane, Loei, Udon Thani, and Nong Khai provinces in cluster 6 highlights the significance of this subgroup and the role played by the Middle Mekong in spreading the sema tradition beyond the confines of central Isan. Evidence from sites such as Phu Phra Baht, Bang Nong Kluem and Bahn Viengkham illustrates that sema and the Buddhism they represented were an integral part of the sacred landscape of this region and had firmly established itself by the 7<sup>th</sup>-8<sup>th</sup> centuries. This tradition continued to flourish in the Middle Mekong region well into the 11<sup>th</sup> and 12<sup>th</sup> centuries, gradually absorbing and fusing with Khmer artistic traditions. The sema tradition in Mun river system on the other hand, never developed and flourished as strongly as it did in the Chi and Middle Mekong. The presence of Hinduism from early on and the growing influence of Khmer culture as the centuries went by, meant that sema and the Buddhist traditions it represented, never quite gained a complete hold in the region.

Secondly, this chapter has also shown that while there is a direct correlation between moated sites and sema locations in the Chi river system, overall this is not the case. Sema are instead found at a variety of sites, from earthen mounds to mountaintop sites such as Phu Phra Baht and Bahn Sohksai. Therefore, sema and consequently Buddhism, was not exclusively tied to moated sites.

Thirdly, this chapter illustrates that there are clear patterns in regard to the distribution of motifs throughout the Khorat Plateau. Narrative art is restricted to a handful of key locations, predominantly in clusters 1, 2 and 6, further emphasising the importance of these areas. The axial stupa and stupa-*kumbha* motifs on the other hand, were much

more widely spread and are more representative of the artwork of the sema tradition as a whole.

Finally, using sema as a case study this chapter has shed further light on the distribution of Buddhism throughout the region. It has shown the extent to which this religion was present by the 8<sup>th</sup>-9<sup>th</sup> centuries and proposes that it centred in particular around cluster 1 in the Chi river system. It is also clear that Buddhism spread primarily along the major river systems and as a result emerged and developed in these lowland, alluvial plains where it took deep root and has continued to flourish to this day.

## Chapter 5

### The Art and Iconography of the Sema Tradition

Best known for their depictions of the Buddha or bodhisattva images, it is the artwork carved on sema that has perhaps unsurprisingly drawn the most attention from academics and the general public alike. To the archaeologist or art historian the various motifs, scenes, symbols and styles found on sema provide invaluable information in regard to not only the Buddhism being practiced in the region, but also what art styles and iconography were present during the Dvaravati period. To the Buddhist faithful on the other hand, these ancient stones still possess the power to inspire religious piety and devotion as can be still seen today in the numerous examples of re-use at temples and shrines throughout the Khorat Plateau.

This chapter first discusses the narrative art depicted on sema. Narrative art is defined herein as artwork that portrays a specific scene, event, episode or tautological element. In terms of sema this almost exclusively refers to *jataka* tales or scenes from the Life of the Buddha. In almost all cases, the narrative is monoscenic with no continuous or conflated modes found (see chapter 1, section 1.3.2.). Buddha and Bodhisattva images as well as miscellaneous Buddhist/Brahmanical imagery is also discussed. Following on from this the stupa motif as it appears on sema is discussed. This motif can be divided into two forms, the axial stupa motif and the stupa-*kumbha* motif. Finally three other motifs are discussed; the lotus band which almost always dresses the bottom sections of sema, and *dharmacakra* motifs, which while rare do occur in a number of instances and finally a number of miscellaneous motifs

This chapter draws a number of conclusions from the study of the art and iconography. First, it identifies and places narrative artwork into three time periods spanning the 8<sup>th</sup>-9<sup>th</sup> centuries, the 10<sup>th</sup>-11<sup>th</sup> centuries and the 11<sup>th</sup>-12<sup>th</sup> centuries respectively. In regard to the stupa-*kumbha* motif, it places it into five types spanning the 7<sup>th</sup>-11<sup>th</sup> centuries. A number of possible iconographic interpretations of this motif are also discussed. Secondly, it posits the existence of schools or workshops operating at certain locations in the Khorat Plateau based on the close similarities in style and iconography in certain instances. Thirdly it discusses the possible forms of Buddhism that may have been practised and the texts that may have been in circulation during the Dvaravati period. Finally, this discussion endeavours to illustrate that the art of the sema should not be

seen as a tradition dependent on and derived entirely from the Dvaravati art of central Thailand and the Khmer art emanating from Angkor. Instead it should be seen as an art-style in its own right, one that developed into a ‘Khorat Plateau aesthetic’, and that both influenced and was in turn influenced by the art and culture of its eastern and western neighbours.

## 5.1 Narrative Art

Carvings etched on sema, whether they be the Buddha preaching the First Sermon at Sarnath or the Bodhisattva being pierced by an arrow in the *Sama Jataka*, continue to capture the imagination of those who behold them. As relief sculpture executed on sandstone, these scenes depict episodes from the Life of the Buddha, *jataka* tales and to a lesser extent Buddha or bodhisattva images in general.<sup>1</sup> The style of their artwork resonates strongly with Dvaravati art of central Thailand and shares many of its salient features. Analysis of these depictions allows us not only to discuss a Dvaravati art style in the Khorat Plateau but also highlights the difficulties inherent in attempting to identify the texts and types of Buddhism that may have been in circulation during this period. When combined with the distribution analysis in chapter 4 and the typology proposed in chapter 6 dating can be proposed for the majority of these sema and the sites at which they are found.

This section first discusses the style of the narrative art depicted on sema followed by an iconographical analysis which, where feasible proposes interpretations for the episodes present. Sema with narrative art can be divided into five groups, those depicting *jataka* scenes, those depicting Life of the Buddha scenes, those depicting images of the Buddha or bodhisattvas in general that may form part of a narrative, miscellaneous Buddhist/Brahmanical imagery and finally unidentifiable scenes and fragments. A total of twenty-eight new identifications are proposed.

### 5.1.2 The Art Style of the Narratives and Buddha Images

Representations of the Buddha, bodhisattva and various other figures such as attendants,

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<sup>1</sup> While generic images of the Buddha or bodhisattva are strictly speaking not narrative compositions, they have been included herein under this category as it is not always possible to establish whether certain examples were part of a narrative episode or not.

kings or characters from *jatakas*, to a large extent fall within the accepted definitions of the Dvaravati art style (see chapter 2.4). The Buddha, whether depicted seated or standing has close similarities with the facial characteristics of those found within central Thailand. The tight hair curls, thick lips, oval shaped eyes and spherical *ushnisha* all attest to the close connections between the Khorat Plateau and central Thailand. However, the characteristic arched eyebrows joining at the centre while clearly present on a number of sema, is not as prevalent as it is in central Thailand. The distinctive double *vitarka mudra* of Dvaravati art of central Thailand is also found on sema. However, more often than not, it is the single *vitarka mudra* using the right hand that is shown in the Khorat Plateau. This represents a variation between the two areas. Another common feature in both central Thailand and the Khorat Plateau is the nimbus, sometimes ringed with flames, that circles the Buddha's head.

When the Buddha is shown standing, he is attired with the usual u-shaped robe falling to just above his ankles. In Gupta and Amaravati art the right shoulder is left bare and the *samghati* is held by the left hand. This arrangement is conspicuous by its absence in the Buddha images found throughout central Thailand and the Khorat Plateau. When shown seated, he is depicted in a variety of postures ranging from *virasana* and *vajrasana* to *pralambasana*, postures all also attested to in central Thailand.

Bodhisattva, particularly when they are represented in a *jataka* scene, have a number of salient characteristics which makes them readily identifiable. The conical headdress, so prevalent among bodhisattva in central Thailand, is also a staple feature of the Khorat Plateau. Furthermore, the Bodhisattva is often shown with elaborate jewellery such as necklaces and circular earrings that hang from the ends of the elongated earlobes. It is interesting to note that on a number of depictions, the conical headdress is shown in matted loops extremely similar to the hairstyles of certain Prakorn Chai bodhisattvas pointing towards a degree of stylistic affinity between these works.

However, while there is a great degree of similarity there are also some noticeable differences that distinguish the art on sema as a unique expression in its own right. Firstly the extreme androgyny present in central Dvaravati Buddha images, emphasised by the diaphanous nature of the robe is less apparent on the Buddha depicted on sema. Secondly, the robe particularly when shown on bodhisattva figures has at times a very pronounced '*drápe-en-poche*', which is not found in central Thailand. Diskul and Quatrach Wales both argue that this is a clear sign of Khmer artistic influence, however as discussed previously in chapter 2 (section 2.6), this feature should in fact be seen as a

unique expression of the art of the Khorat Plateau and should not be reduced to a borrowing from its eastern neighbour.

Stylistically, the artwork on sema can be divided into three general groups. While these groups correspond to three chronological phases, traditional art historic assumptions of a linear development of the art over time from simple to elaborate to over-ornate have been rejected in this thesis (see Chapter 1.3.2). Instead, the art and its changes over time have been analysed in conjunction with sema distribution patterns and typological characteristics.

The first group, spanning the 8<sup>th</sup>-9<sup>th</sup> centuries shows strong affinities with that of central Thailand and is restricted primarily to the sites of Muang Fa Daed (L1), Bahn Nong Hang (L3), Bahn Kut Ngong (L26), Bahn Korn Sawan (L32) and Bahn Kum Ngoen (L15). There is little or no discernable Khmer artistic influence present and classic Dvaravati leitmotifs such as the serene facial features, the u-shaped robe and the *vitarka mudra* abound. Chronologically, this first group corresponds to the early period of Dupont's group C (2006, 126-140) which dates images to the 8<sup>th</sup> century onwards. However, stylistically they also have much in common with group B dating to the 7<sup>th</sup> century, which most probably represents the source and inspiration for the artwork depicted on sema spanning the 8<sup>th</sup>-9<sup>th</sup> centuries. This group also corresponds more or less to what Woodward classifies as the middle phase of Dvaravati art (1997, 52).

The second group spans the 10<sup>th</sup>-11<sup>th</sup> centuries and is characterised by a fusion of Dvaravati and Khmer artistic motifs and conventions. This can be best observed at the sites of Muang Fa Daed and Bahn Nong Hang. The '*drápe-en-poche*' of the first group has given way to a fully flowing Khmer Style *sampot*<sup>2</sup> and the facial features of the protagonists take on a more square appearance, contrasting with the oval faces of the 8<sup>th</sup>-9<sup>th</sup> centuries. This amalgamation of two of the most potent art styles in Southeast Asia represents an important step in the development of the Khorat Plateau aesthetic.

The third group dating from the 11<sup>th</sup>-12<sup>th</sup> centuries represents an almost complete 'Khmerisation' of the artwork on sema. This is best seen at the sites of Bahn Pailom (L60) and Bahn Nong Kluem (L52), where the scenes depicted on the sema have lost all signs of Dvaravati art and instead resemble the figurative artwork of Khmer temple lintels suggesting that these architectural components formed the basis for the art (Kingmanee 1998b). This supposition is further strengthened by observations made by

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<sup>2</sup> See S85 (fig. 5:34) for example.

Woodward (1997, 78) who points out that the Khmer style Buddha images that first appear at Phimai were depicted without monastic robes, their chests shown bare with a characteristic Khmer *sampot* wrapped around their waists. The crowns shown on their heads were also direct replicas of those shown on Khmer Hindu images. It appears that the Khmer artists, initially unfamiliar with the iconographic characteristics of the Buddha, chose to depict them in the only way they knew how and used Hindu imagery as their template. The Buddha and Bodhisattva images on the sema at Bahn Pailom and Bahn Nong Kluem are also shown in this fashion, bare-chested with Khmer style crowns pointing towards the handiwork of craftsmen similar to those that decorated the lintels of the numerous Khmer temples throughout the Khorat Plateau.

Three further sites, Bahn Ma (L54), Wat Sao Suwanaram in Wiang Khuk sub-district (L99) and Bahn Pu Noi (L62) have sema with large scale images once again showing entirely Khmer style imagery. These sites illustrate that during the period of Khmer hegemony throughout the Khorat Plateau, the sema tradition still prevailed. However the Dvaravati style that so characterised its artistic achievements of the 8<sup>th</sup>-9<sup>th</sup> centuries in particular, in the end could not withstand the dominant austerity of the Khmer aesthetic.

## **5.2 The *Jatakas***

An essential part of the Buddhist cannon, the *jatakas* recount the numerous previous lives of the Buddha, each successive rebirth representing a step on the way to enlightenment. In the Pali tradition they number 547 with the last ten known as the ‘Great Section’ (*Mahanipata*). The *jataka*, however are shared by all traditions of Buddhism, be they Theravada, Mahayana or Tantric and represent a core part of the Buddha’s teaching (Skilling 2008, 59).

The word *jataka*, being the same in both Pali and Sanskrit comes from combining the past participle ‘*jata*’ (to be born) with the suffix ‘*ka*’ which converts it to a noun form. Therefore ‘*jataka*’ can be said to mean ‘that which concerns a past birth’ (Skilling 2008, 59). As the Buddha moved through his various rebirths and re-incarnations he built up sufficient karma to eventually achieve Buddhahood. From one angle the *jatakas* represent a causal explanation of how the enlightenment was achieved. However, to view them solely in this light is to do them a great injustice. Through the many tales, characters, events and discourses found throughout, an overall picture emerges of a

concise and well developed set of teachings and beliefs dealing with issues ranging from the merits of giving alms, the consequences of belief in false doctrines, the virtues of perseverance and renunciation to the results of acquiring bad karma. These past lives not only represent a ‘reincarnation history’ of the Buddha himself but also act as a vital resource to understand the moral and ethical precepts of Buddhism.

The earliest evidence for *jataka* tales comes from monumental relief sculptures on the gateways and railings of the Indian stupas at Bharhut and Sanchi dating from *circa* 1<sup>st</sup> century BCE. Further examples of early *jataka* can be seen at Nagarjunnakonda and Amaravati dating from 1<sup>st</sup>-3<sup>rd</sup> centuries CE. However, there are no extant texts surviving from this period and the tradition was most likely handed down orally by specialist monks and nuns known as *bhanaka* and *bhanika* respectively (Skilling 2008: 64).

The texts as we have them today fall into two general categories, those of the Pali (Theravada) canon, and those of the Sanskrit (Mahayana) schools. Regarding the Pali tradition the most significant work is the *Khuddaka-nikaya* or the ‘*Miscellaneous Collection*’ of the Pali *Tripitaka* containing 547 previous lives of the Buddha. When exactly this collection was written is uncertain, however, it was almost certainly a well established piece of literature by the early centuries of the first millennium CE with some scholars speculating that it was in existence by the 5<sup>th</sup> century (Krairiksh 1974b, 1; Skilling 2008, 67).

The Sri Lanka Theravada Buddhists were not alone in putting ink to paper, however. The northern Indian Mahayana schools also produced a number of *jataka* renditions. The most celebrated of these is the *Jatakamala* of Arya Sura (*The Garland of Birth Stories*) which is comprised of thirty-four stories in mixed Sanskrit prose and verse from *circa* 4<sup>th</sup> century. Other examples include the *Mahavatsu* belonging to the *Vinaya* of the Lokottaravadin school which contains many important *jatakas* written in Sanskrit specific to that school. Furthermore, the *Vinaya* of the Mulasarvastivadins also has *jatakas* and the *Fo Benxing Ji Jing* translated between 587-595 CE contains *jatakas* obtained from a variety of different sources (Skilling 2008, 65).

If we look to Borobudur on the island of Java for comparisons, it highlights the fact that by the 8<sup>th</sup>-9<sup>th</sup> centuries both the *Jatakamala* and the *jataka-avadanas* were well known as they form the textual basis for the relief carvings of the first gallery (Miksic 1990, 71). Furthermore, Klokke in her study of the narrative reliefs on Javanese Candi, identifies the presence of *Pancatantra* texts and the Pali *Jatakas* as well as indigenous

form of literature such as the *kakawin* texts (1993, 19-25). These Javanese examples therefore, can be helpful in shedding light on the texts that could have been in circulation in the Khorat Plateau during the Dvaravati Period.

The question of attempting to tie specific texts to the *jataka* tales depicted on sema throughout the Khorat Plateau is a problematic one. Firstly, there are no surviving texts from the Khorat Plateau during the period in question, making it impossible to establish for certain which scriptures may have been in circulation at the time. Furthermore, the idea that there was a homogeneous, uniform type of Buddhism being practiced at this time is also misleading with archaeological and art historic evidence pointing towards a plurality of religions, with Mahayana Buddhism and Brahmanism being practiced alongside Theravada doctrines. The presence and importance of the oral tradition can also not be overlooked and it is possible that many of the *jataka* scenes found throughout the Khorat Plateau were transmitted by word of mouth as opposed to palm-leaf manuscript.

Certain attempts have been made, somewhat unsuccessfully, to match specific schools and texts to the *jatakas*. Krairiksh has attempted this at two separate locations, one in regard to the stucco panels at Chula Pathon Chedi in Nakorn Pathom and the other being the sema located at the Khon Kaen National Museum (1974a; 1974b). However, in doing so Krairiksh appears to unwittingly contradict himself. In his 1974a article ‘*Semas with Scenes from the Mahanipata-Jatakas in the National Museum at Khon Kaen*’ he argues that the *jatakas* are from the Pali tradition stating ‘The *jataka* scenes can be identified with some certainty to have derived from a Pali text, the *Jataka-atthakatha*, since the illustrations closely follow this text.’ (Krairiksh 1974a, 45). However, in his other work from the same year (1974b) he argues that the *jataka* tales depicted at Chula Pathon Chedi are not drawn from the *Jataka-atthakatha* but instead come from the Sanskrit *avadanas* of the Sarvastivada school (1974b, 1). However, in order to illustrate and discuss these *avadana* tales, Krairiksh on many occasions needs to refer to the Pali *jataka* instead, inadvertently highlighting both the similarities and difficulties involved in attempting to match specific texts to specific monuments or artifacts. Furthermore, it will be shown that on numerous occasion it is not at all clear which *jataka* is being depicted further complicating attempts to match them to specific texts.

Due to its comprehensive and detailed nature Cowell’s six volume translation of the *Jataka-atthakatha* (Cowell, 1978) will be used in this thesis as the textual reference for discussing the *jataka* tales on sema from the Khorat Plateau. On certain occasions it will

appear that there is a very close correlation between the depictions on sema and the Pali text. However, we should not fall into the trap of assuming that this was in fact the text used.

Sixteen separate *jataka* tales have been identified on a total of forty-nine sema, the majority of which come from the sites of Muang Fa Daed, Bahn Nong Hang, Bahn Kut Ngong and Bahn Korn Sawan (see Appendix 1, Tables A7&A8). Of the ten *Mahanipata*, nine have been identified with only the *Nemi Jataka* absent. Twelve identifications have been made by Krairiksh (1974a), eight by Kingmanee, and three by Paknam (1981). Twenty-five new identifications have been proposed in this thesis by the author. Fourteen further sema have narrative scenes which appear to be *jataka* tales however, they remain unidentified (see section 5.2.17).

### 5.2.1. Kulavaka Jataka (No. 31)

Sema S12 (fig. 5.1) is from Muang Fa Daed in cluster 1 and has been identified by the Khon Kaen Museum as the *Kulavaka Jataka* (Piromanukul 2009, 105). At first glance, most would probably assume that this sema shows Sakka (Indra) riding on his mount Airavata which is also in fact correct.<sup>3</sup> However, a close reading of the aforementioned *jataka* allows us to identify this scene with much more accuracy.

In the *Kulavaka Jataka*, the Bodhisattva has four women in his household named Goodness, Thoughtful, Joy and Highborn.<sup>4</sup> The first three all preformed acts of merit and were therefore reborn as the handmaidens of Sakka. Highborn, however, carried out no such acts of goodwill and was therefore reborn as a lowly crane in a forest.

Sema S12 illustrates the results of this merit making. Sakka, seated in *lalitasana*, holding his *vajra* in his right hand, is located at the centre of the composition, most likely seated on Airavata who is no longer visible as the bottom half of the sema is missing. To the left is depicted a further elephant and to the right are the three handmaidens. In the palm of the foremost handmaiden is depicted a bird which we can presume represents Highborn reborn as a crane. On stylistic and typological grounds this sema can be dated to the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

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<sup>3</sup> See also sema S292.

<sup>4</sup> See Cowell, 1978 Vol. VI, 76-83.

### 5.2.2. Suvannakakkata Jataka (No. 389)

The *Suvannakakkata Jataka* has been identified by Kingmanee (1996, 133-138; 1998b, 46-47). This sema came to light during excavations at the site of Bahn Nong Kluem in cluster 6 and is the only known example of this particular *jataka* found on sema (fig. 5.2). The *jataka* is depicted at the base of sema S834 and shows the episode where a crab rescues the Bodhisattva from a crow and a snake.<sup>5</sup> The crow, desiring to eat the Bodhisattva's eyes made a pact with a snake to capture him. However, the Bodhisattva had befriended a crab who he regularly kept in his garment. The crab upon seeing his friend struck down by the snake came to his aid. He caught the snake in one claw and the crow in the other.

Sema S834 clearly shows the Bodhisattva exposed, lying on his back after being struck by the snake. The crow is perched on his body hoping to pluck his eyes out, however, the crab is shown appearing from the Bodhisattva's garment and catching both the snake and the crow in his claws. The artist has also cleverly chosen to incorporate the stupa motif into the overall composition with the body of the snake shown wrapped around it. Stylistically this sema can be dated to the third group of the 11<sup>th</sup>-12<sup>th</sup> centuries. Interestingly this episode also appears on reliefs from the 8<sup>th</sup> - 9<sup>th</sup> century temple of Candi Mendut in Java where once again the crab is shown grasping the snake and the crow. Klokke (1993, 159-160) suggests either the Pali *Jatakas* or an early Indian *Pancatantra* text as possible sources.

### 5.2.3. Hamsa Jataka (No. 502)

I have proposed three possible identifications for sema S100 from Bahn Nong Hang in cluster 1 (fig. 5.3). It may be either the *Hamsa Jataka* (No. 502), the *Cullahamsa Jataka* (No. 533) or the *Mahahamsa Jataka* (No. 534). All three *jatakas* involve an episode of a hunter trying to catch a *hamsa* bird. However, as explained below, the *Hamsa Jataka* appears to be the the most likely candidate.

The sema shows a *hamsa* at the centre of the composition with the hunter placed to the left with either a club or a noose/net in his right hand ready to capture the bird. The net extends upwards from the hunter and arcs around, encircling the *hamsa*. There also appears to be two more smaller geese directly below the *hamsa*. In the *Hamsa Jataka* the

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<sup>5</sup> See Cowell, 1978 Vol. III, 183-186.



Figure 5.1: Sema S12.



Figure 5.2: Sema S834.

Bodhisattva has been reborn as a *hamsa* and is ensnared by the king's hunter. When this happens the Bodhisattva warns his fellow *hamsa*, all of whom flee except for one named Sumukha who manages to persuade the hunter to let the Bodhisattva go free. This sema therefore most likely shows the Bodhisattva being captured while the two smaller geese below him could represent Sumukha and the goose that fled.

There does not seem to be any other motifs or characters present in the scene, however the sema is fragmentary so it is impossible to tell for sure. The angular, square shaped head of the hunter shows the influence of Khmer art placing this sema in the second group of the 10<sup>th</sup>-11<sup>th</sup> centuries.

#### 5.2.4. Chaddanta Jataka (No. 514)

This *jataka* has been identified on two separate sema (figs. 5.4 & 5.5). Sema S983 now at Phimai National Museum but thought to be from Kaset Somboon district in Chaiyapoom province has been identified by Paknam (1981, 104), however, this attribution is far from certain. Sema S1271 is in a private collection and supposedly comes from Muang Fa Daed. It has been identified by Krairiksh (1974b, 15-17, fig 23) who prefers to regard it as the *Saddanta Jataka* which is a corresponding Sanskrit version from the *avadana* tales. However, Krairiksh's argument is problematic on a number of levels and at times he seems to contradict himself by quoting from the Pali sources to illustrate the narratives he is describing.<sup>6</sup> For the reasons outlined in section 5.2 above and for the sake of consistency this thesis will refer to this *jataka* by its Pali name, the *Chaddanta Jataka*.

Sema S983 has been identified by Paknam, however, he gives no explanation for this. We must therefore assume that because the sema shows two elephants, Paknam has identified them as the Bodhisattva and one of his queen consorts. In this *jataka* the Bodhisattva is reincarnated as an elephant and has two queens. However, one of them takes offence at a perceived slight and subsequently plots her revenge.<sup>7</sup> The elephant on the right of the scene could therefore be identified as the Bodhisattva with the elephant to the left, who is shown bowing down to the elephant on the right, as one of the queen consorts. However, there are numerous instances of elephants appearing as characters in *jataka* tales so this identification is far from certain.

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<sup>6</sup> For a thorough critique of this work see Chutiwongs (1974).

<sup>7</sup> See Cowell, 1978 Vol. V, 20-31.



Figure 5.3: Sema S100.



Figure 5.4: Sema S983.



Figure 5.5: Sema S1271.

Sema S1271 on the other hand, clearly depicts the scene from this *jataka* where the hunter attempts to saw off the tusks of the Bodhisattva.<sup>8</sup> The Bodhisattva is shown to the right of the composition while the hunter is shown to the left, with an elongated saw in his hands, placed over the tusk of the elephant. Stylistically, this sema bears a number of similarities with others from Muang Fa Daed, such as the single lotus band at the base and the posture and facial features of the hunter. However, its fragmentary nature and

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<sup>8</sup> See Cowell, 1978 Vol. V, 28-29.

unsecure provenance prevents the drawing of any definite conclusions in regard to its date and original location. An inscription on the top half of S983 (see figure 3.4, chapter 3) dates this sema to the 10<sup>th</sup>-11<sup>th</sup> centuries. Sema S1271 can be dated to the 10<sup>th</sup>-11<sup>th</sup> centuries due to the style of the *sampot*.

### 5.2.5. The Mahakapi Jataka (No. 516)

This *jataka* has been identified by Krairiksh on one sema, S88 from Bahn Nong Hang in cluster 1 (Krairiksh 1974a, 13-14). The scene relates to the episode when a man attempts to kill the Bodhisattva by dropping a stone on his head.<sup>9</sup>

*‘At that time the Bodhisatta was living in the shape of a monkey, and while eating wild fruits he caught sight of a man, and after practising [sic] with a stone he hauled the fellow out. While the monkey was asleep, the man split his head open with a stone.’*  
(Cowell, 1978 Vol. V, 38)

Sema S88 is a tapered pillar type and the scene is depicted on one of its four sides (fig. 5.6). The other three sides have no narrative episodes and are instead decorated with floral motifs. The scene is executed in low relief and depicts the man, arms raised with the stone held high above his head about to strike the Bodhisattva. The Bodhisattva in turn, is shown lying beneath, clearly depicted as a monkey as can be seen not only from the shape of his head, but also by the inclusion of a tail. As with other tapered pillar type sema from Bahn Nong Hang this sema is datable to the 11<sup>th</sup> century and is stylistically homogenous with its counterparts (see chapter 6.1.2).

### 5.2.6. Sarabhanga Jataka (no. 522)

Sema S178 from Muang Fa Daed in cluster 1 appears to represent both a *jataka* tale and a scene from the Life of the Buddha. The Buddha is clearly depicted at the centre of the composition, legs crossed in *virasana* on what appears to be a rectangular mat in *vitarka mudra*. He is flanked on either side by royal fans and flags. Behind him is depicted a tree, perhaps the Bodhi but it is impossible to say for certain. Below the Buddha, there are four seated figures surrounded by cloud motifs. The figure at the centre right appears to be a king due to his headdress. The figure to the centre left appears to be

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<sup>9</sup> See Cowell, 1978 Vol. V, 37-42.



Figure 5.6: Sema S88.



Figure 5.7: Sema S178.



Figure 5.8: Detail of base of Sema S178.

female, so is perhaps a queen or princess. The figures to the far right and left are perhaps attendants.

Were the composition to stop at this point, then a number of possible interpretations could be proposed such as the Buddha preaching to King Bimbisara or his father King Suddhodhana as is the case with sema S2 (fig. 5.68). However, below these four, three other figures are carved, one of whom is nearly completely covered by a modern cement stepped altar/offering platform. Two of the figures are armed with bows and arrows while the figure in the centre is leaping upwards with perhaps a weapon of some kind in his upraised right hand. This part of the sema has been identified by Phonpha and Suthilak (1974, 383) as a scene from the *Sarabhangā Jātaka*. In the episode in question the Bodhisattva Jotipala defends himself against four archers by blocking their arrows with his own iron arrow.<sup>10</sup> In this sema the arrow is possibly depicted in his left hand while two of the archers are shown on either side. Stylistically, the lower section appears to be of the same handiwork as the rest of the composition and so does not represent a later ‘intrusive’ addition.

If the identification of the *Sarabhangā Jātaka* is correct then it is unique in the sema tradition of the Khorat Plateau in showing both a Life of the Buddha scene and a *jātaka* in one composition. Perhaps the presence of the Buddha is meant to represent him telling the tale of this *jātaka* to those listening below?

### **5.2.7. Temiya Jātaka (Muga-Pakkha) No. 538**

Evidence for the *Temiya Jātaka* comes from four sema (figs. 5.9-5.12), two from Muang Fa Daed in cluster 1, one from Bahn Korn Sawan in cluster 2 and one from Bahn Nong Kluem in cluster 6. Sema S181 has been identified by Paknam (1981, 110), semas S266 and S823 by Kingmanee (1998c, 2006) while S663 has been identified by the author. All four sema show the same episode and semas S181, S266 and S663 from the Chi river system are extremely similar in composition and style. Sema S823 from the Middle Mekong group, while showing the same episode is stylistically quite different.

#### Temiya and the Charioteer

‘Our king has found his only son crippled and dumb,-an idiot quite; And I am sent to dig this hole and bury him far out of sight.’ (Cowell 1978 Vol. VI, 9)

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<sup>10</sup> See Cowell, 1978 Vol. VI, 68.

This episode relates to the scene where after sixteen years of pretending to be dumb and crippled in order to avoid being reborn in hell, the Bodhisattva, reincarnated as Prince Temiya finally reveals that he can not only speak, but also has full use of his body. This is brought about by the fact that the king's charioteer is digging a grave to bury him in, which forces the Bodhisattva into action.<sup>11</sup>

All three sema from the Chi river system depict Temiya standing to the right with the charioteer kneeling to the left. In semas S181 identified by Paknam and S663 identified by the author, the shovel is clearly visible in the charioteer's right hand. Unfortunately, sema S266 is badly eroded but the figures are still possible to make out. The similarities in terms of composition between the two sema from Muang Fa Daed strongly suggest that they were executed by either the same artist or the same school of artists. S663 from Bahn Korn Sawan on the other hand, while sharing the same compositional arrangement is executed in lower relief, indicating a different hand from those at Muang Fa Daed. Stylistically these three sema can be placed within the first group dating to the 8<sup>th</sup>-9<sup>th</sup> centuries. Typologically they are executed on Slab Types 1 and 2 sema, again pointing towards an 8<sup>th</sup>-9<sup>th</sup> century date (see Chapter 6.1.1).

Sema S823 identified by Kingmanee from Bahn Nong Kluem in Udon Thani province depicts Temiya in the centre of the composition while once again the charioteer is crouching to the left. In his right hand he carries a spade while his left is raised above his head as if to protect himself. To the right of Temiya the chariot is depicted, identifiable by the horse to the far right and the spoked wheel shown just above the Bodhisattva's left foot. Stylistically and typologically this sema falls into the third group of the 11<sup>th</sup>-12<sup>th</sup> centuries.

### **5.2.8. The Mahajanaka Jataka (No. 539)**

Identifications of the *Mahajanaka Jataka* have been proposed on sema from two separate locations, Bahn Nong Hang (L3) in cluster 1 by Krairiksh (1974a, 47-48) and Bahn Nohn Chat (L20) in cluster 3 by the author (figs. 5.13 & 5.14).

#### Mahajanaka and his Estranged Wife

*'Here are two paths; do thou take one, the other by myself take I; Call me not husband from henceforth, thou art no more my wife, goodbye.'* (Cowell, 1978 Vol. VI, 36)

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<sup>11</sup> See Cowell, 1978 Vol. VI, 1-18.



Figure 5.9. Sema S181.



Figure 5.10. Sema S266.



Figure 5.11: Sema S663.



Figure 5.12: Sema S823.

Sema S7 from Bahn Nong Hang is fragmentary but Krairiksh proposes that it depicts Mahajanaka and his estranged wife, Queen Sivali. Krairiksh argues that it represents the scene after Mahajanaka has renounced his kingship and become an ascetic.<sup>12</sup>

Mahajanaka, he argues, is depicted at the bottom centre of the composition in an ascetic's garb, holding an ascetic's staff, while Queen Sivali is placed above him. She is shown leaning on her right shoulder, with her right hand raised to support herself. If this identification is correct, this posture may have been chosen to convey her grief and sorrow at the fact that Mahajanaka has resolved to remain an ascetic and consequently she can no longer accompany him. Overall, the compositional arrangement is uncrowded and as far as can be made out from the fragment, there are no further motifs or features present in this scene. The viewer's attention is therefore solely focused on the interaction between the two figures.

This identification, while compelling is far from certain. First of all, the identification of the bottom figure as Mahajanaka seems to rest solely on the staff which Krairiksh argues is that of an ascetic. However, it has been pointed out by a number of authors that it represents a *khakkharaka* (Lorrillard 2008, 123-124; Revire 2009, 120-123) and this instrument is not restricted to ascetics alone but to monks of various different sects. Furthermore, the *khakkharaka* is also depicted on sema S294, and in this scene is held by the Buddha.<sup>13</sup> Additionally, the figure holding the staff on both semas in question has his hair cut short in the style of a monk as opposed to the conical hairstyle of a bodhisattva. As he does not have an *ushnisha* iconographically therefore he cannot be said to represent the Buddha either. The identification of the upper figure as a queen is also far from certain. It is more probable therefore that this scene represents an unidentified episode involving a monk as opposed to the *Mahajanaka Jataka*.

Due to the fragmentary nature of this sema it is difficult to establish for certain which group it falls into, as semas from Bahn Nong Hang span both of the first two groups. However, on stylistic grounds it is more likely to date to the 8<sup>th</sup>-9<sup>th</sup> centuries as there is no visible Khmer influence present.

### The Shipwreck Scene

*'When the vessel sank the mast stood upright...the Great Being standing on the mast... flew up from the top of the mast and by his strength passing beyond the fishes and*

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<sup>12</sup> See Cowell 1978 Vol. VI, 30-37.

<sup>13</sup> See section 5.3.6., fig. 5.74.

*tortoises...*’ (Cowell, 1978 Vol. VI, 22)

Sema S317 from Bahn Nohn Chat in cluster 3 is proposed by the author as being the episode of the shipwreck scene, identifiable by the large fish in the bottom right corner, and also by the mast of the ship, shown just to the left of the central stupa motif. Two figures are clinging to the mast as the ship begins to sink, with the lower of the two possibly being Mahajanaka on account of his conical headdress, an attribute of the bodhisattva in the art of the Khorat Plateau. There is also another figure placed above the large fish to the top right, however it is unidentifiable as the top part of this sema is missing. It is also possible therefore, that this figure may represent Mahajanaka due to its placement in the composition, as in this episode the protagonist climbs to the top of the mast as the ship begins to sink, while his shipmates, unable to do so are eaten alive by various types of sea creatures as they swim helplessly in the sea.

Kingmanee (1997a) proposes an alternative identification for this scene. He argues that it is the *Devedhamma Jataka* where three brothers enter a forest and are captured by an ogre. He proposes that the three figures represent the three brothers and that the creature at the bottom right is the ogre. If this is so, then the positioning and depiction of the ogre is rather strange, as it clearly looks like a sea creature of some kind.

#### **5.2.9. Sama Jataka (No. 540)**

This *jataka* is depicted on two sema, one from Bahn Nong Hang in cluster 1 and the other from Bahn Nong Kluem in cluster 6 (figs. 5.15 & 5.16). Both sema illustrate the same episode. Sema S822 has been identified by Kingmanee (1998b, 44-46) while sema S709 has been identified by the author.

#### King Piliyakkha mortally wounds Sama

‘...the king, seeing that it was time to shoot, let fly a poisoned arrow and wounded the Great Being in the right side, and the arrow went out at the left side. The troop of deer, seeing that he was wounded, fled in terror...’ (Cowell, 1978 Vol. VI, 42).

I have identified this scene as depicting the episode in which King Piliyakkha mortally wounds the Bodhisattva, who has been reincarnated as Sama, the son of blind hermit parents.<sup>14</sup> Sema S709 shows King Piliyakkha standing to the left, bow in one hand and

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<sup>14</sup> See Cowell, 1978 Vol. VI, 38-52.



Figure 5.13: Sema S7.



Figure 5.14: Sema S317.



Figure 5.15: Sema S709.



Figure 5.16: S822.

arrows in the other. Sama stands to the right, water-pot held high, two deer depicted directly behind him. This scene depicts the moment before the King lets fly his arrow.

Sema S822, identified by Kingmanee, on the other hand, depicts the moment Sama is struck, with the arrow clearly visible piercing his right side and exiting through the left. King Piliyakkha's posture also indicates movement and conveys action by the stance he

is in and also the position of his right hand which is raised behind his head signifying the arrow's release.

Sema S822 stylistically bears all the hallmarks of the third group and typologically belongs to Slab Type 4 (see chapter 6.1.1). It can therefore be dated to the 11<sup>th</sup>-12<sup>th</sup> centuries. Sema S709 on the other hand exhibits a fusion of Khmer and Dvaravati styles, the hair and *sampot* being influenced by the former and the facial features showing the hallmarks of the latter. The sema can therefore be placed in the second group of the 10<sup>th</sup>-11<sup>th</sup> centuries.

### 5.2.10. The Khandahala Jataka (No. 542)

The *Khandahala Jataka* is depicted on two sema, one from Muang Fa Daed (S93) in cluster 1 identified by Krairiksh (1974a, 53) and one from Bahn Kut Ngong (S584) in cluster 2 identified by the author (figs. 5.17 & 5.18). Both sema depict the same episode. This *jataka* is also possibly depicted on a further sema S176, once again from Muang Fa Daed but the identification is tentative.

#### Sakka as Deus ex Machina

‘*Sakka...having heard her cry and seen what had happened, took a blazing mass of iron and frightened the king, and dispersed the assembly.*’ (Cowell, 1978 Vol. VI, 79)

This scene represents the climax of the *jataka*, whereupon Sakka descends from heaven to save the Bodhisattva, who reincarnated as the just prince Candakumara, is about to be ritually executed by his misguided father, King Vasavatti.<sup>15</sup>

In the depiction of this scene identified by Krairiksh on sema S93, Sakka is clearly visible in the top centre of the composition surrounded by cloud motifs, his *vajra* held aloft in his right hand preparing to strike. He is shown with his characteristic crown comparable to that depicted on S12 and S292 and his flowing *sampot* which trails out between his legs is suggestive of the Khmer influence of the late 10<sup>th</sup>-11<sup>th</sup> centuries. There seems to be an architectural motif depicted to Sakka's right, perhaps a stylised palace, however, it cannot be clearly made out due to erosion. Unfortunately the base of this sema is also badly eroded, making it impossible to establish what was depicted at the bottom section of the scene.

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<sup>15</sup> See Cowell, 1978 Vol. VI, 68-80.



Figure 5.17: Sema S93.

Figure 5.18: Sema S584.



Figure 5.19: Sema S176.



In sema S584 I have identified Sakka in the centre of the composition, ready to strike. Furthermore, King Vasavatti is visible at the bottom left of the sema, crouching down in fear with his right arm raised above his head in a vain attempt to protect himself from the impending divine wrath. By analogy S93 may also have depicted the king in the lower section of the composition but it is no longer possible to make out.

#### The Buddha and the Archers

‘...after he had strung his bow to wound him [Gotama Buddha] and fixed the arrow...he could not discharge it. He at once threw down his weapons and fell with his head on the Blessed One’s feet.’ (Cowell 1978 Vol. VI, 69)

Sema S176, (fig. 5.19) from Muang Fa Daed is unfortunately badly eroded today, however there is a photograph from Paknam (1981, 114) which shows the relief carving in much better detail. Today, the lower figure is no longer clearly visible, while the bottom half of the upper figure has also suffered from the ravages of time. I propose that this scene can tentatively be identified as the preamble to the *Khandahala Jataka* wherein Devadatta conspires to have the Buddha assassinated by archers.<sup>16</sup> However, upon encountering the Buddha, the archers are unable to carry out their orders and drop to their knees in worship.

Sema S176 may depict the Buddha seated at the top centre of the composition. Below him stands a figure with his hands pressed together in *anjali mudra*, the gesture of worship. This gesture is further emphasised by the position of the man’s head and the direction of his eyes, which gaze upwards in reverence at the Buddha. Cradled in the man’s arms is what appears to be a bow and if so points towards the possibility that this scene perhaps represents the episode from the *Khandahala Jataka* described above.

#### **5.2.11. Bhuridatta Jataka (No. 543)**

The *Bhuridatta Jataka* has been identified on four sema (figs. 5.20-5.23), one from Muang Fa Daed (S259), one from Bahn Nong Hang (S85), one from Bahn Kut Ngong (S588) and one from Bahn Korn Sawan (S662). The first two sites are in cluster 1, modern day Kalasin Province, while the latter two are in cluster 2, modern day Chaiyapoom Province. Sema S259 has been identified by Kingmanee (1997b, 104-109)

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<sup>16</sup> See Cowell, 1978 Vol. VI, 68-69.



Figure 5.20: Sema S588 from Bahn Kut Ngong.



Figure 5.21: Sema S662 from Bahn Korn Sawan.



Left: Figure 5.22. Sema 259.



Above: Figure 5.23: Sema S85.

while the other three identifications are the author's. All four sema show the same episode. This *jataka* may also be present on another sema from Bahn Nong Hang, S717 however the stone is now fragmentary so a definite identification cannot be reached.

#### The Brahmin Alambayana wrestles with the Naga

‘...Alambayana, having first anointed his body with divine drugs...uttered the divine spell, and going up to the Bodhisatta, seized him by the tail...he stretched him out full length on the ground...and then seizing his tail, pounded him as if he were beating cloth.’ (Cowell, 1978 Vol. VI, 97)

It appears that all four sema depict the episode where the Brahmin Alambayana seizes the Bodhisattva who in this incarnation is a *naga* meditating on an ant hill.<sup>17</sup> The Brahmin wrestles him from his perch and into a basket. After that he brings him to a village and uses him to make money as a snake charmer. Sema S85 could perhaps alternatively represent the episode where the Brahmin makes the *naga* dance as opposed to the episode above where he is captured.

Semas S588 and S662 are extremely similar in composition and style. In both cases Alambayana is depicted at the left centre with both hands clasping the tail of the *naga*. In S588 the *naga* is placed directly above Alambayana with his body in three coils. The composition is rounded off by cloud motif decoration above. Notice how the artist has incorporated the shape of the sema into the composition as the coils of the *naga* wrap around the right and left hand sides of the stone.

In S662, the *naga* is depicted to the top right of Alambayana, again in three coils. The closeness in composition and style of these two sema, coupled with the geographical proximity of the sites strongly points towards the work of a single artist or school. Observe, not only the similarity in the depiction of the *naga*'s face, but also how the artist conveys a real sense of movement and energy in the posture of Alambayana who in both incidences is leaning away to the right, his weight placed on his right knee in his exertions to wrestle the *naga* free off the anthill.

A Mon inscription (Jy. 9) on the back of S588 has been dated to the 8<sup>th</sup> century (Bauer 1991, 35). The style of this artwork also dates to the first group of the 8<sup>th</sup>-9<sup>th</sup> century so in this instance we have a correlation between the artistic and epigraphic evidence. On comparative grounds we can also date sema S662 to the same group.

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<sup>17</sup>See Cowell, 1978 Vol. VI, 80-114.

Sema S259 identified by Kingmanee (1997b) from Muang Fa Daed shows a similarly dynamic scene with Alambayana once again pulling the *naga* free from the anthill. This time the Bodhisattva's tail is wrapped around the Brahmins neck and shoulders. The Brahmin once again is leaning away to his right in an attempt to utilise the force of gravity to aid in his struggle. The top half of the composition is flanked by two trees which enclose a stylised structure and/or cloud motif. The difference in composition and style between this sema and S588 and S662 points to the fact that it was probably not executed by the same artist or school. Furthermore, this sema has been dated to the 10<sup>th</sup>-11<sup>th</sup> centuries on stylistic grounds by considering such aspects as the Khmer style *sampot* worn by Alambayana (Kingmanee 1997b, 104-109).

The scene from Sema S85 is depicted on one side of a tapered pillar type from Bahn Nong Hang. Typologically and stylistically it is *circa* 11<sup>th</sup> century in date (see chapter 6.1.1). The scene once again shows Alambayana holding the *naga* by his tail, however, in this depiction the violent sense of movement and struggle is absent suggesting that this represents the snake dancing episode which follows directly after the *naga*'s capture. This is further emphasised by Alambayana's hand gesture which seems to be instructing the *naga*.

Sema S717 depicts a figure at the bottom left pulling at something with both hands. Unfortunately the top half of this sema is missing so it is impossible to establish what exactly the figure is grasping. However, when we compare the body posture of the figure with that of S259 we see that they are both very similar. Therefore, we can tentatively suggest that this scene represents the *Bhuridatta Jataka*.

The four definite examples of the *Bhuridatta Jataka* found on sema from clusters 1 and 2 indicate that this *jataka* was well known throughout this area. Furthermore, the fact that the same episode is depicted on all four sema illustrates a certain homogeneity of the artistic tradition in this region of the Chi River.

#### **5.2.12. Mahanaradakassapa Jataka (No. 544)**

The *Mahanaradakassapa Jataka* is present on three sema, two from Muang Fa Daed (S3 and S182) in cluster 1 and one from Bahn Kut Ngong (S587) in cluster 2. All three

sema depict the same episode in very similar fashion (figs. 5.24-5.26). Sema S3 has been identified by the Khon Kaen National Museum while Sema S182 was identified by Paknam (1981, 114). Sema S587 from Bahn Kut Ngong has been identified by the author. Kingmanee (2003) proposes that sema S718 from Bahn Nong Hang also has this *jataka* depicted on it, however, this stone is fragmentary and extremely badly eroded making this identification far from certain.

#### Brahma-Narada descends to the human world

‘...and having taken a golden begging bowl hung with a string of pearls, and having laid on his shoulders a golden carrying pole curved in three places, and taken up a coral water-pot by a string of pearls, he went with this garb through the heavens shining like the moon...’ (Cowell, 1978 Vol. VI, 122).

The three sema depict the moment when the Bodhisattva, who in his present incarnation is residing in heaven, hears the prayers of King Angati’s daughter Ruja and decides to descend to earth in order to convert the king from his heretical beliefs.<sup>18</sup> The Bodhisattva dresses himself in the guise of an ascetic and bears a yoke across his shoulder from which is suspended a begging bowl and a water pot. Semas S3 identified by the Khon Kaen Museum and S587 identified by the author show almost identical compositions of this scene with the yoke, bowl and pot clearly visible. Both depictions of the Bodhisattva are executed in high relief and show him in *vitarka mudra* indicating he is teaching, which is consistent with the episode in question. The hair is arranged in thick matted loops hanging from his *ushnisha* while the earlobes are elongated in royal fashion.

S182 on the other hand is executed in low relief and varies somewhat from the other two sema. Once again the Bodhisattva, placed in the centre of the composition, is clearly shown with the yoke on his back, standing under a tree. However, kneeling on either side of him are two figures, most likely King Angati on the left and his daughter, Ruja on the right, listening to the discourse of the Bodhisattva.

The classic Dvaravati facial features of the Bodhisattva on these sema and on S587 in particular, highlight the fact that they date to the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries. Furthermore, the matted hairstyle of the chignon which is a characteristic of the Khorat Plateau aesthetic is extremely similar to that found on a number of Bodhisattva images from the Prakorn Chai hoard also dating to *circa* the 9<sup>th</sup> century.

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<sup>18</sup> See Cowell, 1978 Vol. VI, 114-126.

The fact that the scene of the Bodhisattva descending has been depicted on two sema and the episode of preaching to King Angati on another, the similarities of the composition and the closeness in style particularly between S3 and S587, illustrates clear connections between the art of clusters 1 and 2 and is suggestive of a common school or artistic tradition existing in the region. The choice of this particular scene may have further considerations. The *Mahanaradakassapa Jataka* explains the causes and results of good and evil deeds and how there is sensitive balance at play in the karma accumulated by individuals over their many successive rebirths. Perhaps the depiction of the yoke balancing on the Bodhisattva's shoulders is meant to evoke such an image of this existential state of being?

### 5.2.13. The Vidhurapandita Jataka (No. 545)

The *Vidhurapandita Jataka* is present on eleven separate sema from seven different locations. Four different episodes are shown in total in a variety of styles, compositions and date ranges.

#### Vidhura expounds the law to Punnaka

*'...the Great Being caused the top of the Black Mountain to be covered with adornment, and prepared a richly decorated seat, and being seated thereon uttered a stanza, describing in it the duty of the good man with a Buddha's triumphant mastery...'*

(Cowell, 1978 Vol. VI, 149)

This episode, describing the expounding of the law by the Bodhisattva Vidhura to the *yakkha* general, Punnaka is found on six separate sema from six separate locations. Sema S72 is from Muang Fa Daed in cluster 1, sema S591 from Bahn Kut Ngong and sema S661 from Bahn Korn Sawan are from cluster 2. Sema S1238 from Bahn Podahk (L61), S831 from Bahn Nong Kluem and S1106 from Bahn Pailom are all from cluster 6. Sema S72 has been identified by Krairiksh (1974a, 53-55); sema S1238 has been identified by Kingmanee (1998a, 107-112) while S591, S661, S831 and S1106 are the author's identifications.

Sema S72 (fig. 5.27) from Muang Fa Daed is a particularly fine example of narrative art. Krairiksh has identified Vidhura located at the top left of the composition seated cross-legged in what appears to be *virasana*, right hand in *vitarka mudra*, indicating he is in the process of teaching. Punnaka, seated below him, is identifiable by his long

matted hair and horse which is placed directly under him. Stylised cloud motifs above and below the protagonists indicates that this scene is taking place on a mountaintop.

I have identified S591 and S661 (figs. 5.28 and 5.29) as also showing Vidhura and Punnaka seated beside each other, the Bodhisattva again in *virasana*, however, this time he is in *dhyana-mudra* instead. As before, Punnaka is identifiable by his long matted hair while the whole composition is encircled with cloud motifs once again indicating the mountaintop setting. In S661 Vidhura is shown in *vitarka mudra* and Punnaka is again shown with long matted hair. The clouds however, are absent from this



Figure 5.24: Sema S3.



Figure 5.25: Sema S587.



Figure 5.26: Sema S182.

composition and the Bodhisattva seems instead to be surrounded by a nimbus type motif.

Semas S72, S591 and S661 all belong to the first group, being 8<sup>th</sup>-9<sup>th</sup> centuries in date. However, while they all illustrate the same scene with certain features in common such as the depiction of Vidhura in *vitarka mudra* seated in *virasana*, and with cloud motifs providing the scene setting, they seem to be the work of separate artists both in terms of style and level of execution. S72 for example is much more skillfully rendered than both S591 and S661, which are in shallower relief and are less complicated compositions.

S1238 identified by Kingmanee (1988a) depicts Vidhura seated cross-legged in *virasana*, left hand in *vitarka mudra* under an elaborately decorated throne corresponding closely to the description quoted above from the Pali rendition of the *jataka* (fig. 5.30). Punnaka is placed to the left of the composition while his mount is seated directly beneath him. Punnaka once again is depicted with matted hair and a rather fierce looking countenance. His face clearly shows Khmer artistic influence and Kingmanee (1998a) interestingly highlights the fact that the style of the throne points to similarities with the art of Champa in central Vietnam. He assigns this sema to the 10<sup>th</sup>-11<sup>th</sup> centuries which seems to be a realistic dating in terms of the stylistic influences present and fits within the second group as proposed in this thesis.

I have observed that semas S831 (fig. 5.31) and S1106 (fig. 5.32) show almost identical scenes in terms of style, composition and iconography. They both show a central figure seated cross-legged in *vajrasana*, identifiable as the Bodhisattva or the Buddha, flanked by a horse to the right and a kneeling figure to the left. Two identifications are possible for this scene; one, that it is Vidhura preaching the law with Punnaka seated to the left and his mount placed on the right. The other possibility is that it represents the Great Departure from the Life of the Buddha. If so, then it is the Buddha seated in the centre, with his charioteer Channa to the left and his mount, Kanthaka to the right. The latter interpretation is favoured by Kingmanee (1998b, 38; 2000, 108-113) who makes no mention of the *Vidhurapandita Jataka*. He argues that this scene is shown elsewhere in the northeast and cites a sema from Bahn Nong Hang as further evidence of this (2000, 111). However, as discussed in section 5.8 below, the carving on this sema is surely modern and this therefore invalidates it as comparative evidence.

On the other hand, if we look closely at the figure to the left of the composition we see that he has mane-like hair, so this raises the possibility that it is in fact, Punnaka and not

Channa and therefore the *Vidhurapandita Jataka*. This interpretation is further strengthened by the fact that this scene is depicted elsewhere in the Khorat Plateau as shown in the discussion above. Depictions of the Great Departure on the other hand, have not come to light.

Semas S831 and S1106 are clearly contemporary with each other and were most likely executed by the same artist or school. This is clear from the close stylistic and typological similarities and also the close geographical proximity of the two sites. Kingmanee has dated them on stylistic grounds to the late 10<sup>th</sup>-11<sup>th</sup> century (1998b, 49) which places them within the early phase of group three.

#### Punnaka hears the song of the Naga Princess

‘...Punnaka, the Yakkha general, as he was riding on a magic Sindh horse...heard that song of hers [the naga princess] and the voice of the women which he had heard in his last previous life pierced his skin and nerves and penetrated his very bones; and, being fascinated by it, he turned back, seated as he was on his Sindh horse...’ (Cowell, 1978 Vol. VI, 131).

This episode, where Punnaka turns and looks behind himself from his horse to heed the words of the *naga* princess is depicted on three sema. Sema S76 from Muang Fa Dead and S85 from Bahn Nong Hang in cluster 1 have been identified by the author while S91 also from Bahn Nong Hang has been identified by Krairiksh (1974a, figs. 17 & 18).

Sema S76 (fig. 5.33) is badly eroded, however I have been able to identify Punnaka on his horse at the bottom right of the composition, turning around with his right arm raised over his head. Placed above, directly in line with his gaze is a female figure, identifiable as the *naga* princess Irandati. Unfortunately, the top of this sema is now missing so the princess’s head and upper body are no longer visible.

Semas S85 and S91 are tapered pillar type sema. S85 shows Punnaka, who I propose is identifiable by his matted hair, turning around with his horse placed to the right (fig. 5.34). It seems that the artist was either unwilling or unable to depict Punnaka on horseback so has instead placed him and his mount side by side. S91 identified by Krairiksh (1974a) on the other hand shows no such difficulties and Punnaka is depicted seated on his horse (fig. 5.35b). He is turning backwards to hear the voice of Irandati. The artist has ingeniously depicted her on the next face of the sema and this represents one of the few instances where two scenes from the same *jataka* are placed alongside each other. If we follow Punnaka’s gaze around the



Figure 5.27: Sema S72.



Figure 5.28: Sema S591.



Figure 5.29: Sema S661.

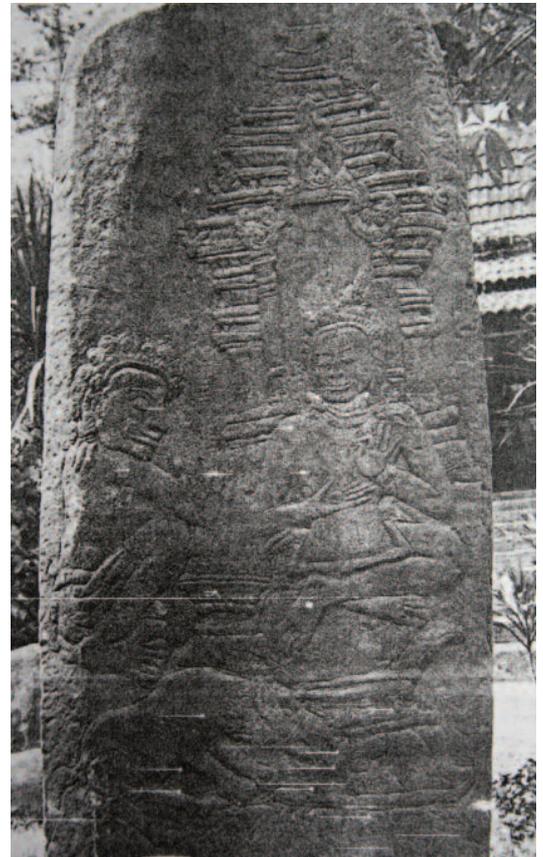


Figure 5.30: Sema S1238.



Figure 5.31: Sema S831.



Figure 5.32: Sema S1106.

corner of the stone we reach Irandati who is depicted dancing on a structure which Krairiksh (1974a, 54) explains is a Gupta device for depicting rocky terrain (fig. 5.35a).

#### Vidhura's Abduction

I have identified S85 as depicting a further episode from the *Vidhurapandita Jataka* on one of its other sides (fig. 5.36). In this scene identified by the author, Punnaka is carrying off Vidhura from his family.<sup>19</sup> Once again the Yakkha general is depicted with his characteristic long matted hair while Vidhura as a Bodhisattva is shown with the ubiquitous Dvaravati style conical crown. The artist has ingeniously shown Punnaka wrapping Vidhura's arm around his shoulder as he ushers him away, conveying a sense of dynamic movement.

The episodes depicting the *Vidhurapandita Jataka* from the two tapered pillar type sema S85 and S91 from Bahn Nong Hang form a uniform group in terms of content, iconography and style and are clearly the work of one particular school or group of artists based at this site. In depicting narrative episodes on two faces of the sema these artists chose to utilise the pre-existing design of the stones to aid in their compositions. Typologically and stylistically they date to the 11<sup>th</sup> century and are somewhat later than the sema found at Muang Fa Daed, Bahn Korn Sawan and Bahn Kut Ngong.

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<sup>19</sup> See Cowell, 1978 Vol. VI, 146.



Figure 5.33: Sema S76.



Figure 5.34: Sema S85.



Figure 5.35b. Sema S91.



Figure 5.35a: Sema S91.

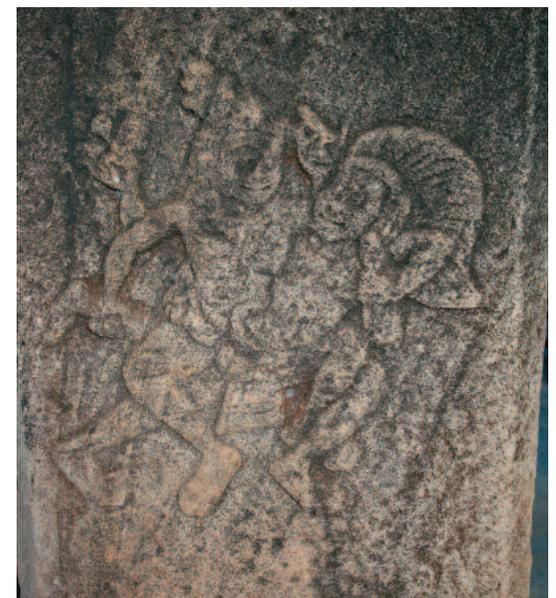


Figure 5.36: Sema S85.

#### 5.2.14. Mahosadha (Maha-Ummagga) Jataka (No. 546)

The *Mahosadha Jataka* is depicted on a total of eight sema from five sites located within clusters 1 and 2. Three of the scenes have been identified by the author, one by Kingmanee (2005) and four by Krairiksh (1974a, 48-53).

##### The Episode of the Stolen Child and the Obeisance of Kevatta

Sema S1 (figs. 5.37 & 5.38) from Muang Fa Daed is unique in representing two scenes from the same *jataka* on either of its sides both of which have been identified by Krairiksh (1974a, 48-50). Along with S91 discussed above, this represents the only other example of the use of sequential as opposed to mono-episodic narrative on sema. Unfortunately today the episode of the stolen child scene is badly eroded, however, there is a photograph from Krairiksh (1974a, fig. 9) which provides the basis for the description and analysis given below.

In the episode of the stolen child<sup>20</sup>, Mahosadha is seated at the centre of the composition gazing downwards at the two women to be judged who kneel prostrate at his feet (fig. 5.38). In the background is an architectural detail of some kind, perhaps meant to represent the roof of the palace. The woman to Mahosadha's right is in fact the female goblin in disguise and is holding the child while the figure to the left is the infant's true mother. The identity of the child's mother is proven by her reluctance to hurt the child in the ensuing tug-of-war.

Depicted on the reverse of this sema is the scene in which Mahosadha forces the Brahmin Kevatta into obeisance (fig. 5.37). As with the opposite side, the composition is framed by a stylised architectural feature, under which sit four figures, three of whom are attendants. Mahosadha is located on the far left of this group and is identifiable by the parasol above his head. He in turn is pushing down another figure with his hand and foot. This figure is the Brahman Kevatta whose forced obeisance is clearly depicted by the position of his head and his hands, which are joined together in the traditional gesture of respect or worship. The scene is described in the Pali sources as follows:

‘ “...today I have found this gem. Pray take it.” The other [Kevatta] seeing the gem ablaze in his [Mahosadha's] hand, thought that he must be desiring to offer it and said “Give it me then,” holding out his hand...but the brahmin [Kevatta] could not support the weight of the gem in his fingers, and it slipt [sic] down and rolled to the Bodhisat's

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<sup>20</sup> See Cowell, 1978 Vol. VI, 163.

*[sic] feet ; the brahmin in his greed to get it, stooped down to the other's feet. Then the Great Being would not let him rise, but with one hand held his shoulderblades and with the other his loins...*' (Cowell, 1978 Vol VI, 207)

Interestingly, the placement of these two scenes on either side of the same sema may not be accidental. As Krairiksh (1974a, 49-50) has pointed out, these two scenes also appear side by side on terracotta plaques at the Thagya Paya Stupa at Thaton in Lower Burma. It is worth noting that while the sema from Muang Fa Daed and the plaques from Thaton are stylistically rather different, in terms of content, they are identical. This most likely indicates that both areas were drawing on the same textual or oral sources and traditions as opposed to any direct political or ethnic (Mon) connection as has been suggested (Krairiksh 1974a, 59-63).

The two depictions on this sema, most probably the work of a single artist show all the traits of Dvaravati Period art and can be dated to the 8<sup>th</sup>-9<sup>th</sup> centuries. It should also be mentioned here that this scene is also depicted on sema S708 from Bahn Nong Hang, however, as discussed in section 5.8 while the stone itself is probably from the Dvaravati period, the carving is surely modern.

#### The Courting of Amara

*'Now Amara in the evening came back from the forest, bearing a faggot of wood upon her head and leaves on her hip.'* (Cowell, 1978 Vol. VI, 184)

The scene of the courting of Amara<sup>21</sup> is depicted on four separate sema from four different locations. Sema S669 (fig. 5.39) from Bahn Korn Sawan and S589 (fig. 5.41) from Bahn Kut Ngong are from cluster 2 while S987 (fig. 5.40) from Kaset Somboon is now housed at the Phimai National Museum. All three have been identified by the author. S180 (fig. 5.42) is from Muang Fa Daed and has been identified by Krairiksh (1974a, fig 15).

All four sema show almost identical compositions with Mahosadha to the left and Amara, one hand placed on her head to support the wood and the other at her hip, located on the right. However, in S180 (fig. 5.42) Mahosadha is depicted wearing a *drápe-en-poché* which flares out to the left in triangular fashion, a characteristic of the Khorat Plateau aesthetic.

The striking similarity in the composition and iconography of these scenes coupled with the fact that the sites are spread out along the Chi river system, coming from clusters 1, 2 and

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<sup>21</sup> See Cowell, 1978 Vol. VI, 184-187.



Figure 5.37: Sema S1.



Figure 5.38: Sema S1.



Figure 5.39: Sema S669.

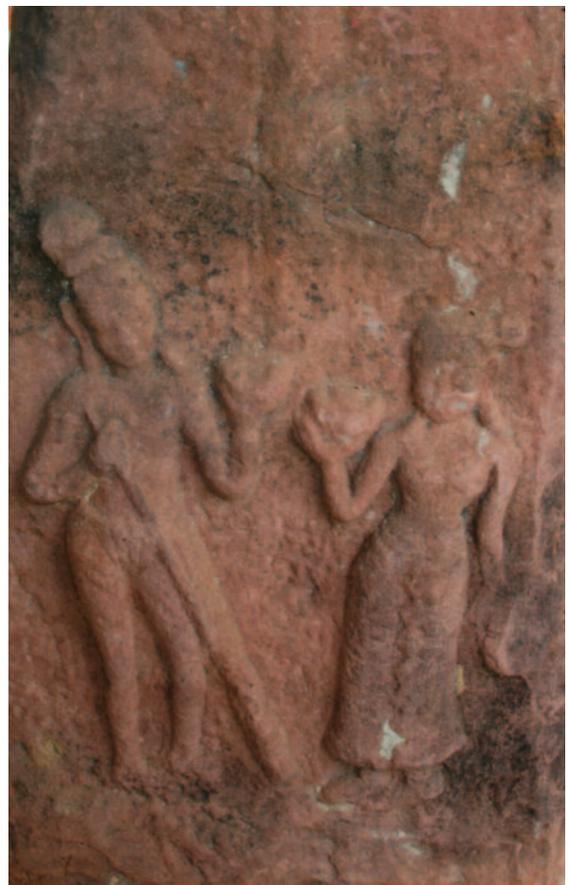


Figure 5.40: Sema S987.



Figure 5.41: Sema S589.



Figure 5.42: Sema S180.



Figure 5.43: Sema S82.



Figure 5.44: Sema S265.

3, is suggestive of the work of a unified school, however, the shallow relief of S669 surely indicates the work of a different individual than S180, S589 and S987 which may all have been executed by a single artist or workshop. The style and iconography coupled with the distribution analysis places all four sema within the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### Mahosadha and King Culani Brahmadata

*‘Now the Great Being took his sword...eighteen cubits from the ground he leapt into the air, descended, and catching the king’s arm brandished the sword and frightened him...’*  
(Cowell, 1978 Vol. VI, 236)

Two depictions of this scene are known today, the first S82 (fig. 5.43) was identified by Krairiksh (1974a, 50) and the second, S265 (fig. 5.44) was identified by Kingmanee (2005). Both sema are from Muang Fa Daed and show Mahosadha leaping into the air, sword held in his right hand raised above his head. In S265, King Culani Brahmadata is visible in the bottom right of the composition, crouching down in fear, however in S82 only Mahosadha is visible. The iconographic and compositional similarities, coupled with the fact that both sema are from the same site, strongly suggest that these two scenes are the handiwork of the same artist and belong to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### The riddle of the goat and the dog

*‘Two natural enemies, who never before in the world could come within seven paces of each other, have become friends and go inseparable. What is the reason?’*  
(Cowell, 1978 Vol. VI, 176)

This episode is depicted on sema S177 (fig. 5.45) from Muang Fa Daed and has been identified by Krairiksh (1974a, fig 14). The scene relates to the riddle posed by King Vedeha who observed a mutually beneficial pact made between a goat and a dog, reconciling these two natural enemies and allowing them to live in harmony. The king, wishing to test the wisdom of Mahosadha and his four sages demands that they answer this riddle or be banished from the palace.<sup>22</sup>

The sema, although quite badly eroded and executed in low relief, still has the main protagonists visible. Mahosadha is located at the top centre of the composition, flanked by two royal fans and seated cross-legged possibly in *vajrasana* under a parasol. Directly below, are the four sages of King Vedeha who are unable to answer the riddle.

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<sup>22</sup> See Cowell, 1978 Vol. VI, 176-178.

Finally, at the base of the sema just above the lotus band the dog and the goat are just about visible. King Vedeha, however, is not depicted suggesting that the episode shown here is the scene directly before the sages and Mahosadha meet the king to explain the solution to the riddle.

Typologically, this sema has been classified as part of the Slab Type 3 group which has a date range of the 8<sup>th</sup>-9<sup>th</sup> centuries (see chapter 6.1.1). This also corresponds to the stylistic analysis of the art which places it within group one.

### 5.2.15. Vessantara Jataka (No. 547)

The *Vessantara Jataka* is depicted on seven sema from five sites located within clusters 1 and 2. Two of the scenes have been identified by Krairiksh (1974a, 55-57) while the other five are the identifications of the author.

#### Vessantara in the Palace

Sema S10 (fig. 5.46) from Muang Fa Dead depicts a scene preceding Vessantara's



Figure 5.45: Sema S177.



Figure 5.46. Sema S10.

banishment from the palace (Krairiksh 1974a, 56). In this composition Vessantara is seated on a throne in *lalitasana* below a parasol, while his wife sits to his right, slightly below him in front of an architectural motif most likely meant to represent the palace. Vessantara's children are shown at the bottom of the scene, sleeping together on a mat. The fact that Vessantara is seated upon a throne and the presence of the stylised architectural feature behind his wife confirm that they are still within the palace.

#### Sakka disguised as a Brahmin

*'...quickly he drew water in a pitcher, and poured it upon his hand, and made over Maddi to the brahmin.'* (Cowell 1978 Vol. VI, 293).

Sema S295, (fig. 5.47) now kept at Wat Sribunruang, but originally from Muang Fa Daed depicts the episode in which Vessantara gives away his wife Maddi to Sakka (Indra), who is disguised as a Brahmin (Krairiksh 1974a, 57). Vessantara is shown in the centre of the scene with Sakka to his left and Maddi to his right. The donation of Maddi is symbolically depicted by the pouring of water onto the right hand of the recipient, who in this case is Sakka. Once again, as is sometimes common on sema from Muang Fa Daed, the composition is framed by a stylised architectural motif, in this case, a pavilion with a two tiered roof.

As with the majority of semas with narrative art from Muang Fa Daed, semas S10 and S295 show classic Dvaravati features and can be placed within the first group dating to the 8<sup>th</sup>-9<sup>th</sup> centuries. The typological analysis also supports this date range.

#### The Children and the Fruit

*'Then by the Great Being's power, the trees bowed down their fruit so that their hands could reach it...'* (Cowell, 1978 Vol. VI, 266)

I have identified sema S590 (fig. 5.48) from Bahn Kut Ngong in cluster 2 as depicting the episode where Vessantara and his family are making their way to Vamka hill. Upon encountering fruit trees on either side of the road, Vessantara caused them to drop their branches down so that his children could reach the fruit. Vessantara, identifiable by his earrings and conical headdress, is depicted to the right, gesturing to his child standing beside him to pick the fruit from the tree shown on the left of the composition. The fruit is clearly visible above the child's outstretched arms and the trunk of the tree seems to be bending ever so slightly to the right. The features of the Bodhisattva and his pronounced *'drápe-en-poche'* once again illustrate the salient characteristics of the



Figure 5.47: Sema S295.



Figure 5.48: Sema S590.



Figure 5.49: S662.



Figure 5.50: Sema S85.

Khorat Plateau aesthetic and place this sema with the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### Vessantara gives away his children

*‘Then he [Vessantara] took his waterpot, and calling the brahmin [Jujaka] to come near, he poured out the water, praying that he might attain omniscience...and to the brahmin he gave this precious gift of his children.’* (Cowell, 1978 Vol. VI, 283)

I have identified sema S662 (fig. 5.49 above) from Bahn Korn Sawan in cluster 2 as depicting the episode in which Vessantara gives away his two children to the Brahmin Jujaka.<sup>23</sup> The sema shows Vessantara in the centre carrying the water-pot in his right hand. One of his children is depicted to the right, trying to pull away from his father, perhaps in an attempt to escape from the Brahmin Jujaka. Jujaka is depicted to the left with his right hand raised in anticipation of the imminent donation. As with the scene on S295 depicting the giving away of Maddi, the symbolic act of donation (*‘dakkhinodakam’* in Pali) is once again illustrated by the pouring of water on the right hand of the recipient. Stylistically we can place this sema within the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### The Children being led away by Jujaka

*‘And Jujaka went into the jungle, and bit off a creeper, and with it he bound the boy’s right hand to the girl’s left, and drove them away beating them...’* (Cowell, 1978 Vol. VI, 283)

I have identified this scene on sema S85 from Bahn Nong Hahn (fig. 5.50). It is located on one side of a tapered pillar type sema, with the two other sides also possessing *jataka* tales, one from the *Vidhurapandita Jataka* and one from the *Bhuridatta Jataka*.<sup>24</sup>

This sema depicts the moment when Jali and Kanha, Vessantara’s son and daughter respectively, have been bound and are being led away by Jujaka. The figure to the left is clearly male (Jali) and the figure to the right female (Kanha). Jali’s left hand is intertwined with Kantha’s left and the creeper by which they are bound is visible trailing away from Jali’s right hand. This compositional arrangement matches the description in the Pali text quoted above almost verbatim. This may indicate therefore, that the text or oral tradition which served as the basis for the execution of this scene has close similarities with the Sri Lankan Pali rendition. On stylistic grounds this sema falls into

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<sup>23</sup> See Cowell, 1978 Vol. VI, 280-290.

<sup>24</sup> For the *Vidhurapandita Jataka* see fig. 5.34. For the *Bhuridatta Jataka* see fig. 5.23.

the second group of the 10<sup>th</sup>-11<sup>th</sup> centuries. The headdress and jewellery are particularly indicative of this. The typological analysis (chapter 6.1.1) also confirms this date range.

#### Vessantara gives away the Royal Elephant

*‘The Great Being, as he saw the brahmins, drove the elephant to the place whereon they stood, and seated upon its back uttered... “O brahmins...what is it that you crave?”’.*

(Cowell, 1978 Vol. VI, 253).

I have tentatively identified this scenes on sema S83 (fig. 5.51) from Bahn Kud Namkin (L74) in cluster 1 and on sema S673 from Bahn Korn Sawan in cluster 2 (fig. 5.52).

Sema S83 possibly shows Vessantara, identifiable by the nimbus and crown, seated on the royal elephant. The elephant itself is somewhat difficult to make out due to the poor preservation of this particular sema, however, the general outline of its body is still visible. Alternatively the figure could be Sakka mounted on Airavata. This possibility is raised by the design of the crown on this sema as it is reminiscent of that shown on Sema S12 (fig. 5.1) depicting the *Kulavaka Jataka*.

Sema S673 is an even more tentative identification. This sema seems to have been incorrectly restored as the bottom half does not appear to match the top. The upper part of the head of an elephant is clearly visible, however, the lower part is no longer visible.



Figure 5.51: Sema S83.



Figure 5.52: Sema S673.

There is no figure riding on top of the elephant so it is impossible to confirm whether this is in fact the *Vessantara Jataka*. Many of the other *jatakas*, such as the *Chaddanta Jataka* also include elephants as integral parts of their narratives so it is possible that S673 is depicting any number of these stories. Stylistically, this sema most likely belongs to the first group, however, as it is badly eroded it is not possible to say for certain.

#### 5.2.16. Sibi Jataka

Sema S1273 from Wat Sao Suwanaram in Wiang Khuk district (L99) in cluster 6 has been identified by Piromanukul (2002, 102-107) as the *Sibi Jataka* (fig. 5.53). In this *jataka* the Bodhisattva saves a bird from the murderous intentions of another by giving away the same weight in his flesh as the bird. In this sema Sibi is shown with a weighing scale in his left hand with the bird sitting in the scale. The bird who wishes to kill the other sits above. Piromankul argues for an Angkor Period date based on the style of the *sampot* and comparisons with imagery from the lintels of Phimai. He therefore gives the sema an early 12<sup>th</sup> century date.

The question of which text this *jataka* is based on once again becomes an issue. Pironaukul (2002, 104-105) argues that it comes from the Sanskrit *avadanas* and represents the presence of Mahayana Buddhism in the area. A similar *jataka* is also present in the Pali *Jataka-atthakatha* under the name of the *Sivi Jataka*, however in this



version the protagonist gives away his eyes to save the bird as opposed to a pound of flesh. During the 12<sup>th</sup> century the Khmers in the Khorat Plateau were practicing Mahayana/Tantric Buddhism to a certain extent as can be seen at Phimai, however, this does not necessarily mean that the Pali tradition was not also being practiced. That said, it seems probable that in this case Piromanukul's identification is correct and the sema represents the presence of Mahayana Buddhism.

Figure 5.53: Sema S1273.

### 5.2.17. Unidentified Jatakas

There are fourteen sema that may depict *jataka* tales, however, these scenes defy identification for a variety of reasons. In certain cases the semas are in bad condition, being either fragmentary, eroded or a combination of both and thus make identification extremely difficult. In other incidences the sema itself is in good condition but there is a lack of clear references or iconographic clues to match the given scenes to a particular *jataka* tale.<sup>25</sup> Nine of the sema are from Muang Fa Daed while the remaining five are from a number of other locations (see Appendix 1, Table A7).

#### Muang Fa Daed

##### S13

Sema S13 depicts a scene with no less than six figures present (fig. 5.54). Unfortunately the top half of this sema is missing so it is impossible to establish if originally there were more characters shown. At the base of the sema sit four figures, however, the two to the left of the composition are badly eroded. The figure on the second left appears to be in *lalitasana*, suggesting that he may be the Bodhisattva.

Directly above the four figures are two larger figures, most likely the protagonists of the episode, sitting cross-legged in *virasana* on either side of what appears to be an altar with three triangular-shaped objects placed on it. Due to the conical headdress and attire the figure to the right may be the Bodhisattva. The figure to the left appears to have a nimbus around his head, suggesting that he is the Buddha. However, he is also shown wearing necklaces and possibly earrings which casts this identification into doubt.

Due to the uncertainty arising in identifying the two main figures in this scene it is difficult to match a *jataka* or Life of the Buddha scene to this particular sema. Based on the conical headdress of the figure on the upper right and the overall composition of the scene we can say that stylistically this sema dates to the 8<sup>th</sup>-9<sup>th</sup> centuries.

##### S14

Sema S14 shows two figures, one seated on a mat in a version of *virasana*, the other standing (fig. 5.55). The seated figure appears to be the Bodhisattva due to his conical headdress and long earlobes. The figure to the right appears to be female and is stretching out her left hand towards the Bodhisattva's. The female figure is wearing the

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<sup>25</sup> In the following section the term Bodhisattva is used to refer to the Buddha in his previous incarnations in the *jataka* tales as opposed to other manifestations such as Maitreya or Avalokitesvara.

characteristic *drápe-en-poche* of the 8<sup>th</sup>-9<sup>th</sup> century Khorat Plateau aesthetic. The lack of any iconographic clues or specific elements from a *jataka* tale makes identification extremely problematic. Perhaps the scene represents Mahosadha courting Amara or Vessantara and Maddi, but these suggestions are speculative at best.

#### S71

Sema S71 shows the Bodhisattva, identifiable by his conical crown and earrings placed at the bottom of his drooping earlobes (fig. 5.56). He sits cross-legged with his right hand in *vitarka mudra*, his left placed on his thigh. He is flanked by a somewhat eroded depiction of a tree while to the right there sits an attendant figure. The bottom half of this sema is missing, making it impossible to tell if there was more to this scene or not. As it survives today it is not possible to match it to any particular *jataka* tale. Stylistically, this sema dates to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### S75

A combination of erosion and fragmentation means that the scene on this sema is unidentifiable today (fig. 5.57). However, two seated figures are visible, the one to the left seems to have a conical headdress so it is possibly the Bodhisattva, while the one to the right sits cross-legged in *virasana*. There is an object depicted between the two figures, however it is impossible to make out what it is. They seem to be in conversation, the subject matter inevitably eluding us.

#### S102

This badly eroded sema depicts a crowded scene with four to five figures present as well as some interesting architectural details (fig. 5.58). From what can be made out, there seems to be two to three figures at the bottom of the composition, the one to the left perhaps being the Bodhisattva while the two to the right appear to be offering him something. Directly above are two more figures, with the one to the right once again appearing to be the Bodhisattva seated cross-legged in *virasana*, although it is impossible to tell for certain. The figure to the right is standing, his legs wide apart, while his right hand is raised up in front of his face and his left held aloft behind his head. It is not possible however, to establish who this figure may represent and what action he/she is undertaking.

To the top of the composition are two interesting architectural motifs. One, placed at the apex of the sema, appears to represent a palace or perhaps a stupa as it ends in a cone-



Figure 5.54: Sema S13.



Figure 5.55: Sema S14.

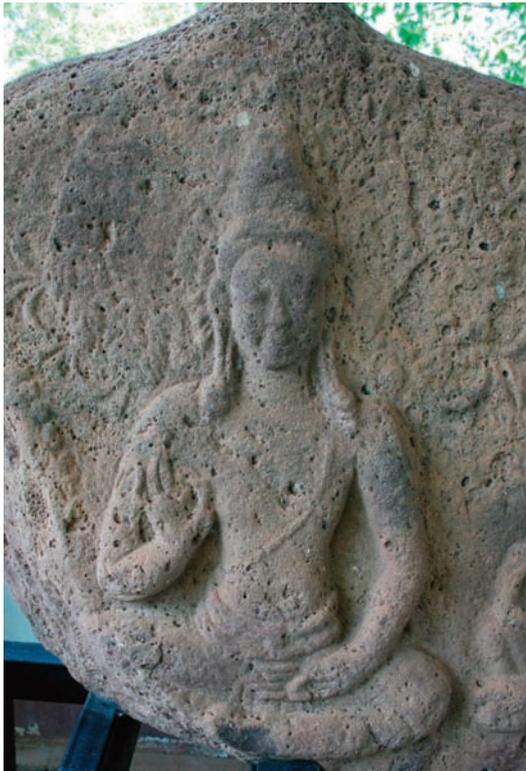


Figure 5.56: Sema S71.



Figure 5.57: Sema S75.

shaped design. To the right of this motif, placed slightly lower and directly above the figure to the right's head is a similar design. It appears to have six small cone/stupa-shaped designs and one larger cone/stupa-shaped design in the centre. Again this may reflect a stylised depiction of a palace or temple but like the identification of this scene, it remains unclear. Due to the eroded nature of this sema it is difficult to date it

stylistically. Typologically and in comparison to other sema from Muang Fa Daed we can propose a date of the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### S103

Sema S103 depicts a somewhat curious scene (fig. 5.59). There appears to be three figures present in total with one of them placed at the top centre of the sema, apparently looking down at the two others below. This figure has a conical headdress so is possibly a bodhisattva. The two figures below are standing beside each other, however, due to the eroded nature of the sema it is not possible to ascertain what is taking place between them and consequently this scene remains unidentified. The figure at the bottom right appears to be attired with a '*drápe-en-poché*' pointing towards a 8<sup>th</sup>-9<sup>th</sup> century date.

#### S175

This sema is extremely badly eroded and fragmentary (fig. 5.60). Nevertheless a figure is still visible at the top right of the sema, but no other details survive. This sema, while unidentifiable at least indicates that there was probably some form of narrative present.

#### S179

This sema clearly depicts an episode from a *jataka* tale, however, it has yet to be identified (fig. 5.61). The Bodhisattva is shown at the top right of the composition sitting cross-legged in *virasana* under the royal parasol. As is convention in Dvaravati art, he is shown with a conical headdress and is bedecked with an elaborate necklace and earrings. He is shown in double *vitarka mudra* which while common in central Thailand is not so prevalent in the Khorat Plateau. To the left of the Bodhisattva is a seated figure, shown with a turban-like headdress. He is clearly listening to the words of the Bodhisattva as indicated by the direction of his gaze.

Below these two figures sit four female characters, one of which holds up an elaborate offering of some kind to the Bodhisattva. This offering seems to indicate a key moment in the narrative, however, it remains tantalisingly unidentified at present. Stylistically this sema can be dated to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### S183

This sema is extremely badly eroded, however, two figures are just about visible (fig. 5.62). The one to the right seems to be the Bodhisattva as his robe can still be made out. To the left, crouched under a tree, another figure is present. Based on the compositional



Figure 5.58: Sema S102.



Figure 5.59: Sema S103.



Figure 5.60: Sema S175.



Figure 5.61: Sema S179.

similarities with scenes of the *Temiya Jataka* from Muang Fa Daed which in all cases show the charioteer crouching down before the Bodhisattva (see figs. 5.9-5.12), it is possible that this is also what is being shown here. However, due to the eroded nature of the sema, this is a speculative guess at best. Stylistically this sema can perhaps be dated to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### Other locations

##### S70

Sema S70 from Bahn Nong Hang is badly eroded and fragmentary but the depiction of four figures is still visible (fig. 5.63). The figure to the bottom left seated in *vajrasana* appears to be the Bodhisattva due to his conical headdress. This is further confirmed by the figure to the right, who is bowing to the Bodhisattva, arms raised in *anjali mudra*, indicating worship. The scene seems to be repeated above with the Bodhisattva to the left and a worshipping figure to the right. If this scene was carved to depict a *jataka* it is unidentifiable today. Stylistically this sema can be dated to the 8<sup>th</sup>-9<sup>th</sup> centuries.

##### S313

This sema from Bahn Nohn Chat in cluster 3 is extremely badly eroded, however the waist and belt of a figure are still just about visible in low relief (fig. 5.64). Comparing it to sema S317 (fig 5.14) from the same site which depicts the *Mahajanaka Jataka* may give us an indication of what this sema's artwork and style could have originally looked like.

##### S581

This sema from Bahn Kut Ngong in cluster 2 has a very badly eroded scene upon it (fig. 5.65). A figure is just visible to the right of the composition and a tree is visible to the left. The headdress of the figure seems to be conical but no other details can be made out clearly enough.

##### S582

The relief carving on sema S582 from Bahn Kut Ngong is still in a good enough state of preservation for us to make out the protagonist of the scene, the Bodhisattva, seated in *virasana* to the right of the composition and identifiable by his conical headdress and right hand which is in *vitarka mudra* (fig. 5.66). He is flanked by a tree which forms a backdrop to the scene. To the left sits another figure once again under a tree. His head is



Figure 5.62: Sema S183.



Figure 5.63: Sema S70.



Figure 5.64: Sema S313.

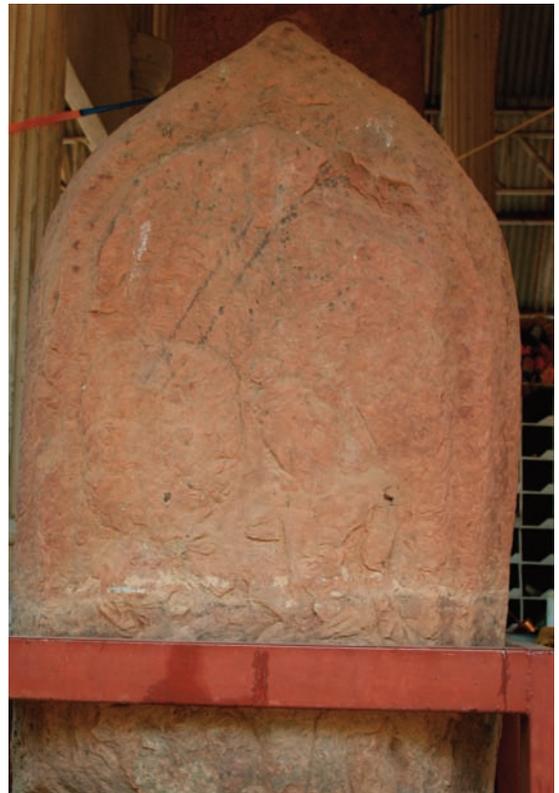


Figure 5.65: Sema S581.

inclined towards the Bodhisattva's, perhaps indicating that he is listening to him speak. Unfortunately, it is not possible to identify this episode due to the lack of clear references to a particular narrative. This sema can be dated to the 8<sup>th</sup>-9<sup>th</sup> centuries based on the epigraphic evidence from the site of Bahn Kut Ngong and the style of the art work.

#### S675

Sema S675 from Bahn Korn Sawan has been whitewashed at some stage and the carving has also eroded somewhat over time (fig. 5.67). However, despite these factors the Bodhisattva is still clearly visible at the top right of the sema. He is seated in *virasana* with his hands in *dhyana mudra* and a conical headdress. There is perhaps a tree behind him, however, it is no longer possible to tell for sure. To the left sits a figure gazing up at the Bodhisattva. As with the other examples given here, it is once again impossible to ascertain what, if any, particular scene is being represented.

#### 5.2.18. Summary

The sixteen separate *jataka* carved on the forty-nine examples discussed above illustrate that by the 8<sup>th</sup>-9<sup>th</sup> centuries these tales were a common feature of the Buddhist belief system and artistic landscape of the Khorat Plateau. Coming primarily from sites in clusters 1 and 2 and to a lesser extent in clusters 3 and 6, they indicate that there was a large degree of iconographic and stylistic homogeneity in the Chi river system in particular. It also becomes apparent that the artists chose to repeatedly depict certain episodes from the last ten *jatakas*. For instance, with the *Temiya Jataka* the same episode is depicted on four separate occasions at different sites and time periods. Similarly, depictions of the *Vidhurapandita* and *Mahosadha Jatakas* also repeat the same episodes on a number of separate sema from different sites. There could be a number of reasons for this. One, by repeating the same scene it could easily act as a trigger for the viewer who, being familiar with this depiction would instantly recognise the *jataka* in question. Depicting more obscure or unknown episodes of the tale, on the other hand, may result in the viewer being unable to identify the scene.

Secondly, these scenes could have been chosen as they may have been considered as key episodes in the narrative or judged as important didactic examples for the Buddhist faithful. This does not necessarily mean they were the climactic moment of the story

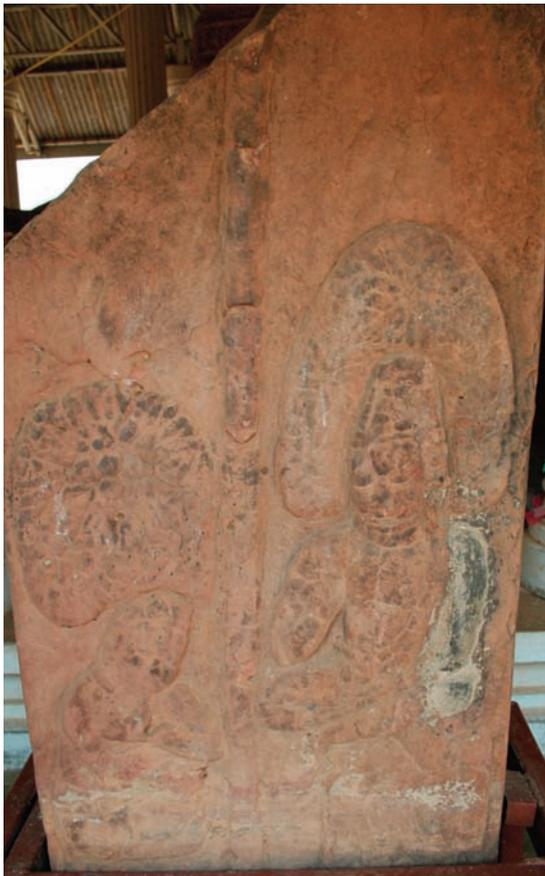


Figure 5.66: Sema S582.



Figure 5.67: Sema S675.

however. For instance, with the *Vidhurapandita Jataka* the artist has repeatedly chosen to show the moment when Vidhura converts Punnaka by the teaching of the Dharma. Perhaps this episode was chosen as it resonated with the social and religious context of the time where monks in the Khorat Plateau were most likely actively converting the populace to Buddhism.

The third reason could be due to the tradition of copying. It may be that there was a stock collection of episodes that were regularly depicted, perhaps for example on palm leaf manuscript. These could then have formed the template for the images carved on sema. Alternatively, scenes on sema could have been copied almost verbatim when new sema were being created. The tradition of copying artistic imagery and compositions is a long established one in the Buddhist world and continues to this day. The merit accrued by carrying out such tasks would provide sufficient incentive for the artist to deviate little from the established canonical norms.

*Jatakas* carved on sema provide an invaluable window onto the past artistic styles and religious beliefs of the Khorat Plateau and help us understand not only what Buddhist tales and iconography were in existence but just as importantly, where these traditions had taken hold.

### 5.3 The Life of the Buddha

The Life of the Buddha as we have it today, does not come from one definitive text but instead has been handed down in a number of varieties and forms. As with the *jatakas*, the Life of the Buddha was originally retained and passed down in oral form with the earliest textual sources dating from *circa* 2<sup>nd</sup> century CE. The *Buddhacarita* or ‘*Acts of the Buddha*’ for instance, narrates the events of the Buddha’s life from his birth to his enlightenment. This 2<sup>nd</sup> century epic style poetic text was written by Asvaghosa in Sanskrit of which the first fourteen cantos survive with the final fourteen being derived from Tibetan and Chinese sources (Johnston 2004 [1936]).

The other significant Sanskrit text from this period is the *Lalitavistara* (*circa* 2<sup>nd</sup> century CE) which tells the Life of the Buddha up to the first sermon at the deer park and may in fact be based on a Pali text of the Sarvastivadin school (Roveda and Yem 2009, 11; Foucher 2003, 7). The account of the Buddha’s life in the *Lalitavistara* tends to emphasise the Buddha’s divine nature where his appearance on earth is seen as an ‘*act of sport*’ (*lalita*) (Jayawickrama 1990, xiv) or ‘*the Unfolding of the Play*’ referring to the fact that the Buddha’s last incarnation was a performance given to enlighten humanity (Miksic 1990, 97). Further accounts in Sanskrit of the Life of the Buddha also appear in the *Mahavatsu* of the Lokottaravadins with this text seen as a transitional work between early Buddhism and Mahayana Buddhism (Jayawickrama 1990, xiv).

In Pali language, the sections of the *Vinaya Mahavagga*, the *Buddhavamsa* and the *Cariyapitaka* discuss episodes from the Life of the Buddha but they do not treat the subject as a connected narrative. For this we must turn to the *Nidana-katha*, which represents the earliest Pali work to provide a complete life story of the Buddha (Jayawickrama 1990, xiv). The *Nidana-katha*, part of the *Jatakattakatha*, functions as an introduction to the *jataka* texts contained within the work, however as Jayawickrama points out, it possesses all the hallmarks of an independent work (1990, xi). It recounts the Life of the Buddha from his existence as Sumedha until his acceptance of the monastery of Jetavana from King Bimbisara.

Through careful analysis of texts and sources, Jayawickrama concludes that while the text as we have it today was written down after Buddhist Sanskrit works such as the *Lalitavistara* and the *Buddhacarita*, it is a chronologically earlier work predating the texts of northern India (1990, xv). This would give the *Nidana-katha* an antiquity stretching back to pre-2<sup>nd</sup> century CE.

As Foucher (2003, 5-6) illustrates, there is an inherent tension between the historical and the miraculous in many of the recensions of the Life of the Buddha. From one angle, the Life of the Buddha appears to us as a set of historical events leading up to his enlightenment and subsequent mission, while from another angle it confronts us with numerous supernatural events and occurrences. This dynamic struggle between the factual and the miraculous represents the conflict still in existence to this day between the recognition that the Buddha was a mortal man and the very human urge to simultaneously deify him in light of his spiritual achievements and legacy. However, as is shown in the following discussion, the identifiable scenes on the sema below tend to focus more on the historic aspects of the Buddha's life than on the miraculous.

As with the *jataka* tales, it is impossible to know for certain which texts may have inspired the various Life of the Buddha scenes depicted on sema throughout the Khorat Plateau. In many cases scenes and episodes are described along very similar lines in the various sources making it impossible to give one text primacy over others. It is widely agreed that both the Sanskrit texts of northern India and the Pali texts of Theravada Buddhism were in existence by the 2<sup>nd</sup> century CE, a full five to six hundred years before the appearance of the sema tradition. It is possible that any number of sources and traditions may have been used, as both Mahayana and Theravada Buddhism were being practiced throughout Southeast Asia by the 7<sup>th</sup>-8<sup>th</sup> centuries CE (Roveda and Yem 2009: 11; Filliozat 1981). At Borobudur (8<sup>th</sup>-9<sup>th</sup> centuries) for instance, 120 panels were carved in relief to depict the *Lalitavistara*, clearly illustrating that this text was widely known on the island of Java during the latter centuries of the first millennium CE.

As a point of reference for identifying the scenes, Jayawickrama's 1990 translation of the *Nidana-katha* of the *Jatakakatha* has been employed for the majority of episodes as it represents a highly reliable and relatively accessible translation in the English language. However, other texts such the *Lalitavistara*, the *Mahavatsu* and the *Buddhacarita* have also been consulted for comparative purposes or to identify possible scenes that are not present in the *Nidana-katha*. It should also be noted that in modern Thai Buddhism one of the preferred texts used in reciting the Life of the Buddha is the *Pathamasambodhi*. Written in twenty-nine sections it fills in the details of the Buddha's life that are absent in some of the sources quoted above (Swearer 1995, 41). However, we should be cautious in employing this text to identify scenes on sema as it is a later composition than the period in question.

A total of ten episodes have been identified from sixteen sema (see Appendix 1, Tables A7&A), with the majority coming from the site of Muang Fa Daed. Eight of the sema have been identified by the Khon Kaen National Museum, three have been identified by Kingmanee, two by the author of this thesis, one by Paknam and finally one by Subhadradis Diskul. A further four remain unidentified.

### **5.3.1. The Buddha preaching to King Bimbisara or his father King Suddhodhana**

Sema S2 from Muang Fa Daed has been identified by the Khon Kaen Museum as either the Buddha preaching to King Bimbisara or King Suddhodhana (fig. 5.68). Either of these two possibilities are plausible. However, it is impossible to say for certain which scene is being represented here.<sup>26</sup> The sema depicts the Buddha, seated in *virasana* on what appears to be a cushion which in turn possibly lies on a rug. Depicted directly behind the Buddha is an elaborate throne which terminates in a tree of some kind. If this is in fact the Buddha preaching to King Bimbisara then the tree might represent the bamboo grove of Veluvana which the king donated to the Buddha in this episode.<sup>27</sup> The Buddha himself is depicted in *vitarka mudra*, symbolising teaching while his head is surrounded by a flaming nimbus which also occurs on a number of other sema from Muang Fa Daed (see figs. 5.69 & 5.70).

To the left of the Buddha are three figures, the largest of which is placed in the centre and by virtue of his crown can be identified as possibly either King Bimbisara or King Suddhodhana. The two flanking figures can be assumed to represent his attendants. Stylistically this relief carving is very similar in execution to two other sema from Muang Fa Daed (see section 5.3.4) and may represent the work of a single artist.

### **5.3.2. Indra offers fruit to the Buddha**

Sema S16 from Muang Fa Daed has been identified by the Khon Kaen Museum as Indra offering the myrobalan fruit to the Buddha (fig. 5.69). This episode occurred seven weeks after the Buddha had attained enlightenment and for that entire time he had meditated and not eaten. Indra, therefore offers him the medicinal myrobalan fruit in order to fortify him.<sup>28</sup>

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<sup>26</sup> See Jayawickrama 1990, 111, 115.

<sup>27</sup> See Jayawickrama 1990, 114; *Mahavagga* I, xxii 13.

<sup>28</sup> See Jayawickrama 1990, 107.

The Buddha is clearly depicted to the left of the composition, his right hand in *vitarka mudra* and left hand open, ready to receive the gift. His head is surrounded by a flaming nimbus similar to those found on semas S2 and S17. The identification of the figure beside the Buddha is not certain however. While the figure does hold a fruit in his right hand, he is depicted with none of Indra's usual attributes such as a crown or *vajra*. Therefore, even though it is a plausible identification we cannot say for certain that this scene is in fact Indra offering the myrobalan to the Buddha.

### 5.3.3. Sotthiya offers Kusa Grass to the Buddha

This episode, depicted on sema S17 from Muang Fa Daed has been identified by the Khon Kaen Museum as the moment before the Buddha sits down under the Bodhi Tree to meditate (fig. 5.70). Upon arrival at Gaya the Buddha meets the grass cutter Sotthiya and asks him for some grass to sit on to act as a cushion while he meditates. The grass cutter humbly agrees and hands the Buddha as much grass as he requires.<sup>29</sup>

The Buddha is depicted to the right of the composition, his right hand in *vitarka mudra* and his left hand open, palm downwards ready to receive the grass from Sotthiya. The depiction and position of the Buddha's hands are almost identical to that of S16. Furthermore, the flaming nimbus around the Buddha's head is also similar in form and style. As with the example of Indra offering fruit to the Buddha, the identification of this scene as Kusa offering grass to the Buddha hinges on the identification of the figure to the left. It is possible that this figure is Sotthiya as it appears that he is holding cut grass in his left hand. However, it also looks similar to the fly whisks depicted in certain Dvaravati scenes (Thamrungrueng 2009, 82). If this identification is correct, however, then the tree depicted in the background may represent the Bodhi tree under which the Buddha attained enlightenment.

### 5.3.4. A Unified Subgroup?

The art style, composition, subject matter and common location (Muang Fa Daed) make it possible to discuss semas S2, S11 (see below), S16 and S17 as a unified subgroup. Three of the four sema depict the Buddha with a flaming nimbus, while sema S11 shows him with a nimbus without flames. The flaming nimbus is found on a number of

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<sup>29</sup> See Jayawickrama 1990, 93-4.



Figure 5.68: Sema S2.

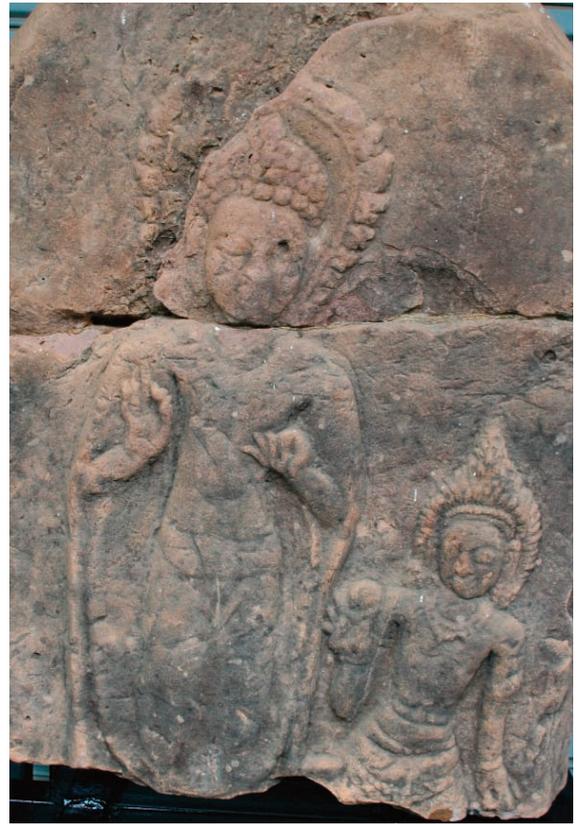


Figure 5.69: Sema S16.

mediums and Buddha images in the Dvaravati Period and has a date range stretching from *circa* 7<sup>th</sup>-10<sup>th</sup> centuries. For instance it appears on votive tablets from Mahasarakham dating to the 9<sup>th</sup>-10<sup>th</sup> centuries (Musée Guimet 2009, 115), a bronze Buddha image from U-Thong datable to the 7<sup>th</sup> century (Musée Guimet 2009, 251) and on relief Buddha images from cave sculpture in Phetchaburi dating to the 8<sup>th</sup> century (Khunsong 2009, 232). The presence of the flaming nimbus on sema from Muang Fa Daed provides a further stylistic marker to point towards a 8<sup>th</sup>-9<sup>th</sup> century date.



Figure 5.70: Sema S17.

The hand positions of S11, S16 and S17 are identical and while it appears that the left hand is open it could also be depicting the Buddha holding his robe. Furthermore, in these three sema the figures depicted beside the Buddha, whether they be possibly Indra, Rahula or Sotthiya, are shown in much smaller scale and similar manner. In fact the scale of their depictions on all four sema in relation to the Buddha are almost identical in size. Lastly, the face of the Buddha on all four sema is very similar, exhibiting the classic Dvaravati style hair curls, *ushnisha*, thick lips and oval eyes. Stylistically they belong to the first group and it can be concluded that these four sema were most likely the work of a single artist or workshop based at Muang Fa Daed that was in existence during the 8<sup>th</sup>-9<sup>th</sup> centuries.

### **5.3.5. Angulimala threatens the Buddha**

Sema S5 from Bahn Nong Hang in cluster 1 has been identified by the Khon Kaen Museum as Angulimala threatening the Buddha (fig. 5.71). In this episode, Angulimala who is attempting to collect his one thousandth victim's finger encounters the Buddha. Angulimala runs after the Buddha with his sword drawn ready to kill him. However, unable to catch or defeat the Buddha he converts and becomes a monk instead.<sup>30</sup>

Sema S5 clearly shows the Buddha to the right of the composition. His head is missing but he is still identifiable by his robes and hand gesture. To his left is a figure with a sword in his right hand and a raised shield in his left and by his body posture he is clearly attempting to attack the Buddha. This figure can tentatively be said to be Angulimala, however his necklace of human fingers is absent, casting some doubt on this identification. Furthermore, there are numerous episodes during the Life of the Buddha where he is either attacked or accosted by ogres raising the possibility that this is what is depicted here. However, if this is in fact Angulimala, then this depiction is one of the earliest known examples of this scene anywhere in Southeast Asia. Stylistically it belongs to the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

### **5.3.6. The Buddha's return to Kapilavastu**

This scene has been identified on three semas from Muang Fa Daed, and on two semas from cluster 6, S830 from Bahn Nong Kluem and S1109 from Bahn Pailom. This

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<sup>30</sup> See the *Angulimala Sutta* in the *Majjhima Nikaya*.



Figure 5.71: Sema S5.



Figure 5.72. Sema S11.

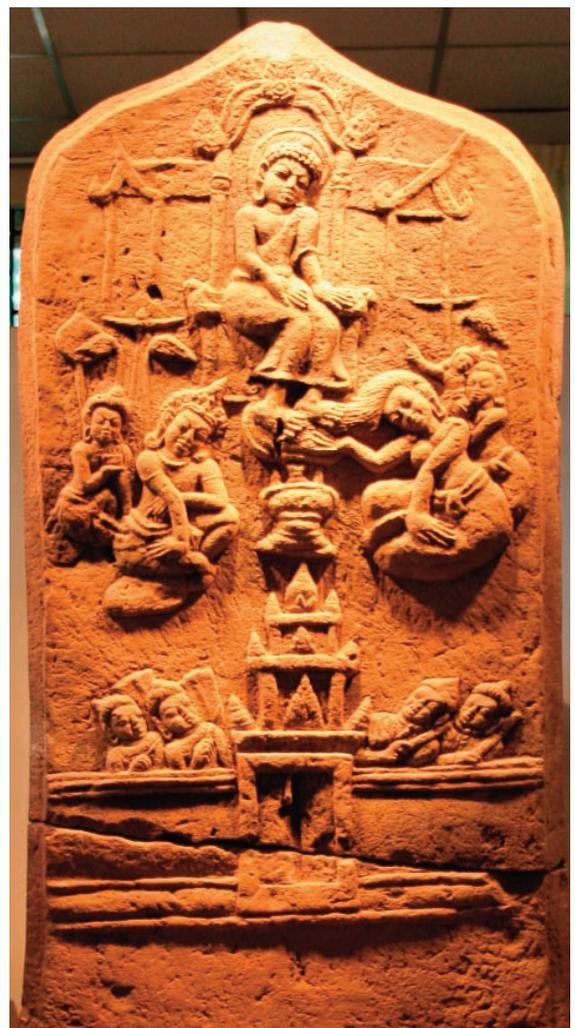


Figure 5.73. Sema S9.

episode relates to the Buddha's return to Kapilavastu, the town of his birth. After first meeting with his father, he then proceeds to meet with his wife and son. Yasodhara, the Buddha's estranged wife has coaxed her son Rahula into asking his father for his inheritance.<sup>31</sup> Instead of receiving great material wealth as Yasodhara had hoped, the Buddha instead bequeathed his son with the Four Truths and the Eight-fold noble path.

Sema S11 from Muang Fa Daed has been identified by the Khon Kaen Museum as the moment when Rahula asks his father for his birthright (fig. 5.72). While it is plausible that this is what is represented, it is impossible to confirm this for certain. The Buddha is depicted to the left of the composition, with his right hand in *vitarka mudra* and his left hand open, palm upwards. He is depicted with a nimbus without flames. To the right of the Buddha, stands a diminutive figure, eyes gazing upwards with hands clasped together in veneration, which has been identified as Rahula. However, this figure could just as easily represent a generic depiction of somebody worshipping the Buddha. It is therefore impossible to say with any certainty that this scene represents the Buddha's son asking for his inheritance.

Sema S9 on the other hand, proposed by Diskul (1956) is a more certain identification due to the variety of characters present in the narrative (fig. 5.73). Furthermore this is one of the finest sema to be discovered from the Khorat Plateau. It illustrates not only the well-structured compositional skills of the artists of Muang Fa Daed, but also their deft ability in depicting the main characters in this scene. Located in the top centre of the arrangement, the Buddha sits in *pralambasana* while his wife and son are shown kneeling at his feet. The emotions of the Buddha's estranged wife are masterfully depicted by the sense of movement conveyed by her posture. She is clearly leaning towards the Buddha, who in turn tilts his head to the side in order to address her. Interestingly, the Buddha seems to be almost stepping on her hair while she in turn is almost clasping his feet with her right hand, which closely follows the description of this scene given in the *Nidana-katha*.

The emotionally charged nature of the scene is further emphasised by the depiction of the Buddha's young son, who stretches out his small arms in an attempt to touch his father. Finally, the whole composition is neatly framed by the depiction of an architectural structure placed above the head of the Buddha. This structure is most likely a wooden pavilion of some kind. The overall sensitivity and balance of the composition

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<sup>31</sup> See Jayawickrama 1990, 123; *Lalitavistara* XII.



Figure 5.74: Sema S294.



Figure 5.75: Sema S830.



Figure 5.76: Sema S1109.



Figure 5.77: Sema S15.



Figure 5.78: Sema S174.

points not towards an individual struggling to convey Buddhist themes and narratives, but on the contrary illustrates the mastery reached by the artist in this particular medium. Stylistically and typologically this sema belongs to the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

Sema S294 (fig. 5.74) is depicted on the front cover of No Na Paknam's 1981 publication, *The Buddhist Boundary Markers of Thailand* with Paknam stating that this sema came from the vicinity of Muang Fa Daed (1981, 5). The location of this sema today is uncertain and may be in the hands of a private collection. Paknam unfortunately makes no reference to where he obtained the photograph from or where the sema was located at the time of publication.

The scene is very similar in content to that of S9, however, compositionally it is somewhat different. The figure depicted to the right appears to be the Buddha holding a staff in his right hand, however the absence of an *ushnisha* makes this identification somewhat problematic. If it is in fact the Buddha, then Rahula is shown at his feet, tugging at his father's robe while Yasodhara sits attentively to her son's left. Stylistically this sema is similar to S7 and falls within group one of the 8<sup>th</sup>-9<sup>th</sup> centuries.

The presence and style of the staff in the figures's right hand is noteworthy. This type of staff has also been depicted on another sema, S7 apparently showing the *Mahajanaka Jataka* (see fig. 5.13). François Bizot has pointed out that this '*bâton de fer*' or *khakkharaka* (2000, 511-528) is an attribute of the Mulasarvastivadin sect and may represent the presence of this type of Buddhism in Thailand during the Dvaravati period. However, other scholars have pointed out that this ritual object is not exclusive to the *Mulasarvastivadin Vinaya* and may have been used by other forms of Buddhism also (Revire 2009, 111-134).

Sema S830 (fig 5.75) from Bahn Nong Kluem and sema S1109 (fig. 5.76) from Bahn Pailom in cluster 6 show very similar compositional arrangements with both possibly depicting the Buddha seated with his wife and son, however, the identification is tentative. Both sema depict the Buddha at the centre, seated cross-legged in *vajrasana* on a throne, while to the left is shown a female figure. To the right of the Buddha are two further figures, one of which appears to be a child sitting on the knee or back of the other figure. This child could possibly be Rahula with the female figure depicted to the right of the Buddha being Yasodhara.

### 5.3.7. Buddha Mucalinda

Three examples of the Buddha sheltered under the hood of the *naga* king Mucalinda<sup>32</sup> exist on sema from the Khorat Plateau. All three come from sites within cluster 1. Sema S6 comes from Bahn Nong Hang, sema S15 comes from an earthen mound 3 kilometres south of Muang Fa Daed (Kingmanee 2007, 61), and sema S174 comes from Muang Fa Daed itself.

Sema S15 is by far the best preserved of the three and possesses a superbly executed Buddha Mucalinda image (fig. 5.77). The Buddha is shown seated in *virasana* on the coils of the five-headed *naga*, whose hood is placed over the Buddha to protect him from the rainfall with the Bodhi tree appearing from behind the heads. The Buddha is shown in *vitarka mudra* which is unusual because Buddha Mucalinda images usually show him in *dhyana-mudra*, the *mudra* of meditation symbolising the fact that he is meditating after enlightenment. This sema also provides a good example of the Khorat Plateau Aesthetic's preference to execute narrative against an empty background.

In terms of Dvaravati art the *vitarka mudra* is extremely common and it should come as no surprise that the artist chose to depict the Buddha in this way. In fact, this *mudra* may be explained by the presence of two kneeling figures at the bottom of the composition intently looking up at the Buddha. The figure on the right is depicted with a crown and may in fact represent the *naga* king once he has reverted to human form. In this episode, after protecting the Buddha from the rain, Mucalinda then changed to human form and sat to hear the teaching of the Buddha. This would explain the *vitarka mudra* gesture of the Buddha. If this is the case, then the artist has ingeniously conflated the narrative into one scene, a rare occurrence in the narrative art of sema.

Sema S174 is now extremely badly eroded with the Buddha Mucalinda just about visible (fig. 5.78). However, the attendant to the left of the Buddha and the Bodhi tree depicted above the *naga* are no longer visible. Fortunately a photograph in a 2007 article by Kingmanee shows this sema in a much better state of preservation (2007, 67). Once again the Buddha is in *vitarka mudra* with the figure to the left being depicted with a crown. Therefore, the scene on this sema may be interpreted in the same manner as S15. The only noticeable difference is that the *naga* has eight heads in this depiction as opposed to five.

Sema S6 comes from Bahn Nong Hang and once again shows the Buddha seated cross-legged in *vajrasana* atop of the coils of the *naga* (fig. 5.79). Once again he is in *vitarka*

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<sup>32</sup> See Jayawickrama 1990, 106-107.

*mudra* and as with S174 the *naga* has eight heads as opposed to five. Unlike the other two examples, however, this time there are no other figures present and the Bodhi tree is not depicted either.

While all three sema are clearly similar in terms of composition and content, stylistically they are somewhat different with S15, being carved in higher relief, a much more accomplished work artistically. It appears therefore, that these three sema were the handiwork of three separate artists, however they all fall into group one of the 8<sup>th</sup>-9<sup>th</sup> centuries.

The Buddha Mucalinda image is thought to have originated in southern India from *circa* 2<sup>nd</sup>-3<sup>rd</sup> CE centuries and begins to be found on votive tablets in southern Thailand from the 7<sup>th</sup> century onwards (Chirapravati 1999, 79). This image also becomes extremely prevalent in the art of Angkor, particularly from the 10<sup>th</sup> century and its presence in the Khorat Plateau from the 8<sup>th</sup> century may indicate that it spread into Cambodia via the northeast of Thailand.

### **5.3.8. The Buddha in Aminisa Jetiya and Sujita's Gift**

While the vast majority of sema carved with Buddha images or narrative scenes come from Clusters 1 and 2, one example is found in cluster 4. This sema, S764 comes from Bahn Kum Ngoen in Yasothon province and depicts the Buddha standing, his arms folded, with a tree and polygonal throne placed to his left (fig. 5.80). Kingmanee has suggested that this scene represents the Buddha in the Aminisa Jetiya episode (2001, 73). This episode took place in the second week after enlightenment where the Buddha stood and contemplated the Bodhi tree for seven days without blinking. Kingmanee also points out that the *mudra* in this particular sema is interesting, being found in a few instances only during this period. The *mudra*, where both hands are placed crossed on the chest is usually interpreted as a gesture of respect.

The presence of the tree and the posture of the Buddha, whose eyes do appear to be gazing at it, make Kingmanee's argument a compelling one. It is likely therefore, that this sema does in fact represent the Aminisa Jetiya episode. If this is in fact the case, it would represent the earliest example of this *mudra* in Thailand, as it is more usually associated with Sri Lanka in this period.

One other sema, S78 from Muang Fa Daed also depicts this *mudra* (fig. 5.81). The



Figure 5.79: Sema S6.



Figure 5.80: Sema S764.



Figure 5.81: Sema S78.



Figure 5.82: Sema S99.

Khon Kaen Museum has identified the scene as Sujita's gift. However, this is problematic as the gift in question, a bowl of milk-rice is nowhere to be seen.<sup>33</sup> The Buddha is depicted on the right of the composition, seated under a tree on a square-shaped 'throne'. To the left a kneeling figure is depicted in the 'hands-crossed' *mudra*, gazing intently upwards at the Buddha. This figure may represent Sujita with the tree behind the Buddha being the Jambu tree under which he sat and practiced the austerities. However, as stated previously, without the presence of the rice bowl we cannot confirm this identification for certain.

Both sema stylistically fall into the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

### 5.3.9. Tapussa and Bhallika

The relief carving on sema S99 from Muang Fa Daed has been identified by the Khon Kaen museum as the episode in which two passing merchants, Tapussa and Bhalluka, offer the Buddha his first meal after enlightenment (fig. 5.82). The Buddha had been fasting and meditating for seven weeks after his enlightenment under the Bodhi tree. As he was sitting under the Rajayatana tree the two merchants came his way and upon seeing his magnificent appearance offered him rice cakes and honey.<sup>34</sup>

Although this sema is quite badly eroded, the Buddha is visible seated cross-legged, perhaps in *vajrasana*, with his right hand in *vitarka mudra*. He is surrounded by three trees, one on either side of him and one above his head. Below the two trees flanking the Buddha, two kneeling figures are just about visible.

It is possible that the two figures below the Buddha are the two merchants with the tree above the Buddha representing the Rajayatana tree. However, it is impossible to confirm this identification as there is no sign of the rice cakes and honey being presented to the Buddha and this scene could just as easily be a generic depiction of the Buddha preaching.

As with the majority of sema from Muang Fa Daed this sema falls into the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.

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<sup>33</sup> See Jayawickrama 1990, 90.

<sup>34</sup> See Jayawickrama 1990, 107-8; *Lalitavistara* IX.

### 5.3.10. The First Sermon

The episode of the First Sermon at the Deer Park in Sarnath<sup>35</sup> has been identified by the Khon Kaen Museum on one sema stone, S81, from Muang Fa Daed (fig. 5.83). The Buddha is located at the top right of the composition, seated in *virasana* on a polygonal throne, very similar in design to that depicted on sema S764 which depicts the Animisa Jetiya scene. Unfortunately, the Buddha's hands are eroded somewhat so the *mudra* is not clearly visible, however, it seems to be either *dharmacakra mudra* or *vitarka mudra*. A tree is depicted behind the Buddha perhaps to set the scene of the deer park or alternatively it may have been shown to make reference to the Buddha's enlightenment under the Bodhi tree. Two more trees are placed below the Buddha's throne, referencing the setting, and below them at the bottom of the composition are depicted the five ascetics who turned their back on the Buddha once he began to practice the middle way, but who then returned to follow him after they realised he had become an enlightened being. This sema falls into the first group of the 8<sup>th</sup>-9<sup>th</sup> centuries.



Figure 5.83: Sema S81.

### 5.3.11. Unidentified Life of the Buddha Scenes

There are four sema that have been identified as Life of the Buddha scenes, however, in the cases it is not possible to ascertain which episode is being depicted (See Appendix 1, Table A7). Semas S92, S173 and S293 come from Muang Fa Daed, while S1216 comes from Vientiane (L88).

#### S92

This sema shows the Buddha, seated cross-legged seemingly in *vajrasana* in *vitarka mudra* surrounded by cloud-like motifs which are in turn flanked by trees on either side (fig. 5.84). To the bottom right sits a figure, possibly a king due to his crown-like headdress, who looks up attentively, most likely listening to the Buddha's teachings. It is

<sup>35</sup> See Jayawickrama 1990, 108-109.

impossible to tell for definite who this may represent. The two possibilities are King Bimbisara or King Suddhodhana. However, due to the eroded nature of the sema and the lack of clear iconographic clues, it is impossible to tell for certain which episode the artist had in mind when carving this scene.

#### S173

This badly eroded red sandstone sema depicts the Buddha, seated cross-legged in *virasana* under a tree, flanked by royal fans (fig. 5.85). The outline of a nimbus is still visible around the Buddha's head, however, his facial features and his hand gesture have been worn away by a combination of the elements and the passing of time. Below the Buddha, is depicted another figure, also badly eroded. The facial features, hands and arms are no longer clearly visible so it is impossible to ascertain who this figure is. Perhaps it could represent Sujita offering rice milk to the Buddha under the Bodhi tree however, this is speculative.

#### S293

This sema shows a particularly fine example of a Dvaravati style Buddha image in double *vitarka mudra* (fig. 5.86). His face has the distinctive full lips, oval-shaped eyes and thick hair curls while the robe has the characteristic u-shape which clings almost diaphanously to the rather asexual body. As with a large number of other examples from Muang Fa Daed, the Buddha's head is surrounded by a nimbus. To the left is depicted a smaller figure, also interestingly with a nimbus and in *vitarka mudra*. Furthermore, this figure has a conical headdress. It appears that this figure is a bodhisattva as both the nimbus and the conical headdress point toward a divine nature. Furthermore, *vitarka mudra* in the Dvaravati period is primarily reserved for the Buddha or bodhisattvas. Could this scene represent the fully enlightened Buddha to the right, and the Buddha in one of his previous incarnations as a Bodhisattva to the left? If so, then this conflation of narratives is almost certainly unique in the Dvaravati art found throughout both the Khorat Plateau and central Thailand. The scene is rounded off by the presence of a *deva* type figure flying above, hands pressed together in reverence of the two manifestations of the Great Being shown below. Stylistically this sema dates to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### S1216

Being the only sema found from Vientiane province (L88) to have a narrative scene depicted upon it, S1216 illustrates just how far the sema tradition spread during the Dvaravati period (fig. 5.87). Unfortunately, this sema is fragmentary and has either been



Figure 5.84: Sema S92.



Figure 5.85: Sema S173.

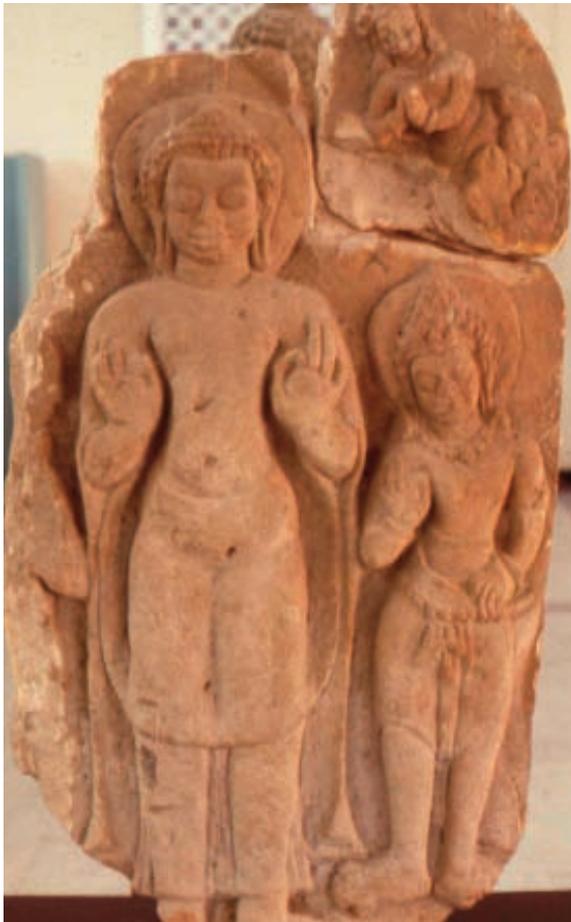


Figure 5.86: Sema S293.



Figure 5.87: Sema S1216.

defaced or eroded naturally. The sema shows three figures, all seated, one on top and two below. The figure on top appears to be either the Buddha or the Bodhisattva seated in *vajrasana*. From the crown of his head upwards is no longer present so it cannot be established whether there was a conical headdress depicted here or an *ushnisha*. The figure seems to be wearing a necklace of some sort which would point towards him being a bodhisattva. However, his hand is in *vitarka mudra* which is suggestive of the Buddha. The *vitarka mudra* in this particular instance is depicted somewhat differently than the examples seen in the Chi river system. Instead of the right hand facing fingers upwards, palm facing outwards, in this depiction the fingers are facing sideward.

The figure to the bottom left, as with other examples, seems to be a king of some kind, due to his conical headdress. The figure to the right is possibly his queen or an attendant. Unfortunately, their faces have been defaced but the 'king's' arms are clearly placed together in *anjali mudra* paying respect to the Buddha/Bodhisattva.

### 5.3.12. Summary

The ten episodes from the Life of the Buddha identified here illustrate that along with the *jatakas* this was the most popular and widespread narrative subject. However, it is important to note that eleven out of the sixteen sema depicting the Life of the Buddha are from Muang Fa Daed alone with two more from Bahn Nong Hang, also in cluster 1. Therefore, it appears that it was largely restricted to these two sites. Furthermore, various stylistic and compositional similarities (see section 5.3.4) point to the presence of a school and some sema such as S2, S11, S16 and S17 could even be the work of a single artist.

The popularity of the Life of the Buddha at Muang Fa Daed strongly suggests the presence of a Buddhist text or oral tradition at the site containing this story. Perhaps the *sangha* wished to express it visually and saw sema as a suitable medium. If this was the case, then the artists would have access to a variety of episodes and scenes from which to choose from. The narratives were also most likely didactic in nature and could have functioned as visual cues for the Buddhist faithful. However, no matter what the actual reason for the presence of so many scenes of the Life of the Buddha at Muang Fa Daed, what is clear is that it represents one of the high points of artistic expression and carving on sema. Episodes such as the Buddha's return to Kapilavastu on sema S9 and the Buddha preaching to King Bimbisara on sema S2 truly represent masterpieces of the Khorat Plateau aesthetic.

## 5.4 Buddha and Bodhisattva Images

There are thirty-two sema that have images of the Buddha or bodhisattvas depicted on them (see Appendix 1, Tables A7&A8). In these incidences, the artwork does not appear to be referring to one particular event or episode in the Life of the Buddha or *jataka* tales, but it is impossible to tell for certain. There is also no overall uniformity in the depictions with Buddha images shown either seated or standing while *mudras* can vary between *dharmacakra mudra*, *dhyana mudra* and *vitarka mudra*.

### 5.4.1. Buddha Images

S69

Sema S69 from Muang Fa Daed shows the Buddha seated cross-legged in what appears to be *vajrasana* but the stone is too eroded to tell for certain (fig. 5.88). The hand gesture is also difficult to make out being worn away, but it could be either *dharmacakra mudra* or *dhyana mudra*. The Buddha's head tilts to the left as if to signify that he is looking down on someone but no other figures are present. However, the bottom section of this sema is missing so it is possible that there was another figure depicted here. Stylistically this sema is datable to the 8<sup>th</sup>-9<sup>th</sup> centuries.

S98

Sema S98 from Muang Fa Daed (fig. 5.89) depicts the Buddha standing with his right hand in *vitarka mudra* and his left hand open, palm facing upwards, being very similar in style to semas S2, S11, S16 and S17 all of which also come from Muang Fa Daed (see section 5.3.4). The Buddha's face is somewhat eroded, however the nimbus is still visible as are the elongated earlobes and *ushnisha*. The Buddha's robe extends to just above the ankles and his feet are shown pointing outwards in opposite directions. Both the depiction of the robe and that of the feet along with the other characteristics mentioned above are all indicative of the Dvaravati art style. Stylistically this sema is datable to the 8<sup>th</sup>-9<sup>th</sup> centuries and may have been executed by the same school of artists as S2, S11, S16 and S17.

S592

Sema S592 from Bahn Kut Ngong depicts the Buddha seated cross-legged in what

appears to be *virasana* at the centre of the sema, placed on a high, three-tiered throne with presumably a Bodhi tree, shown arising from behind (fig. 5.90). The Buddha is in *vitarka mudra* and is depicted with a ball-shaped *ushnisha* and round nimbus.

S984

Sema S984 from Bahn Hua Kua (L23) shows the Buddha seated in *vajrasana*, his arms in *dhyana-mudra* signifying meditation (fig. 5.91). His hair and *ushnisha* are shown without curls and his facial features are carved in low relief. The border around his hair is reminiscent of Khmer art as is the angularity of the face. Furthermore, the Buddha is shown bare chested without robes which is a characteristic of Khmer depictions of the Buddha during the 11<sup>th</sup>-12<sup>th</sup> centuries. An inscription placed on the back of this sema dates to the 11<sup>th</sup> century (see Appendix 1, Table A5). This sema therefore belongs to group three.

S1198

This sema from Phu Noi (L62) in Nong Bua Lampoo province depicts two figures, the larger of which stands to the left of the composition, with the smaller shown to the right (fig. 5.92). Stylistically the artwork differs quite considerably from that found on sema at sites in the Chi river system. The *sampot* worn by the figure on the left, as well as his hairstyle and more square-shaped head suggests Khmer artistic influence. This figure is perhaps the Buddha or a bodhisattva. However it is impossible to tell for certain as there is no *ushnisha* or any of the other thirty-two auspicious marks visible. The figure to the right is equally unidentifiable, however, due to his positioning in relation to the figure on the left he is most likely subservient in some shape or form. Stylistically this sema can be placed in group two of the 10<sup>th</sup>-11<sup>th</sup> centuries.

S1202

This sema, also from Phu Noi is still partially buried and as a result only the top-most part of a figure is visible (fig. 5.93). What can be seen of the head and shoulders suggests it may be the Buddha due to what appears to be an *ushnisha*, however, this could also represent a topknot. The identification of this figure is not possible at present, however, excavation of this sema may reveal more salient details which would allow for more concrete conclusions to be drawn. Stylistically this sema can be placed in group two of the 10<sup>th</sup>-11<sup>th</sup> centuries.

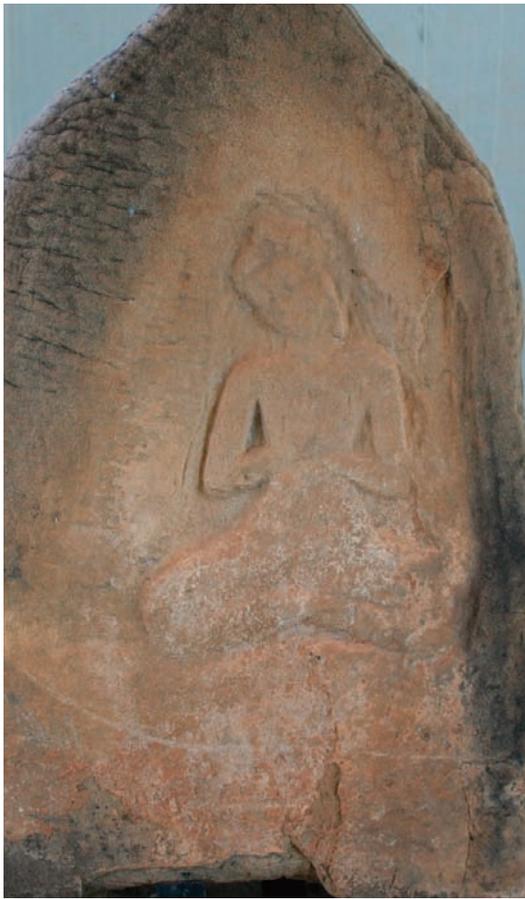


Figure 5.88: Sema S69.

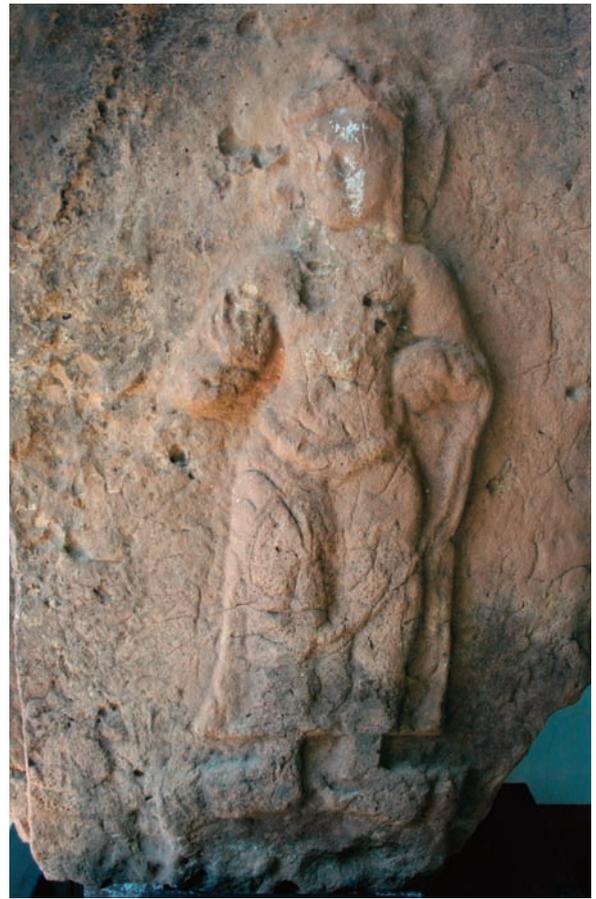


Figure 5.89: Sema S98.



Figure 5.90: Sema S592.



Figure 5.91: Sema S984.

S668

This sema from Bahn Korn Sawan is fragmentary and badly eroded, however, a figure in *anjali mudra* paying homage to the Buddha is visible at the bottom left (fig. 5.94). The lower half of the Buddha's body, identifiable by his characteristic robe, is visible to the right. Due to the incomplete nature of this depiction it is impossible to identify with any certainty which particular episode it may represent. Stylistically this sema dates to the 8<sup>th</sup>-9<sup>th</sup> centuries.

#### 5.4.2. Bodhisattva Images

Six sites throughout the Khorat Plateau have been found to have bodhisattva images on sema. In all examples they most likely represent either Avalokitesvara or Maitreya, however, it is impossible to say for certain which of the two it may be in each case.

S91

Sema S91 (fig. 5.95) from Bahn Nong Hang depicts a bodhisattva identified by Krairiksh (1974a, 58) as Maitreya, however, it could also be Avalokitesvara as both are frequently depicted with a lotus flower in their right hand. The inscription (K510) dated to the 11<sup>th</sup> century, located to the left of the image possibly names the sculptor, however, it does not name the image itself (Krairiksh 1974a, 58). The bodhisattva is shown seated in *virasana* on a polygonal throne with the lotus flower clearly depicted in his right hand while his head and ears are bedecked with elaborate jewelry. Stylistically and typologically, this image matches the date given by the epigraphic evidence and belongs to group two of the 10<sup>th</sup>-11<sup>th</sup> centuries.

S583

Sema S583 from Bahn Kut Ngong depicts a figure, possibly a bodhisattva standing on lotus petals in *tribhanga* posture (fig. 5.96). He is depicted without an *ushnisha* and instead has a conical crown surrounded by what appears to be a nimbus. Unfortunately, there are no iconographic clues available such as a stupa or Amitabha Buddha in the headdress and it also appears that there is no flower in the figure's upraised right hand. Therefore the only two attributes suggesting a bodhisattva are the *tribhanga* posture and the conical headdress. Due to the paucity of iconographic evidence, the attribution of this image as a bodhisattva is tentative. Stylistically this sema dates to the 8<sup>th</sup>-9<sup>th</sup> centuries.



Figure 5.92: Sema S1198.

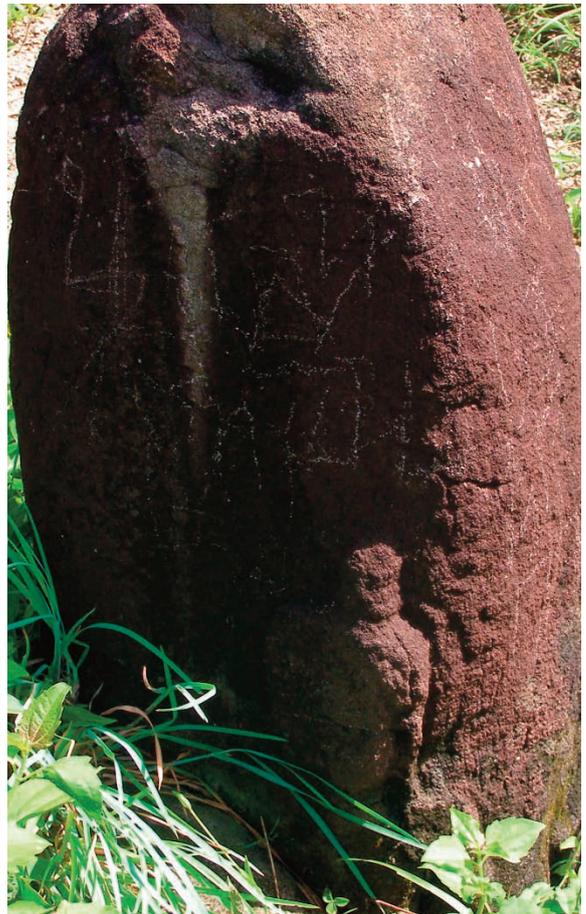


Figure 5.93: Sema S1202.



Figure 5.94: Sema S668.



Figure 5.95: Sema S91.

### S634

Sema S634 (fig. 5.97) from Bahn Phan Lam (L30) bears an image which can possibly be identified as a bodhisattva, however, its facial characteristics look more like that of Punnaka the Yakka general. The image is seated with legs pendant seemingly in *pralambasana*, one hand placed behind him and another placed on his thigh.

Alternatively, it may be that the artist was attempting somewhat unsuccessfully to depict the *lalitasana* posture common for bodhisattvas. The figure does not appear to be wearing a Buddhist robe and instead is depicted with a short *sampot* hanging from his waist. His mane-like hair also points to the fact that he is not a Buddha. This figure therefore may represent the Bodhisattva Avalokitesvara or Maitreya, however it is impossible to tell for certain. Stylistically it belongs to group two of the 10<sup>th</sup>-11<sup>th</sup> centuries.

### S1103

Sema S1103 from Bahn Pailom shows a figure seated in *lalitasana* at its base (fig. 5.98). The figure is shown with a conical headdress and a flower is visible clasped in his right hand extending over his right shoulder. This image is clearly a bodhisattva and most likely represents either Avalokitesvara or Maitreya.

### S821

The sema from Bahn Nong Kluem appears to show either the Bodhisattva Avalokitesvara or Maitreya seated with a lotus flower in his right hand (fig. 5.99). Unfortunately, the sema is fragmented across the lower half of this figure so it is not possible to see the legs or left hand clearly.

### S836 and S1106

Semas S836 from Bahn Nong Kluem (fig. 5.100) and S1106 (fig. 5.101) from Bahn Pailom appear to show the Buddha seated cross-legged in *vajrasana* at the centre, flanked by Indra to the right and Avalokitesvara or Maitreya to the left. Kingmanee suggests that sema S1106 is instead the Buddha, Indra and the Buddha's mother, however, this is unlikely as the figure to the left clearly holds a lotus flower (Kingmanee 1998b, 38). The figure to the right has been identified as Indra due to the object in his right hand which appears to be a *vajra*. Another possible identification could be that this figure represents the Bodhisattva Vajrapani who is the protector of the Buddha and holds a thunderbolt as his attribute. Comparisons can be made with Candi Mendut in



Figure 5.96: Sema S583.



Figure 5.97: Sema S634.



Figure 5.98: Sema S1103.



Figure 5.99: Sema S821.

10<sup>th</sup> century Java, Indonesia, which is roughly contemporary with these sema. At this temple, the Buddha is flanked by Avalokitesvara to the left and Vajrapani to the right. If this identification is in fact correct, then this may represent evidence for the practice of Mahayana Buddhism in this part of northeast Thailand. Both these sema date to the second group of the 10<sup>th</sup>-11<sup>th</sup> centuries.

S1097

This sema (fig. 5.102) from Bahn Pailom shows a figure seated in *lalitasana* on a throne with a lotus flower in his right hand and is probably either Avalokitesvara or Maitreya, however, once again it is impossible to say for certain which bodhisattva it may be. To his left and right are two seated figures

S1100

This sema from Bahn Pailom (fig. 5.103) shows a figure seated in *lalitasana* on a throne, with possibly a flower in his right hand, however it is not clearly visible. He is flanked by a seated figure on either side. This figure is perhaps either Avalokitesvara or Maitreya. However, once again it is impossible to say for certain which bodhisattva it may be.

S1116

This sema is difficult to identify exactly, however, the figure to the left clearly has a lotus flower in his right hand even though erosion obscures the overall composition somewhat (fig. 5.104). The figure to the right also seems to clasp a flower in his right hand, however, only the stalk seems visible. It is possible that either of these figures may represent Avalokitesvara or Maitreya however, it is unclear if both figures in this scene are intended to be bodhisattvas.

#### **5.4.3. Bahn Pailom and Bahn Nong Kluem**

Of the nineteen sema with figurative art from these two sites, there are a total of five sema that cannot be precisely identified. They may represent generic Buddha images or perhaps episodes from the Life of the Buddha. The five sema are, S1094, and S1113 from Bahn Pailom and S828, S829, and S835 from Bahn Nong Kluem. All five compositions are extremely similar in their layout and style. The Buddha in each case is seated cross-legged on a throne, and is flanked in three cases by two figures and in two cases by just one figure to the right.



Figure 5.100: Sema S836.



Figure 5.101: Sema S1106.



Figure 5.102: Sema S1097.



Figure 5.103: Sema S1100.



Figure 5.104: Sema S1116.



Figure 5.105: Sema S1094.



Figure 5.106: Sema S1113.



Figure 5.107: Sema S828.



Figure 5.108: Sema S829.



Figure 5.109: Sema S835.

In S1094 the Buddha is seated in *vajrasana* and appears to be in *vitarka mudra* with a *dharmacakra* clearly visible on his palm (fig. 5.105). To either side of him are two figures that cannot be readily identified, although one has her hands pressed together in a gesture of worship. Sema S829 shows a similar composition with the Buddha, this time in *virasana* and what appears to be *vitarka mudra* (fig. 5.108). He is once again flanked by two figures who are most probably listening to his teachings. S835, is again very similar, but only shows one figure flanking the Buddha instead of two (fig. 5.109). S1113 is very badly eroded but seems to show the Buddha to the right and perhaps another figure to the left, however, it is impossible to tell for certain (fig. 5.106). Sema 828 (fig. 5.107) has been badly damaged so it is difficult to interpret this motif.

These five sema all seem to be showing the Buddha in the process of teaching or expounding the law. It is possible that they do not refer to one specific event in the Life of the Buddha but instead reference the teachings of the Buddha in a more generic sense. These sema date to group two of the 10<sup>th</sup>-11<sup>th</sup> centuries.

#### **5.4.4. The Phu Phra Angkan Group**

A group of fifteen sema (S912-S926) from Phu Phra Angkan in cluster 5 form an interesting subgroup. Located close to a Khmer temple that dates from *circa* 10<sup>th</sup>-13<sup>th</sup> centuries they provide evidence for possible Mahayana Buddhist practices in the area.

Of the fifteen, twelve are carved with Buddha and Bodhisattva figures, however, only one, S925 (fig. 5.108), still has its original face, the rest having been subjected to reworking sometime in the recent past. In fact, it appears that these sema have been reworked on at least three separate occasions. On one side of the semas, standard Dvaravati style stupa and stupa-*kumbha* motifs are depicted (see section 5.9) which presumably represent the first and oldest depictions on these stones, stylistically datable to the 8<sup>th</sup>-9<sup>th</sup> centuries (fig. 5.111). At a later stage, perhaps from the 11<sup>th</sup> or 12<sup>th</sup> centuries, the images on the reverse side of the sema were carved. Sema S925 appears to be a Buddha image but the rest were carved as bodhisattvas in *tribanga* posture with conical headdresses and lotuses in their right hands. Interestingly their robes are depicted with the characteristic Khorat Plateau *drápe-en-poché*, however, the triangular flaring is more rounded than 8<sup>th</sup>-9<sup>th</sup> century examples (fig. 5.110). Despite this, it is clear that these features evolved out of earlier sema narrative art from sites in clusters 1 and 2 in particular.



Figure 5.110: Sema S925.



Figure 5.111: Stupa-kumbha motif carved onto the back of a sema.



Figure 5.112: Sema 924.

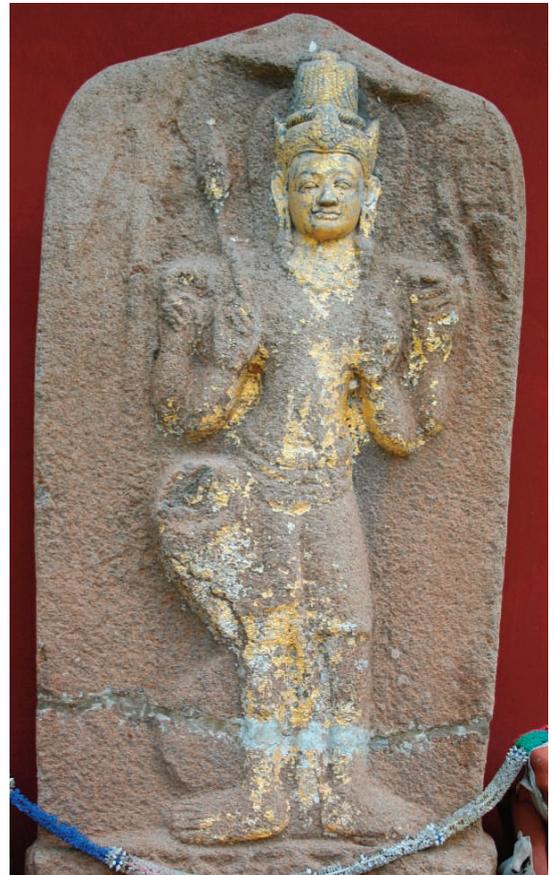


Figure 5.113: Sema S923.

Paknam (1986, 70) proposes that these images were carved during the Bayon period and reflect the presence of Mahayana Buddhism entering the region as expounded by Jayavarman VII. However, there has been one further rather recent re-working, which unfortunately has made the identification of these images somewhat problematic. The faces of all the images save S925 have been remodeled with cement, making it impossible to ascertain what the originals may have looked like. In a lot of cases the lotus flower has also been remodeled. Further additions seemed to be the addition of wings to a number of the images, perhaps in the misunderstanding that they represented angels or 'deva' type images. Three of the sema have also been smothered in thick gold paint which again poses a number of interpretative problems (fig 5.112). One sema, S923 (fig. 5.113), however still has the original lotus present and depicts a four armed bodhisattva. The front right hand is clasping the lotus flower. The face however, has unfortunately been completely remodeled. It appears therefore, that the bodhisattva images represent Avalokitesvara perhaps in his manifestation as Padmapani (Paknam 1986, 70).

The Phu Phra Angkan group represents an interesting example of how sema can be re-carved and re-designed over time to suit the prevailing religious winds of change. Furthermore, these sema are still actively worshipped today with twelve of them being set up to form a *sima* while three more have been placed in a separate building as objects of worship in their own right. The site therefore also provides an example of religious re-use similar to those discussed in chapter 3.6.

#### **5.4.5. Summary**

The evidence discussed above illustrates that generic depictions of the Buddha and sometimes bodhisattvas are present at a number of sites throughout the Khorat Plateau. The sema from sites such as Phu Phra Angkan and depictions of either Maitreya or Avalokitesvara from Bahn Pailom and Bahn Nong Kluem also indicate that Mahayana Buddhism was being practiced at a number of locations from the 10<sup>th</sup>-12<sup>th</sup> century, most likely owing to the increased Khmer presence at this time.

#### **5.5. Miscellaneous Buddhist/Brahmanical Imagery**

A total of six sema from the Khorat Plateau, one from Phnom Kulen in Cambodia and one from Dong Mae Nang Muang in Nakorn Sawan province have been discovered with miscellaneous Buddhist imagery some of which may also represent

Hindu/Brahmanical influence (see Appendix 1, Tables A7&A8). Two scenes have been identified by Kingmanee, one by Paknam, one by the British Museum, one by Krairiksh, two by Suksavati, and one by the author of this thesis.

### 5.5.1. The Goddess Laksmi

Sema S73 from Muang Fa Daed (fig. 5.114) and sema S1291 from Tun Mas on Phnom Kulen (fig. 5.115), show the same image, that of Lakshmi, consort of Vishnu and the goddess of wealth, prosperity and generosity being bathed by elephants. The whereabouts of S1291 are today unknown, however, there is a photograph in Boulbet and Dagens (1973, PL 131-132) and Paknam (1981, 15).

In both cases the goddess is visible in the centre of the composition flanked by two elephants. In S73 she is shown with a conical crown and nimbus while on S1271 she has a more elaborate and ornate crown. In both semas, water pots (possibly *kumbhas*) are visible in the trunks of the elephants who are pouring lustral water over the goddess. The earliest depiction of this kind is from the stupa at Bharhut, India *circa* 150 BC. In Dvaravati art, this scene also appears on an number of *abeshika* tablets from Phetburi (Wongnoi 2009, 189) and Nakorn Pathom (Musée Guimet 2009, 55).

Kingmanee has proposed that this scene represents the birth of the Buddha with the figure of Lakshmi being equated with Queen Maya and the elephants presumably indicating her dream before she conceived (Kingmanee 2002). While it is true that in later Buddhist belief and Buddhism practiced today in Thailand, this scene is equated with the birth of the Buddha, there is no clear evidence that it was viewed as such during the Dvaravati period suggesting that Kingmanee has fallen into the trap of projecting present beliefs back into the past.

While the goddess Laksmi is brahmanic in origin, in the context of sema it appears to be Buddhist and should not be interpreted as representing the presence of Hinduism per say.

### 5.5.2. Durga/Sutasoma and Garuda/Kinnari

This sema from Muang Fa Daed is unique in a number of ways as the imagery shown is found on no other sema throughout the Khorat Plateau. It is proposed that the image on one side could be either Durga riding the lion (fig. 5.116a) or Sutasoma riding the half-lion, half-man, Kalmasapasda (*Jataka* no. 63). The image on the other side could either



Figure 5.114: Sema S73.



Figure 5.115: Sema S1291.



Figure 5.116a: Sema S77.

be a *garuda*, the mount of Vishnu or a *kinnari*, a mythical half-bird, half women (fig. 5.116b).

This sema shows a typical Dvaravati depiction of a lion which is shown with four squat legs, a flowing mane and a face that looks more like a demon (see Musée Guimet 2009, 200). On top of the beast is a human figure, which if it is Durga could be portraying two possible scenes. One, it could be intended to illustrate Durga's lion in battle with Mahishasura which subsequently allowed Durga to pin the buffalo-demon. Secondly, it could represent the episode directly after where Mahishasura assumes the shape of a lion, only to be beheaded by Durga. Alternatively, this scene could represent Sutasoma riding the half-lion, half-man, Kalmasapasda. In this *jataka*, the Bodhisattva Sutasoma encounters the cannibal Kalmasapasda. This tale is also popular in Indonesian where it is represented by a 14<sup>th</sup> century Javenese poem, the *Kakawin Sutasoma*. In Java, in the episode described above, Sutasoma is usually depicted riding Kalmasapasda

On the reverse side of this sema is depicted a heavy-set winged figure which could represent either a *garuda* or a *kinnari*. The figures appears to have breasts which would denote it as female and therefore a *kinnari*, however, its body is rather stocky in appearance which would argue against it being the graceful half-bird, half-woman and instead perhaps a *garuda*.

The style of the lion, which is similar to those found in central Thailand during the Dvaravati period suggests that this sema belongs to the 8<sup>th</sup>-9<sup>th</sup> centuries.

### 5.5.3. Indra mounted on Airavata

Sema S292, now in the British Museum and of uncertain provenance, but most likely coming from Muang Fa Daed, depicts Indra seated on his divine three-headed elephant Airavata, flanked by two of his handmaidens (fig. 5.117). Indra is shown sitting in *lalitasana* with a nimbus encircling his head and crown, and a *vajra* in his right hand. He is further surrounded by cloud motifs perhaps to emphasise his divine nature or a celestial location. This sema is similar in composition and subject matter to S12 from Muang Fa Daed which as been identified as the *Kulavaka Jataka* (fig 5.1) and also depicts Indra on his mount surrounded by his handmaidens. Perhaps one sema provided the inspiration for the other or they could have both been executed by the same artist or school thus explaining the similarities between the two. In Buddhism, Indra is considered to be the King of Tavatimsa heaven so the association here, is most probably Buddhist, not Hindu. Stylistically it can be dated to group one, 8<sup>th</sup>-9<sup>th</sup> centuries.



Figure 5.116b: Opposite side of sema S77.



Figure 5.117: Sema S292.



Figure 5.118: Sema S1108.

#### 5.5.4. Suriya the Sun God

Sema S1108 (fig. 5.118) from Bahn Pailom has been identified by Kingmanee as the sun god Suriya (1998b, 32). The sema shows a single crowned figure, seated cross-legged, probably in *vajrasana*, on a throne, which in turn develops into a stupa motif that extends to the top of the stone. The figure is holding two separate flowers, one in either hand. The flower in the right hand is very faint today but is more visible in the photograph shown in Kingmanee taken over ten years ago (1998b, fig. 6). If these are lotus flowers then the identification of this figure as Suriya is plausible and this would be the only known example from a sema throughout the Khorat Plateau. Peter Skilling (2009, 455-64), however, has identified a Suriya Cult at Sri Thep so the presence of this



Figure 5.119a: Sema S1206 showing the abduction of Sita.

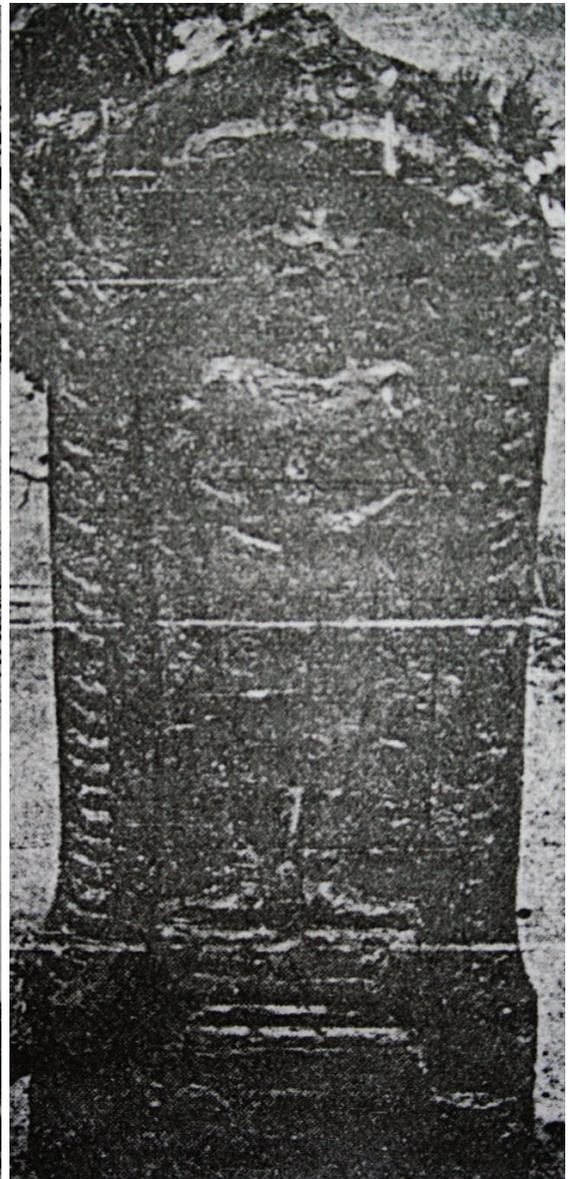


Figure 5.119b: Opposite side of sema S1206 showing a guardian figure, possibly Kuberu.



Figure 5.120: Sema S1269.

god in Dvaravati contexts is not unprecedented. This sema belongs to group 2 of the 10<sup>th</sup>-11<sup>th</sup> centuries.

### ***5.5.5. The Ramayana***

A tragedy of modern looting means that sema S1206 is no longer part of Thailand's archaeological heritage, most likely sitting in the home of a private collector somewhere either in Thailand or abroad (figs. 5.119a & 5.119b). Stolen in 1981/1982 (Silpakorn University 1982, 7-8) from Bahn Ma (L54) this stone represents one of the most unique and highly accomplished works of art ever discovered on a sema. Most likely contemporaneous in date with sema S1273 from Wat Sao Suwanaram in Wiang Khuk district of Nong Khai province (fig. 5.2.16), it is carved on both sides with Hindu imagery.

This scene has been identified by Suksavasti (1991, 105-111) as the episode from the

*Ramayana*, where Ravana abducts Sita. He argues that Ravana, is shown in side profile with Sita slung helplessly over his right-hand shoulder. However, this identification is problematic as Ravana is usually depicted with numerous heads, particularly in Khmer art, while in this depiction the figure only has one. It is more likely therefore, that this represents Sita being kidnapped by Viradha instead.

Suksavasti identifies the figure on the opposite side of the sema clasping a club as Kuberu, a guardian god of the north and protector of sacred space (fig 5.119b). In the *Ramayana*, Kuberu curses Tambura to be reborn as Ravana, the demon who will eventually be killed by Rama. This however, cannot be confirmed for certain as this figure could also represent a *dvarapala*. However, it is an interesting possibility that the god entrusted with protecting sacred space be depicted on a sema.

The presence of a *Ramayana* scene on this sema from Sakon Nakon shows clear Khmer influence which has fused with the sema tradition of the Khorat Plateau.

#### **5.5.6. Buddha-Rama-Indra Triad**

This possible sema (S1269) is apparently from Dong Mae Nang Muang, Banpotpisai district in Nakorn Sawan province, central Thailand (fig. 5.120). It has been published by Krairiksh (1985, 128) but its whereabouts today are uncertain. It appears to show the Buddha flanked on either side by two other figures but it is hard to make out due to the poor photo quality. Krairiksh identifies the two figures flanking the Buddha as Rama and Indra but there is no compelling evidence to confirm this identification and it could quite possible be Buddha Triad of some other kind. It is, however, hard to make any definite claims regarding identification without seeing either the stone itself or a higher quality image of it.

#### **5.5.7. Summary**

Overall the miscellaneous Buddhist/Brahmanical imagery on sema makes up a very small amount of artistic motifs present on these boundary stones. However, it is important to note that it did influence the artistic vocabulary of the sema tradition, even if it was to a very limited extent. While the images depicted on these sema also appear in Brahmanical contexts, in this instance, they should be considered Buddhist. Representations of Laksmi, Indra, *garuda*, *kinnari* and the *Ramayana* are commonplace in Buddhist art and serve to illustrate the variety of different motifs and iconography from which the sema tradition was drawing its inspiration.

## 5.6 Unidentified Images and Fragments

There are nine sema that have images on them that cannot be identified (see Appendix 1, Table A7). This is due to either the fragmentary nature of the sema in question, severe erosion or a combination of the two. It is however, important to document these sema to illustrate the surviving archaeological evidence in its entirety. The sema come from three locations, five from Muang Fa Daed, three from Bahn Korn Sawan and one from Kunchinarai town.

### 5.6.1. Muang Fa Daed

S74

All that survives of this sema is its base, upon which is depicted a figure kneeling and gazing upwards with his hands pressed together in *anjali mudra* (fig. 5.121). We can presume that this figure is in the presence of the Buddha who is no longer visible on this sema.

S101

This well worn sema depicts a figure grasping onto what appears to be a horse (fig. 5.122). If so this may represent either the *Vidhurapandita Jataka* when Punnuka turns to hear the voice of the *naga* princess, or alternatively it may represent the Great Departure scene from the Life of the Buddha. However, today the relief carving is almost completely eroded away.

S106

This small fragment still has two figures visible, however, no conclusions or identification can be made as there is not enough of the original scene left to do so (fig. 5.123).

S107

This fragment appears to show the Buddha seated cross-legged in *vajrasana*, however the top half of the sema and figure is missing so it is impossible to tell for certain (fig. 5.124).



Figure 5.121: Sema S74.



Figure 5.122: Sema S101.



Figure 5.123: Sema S106.



Figure 5.124: Sema S107.



Figure 5.125: Sema S114.

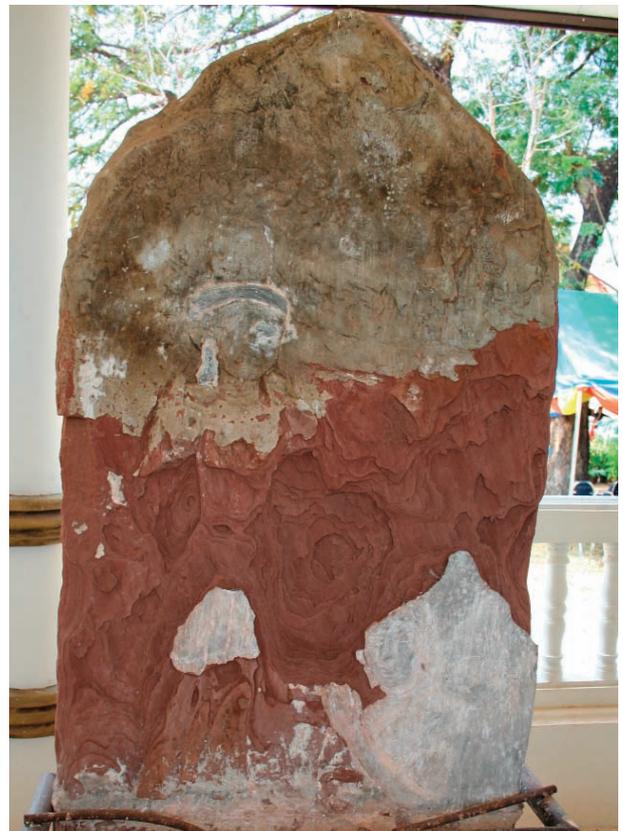


Figure 5.126: Sema S672.

S114

This sema fragment shows an elaborately crowned figure, most likely a bodhisattva due to the headdress. However, as we no longer possess the entire depiction, we cannot say for certain (fig. 5.125).

### 5.6.2. Bahn Korn Sawan

S672

This sema is extremely badly eroded, however a figure, presumably the Buddha or Bodhisattva is visible to the left, but it is impossible to tell for sure (fig. 5.126).

S674

This sema is fragmentary and badly eroded, however an unidentifiable figure is just visible to the right (fig. 5.127).

S677

This sema is extremely badly eroded, however, some type of figure is present at the centre of the stone, seemingly sitting cross-legged (fig. 5.128). It may therefore, be either the Buddha or the Bodhisattva but it is impossible to say for sure.



Figure 5.127: Sema S674.



Figure 5.128: Sema S677.



Figure 5.129: Sema S721.

### 5.6.3 Kunchinarai Town

S721

This sema is extremely badly eroded, however two figures in very low relief can just about be made out (fig. 5.129). One, near the centre of the sema, appears to be seated cross-legged and may therefore be the Buddha or the Bodhisattva. To the right there is another figure, perhaps in conversation with the latter figure. However, due to the worn quality of this scene, nothing definitive can be said.

### 5.7 Narrative Art outside the Khorat Plateau

As discussed in chapter 4 (see section 4.8.3) sema during the 6<sup>th</sup>-12<sup>th</sup> century are also found to a limited extent outside the Khorat Plateau. Most do not have narrative art, however, there are two examples worth noting, those from Lower Burma and one sema now kept in the Angkor Conservation Office in Siem Reap.

### 5.7.1. Narrative Scenes from Thaton, Lower Burma

Sema from the Kalyani Sima in Thaton, Lower Burma depict scenes of *jataka* tales (Luce 1985, 172-173) and as a result have invited comparison with those found in the Khorat Plateau from a number of scholars. Piriya Krairiksh (1974a, 59-64) in particular, stresses this comparison, arguing that a group of ‘Mon Refugees’ may have fled northeast Thailand as the Khmers began to take over their territories. The natural place for them to seek refuge, he argues, was Thaton, being as it was, one of the main centres of Mon Buddhism. Furthermore, he states that as there does not seem to be any Burmese forerunners to the Thaton sema, it is plausible that the Mons of northeast Thailand brought the sema tradition to Lower Burma.

This hypothesis, however, has a number of problems, the least of which being that upon close investigation of the sema from the Khorat Plateau and Thaton, it becomes



Figure 5.130: The *Mahajanaka Jataka* on a sema from Thaton.



Figure 5.131: The *Vessantara Jataka* on a sema from Thaton.

apparent that while the content of these narrative scenes are similar and at times identical, the style, composition and form of the sema from Thaton are quite different from those found in northeast Thailand. Furthermore, the identification of the inhabitants of the Khorat Plateau as a homogenous Mon population is also problematic as there is no clear archaeological or linguistic/epigraphic evidence to suggest that this was the case. While some of the inscriptions found in the region are in Mon, others are in Sanskrit or Khmer (see Appendix 1, table A5) showing that Mon was only one of three written languages in use at the time.

Another point of contention is the apparent lack of forerunners to the Thaton sema. While it is true that there are no direct antecedents in the Mon region of Lower Burma, there is evidence from other areas of the country. Excavations at Vesali in Rahkine province in the west of Burma for example have led to the discovery of a number of sema from circa 6<sup>th</sup> - 7<sup>th</sup> century CE.

A comparison between the narrative art on the sema from Thaton and that found in the Khorat Plateau between the 7<sup>th</sup>-11<sup>th</sup> centuries illustrates that while there are many similarities in terms of iconographic content, there are also various differences in terms of how the narrative is depicted, the form of the sema themselves and certain stylistic renderings. An example of two *jatakas* should suffice to illustrate this point.

The shipwreck scene from *Mahajanaka Jataka* is depicted on a sema from Thaton (fig. 5.130) and one from Bahn Nohn Chat in cluster 2 (fig. 5.14) from the Khorat Plateau. While they are both showing the same episode, that of the shipwreck scene, the compositional arrangement is different in each case. Firstly, with the Thaton example, the narrative is sequential with two episodes being depicted in the one composition. On top is shown the shipwreck scene itself with Mahajanaka standing in the centre of the ship beside the mast. Below the ship, the next episode in this narrative is shown where Mahajanaka, after surviving the shipwreck and swimming in the ocean for seven days, is eventually saved by the goddess, Manimekhala, shown lifting him out of the water and bearing him away.

When we compare the *Mahajanaka* episode on the Thaton sema with its counterpart from Bahn Nohn Chat we observe that while the content is identical, the compositional arrangement and style differ. Firstly, in terms of scale we see that the Thaton sema has

chosen to depict the episode from a more distanced viewpoint, allowing the viewer to take in the entire scene, or in this case, the two concurrent narrative episodes. The sema from Bahn Nohn Chat, on the other hand, has chosen to represent the episode up close, clearly depicting the characters of the narrative but not the backdrop. In fact, the only suggestion of a ship is the narrow mast to which the figures cling. Furthermore, the sequential narrative technique on the sema from Thaton is rarely encountered in the Khorat Plateau. Therefore, while the narrative content is very similar, the style and arrangement of the compositions differ significantly.

Another *jataka* in common between the two regions is the *Vessantara Jataka*. However, when we compare the examples from the Khorat Plateau (see section 5.3.15) with those found at Thaton we once again see great differences in the style and execution of the narratives. The sema from Thaton (fig.5.131) for instance, has been divided into two panels, the upper depicting the episode in which Vessantara gives away the white elephant to the eight Brahmans of Kalinga, while the lower panel has not been clearly identified. In the examples from the Khorat Plateau, however, the carvings, whether it be Vessantara giving away the elephant or his wife, Maddi, only ever show one scene.

In comparing the sema from the Khorat Plateau with those from the Kalyani Sima in Thaton, it becomes apparent that while there is a large degree of uniformity in terms of content, there is also significant divergence in terms of style, composition and form. This leads to the conclusion that there was no direct contact between those who carved and set up the sema at Thaton and those in the Khorat Plateau. If Krairiksh's hypothesis was correct and a group of Mon refugees had settled in Thaton, then we would expect to see much more similarities in terms of style and form.

It seems more likely then that the inhabitants of the Khorat Plateau and those in Lower Burma were sharing similar Buddhist religious traditions, which espoused a very similar doctrine, most likely derived from the same texts and oral traditions. This would explain much more satisfactorily the similarities, and at times identical content of the sema from the two regions. It should also be noted that the movement of ideas and the movement of peoples are not one and the same thing. While ideas, be they religious, artistic or technical can move swiftly and freely along pre-existing trade routes and lines of communication, leaving very little material evidence in their wake, the movement of peoples on the other hand is an entirely different proposition. If Mon populations from

the Khorat Plateau did in fact migrate to Thaton, we would expect to see a much larger archaeological, material and artistic footprint than what we are left with today. What is clear however, is that the sema from Thaton and those spread throughout the Khorat Plateau, bear testament to the common religious and artistic traditions shared by both these regions as expressed through the medium of Buddhist narrative art.

### 5.7.2. A Tantric Sema from Northeast Cambodia

This remarkable sema (fig. 5.132), today kept at the Angkor Conservation Office depicts Hevajra dancing on a corpse.<sup>36</sup> It is said to have been discovered in northeast Cambodia, near the Thai border but its exact findspot is uncertain. It most likely dates to the reign of Jayavarman VII (c. 1181-1215) when Tantric Buddhism became the state religion. The artwork is executed following Khmer conventions and therefore has very little in common with that found in the Khorat Plateau. The lotus band at its base, however, is reminiscent of the compositional arrangement of Dvaravati sema. While later than the sema studied in this thesis it does however, provide an interesting illustration of how the sema tradition spread and evolved outside of the Khorat Plateau.

### 5.8 Three modern carvings?

Three sema, S707, S709, and S710 (figs. 5.133-135) from Bahn Nong Hang appear to have modern carvings on them. While the sema themselves most probably date to the Dvaravati Period the antiquity of the artwork is suspect for a number of reasons. First, their state of preservation and the sharpness of their carvings suggest a rather recent date. Secondly the iconography and style is problematic as it possesses a number of attributes which post-date the Dvaravati period.

With sema S707 for example (fig. 5.132)



Figure 5.132: Tantric Sema. Courtesy of Pia Conti.

<sup>36</sup> My thanks to Pia Conti for bringing this sema to my attention and also providing the photograph.

it is evident that it is modern not only in the form of the composition which shows a conflated narrative from the *Mahosadha Jataka* but also in the style of the carvings. The top section shows the first part of the episode where Mahosadha hands Kevatta the gem, while the lower part shows him dropping it and being forced into obeisance. The crown of Mahosadha in the bottom scene is clearly modern in influence and design as is the clothing worn by the two figures. The facial features of the figures in the upper section are also unlike anything encountered in Dvaravati art. Finally the preservation of the narrative on this stone is in far too good a condition to be of any considerable antiquity.

In regard to sema S710 (fig. 5.134) a number of features again call the antiquity into question. The hairstyle of the figure on the left, particularly the way it is parted is unlike anything seen on Dvaravati or Khmer art. The small conical crown and the facial features as also uncharacteristic of what we would expect for this period. Sema S709 (fig. 5.135) on the other hand is somewhat more problematic. The facial features of the two figures and the hairstyles show elements of the Khorat Plateau aesthetic. Also the posture of the figure on the right, with one hand resting on her thigh, is characteristic of certain poses found on sema. However, once again the sharpness of the carving calls the antiquity into question.

It appears therefore, that at sometime in the recent past these narratives were carved in imitation of the art on the numerous other sema from Bahn Nong Hang. It is likely that this was done for religious reasons as opposed to more dubious intentions such as creating fakes to sell on the antiques market. Sema S708 (fig. 5.15), identified as the *Sama Jataka* may also be modern however, it is very difficult to tell as it is very close stylistically and compositionally to other Dvaravati period sema. If this sema is of genuine antiquity, perhaps it was the template from which the other three were copied.



Figure 5.133: Sema S707.



Figure 5.134: Sema S710.



Figure 5.135: Sema S709.

## 5.9 Stupa motifs

The majority of sema do not in fact have narrative art and images of the Buddha and Bodhisattva, but instead are decorated with axial stupa or stupa-*kumbha* motifs which are almost always executed against an empty background, a particular feature of the Khorat Plateau Aesthetic. These two forms of stupa motif are now discussed.

### 5.9.1. The Axial Stupa

The most prevalent motif to be depicted on sema is the axial stupa. As the name suggests, this motif consists of a straight ridge usually no more than 10cm wide that bisects the sema vertically down the middle. However, in certain variants the stupa can be broader and more triangular in appearance (see figs. 5.136 & 5.137 and Paknam 1981, 91). This motif is depicted only on slab type sema and can appear on either one side only or on both the front and rear. It often appears on the rear of sema with depictions of narrative art, and at times can also form part of the composition with the axial stupa rising out of the scene (see fig 5.2). In the Ayutthaya period this motif narrows considerably and becomes the stylised spine of a leaf, an integral part of the leaf-shaped sema design that is in existence to this day.

It has also been proposed that this motif may represent a sacred sword similar to the examples found on Phnom Kulen (Wales 1980, 51), however, this association is unpersuasive. The majority of Dvaravati motifs are narrow and vertical-shaped and unlike the Phnom Kulen example show no evidence of a sword hilt. The presence of the stupa-*kumbha* motif also argues against this identification.

The axial stupa appears on the earliest sema from the 7<sup>th</sup> century onwards and continues to be depicted until the 11<sup>th</sup>-12<sup>th</sup> centuries. Its simplicity is one explanation for its proliferation throughout the Khorat Plateau as it fulfilled the need to indicate that sema were sacred Buddhist objects with the minimum of effort and artistic skill required. In areas and situations where the craftsmanship necessary to carve sema with narrative art was lacking, the ease of execution of the axial stupa would have made it a ready solution.

### 5.9.2. Stupa-*kumbha* motifs

A *kumbha* (Sanskrit) is a water-pot or jar originating in India and was associated with

both Buddhism and Hinduism. When shown with overflowing foliate designs it is also referred to a *urnaghata* or ‘vase of plenty’. This auspicious symbol first appears in a Buddhist context at Bharhut where it is shown on a relief medallion on a rail dating to *circa* 150 BCE. The *kumbha* is shown at the base of the composition with floral motifs issuing forth. Upon these flowers stand two elephants anointing the goddess Laksmi who in turn stands on a fully blooming lotus.

At the great stupa of Amaravati dating from the 2<sup>nd</sup> century BCE to the 3<sup>rd</sup> century CE, some of the pillars that faced the gateway have the *urnaghata* depicted in relief. Certain depictions show the motif with elaborate flowers springing forth, while another shows a column emerging from the vase’s mouth, a possible precursor to the Dvaravati stupa-*kumbha* motif. Upon the column’s capital sits a couchant lion. Other examples of this motif can be seen at Ellora cave no. 6 where the *urnaghata* forms part of the column capitals.

Perhaps the closest parallel to the Khorat Plateau, however, can be found in the guardstones at the Abhayagiri monastery in Anuradhapura, Sri Lanka (fig. 5.138). Dating to the 8<sup>th</sup>-9<sup>th</sup> centuries they are contemporaneous with Dvaravati sema. Carved in limestone and flanking the entrance to the Ratnaprasada, they depict anthropomorphic forms of the *nagaraja*. In the left hand of two such figures are elaborate *urnaghatas* with vegetation emerging from them and growing upwards as if the plants had taken root in the pots themselves. The style and composition of the Sri Lankan *urnaghata* is reminiscent of a number of representations of the motif on Dvaravati sema, particularly sema S766 from Bahn Kum Ngoen (fig. 5.139) and the *urnaghata* flanking the stupa motif on sema S302 (fig. 5.152) from Bahn Phai Hin. Furthermore, the shape of the guardstones themselves resemble somewhat that of slab type sema. Further parallels can be seen in their function, as guardstones appear to demarcate the entrances to Ratnaprasada (Hall of Observances). However, suggesting a direct link or connection between the tradition of guardstones in Sri Lanka and that of sema in the Khorat Plateau is untenable. They appear to be contemporary phenomenon that came into existence independently of each other, while at the same time both drawing on similar Buddhist artistic and religious heritage.

While it is not possible to say for certain how exactly the *kumbha/urnaghata* motif came to the Khorat Plateau and at which specific date in time, it is clear that this motif had a long and widespread usage in the Buddhist art of India stretching from as far back as the 1st BCE. Its continuation over such a long span of time and its eventual spread into the Khorat Plateau illustrates its durability and continuing symbolic relevance.



Figure 5.136: Narrow axial stupa motif.



Figure 5.137: Wider form of the axial stupa motif.



Figure 5.138: 7<sup>th</sup>-8<sup>th</sup> century guardstone from Anuradhapura.



Figure 5.139: Sema S766.

### 5.9.3. The Stupa-*kumbha* motif in the Dvaravati Period

On Dvaravati sema from the Khorat Plateau the *kumbha* can be shown as a plain water pot or as a more elaborate design similar to the *puṇṇaghata*, with foliate and vegetal motifs springing forth. The *kumbha* in turn is surmounted by a stupa, hence the term stupa-*kumbha* (Vallibhotama 1985, 15, 27; Paknam 1981, 62; Woodward 2005, 101-103). The stupa motif is sometimes shown with concentric rings most likely meant to represent the *chattravali* on actual stupas. The stupa can at times also terminate in an elaborate finial. It should be noted that in some instances it appears that it is not a stupa surmounting the *kumbha* but a *stambha* (see figs. 5.144, 5.162, 5.164). This is particularly the case when the motif is surmounted by a *dharmacakra* (see section 5.10).

In the Dvaravati Period the stupa-*kumbha* motif has been represented in numerous forms and mediums throughout central Thailand and the Khorat Plateau. The motif is commonly found on clay votive tablets as can be seen from sites such as U-Thong, Muang Fa Daed and Ku Bua to name just three. Sometimes, as with a tablet from Ku Bua, the stupa-*kumbha* motif is shown as part of a triad with the Buddha in the centre, a *dharmacakra* motif to the left and the stupa-*khumba* motif to his right (fig. 5.140). At other times the Buddha is shown flanked by numerous stupa motifs. It has been pointed out that the Buddha-stupa-*dharmacakra* triad is a uniquely Dvaravati phenomenon having no precedents in India and it is particularly prevalent among votive tablets from the south of Thailand (Brown 1996, 85). Stupa-*khumbas* flanking the Buddha in a triad configuration are also found on stele, with two examples from Sri Mahosot in Prachinburi province being amongst the finest examples. It should be noted however, that neither of the above triads ever appears on sema.

The motif has also been found on silver repoussé sheets from Kantharawichai and a bronze reliquary from Na Dun district, both sites being in Mahasarakham province (Woodward 2005, 102-104). A further bronze reliquary was located at Sri Thep and the stupa-*kumbha* motif is stylistically extremely similar to that found at Na Dun (FAD 2007, 41). Another variant can be seen at U-Thong where a terracotta stupa-*kumbha* was found and possibly functioned as either a reliquary or a finial for an actual stupa (fig. 5.141).

However, perhaps the closest parallel to the stupa-*kumbha* design found on sema comes from the Thamorat cave approximately 20 kilometres west of Sri Thep (FAD 2007, 125-127). Relief carvings of the Buddha and a bodhisattva adorn the cave's walls, and on

one wall, there is also a *stupa-kumbha* motif depicted beside a seated Buddha image. Its style and iconography is very similar to examples found from the Khorat Plateau. It is clear therefore from the numerous examples found throughout the Dvaravati period that the *stupa-kumbha* was an important and widely known motif.

The basic components of the *stupa-kumbha* motif on sema are as follows; there is usually either the *kumbha* itself, resting directly on the lotus band or sometimes sitting on an ornate base. The *kumbha* in turn is shown with either floral designs issuing forth from its mouth or is surmounted directly by the stupa motif. The stupa motif can be either devoid of decoration or in other instances be ornately carved. At times the stupa terminates in an elaborate finial but more often than not its tip is left undecorated.

The *stupa-kumbha* motif is found at thirty-four sites throughout the Khorat Plateau (see fig. 4. 26) stretching from Buriram province in the Mun river system to Vientiane in the Middle Mekong emphasising the extent to which it spread. This motif can be divided into five general types which can to a certain extent be used to analyse this motif's development over time.

#### **5.9.4. Types**

Type one, representing the most basic form of the motif is found at three separate sites, two of which Bahn Kut Ngong and Bahn Dorn Sila (L4) are in the Chi river system and one, Bahn Tah Wat (L63) is in the Middle Mekong group. In this form the *stupa-kumbha* motif has no floral decoration and consists of only the *kumbha* itself and a plain stupa arising from it (fig. 5.142). No other elements such as a finial or floral motifs are present. Based on the typological and distribution analysis this group falls within the 8<sup>th</sup>-9<sup>th</sup> century date range.

Type two shows a degree of increased elaboration. The *kumbha* is shown with three petals, most likely from the lotus flower, arising from its mouth. The stupa in turn surmounts the petals and as with type one is plain in design, depicted without a finial or ornamentation (fig. 5.143). This type is found throughout the Khorat Plateau and is not specific to one area or cluster. It is also found on sema over a wide date range. For instance it is present at the site of Bahn Tat Tong where the sema fall into a 8<sup>th</sup>-9<sup>th</sup> century date range. It is also found on sema at Bahn Pailom where the sema date from the late 10<sup>th</sup>-11<sup>th</sup> century.

Type three represents a more elaborate form of *stupa-kumbha* motif which is restricted to two sites, Baht Tat Tong and Bahn Kum Ngoen in cluster 4 (fig. 5.144). This type has



Figure 5.140: Votive tablet from Ku Bua.



Figure 5.141: Terracotta stupa-kumbha.



Figure 5.142: Sema S585. Type one stupa-kumbha motif.

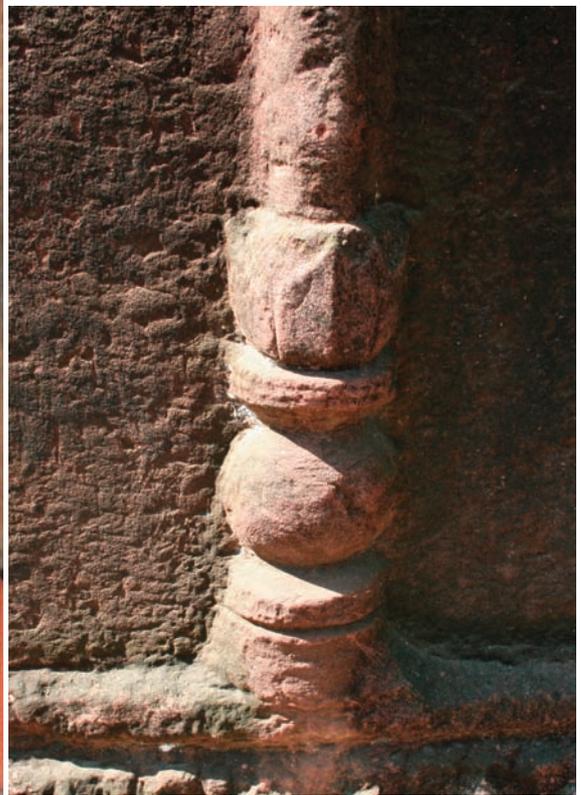


Figure 5.143: Sema S460. Type two stupa-kumbha motif.

an elaborate base which is similar in design to an ornate metal stand. Above this base a band of lotus petals is often depicted, usually three in number, however, sometimes the floral design is more elaborate than this. On top of this sits the *kumbha* itself from which sprouts forth a number of different foliate designs. In some incidences a double band of lotus petals is shown above the *kumbha*, an evolution from type two. In other examples the floral design is more elongated, and follows the contours of the stupa. A variant of type three exists in the shape of the ornamental base being replaced by a *kumbha* motif. In this case we have what we could perhaps term a ‘double-*khumba*’ motif (fig. 5.145). As with the base, the stupa is also more elaborate in this type. It can at times be shown with rings, perhaps in imitation of the *chattravali* of actual stupas. This increased ornamentation is especially true of the stupa finial that can take either trident-like forms or that of a wheel with four spokes which may represent *dharmacakra* motifs (see section 5.10).

Type four is similar to both types two and three in certain aspects however, it differs in having either a *kumbha* motif or a *dharmacakra* motif placed in the middle or upper part of the stupa section (figs 5.146 & 5.147). This type is restricted to two sites in cluster 4, Bahn Chat (L40) in Amnat Chareon province and Bahn Puey Huadong (L39) in Ubon Ratchathani province. Another interesting variant of this motif is found on sema S991 from Bahn Puey Huadong, now kept at the Ubon Ratchathani national museum. A stupa emerges from a *kumbha* in the normal manner. However, near the top a smaller *kumbha* is shown flanked by two birds, an addition that is found nowhere else throughout the Khorat Plateau (fig. 5.148).

Type five appears to have evolved out of types three and four. The floral motifs springing forth from the *kumbha* are a characteristic of type three, however, the design and depiction of this foliage has now taken on markedly Khmer artistic traits. The use of two *kumbhas*, one at the base and one halfway up the stupa motif is characteristic of type four.

Type five is restricted to the Middle Mekong group with the highest concentration being located at the site of Wang Sapung (L55) in Loei district (fig. 5.149). Other examples of the motif are found in Laos, for example at the site of Bahn Muang Kao (L84) (fig. 5.150). This type of stupa-*kumbha* motif appears to have evolved out of types three and four in the lower Chi river system and combined elements of the motif with Khmer stylistic modes of floral representation resulting in a truly unique manifestation of the stupa-*kumbha* motif.



Figure 5.144: Sema S507. Type three stupa-kumbha motif.



Figure 5.145: Sema S769. Type three with a double-kumbha motif.



Figure 5.146: Sema S1015. Type four stupa-kumbha motif.



Figure 5.147: Sema S1016. Type four stupa-kumbha motif with dharmacakra.

Along with the five types discussed above there are a number of exceptions that do not fall into any one category but merit discussion in and of themselves. There are a total of five motifs discussed below.

Sema S84 depicts a stupa-*kumbha* within a wide stupa type design (fig. 151). The *kumbha* is unusual as it is shown with a spout emerging from the top right and possibly a handle from the top left. The stupa part of the motif is crowned with a finial that can no longer be clearly made out due to erosion. The wide stupa motif itself has no visible decoration or ornamentation and seems to be of the axial stupa type, albeit a rather broad version. It could be that the sema was originally depicted with an axial stupa and that the stupa-*kumbha* motif was for some reason added at a later date.

Sema S302 from Bahn Phai Hin (L17) depicts a unique stupa-*kumbha* triad where a central stupa design with an elaborately floral lower half is flanked on either side by *kumbhas* from which foliate designs issue forth forming a triangular shaped motif (fig. 5.152).

Sema S946 from Bahn Pa Khiap (L47) also depicts a stupa in a more vegetal manner. There is no *kumbha* present but the stupa has a number of concentric rings depicted on its body and terminates in a bud-like manner with leaves issuing forth in both directions (fig. 5.153).

Sema S518 (L8) shows not a stupa-*kumbha* motif, but a stupa-Buddha motif instead (fig. 5.154). The lower half of the depiction shows the Buddha seated cross-legged most likely in *dhyana mudra*. Above the Buddha is the stupa motif shown with numerous concentric circles, perhaps representing *chattravali*. The stupa and the Buddha are in turn surrounded by what appears to be leaves or foliage that perhaps represents the Bodhi tree.

Sema S670 from Bahn Korn Sawan is unique among all sema found throughout the Khorat plateau in as much as it shows both a stupa-*kumbha* motif and a figure beside it who could perhaps be worshipping it (fig. 5.155). Could this representation be taken as evidence for stupa-worship in the Khorat Plateau as discussed below (section 5.9.6)?

#### **5.9.5. Dating and Evolution of the Stupa-*kumbha* motif**

A traditional art historic approach may advocate that motifs evolve from simple to more complex over time reaching an aesthetic apex before becoming over elaborate signaling its decline and final stages. Following this approach the stupa-*kumbha* motif could fit neatly into this pattern. First comes the basic axial type stupa, next it evolves into the basic stupa-*kumbha* design of types one and two before reaching its apogee in types three and four. The overly ornate motifs of type five would represent the decline.



Figure 5.148: Sema S991 with a *kumbha* and pair of birds near the stupa's apex.

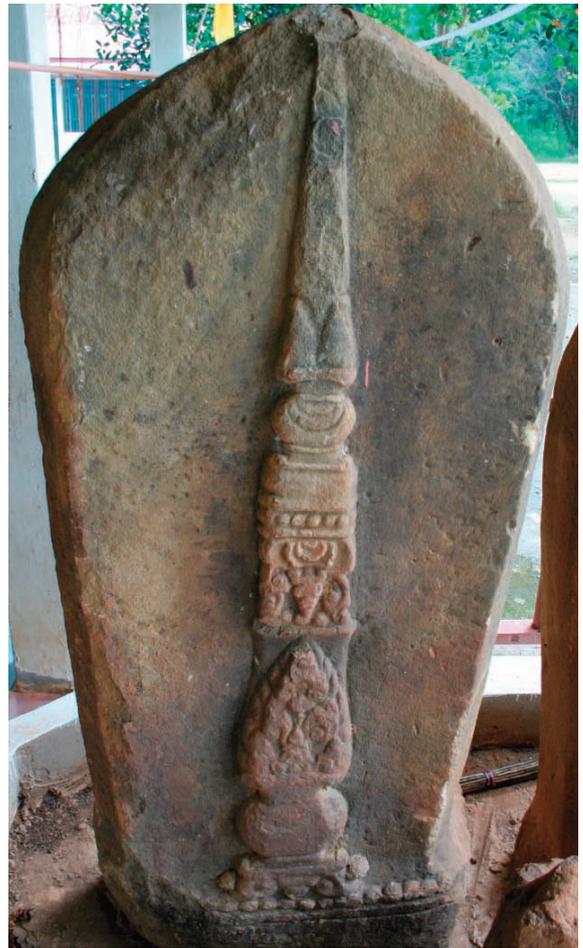


Figure 5.149: Sema S1145. Type five stupa-*kumbha* motif.



Figure 5.150: Sema S1219. Type five stupa-*kumbha* motif.



Figure 5.151: Sema S84 with a 'spouted' *kumbha*.



Figure 5.152: Sema S302.



Figure 5.153: Sema S946.



Figure 5.154: Sema S518.

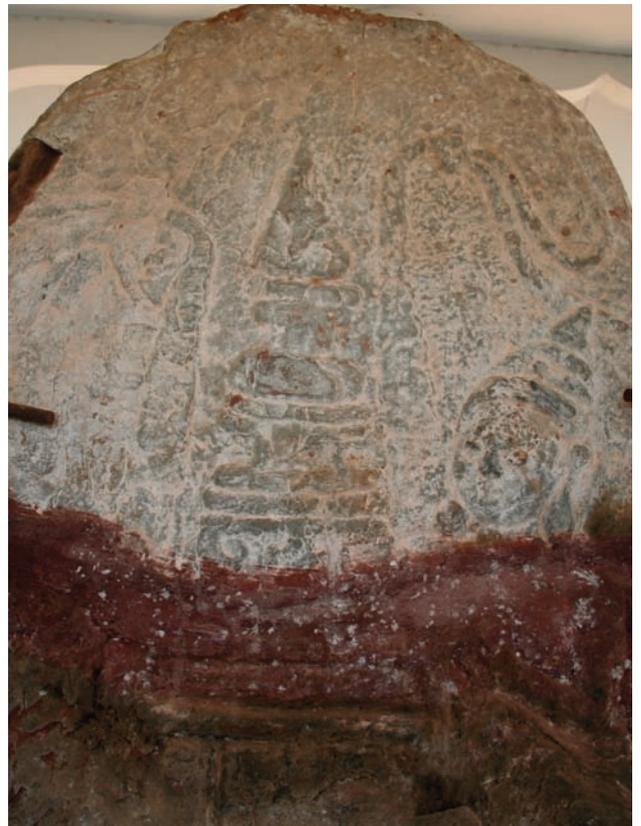


Figure 5.155: Sema S670.

Alternatively, Woodward proposes that the long, slender type stupa-*kumbha* motif (here classified as type one) is a later development from the more ornate wider stupa-*khumba*, however, he still argues that it does not post-date the 9<sup>th</sup> century (2005, 103).

However, such approaches are problematic for a variety of reasons, none more so than that they assume a linear development over time, overlooking factors such as regional variation, the quality of craftsmanship available and perhaps most importantly artistic license. It is proposed here that it is more conducive to see the development of this motif as a lateral phenomenon as opposed to a linear one. This is further illustrated when the stupa-*kumbha* motif is viewed in context of the sema tradition at large considering factors such as distribution, typology and epigraphic evidence. The motif appears to have spread out over a large number of sites with the diversification being as much regional as chronological, with types one to four existing alongside each other during the same time periods.

Types one, two, three and four all come from sites with a date range of 8<sup>th</sup>-9<sup>th</sup> centuries. They are therefore contemporary with the narrative art of group one. Furthermore, types two, three and four all come from cluster 4. These factors emphasise a lateral relationship between the motifs. It is therefore difficult to maintain that one type of motif may have post-dated or pre-dated another.

The only area where it seems possible to make a clear chronological separation is with type five. This type, in many respects an amalgamation of all four previous types, can along with its Khmer style floral motifs be placed in the late 10<sup>th</sup>-11<sup>th</sup> centuries. Type five is therefore contemporary with the narrative art of group two. Overall, in terms of dating we can say that the stupa-*kumbha* motif was primarily an 8<sup>th</sup>-9<sup>th</sup> century phenomenon and its flourishing corresponded chronologically to that of the narrative art on sema from group one illustrating that they were contemporary occurrences.

#### **5.9.6. Iconography**

In order to understand the latent possibility of meanings innate in the stupa-*kumbha* motif, to reach beyond its form and style to the multiple layers of symbolic and iconographic significance, we must first consider the stupa itself. As a monument, its function is primarily that of a reliquary, however, it also plays a significant role in religious pilgrimage and worship. As well as being an integral component of the

Buddhist architectural canon, being an essential structure of monasteries throughout ancient India and Southeast Asia, it functions as a key Buddhist symbol, being depicted in various forms and mediums throughout the Buddhist world. Therefore, while the stupa as an architectural structure has a more delimited and restricted scope of meaning, the stupa as a symbol has a multiplicity of references.

Some of the earliest proposed meanings of the stupa as symbol are in reference to the Great Stupa at Sanchi. Foucher (2003) for instance, argues that as the earliest forms of the Buddha image were aniconic, the artists at Sanchi used specific symbols to depict certain stages in the Life of the Buddha. Therefore the *pipal* tree represented the Enlightenment, the *dharmacakra* represented the first sermon, and the stupa represented the *parinirvana*.

Huntington (1990) however, rejects this idea and argues that the stupa, *pipal* tree and *dharmacakra* are representations of pilgrimage sites alone and not aniconic depictions of the Buddha. In response, Vidya Dehejia (1991) argues along similar lines to Foucher illustrating that the stupa possesses multivalent qualities. This view is expressed by the majority of scholars working on Buddhism and is perhaps best represented in the works of Snodgrass (1985) which views the stupa and the Buddha image as symbols with a surplus of meaning.

The possibility raised by scholars such as Foucher and Dehejia that the stupa can function as an aniconic representation of the Buddha is further evidenced at sites such as the rock-cut caves at Nasik in Maharashtra. A stupa image is shown being worshipped, depicted in relief on a panel on the rear wall of Vihara III in the Gautamiputra cave (Huntington 1985, 170). At Amaravati the stupa and the Bodhi Tree are both shown as objects of veneration again pointing towards the possibility that they represent aniconic forms of the Buddha.

The evidence for aniconic worship of stupa images in the great Buddhist centres such as Sanchi and Amaravati casts light on the stupa-*kumbha* image on sema. This image, so prevalent among the Buddhist communities of the lower Chi River in particular, may also have functioned in this manner. This possibility is further strengthened when we look at the meanings of the *kumbha*.

Woodward proposes that the *kumbha* may in fact represent burial urns. At Muang Bon in Nakorn Sawan province, terracotta pots were found used in this capacity close to stupa no. 13. Furthermore at Thap Chumphon also in Nakorn Sawan province, he points

out that two terracotta *kumbha*-type stupas were discovered and suggests that they too may have functioned as funerary urns (2005, 100-102). While this theory is an interesting one, linking quite neatly with the reliquary symbolism of the stupa, it is not borne out by the archaeological evidence from the Khorat Plateau at large. To date, no clear correlation has been found between stupas and urn burials, and as the *kumbha* symbol is widespread throughout the region, if Woodward's theory were correct we would expect the urn burials to be as widespread as the symbol.

Another possibility for the significance of the stupa has been suggested by Indrawooth (1999, 234). She argues that stupa worship was prevalent among the Dvaravati of central Thailand and proposes that this worship was brought to Thailand by the Aparā-mahāvīnāseliya sect who could have been present in U-Thong as early as the 3<sup>rd</sup> or 4<sup>th</sup> centuries. This sect did not believe in the worship of Buddha images but instead paid homage to, and built stupas. If this sect was present in the Khorat Plateau during the period in question it may help explain the preference for stupa images as opposed to Buddha images. One sema, (fig. 5.155) actually shows a figure worshipping a stupa-*kumbha* image, further adding to the plausibility of this argument. However, as discussed above, numerous sema are found carved with Buddha images so this would argue against the widespread presence of the Aparā-mahāvīnāseliya sect. However, it may be possible that their influence and ideas of stupa worship reached the Khorat Plateau by the 7<sup>th</sup>-8<sup>th</sup> centuries and in some areas, such as cluster 4, took hold to a certain extent and led to the preference of representing the Buddha by aniconic means.

The concept of Buddha as stupa has also been proposed at Pagan (Shorto 1971). Shorto argues that the arrangement of the *jataka* plaques at the Ananda temple and the absence of the Buddha from them implies that we are to see the monument itself as representing the Enlightened One. Furthermore, by the 15<sup>th</sup> century the plinths of stupas were being referred to as *vajrasana*, the throne of the Buddha and that the leveling of the platform to receive this structure parallels the language used in Pali texts to describe the land that levels itself under the Buddha's feet (1971, 77). An interesting linguistic observation refers to the terms *mahadhatu*, which in Burmese and in Thai means both relic and stupa. This in turn unites the idea of the Buddha and the relic (Shorto 1971, 79). It appears that by the Pagan period in Burma, the equating of the Buddha and the stupa was well understood.

Snodgrass's 1985 seminal work on the stupa and its multiple layers of meaning provides a reference point for our investigation of the *kumbha*'s symbolic significance.

Architecturally the *kumbha* can be equated with the dome of a stupa, the hemispherical structure from which the spire ascends. Buddhist texts have consistently referred to this aspect of the stupa as either the *garbha*, ‘the womb’ or container or the *anda*, ‘the egg’ (Snodgrass 1985, 189). The dome is at once a microcosmos and a macrocosmos as it symbolises both the innermost point of the universe and at the same time its outermost reaches. The dome as the egg or womb also contains the world in its *a priori* state, waiting to come into being. As Snodgrass states: ‘Viewed from without, the stupa-Egg or stupa-Womb is the progenitive source of manifestation, the procreative point whence the worlds are born, the most inward and central spring whence all life flows.’ (1985, 190).

If the dome does indeed signify the wellspring of all existence, then its representation as a *kumbha* is a logical development. The overflowing vegetal motifs and the rows of lotus petals depicted issuing forth from many of the stupa-*kumbha* motifs on sema perfectly encapsulates this abundant fertility and latent potential for creation. This symbolism is further emphasised when we consider the signification of the stupa rising from the *kumbha*. If the *kumbha* as *anda* is the centre of the universe, then the stupa rising out from the point of creation is the *axis-mundi* par excellence, forming order out of chaos and orientating the universe, a fixed point anchoring down forces that are constantly in flux.

Seen from this aspect, the finial depicted on a number of stupa-*kumbha* motifs now takes on a new dimension. As the terminus of the *axis-mundi*, it is represented in two ways, one as a trident, the other as a wheel. The trident instantly brings to mind the image of Shiva, destroyer and creator of universes, a fitting symbolism to surmount the pillar of creation. That this is a predominantly Hindu image should not be seen as problematic as there is plentiful evidence that Buddhism and Hinduism existed alongside each other at this period with the former frequently appropriating and absorbing symbols from the latter.

The wheel finial with its four spokes and at times radiating lines of light, calls to mind the *dharmacakra*, the moment when the Law of the Buddha, *Dharma*, was put in motion (see section 5.10 below). This too, conjures up images of beginnings, of new universes coming into existence and as such is a fitting emblem to be placed on top of the stupa. The *axis-mundi*, which brings order to the universe does so by the light of *Dharma*, the Law of the Buddha.

Finally amongst all this, we return to the point of origin, the symbol of the Buddha himself and the moment of enlightenment. As Snodgrass (1985, 195) points out, early Buddhism saw the egg as a prison that cracked open to release the awakened being. Therefore just as the stupa itself is an aniconic representation of the Buddha, the *kumbha* upon which it sits represents the point of origin from which the Buddha by way of enlightenment broke free.

From this perspective it is possible to propose a unified layer of symbolic meaning, the stupa-*kumbha* motif as a representation of the Buddha. In depicting and worshipping this motif the Buddhist faithful were in effect worshipping the Buddha in all his aspects and meanings. This realisation materialises itself artistically in one instance in the sema tradition, on sema S521 from Wat Si Thammaram in Yasothon where the Buddha is depicted seated cross-legged in meditation, the spire of the stupa rising from above his head (fig. 5.154). Vegetation and floral motifs flanking the Buddha may represent the Bodhi tree. Therefore, in this sema the multiple layers of meaning coalesce, captured in stone, a brave attempt to defy the impermanence and ephemeral nature of all things.

Like the image of the stupa itself, the stupa-*kumbha* motif represented on sema throughout the Khorat Plateau is possessed with a surplus of symbolism, a multivalence of meanings, with each component of the motif adding another layer and texture to the overall whole. In the most complete sense, the stupa-*kumbha* represents the Buddha and all that his teachings encapsulate. In another aspect the motif represents creation itself, from which arises the *axis-mundi*, the cosmic pillar. Whether the Buddhist communities who worshipped this image on sema saw in it all these layers is an unanswerable question. However, we can say that in depicting this motif, they did most probably see it as an encapsulation of the Buddha and all he represented, and in this sense they were carrying on the aniconic traditions of their Indian predecessors. This is further emphasised by the fact they consciously chose to depict the stupa-*kumbha* motif as opposed to an image of the Buddha. Evidence from other sites in the Khorat Plateau shows that if they had wished, they could have quite easily depicted a Buddha image.

The axial stupa motif's iconographic meaning may now also be unlocked when compared with that of the stupa-*kumbha*. It too simultaneously represented the image of the *axis-mundi* as stupa, the stupa as the Buddha, and the Buddha as *Dharma*.

Consciously the Buddhist communities saw the stupa-*kumbha* and axial stupa motif as aniconic forms of the Buddha. However, as symbols have multiple layers of meaning, they may have subliminally seen much more in this image. The *kumbha* with its latent

images of fertility may have spoken to them of the creation of universes and the reality of the Buddha's Enlightenment, while the *dharmacakra* finials would have touched on an innate human need to find order in the chaos of the cosmos.

### 5.10 *Dharmacakra* Motifs

The *dharmacakra* or Wheel of the Law has been an integral part of Buddhist iconography from its earliest representations in India until the present day. Its longevity and appeal may perhaps be explained by the importance of what it represents, as it symbolises the moment Sakyamuni put into motion the teachings of Buddhism at the deer park in Sarnath. It was this event that in effect started the entire Buddhist religious and monastic movement.

The *dharmacakra* is made up of two to three distinct parts. Firstly there is the *cakra* (wheel) itself which is shown with spokes radiating out from the centre to the rim. The spokes can vary in number from anywhere between four and twenty. The *cakra* is at times mounted on a *stambha* (pillar) as can be seen in depictions from India and examples from Thailand. In the Dvaravati examples from central Thailand, the *cakra* is fixed to the *stambha* by elaborate square socles which make up the third constituent part.

The earliest evidence for the *dharmacakra* motif comes from the Maurya Period (*circa* 313-185 BCE). Most examples occur in stone reliefs such as at the sites of Bharhut, Sanci and Amaravati, and in certain instances most likely symbolise aniconic representations of the Buddha. In these early examples the *cakra* is usually mounted on a *stambha*. From the 3<sup>rd</sup> century CE onwards the motif becomes restricted to the bases of Buddha images and signifies the first sermon scene (Brown 1996, 160). Interestingly while the *dharmacakra* motif is commonplace at this time among relief imagery, three-dimensional examples from India are extremely rare with known surviving examples perhaps numbering no more than four or five (Brown 1996, 160).

The proliferation of the three-dimensional *dharmacakra* raised on *stambhas* throughout central Thailand in the Dvaravati period is one of the defining artistic and religious features of this culture. Examples have been found at the majority of key Dvaravati sites, such as Nakorn Pathom, U-Thong and Sri Thep, and thus was a phenomenon mainly restricted to central Thailand (see figure 2.15). However, a *dharmacakra* was discovered at the site of Muang Sema in Nakorn Ratchasima province and a *dharmacakra stambha* was also found at Bahn Po Chai (L18), in Khon Kaen province (see figure 2.16), illustrating that examples were present to a lesser extent in the Khorat Plateau.

Brown's suggestion (1996, 41) that *sema* and the three-dimensional *dharmacakras* were competing traditions that could not function alongside each other is thus somewhat untenable when we consider that *sema* and *dharmacakra* were found at both of the above mentioned sites in the Khorat Plateau. However, while there is evidence for the *dharmacakra* motif in the Khorat Plateau, its existence is restricted to a handful of examples.

There are three examples of the *dharmacakra* motif depicted on *sema* in the Khorat Plateau. They come from the sites of Bahn Brakum in cluster 5 (L45), and Bahn Bua Semaram (L21) and Bahn Pahn Lam (L30) in cluster 3. All three depictions are stylistically somewhat different with the example from Bahn Brakum in Buriram province closest in appearance to those found at Phnom Kulen, Cambodia.

Sema S323 from Bahn Bua Semaram shows a *dharmacakra* in low relief, placed on top of what appears to be a stylised *stambha* and a socle, the latter depicted by three concentric rings (fig. 5.156). The wheel itself consists of eight diamond-like spokes which are reminiscent of flower petals radiating out from a circle in the centre. The *dharmacakra* motif on *sema* S631 from Bahn Pahn Lam (fig 5.157) also appears to be mounted on a *stambha* and socle or perhaps a stupa, as at Phnom Kulen. The spokes of the wheel are very similar to those of S323 however, this time there are twelve in total, packed closer together. Furthermore, there is now a two ringed circle in the middle which is suggestive of the centre of a flower.

The *dharmacakra* motif on *sema* S975 from Bahn Brakum is in higher relief than the two discussed above and is not sitting on a *stambha* or stupa of any kind (fig. 5.158). Instead, there is a truncated stupa-*kumbha* motif emerging from the top of the *dharmacakra*. As with S631 the wheel consists of twelve diamond-shaped petals, however, the centre of the motif shows a fully formed flower in bloom, presumably the lotus.

The only other locations from this period to display the *dharmacakra* motif on *sema* are the sites of Ban Gre and Tum Mas on Phnom Kulen (figs. 5.159 & 5.160). Today the *sema* at these sites are in a very poor state of preservation, making analysis extremely difficult. We therefore have to rely on photographic evidence and sketches provided by Boulbet and Dagens (1973). According to their survey, the majority of *sema* found had *dharmacakra* motifs on one side and stupa motifs on the other. Only two *sema* did not have *dharmacakra* motifs (1973, 43-47). Their site maps show thirty-two *sema* in total



Figure 5.156: Sema S323.



Figure 5.157: Sema S631.



Figure 5.158: Sema S975.

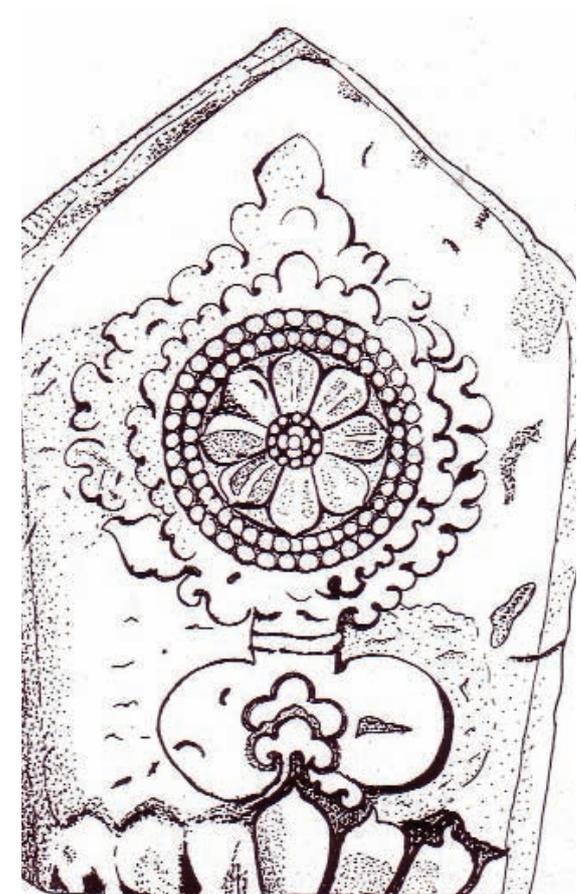


Figure 5.159: Sema from Phnom Kulen.

which would mean that thirty of them had *dharmacakra* motifs. During survey work carried out in February 2008 I could only locate ten sema and *dharmacakra* were only visible on three of them.

The wheel motif appears very similar in design to those found at the three sites in the Khorat Plateau with the same diamond-shaped leaves radiating out from a central flower. However, the overall design has become more elaborate with the rim of the wheel now being decorated with either one or two bands of small circular motifs. Furthermore, the wheels themselves are sometimes flanked by elaborate floral or flame-like patterns which appear to be almost enveloping the whole *dharmacakra*. On one example, however, the *dharmacakra* spokes are depicted as thin lines so that the image appears much more similar to an actual wheel.

Interestingly on some examples, the *dharmacakra* is placed not on a *stambha* but on a *stupa-kumbha* motif. In some cases the *kumbhas* are depicted with ample vegetation issuing forth which end in volute type designs reminiscent of those found on the spokes of three-dimensional *cakras* from central Thailand. The *dharmacakra* therefore appears to be emerging from the mouth of the *kumbha* pot along with the floral motifs (fig. 5.161). On another example the *kumbha* pot is flanked by a lion and a boar (fig. 5.162) while on a further example the pot is shown with a monkey climbing up its side (fig. 5.163). Brown suggests that the *cakrastambha* and *stupa-kumbha* motifs have become conflated on the Phnom Kulen sema and that this feature is also found on the silver plaques discovered in Mahasarakham province (1996, 93-95). This once again shows the close parallels between the sema from Phnom Kulen and motifs present in the Khorat Plateau.

The fact that the *stupa-kumbha* motif is present alongside or at times as part of, the *dharmacakra* motif illustrates that the artists responsible for the carving of these sema were extremely familiar with the existing motifs from the Khorat Plateau and strongly points towards the idea that a group of Buddhist monks and craftsman decided to move from this region, perhaps in the vicinity of the Mun River, and settle on Phnom Kulen in an attempt to establish a Buddhist community there. The conflation of the *stupa-kumbha* motif with the *dharmacakra* was most likely a conscious choice, perhaps in an attempt to forge new and more dynamic religious symbolism.

It is possible that the conflation of the *dharmacakra* and the *stupa-kumbha* actually originated in the Khorat Plateau. Five *stupa-kumbha* motifs from the region are depicted

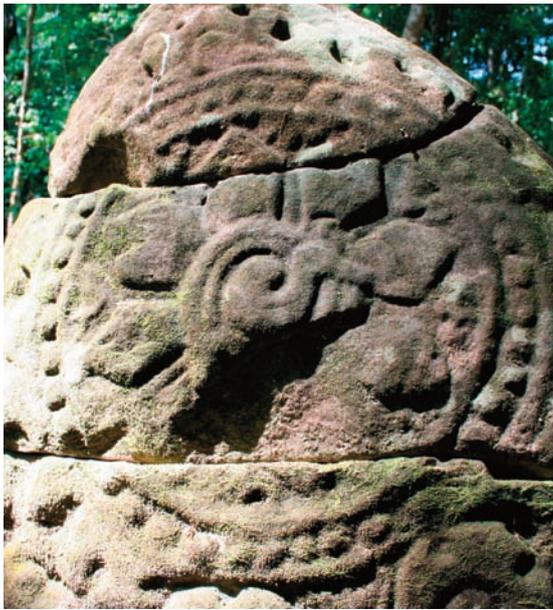


Figure 5.160: Sema S543.



Figure 5.161: Sema S543.

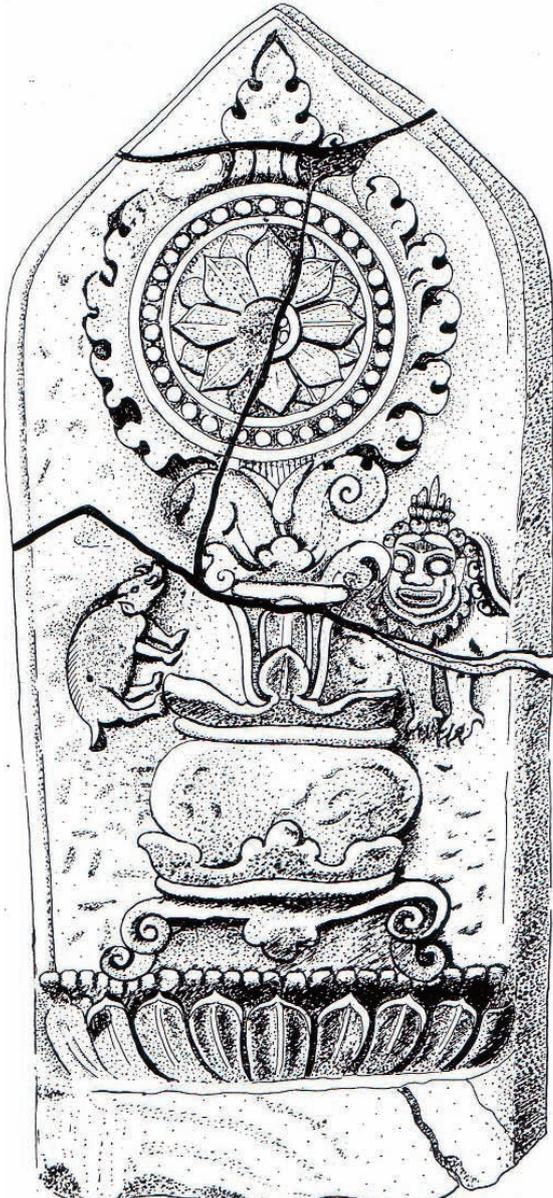


Figure 5.162: Sema from Phnom Kulen.



Figure 5.163: Sema S543.



Figure 5.164: Sema S514.



Figure 5.165: Sema S522.

with wheel shaped finials (figs 5.164 & 5.165), while another two are shown with wheel designs midway up the stupa (fig. 5.147). Comparing these wheel motifs with those discussed above, it is possible to propose that they too represent *dharmacakra*. In all examples bar one, the spokes of the wheel are depicted in diamond petal shapes moving out from a circular flower-like design in the centre. Furthermore, in two examples the outer ring of the *dharmacakra* is decorated with a band of circular bead-like motifs similar to certain sema on Phnom Kulen.

It appears therefore that the stupa-*kumbha* and the *dharmacakra* motif developed alongside each other in the Khorat Plateau from *circa* 8<sup>th</sup> century onwards. The examples found at Phnom Kulen would appear to post date those from the Khorat Plateau as they illustrate a combination of fully formed stupa-*kumbha* and *dharmacakra* motifs. They most probably date from the 9<sup>th</sup> century onwards. Diskul (1973, 302-314) has suggested a 10<sup>th</sup>-11<sup>th</sup> century date for the silver plaques from Mahasarakham so they could perhaps be contemporary. Alternatively, the plaques themselves may date to the *circa* 9<sup>th</sup> century which would be more consistent with the dating of the sema and their motifs.

The one consistent stylistic theme running throughout all the depictions of *dharmacakra* discussed above is their association with floral or vegetal imagery. The spokes of the *dharmacarkas* in most cases appear like petals and in many cases the centre of the wheel is also depicted as a flower in bloom. Furthermore, the examples from Phnom Kulen are mounted on verdant *stupa-kumbha* motifs whose floral and vegetative aspect is emphasised by the overflowing nature of the decorations. In terms of *dharmacakras* as finials, this imagery is once again present. On one example S514, the *dharmacakra* sits upon a stupa, the top of which has opened up like a plant giving the appearance that the wheel has emerged from it (fig. 5.164).

The particular reason why *dharmacakras* were so closely associated with fertility imagery and the *stupa-kumbha* motif is unclear but it once again suggests the multivalent nature of symbols pointing towards the possibility that it may have carried more meanings in this context than the standard canonical attribution of placing in motion the teachings of the Buddha.

### **5.11 The Lotus Band**

Many sema, whether they be slab, octagonal or pillar type, with or without narrative art, shown with an axial stupa or *stupa-kumbha* motif, have their bases ornately carved with a lotus band motif. In fact in many incidences there is no other carving on the sema other than the lotus band itself. It is impossible to say for certain whether the majority of sema had lotus bands, as in many incidences the sema are fragmentary and the base is missing. Some sema for instance clearly did not have this motif. As a result it is problematic to come up with precise numbers and percentages as to how many sema had this motif, and how many did not. However, despite this, it is clear that the motif was widespread throughout the Khorat Plateau and is found in all groups and clusters. Thus, in a certain sense the lotus band is a unifying sema motif found at all locations throughout the Khorat Plateau in the Dvaravati period.

The lotus band consists of a row of petals which run along the base of sema. This can be either a single or double band and can be on one or both sides of the sema. At times it can be on all four sides, particularly if it is a pillar type sema. If it is a double band, then the upper petals face upwards and the lower petals face downwards. If it is a single band, then the petals face upwards. The petals are usually shown overlapping each other somewhat, giving the motif a degree of three-dimensionality. The upper band is usually



Figure 5.166: Single lotus band.



Figure 5.167: Lotus band from Bahn Nong Kluem.



Figure 5.168: Double lotus band.



Figure 5.169: Lotus band from tapered pillar sema.



Figure 5.170: Sema S28. Triple lotus band.



Figure 5.171: Base of *dharmacakra stambha* from U-Thong.



Figure 5.172: Lotus band on an octagonal sema.



Figure 5.173: Base of standing Buddha image from Sri Mahosot.

surmounted by a row of small vertical lines which are placed along the entire length. In a few isolated incidences there is a triple lotus band with all three bands facing upwards with a degree of depth perspective achieved (fig. 5.170).

The vast majority of laterite sema do not have lotus bands, most likely due to the difficulty in carving this material. Octagonal sema only have lotus bands in a few incidences. Others have plain bands at their base instead. Some sema from the 11<sup>th</sup>-12<sup>th</sup> centuries show a more stylised angular lotus band in keeping with the Khmer aesthetic. This can be seen in particular at the sites of Bahn Nong Kluem (fig. 5.167) and Bahn Pailom in the Middle Mekong group and Bahn Brakum in the Mun river system. On the tapered pillar type sema from Muang Fa Daed and Bahn Nong Hang the motif changes and we no longer have a lotus band but elaborate Khmer style floral motifs instead (fig. 5.169).

The lotus band is also found on Dvaravati artifacts from central Thailand, most noticeably on the base of *dharmacakras* and *dharmacakra stambhas*. One *stambha* from U-Thong for instance, as well as having lotus petals also has the row of small vertical lines making it very similar in appearance to the examples found on sema (fig. 5.171). The base of Buddha images can also be depicted with lotus petals, perhaps alluding to the moment of his birth when a lotus miraculously bloomed beneath his feet (fig. 5.173).

Whether the lotus band had an iconographic significance is difficult to ascertain. It may have functioned in a more general sense as the lotus petal signifies many meanings in Buddhism from the symbol of enlightenment to the birth of the Buddha. It may also have functioned along similar lines to the axial stupa motif in allowing the artist to mark the sema as a Buddhist sacred object with a minimum of effort. In sema with narrative art it may have also functioned as a convenient framing device for the composition.

## 5.12 Miscellaneous Motifs

A number of other motifs that do not fit into any one particular category are discussed below. They include motifs on tapered pillar type sema, 'trident' motifs and cloud motifs.

### Motifs on Tapered Pillar Type sema

Sema S86 most likely comes from Muang Fa Daed or Bahn Nong Hang, however, its exact provenance is unknown as it has not been entered on the Khon Kaen Museum



Figure 5.174: Lotus band of Sema S86.



Figure 5.175: Lotus band of Sema S90.



Figure 5.175: Banner type motif on S91.

accession records. This sema's lotus band is noteworthy in that it is more ornate than normal sema and more Khmer in style (see figs. 5.169 & 5.174). This type of lotus band is particular to tapered pillar type sema and does not appear elsewhere.

Sema S90, as well as having similar floral designs to S86 also appears to have an architectural structure of some kind surrounded by clouds depicted on one of its sides (fig 5. 175). This may perhaps represent a celestial abode or palace. It also appears to be unique, as it has not been discovered on any other sema to date. Finally S91 also has a unique motif on one side (fig. 5.176), the three other sides being carved with narrative relief (see figs. 5.35a, 5.35b, 5.95). It appears to be a banner of some sort, similar to those that are at times depicted flanking the throne of a king or the Buddha (see fig. 5.7).

### Trident Motifs

Two sema from Bahn Bua Semaram appear to have trident motifs depicted on their sides. The motif on S323 (fig. 5.176) has a narrow shaft similar to the *stambha* depicted on its front face (see fig. 5. 156), however, instead of being surmounted by a *dharmacakra* motif, it has a flame/three-pronged floral motif in its place. Sema S333 on the other hand has a much clearer three-pronged trident motif depicted on its side (fig. 5.177). The trident is usually considered an attribute of Shiva and also appears as a finial on some stupa-*kumbha* motifs (fig. 5.145). However, its iconographic meaning on

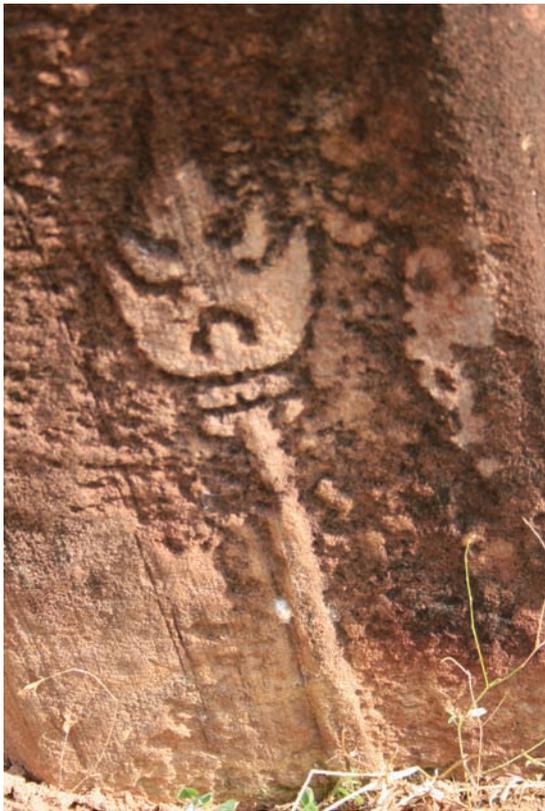


Figure 5.176: Trident motif on S323.



Figure 5.177: Trident motif on S333.



Figure 5.178: Cloud motif on Sema S617.



Figure 5.179: Cloud motif on Sema S624.



Figure 5.180: Cloud motif on one side of Sema S980.

sema remains unclear.

### Cloud Motifs

There are five sema which have quite distinctive cloud motifs different from anything else found on other sema. Two, S617 and S624 are from Bahn Pham Lam while the other three, S980, S981 and S986 are all from Nong Song, but today are kept at the



Figure 5.181: Cloud motif on reverse side of Sema S980.



Figure 5.182: Cloud motif on S981.



Figure 5.183: Cloud motif on S986.

Phimai Museum. Semas S617 and S624 depict the cloud motifs ascending from their bases directly above the lotus band (figs. 5.178 & 5.179) while the sema from Nong Song incorporate the cloud motif into the overall design of the semas themselves (figs 5.180-5.183).

### 5.13 Summary

Identifying and interpreting Buddhist scenes and iconography without knowing the specific texts or schools in question is undoubtedly an arduous and at times problematic task. Without inscriptional evidence or clear features within a composition or scene to allow identification of a particular episode there will always be incidences where alternative readings arise. At other times only tentative suggestions can be given, and in some incidences no interpretations can be arrived at. Despite these obstacles this chapter proposes seventy-one identifications in total, with twenty-eight of them new proposals by the author. It is hoped that in doing so they will stimulate greater interest, study and understanding in the sema tradition and its artwork.

Despite analysing the numerous *jatakas*, Life of the Buddha episodes, Buddha and bodhisattva images as well as other types of motif such as *stupa-kumbhas* and *dharmacakras* no one form or sect of Buddhism comes to the forefront. Subsequently, no one definitive textual source stands out from the rest. Given the wide geographical range of the sema tradition and a timespan of over four hundred years, from the 7<sup>th</sup>-12<sup>th</sup> centuries, it is also unlikely that one form of Buddhism could lay an absolute claim to

this phenomenon. It is more plausible to suggest that various forms of Buddhism and their respective texts and oral traditions were in circulation during this period and that the sema tradition drew its inspiration from those that it encountered. Therefore, at times we appear to see *jataka* tales closely following the Pali texts, while in other incidences bodhisattvas appear, suggesting a Mahayana presence. The Khorat Plateau in the 7<sup>th</sup>-12<sup>th</sup> centuries was a region of fluid religious doctrines and movements with numerous forms of Buddhism circulating. It seems probable therefore that the sema tradition was also fluid to a certain extent and drew its inspiration from the texts, ideas, sects and patrons that it encountered throughout its development.

Dating the sema tradition by style and the evolution of its motifs is possible to a certain extent when combined with the distribution analysis in chapter 4 and the typology in chapter 6. Sema with narrative art have been divided into three groups, corresponding to the 8<sup>th</sup>-9<sup>th</sup> centuries, the 10<sup>th</sup>-11<sup>th</sup> centuries and the 11<sup>th</sup>-12<sup>th</sup> centuries respectively. The first group reflects the style and artwork of the Dvaravati period. The depictions of the Buddha's robe, facial features and *mudras* in particular, share many common attributes with central Thailand. At the same time, however, group one also shows salient features of the Khorat Plateau Aesthetic such as the *drápe-en-poche*, the matted hair of the bodhisattvas and the preference to more often than not depict narrative and motifs against an empty background. These stylistic traits are absent from Dvaravati art of the Chao Phraya valley.

The second group still possesses the stylistic traits of Dvaravati art but reflects increasing influence from Khmer art. Therefore at this stage the Khorat Plateau Aesthetic has evolved into a further fusion between the two. The third group has given way almost entirely to the Khmer aesthetic with Dvaravati conventions unable to withstand the ever growing presence of the latter. Even at this stage, however, motifs are still depicted against an empty background, emphasising a resistance to *horror vacui*. The Khorat Plateau Aesthetic therefore, existed from between the 8<sup>th</sup>-11<sup>th</sup> centuries and represented a unique fusion of the two prevailing art styles at the time.

In terms of the *stupa-kumbha* motif, a similar pattern emerges. The majority of these motifs belong to what has here been classified as types 1-4. These types are contemporary with narrative art group one dating from the 8<sup>th</sup>-9<sup>th</sup> centuries. Type 5 on the other hand, corresponds to group two of the 10<sup>th</sup>-11<sup>th</sup> century, once again showing a fusion of Dvaravati and Khmer Art.

One theme that does come to the fore from the analysis of narrative art is that of ‘converting’. In ten separate episodes the scene depicted is one of either the Buddha or the Bodhisattva preaching and subsequently converting those who are listening.<sup>37</sup> In the *Vidhurapandita Jataka* for example, Vidhura converts Punnaka to the *Dharma*, while in the *Khandahala Jataka* a heretical king is converted by none less the Indra himself. In the *Mahosadha Jataka* on the other hand, a king is cowed into changing his ways by the Bodhisattva. The Life of the Buddha is also replete with conversion scenes. On his return to Kapilavatsu for instance, the Buddha converts his son, while on another sema Angulimala is also shown the error of his ways by the Buddha and subsequently converts. Other semas show preaching scenes such as at the deer park in Sarnath. More often than not, the Buddha or the Bodhisattva is depicted in *vitarka mudra* in these scenes, the iconography therefore matching the content.

The significance of this theme can perhaps be explained by the specific historical situation in the Khorat Plateau at this time. As Buddhism moved in and began to encounter and interact with the local populace it is possible that images depicting the Buddha preaching to and/or converting kings, family members and supernatural beings to the *Dharma* aided the *sangha* in their efforts to proselytise the religion. If this is the case then it may go some way in explaining the proliferation of this theme by means of narrative art.

By honing the sema tradition to within certain dates and locations it is also possible to propose the existence of workshops or schools that may have been active. The first and most prolific of these is at Muang Fa Daed. The sheer quantity and the level of artistic perfection reached on the sema from this site strongly point towards an active and flourishing workshop that may have acted as the source of inspiration and training for the rest of the sites in the Khorat Plateau. This centre seemed particularly fond of depicting scenes from the Life of the Buddha and the majority of surviving examples of this kind come from here. The *jatakas* were the other vital source of inspiration for the artistic production that took place here.

It is clear from the archaeological evidence that Muang Fa Daed was an important centre during the Dvaravati period, and as an economic and perhaps political hub in the region it would also have been well placed to support a burgeoning artistic school. It is

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<sup>37</sup> The incidences are; *The Khandahala Jataka*, *The Mahanarakassapa Jataka*, *The Vidhurapandita Jataka*, *The Mahosadha Jataka*, The Buddha preaching to King Bimbisara, The Buddha’s return to Kapilavastu, Buddha Mucalinda, the First Sermon, Angulimala and S92, the Buddha preaching to an unidentified figure.

clear that this school was in existence for a period of approximately four hundred years, from the 8<sup>th</sup> century to perhaps the late 11<sup>th</sup>, as evidenced by the tapered pillar type sema found at the site.

The second workshop must have been located around the site of Bahn Nong Hang. This site, also in cluster 1 had close affinities with Muang Fa Daed. The artwork on the sema is extremely similar and the same artists at work at Muang Fa Daed may also have been present here. This is further emphasised by the similarity in types, as only Muang Fa Daed and Bahn Nong Hang possess tapered pillar type sema. Both workshops also had a similar lifespan of the 8<sup>th</sup>-11<sup>th</sup> centuries. It is possible therefore that Bahn Nong Hang was a offshoot of the Muang Fa Daed workshop.

In cluster 2 the site of Bahn Kut Ngong was also possibly a workshop but on a smaller scale than the latter two. However, it too produced a number of highly accomplished compositions showing that this workshop was well developed. Furthermore, a number of uncompleted semas are present pointing towards it functioning as a production site (see chapter 6.1.5). Its timescale however was shorter, with the evidence suggesting that it spanned the 8<sup>th</sup>-9<sup>th</sup> centuries only.

The site of Bahn Korn Sawan is also a possible candidate for a workshop, however the artwork on the sema from this site is of a lesser quality than the previous three with the scenes being executed in lower relief. There are also fewer examples from this site and its timescale seems limited to the 8<sup>th</sup>-9<sup>th</sup> centuries. It may therefore represent a small scale workshop comprising a few craftsmen perhaps trained at one of the above locations.

A workshop of a different kind emerged in cluster 4 and for reasons which remain elusive, chose to depict stupa-*kumbha* imagery on their sema as opposed to narrative art or Buddha images. This workshop based around the sites of Bahn Tat Tong and Bahn Kum Ngoen produced a variety of well executed stupa-*kumbha* motifs that then seem to have spread out into the surrounding sites in the cluster and eventually beyond. Chronologically this workshop also appears to be limited to the 8<sup>th</sup>-9<sup>th</sup> centuries.

In the 10<sup>th</sup> or 11<sup>th</sup> centuries a workshop appears to have emerged based around the sites of Bahn Nong Kluem and Bahn Pailom. This group of artists managed to fuse the two dominant artistic movements of the time into a distinctive and original aesthetic. The *jatakas* and Buddha images on the sema from this region show a Dvaravati urge to express Buddhist episodes in stone tempered by the Khmer tendency toward more

stylised and refined forms.

The site of Wang Sapung also seems to have developed a brief artistic prominence by fusing the stupa-*kumbha* motif of the Chi river system with the Khmer floral conventions that had spread into the area.

These six sites, Muang Fa Daed in particular, may have functioned along similar lines to Robert Brown's hypothesised 'restricted-centres-diffusion rule' (1994, 12-14) whereby a number of key locations within Southeast Asia developed the means by which to develop and transmit artforms throughout the region. This can to a certain extent explain the profusion and spread of the sema tradition from workshops in the Chi and Middle Mekong to the Khorat Plateau at large.

Apart from these six locations it is difficult to pin down other clear workshops or schools, however, small scale centres may have existed throughout the Khorat Plateau, manufacturing sema for the ever-increasing Buddhist community. These centres were most probably based around local Buddhist monasteries and the craftsmen may have been the monks themselves.

From the location of the major workshops and the dating analysis proposed in this chapter it appears that the apogee of the sema artistic tradition was the period spanning the 8<sup>th</sup>-9<sup>th</sup> centuries and that its centre was in the Chi river system, specifically around the areas of cluster 1 and 2, in particular the sites of Muang Fa Daed, Bahn Nong Hang, Bahn Kut Ngong, Bahn Korn Sawan, Bahn Tat Tong and Bahn Kum Ngoen. During this timespan the artists of the Khorat Plateau produced artwork of a vitality and dynamism not seen at any other phase in this region's long history. The desire to represent scenes from the Life of the Buddha, *jataka* tales or aniconic representations of the Buddha led to a flowering of relief art throughout the region which truly encapsulates the spirit of a Khorat Plateau aesthetic.

## Chapter 6

### A Typology of Sema, their Chronology and Evolution

This chapter provides a typology of sema arrived at from the study of their form, style, material, distribution, artwork and epigraphy. Its primary purpose is to form a practical guide to identifying these objects which can be employed in the field by archaeologists or art historians who wish to recognise and classify sema. It does so by organising sema into four general types which in turn are divided further into subtypes. Secondly, the typology is employed and incorporated in the analysis of the distribution of sema, particularly in regard to identifying specific clusters throughout the region (see chapter 4). This thesis sampled approximately 30% or about 400 of the 1291 sema recorded to form the proposed typology. Sema that are in a fragmentary state were usually not considered in order to avoid any possible errors in interpretation, as in many cases it was difficult to reconstruct their original form with absolute certainty. The tables containing the data from which the typology was created, the sema sampled, and their locations are located in Appendix 2.

The problematic claim that sema arose out of a pre-existing megalithic culture within the region is also discussed and the evidence for and against this hypothesis is carefully considered. Finally, the typology allows for the study of the evolution of the sema tradition and the proposal of a more refined dating sequence.

#### **6.1 Sema Types**

Sema can be grouped into four main types, slab type, pillar type, octagonal type and unfashioned type, with this division first being proposed by Krairiksh (1974a, 38-40) who organised sema into the first three categories and Vallibhotama (1975, 90) who added the last classification. It is, however, possible to organise these four types into a number of further subdivisions allowing for a more precise and detailed typology to be created. Both the octagonal type and pillar type can be broken down into four subtypes while the slab type can be divided into nine subtypes. Unfashioned sema remain as one grouping while another type, the Unfinished Type, is also proposed in this thesis.

Sema in the Khorat Plateau are made out of two materials, sandstone and laterite, with the vast majority being carved out of the former. It has been argued that laterite sema represent an earlier form of sema, perhaps even a megalithic forerunner, however, this is not necessarily the case (see section 6.3 below). Sema in areas outside the Khorat Plateau are also made out of other materials such as schist and limestone (Murphy and Pongkasetkan 2010, 63, 68) and perhaps fossilised wood (see chapter 4.8). However, sandstone, due to its abundant availability within the Khorat Plateau and its ease of carving is the material of first preference.

### **6.1.1 Slab Type Sema**

Slab type sema are by far the most common form, with 1106 out of the 1291 sema, or eighty-six percent of sema surveyed falling into this category. They are found throughout the Khorat Plateau with the most refined examples (types 1 and 2) being primarily located in the Chi river system. They are usually long and straight bodied, with the sides sometimes tapering outwards slightly. The top of the stone terminates in a leaf-like design, forming a curved triangle at the apex. On average slab type sema are approximately 175cm tall, 70cm wide and 25cm deep. This gives a ratio of approximately 7:3:1. This type also gives rise to the Thai term for sema in general, '*baisema*', or 'leaf sema' due to its overall design (see chapter 3).

#### Slab Type 1 (fig. 6.1)

This subgroup represents the most refined form of the slab type sema and is primarily restricted to sites in the Chi river system, in particular clusters 1-4. However, it is also found to a lesser extent in the Mun and Middle Mekong as well (see table A9). The average dimensions for this type are 170cm high, 80cm wide and 24cm deep, giving a ratio of 7:2:1. Furthermore, the majority of sema with narrative art or Buddhist motifs are carved on either this type or Slab Type 2.

Slab Type 1 can be dated to the 8<sup>th</sup>-11<sup>th</sup> centuries on stylistic and epigraphic grounds. Inscriptions on semas S588 and S591 from Bahn Kut Ngong have been dated to the 8<sup>th</sup> century (Bauer 1991, 56; Table A5). On stylistic grounds the majority of artwork on this type of sema has been dated to the 8<sup>th</sup>-10<sup>th</sup> centuries with some sema of this type from the Middle Mekong dating to the 11<sup>th</sup> century (see chapter 6).

From analysing the inscriptional and artistic evidence it is clear that Slab Type 1 dates primarily to the 8<sup>th</sup> century located in clusters 1-4 of the Chi river system. From the 9<sup>th</sup>-11<sup>th</sup> centuries onwards it most likely spread out to other areas along the Mun and Middle Mekong.



Figure 6.1: Slab Type 1 sema.



Figure 6.2: Slab Type 2 sema.

### Slab Type 2 (fig 6.2)

Slab Type 2 is very similar in form to Slab Type 1 except that its top is more angular and in some cases the outward tapering is more pronounced. It has a similar distribution to Slab Type 1, being found in the Chi, Mun and Middle Mekong river systems. Many examples also have narrative art or stupa-*kumbha* motifs on them. Their average dimensions are 150cm high, 75cm wide and 22cm deep, and as with Slab Type 1 have a ratio of 7:2:1.

Mon inscriptions on semas S301 from Bahn Phai Hin (L17) and semas S643, S645, S646 from Bahn Kaeng (L31) have been dated to the 8<sup>th</sup> century (Bauer 1991, 61-65;

Table A5) while on artistic evidence they can be dated to the 8<sup>th</sup>-9<sup>th</sup> century. This, therefore, gives Slab Type 2 a date range of the 8<sup>th</sup>-9<sup>th</sup> centuries.

### Slab Type 3 (fig. 6.3)

Slab Type 3 appears to be a variant of Slab Types 1 and 2. It is narrower than the latter two, however, its top forms a prominent triangle, like certain examples in Slab Type 2. On average they measure 180cm high, 60cm wide, and 23cm deep giving a ratio of 8:3:1. Thus they are approximately 15-20cm narrower and 20cm taller than Slab Types 1 and 2.

Semas of this type also have narrative art and *stupa-kumbha* motifs with the majority being restricted to sites within clusters 1 and 2. Examples are also found to a lesser degree in clusters 3 and 6 as well. On artistic grounds they date to the 8<sup>th</sup>-9<sup>th</sup> centuries. As the majority also come from the sites of Bahn Kut Ngong, where epigraphic evidence gives an 8<sup>th</sup> century date, and Muang Fa Daed where artistic evidence points to semas flourishing around this time also, it is therefore possible to propose a date range of the 8<sup>th</sup>-9<sup>th</sup> centuries for this type.

### Slab Type 4 (fig. 6.4)

Slab Type 4 come almost exclusively from two sites in Bahn Pheu district, Bahn Nong Kluem (L52) and Bahn Pailom (L60) with one example also coming from Bahn Po Chai (L18) in Khon Kaen province. They evolved out of Slab Types 1-3 in particular, and their geographical proximity to Slab Type 7, which come from the site of Phu Phra Baht (L57), located on the same mountain range must indicate that they also developed out of this type. They are the tallest type of sema found, the largest of which measures some 3.46m in height. Some of them are straight-bodied, while others taper outwards, recalling the forms of Slab Types 1 and 2. The top terminates in a more curving leaf shape, such as that found on Slab Type 1. Their average dimensions are 222cm high, 75cm wide and 36cm deep, giving a ratio of 6:3:1. Artistically Slab Type 4 can be dated to the 11<sup>th</sup> century due to the Khmer style narrative artwork carved upon them (see chapter 5).



Figure 6.3: Slab Type 3 sema.



Figure 6.4: Slab Type 4 sema.

#### Slab Type 5 and 6 (figs. 6.5 & 6.6)

Slab Type 5 and 6 are a further variant of the slab type sema, with Slab Type 6 perhaps evolving out of Type 5. This type differs from all other slab type sema in that its upper part is not triangular in shape, but instead is more concave and rounded at the apex. In most instances, however, the body tapers outwards as is seen in Slab Types 1 and 2.

Slab Type 5 sema on average measure 110cm high, 70cm wide and 25cm deep giving them a ratio of 5:2:1. Slab Type 6 measure 120cm high, 60cm wide and 25cm deep, the ratio also being 5:2:1. Slab Type 6 sema are more angular in form, suggesting that they evolved out of Slab Type 5. Significantly, Slab Type 5 is primarily restricted to three sites in cluster 1 (L1, L6, L36) and one unprovenanced site in Udon Thani province. Slab Type 6 is also primarily restricted to cluster 1 with one site also being located in cluster 3. They are therefore a quite localised phenomenon.

Slab Type 5 and 6 show no evidence of artwork except for lotus bands on the base and narrow axial stupa motifs. This lack of narrative artwork and the absence of epigraphic

evidence make these two subgroups difficult to date, however their presence in cluster 1, particularly at the site of Muang Fa Daed places them within the 7<sup>th</sup>-11<sup>th</sup> century date range. It is possible therefore, that due to the presence of simple axial motifs, the lack of narrative art and the less stylised design, that these two subtypes represent an earlier form of sema and could perhaps have been the forerunners to Slab Types 1, 2, and 3. If so, they may be 7<sup>th</sup>-8<sup>th</sup> century in date.



Figure 6.5: Slab Type 5 sema.



Figure 6.6: Slab Type 6 sema.

### Slab Type 7 (fig. 6.7)

This group comes solely from the site of Phu Phra Baht and are a more elongated form of the slab type sema than types 1-3. They taper outwards before curving back inwards to form elegant leaf-shaped apices. They do not, however, have any motifs carved upon them. On average they measure 255cm high, 65cm wide and 37cm deep, which gives them a ratio of 7:4:1. The lack of artwork and inscriptions means that dating is arrived at from associated finds and artefacts at the site. A number of Buddha images carved into the rock face are executed in the Dvaravati style and the site as whole has been dated to the 8<sup>th</sup>-9<sup>th</sup> centuries (Chutiwongs 2000). We can therefore infer that the sema also date from the same period.



Figure 6.7: Slab Type 7 sema.



Figure 6.8: Slab Type 8 sema.

#### Slab Type 8 (fig. 6.8)

This type of sema is distinguished by its larger than usual width, the widest being S1067 at 112cm. They are also taller than the average slab type. Some examples are straight-bodied while others curve inwards before curving outward near the top before curving back in to form the apex. On average they are 275cm high, 90cm wide and 22cm deep which gives a ratio of 12:3:1. They are found primarily in cluster 4 with one example also found in cluster 1 and are usually decorated with a stupa or stupa-*kumbha* motif. On stylistic grounds therefore, they can be dated to the 8<sup>th</sup>-9<sup>th</sup> century (see chapter 5.9). They seem to represent a more monumental form of sema, most likely based on slab types 1-3.

#### Slab Type 9 (fig. 6.9)

Slab Type 9 is distinguished from all other slab types, not by its form but by its material, that is, laterite. Being made from this material they are somewhat cruder in design and appearance and also have limited artwork as the form of the sema and the images must be molded when the lateritic soil is still moist. Once it hardens, it becomes rock solid

and virtually impossible to shape or carve. That said, a number of sema do possess axial stupa motifs (see S52 and S468 for example). In design, Slab Type 9 follow closely with Slab Types 1 and 2, usually tapering outwards before forming a leaf-shaped apex. However, laterite sema are usually somewhat thicker and shorter than sandstone types. The average dimensions are 95cm high, 70cm wide and 30cm giving a ration of 3:2:1.



Figure 6.9: Slab Type 9 sema.

The distribution of this type is restricted to clusters 1, 4 and 5. It is difficult to date this type but the presence of the axial stupa motif, the sites they are located at, and the similarity in form with Slab Types 1 and 2 suggests an 8<sup>th</sup> to 9<sup>th</sup> century date. It is unlikely therefore, that laterite sema such as Slab Type 9 functioned as pre-Buddhist forerunners to sema as has been suggested (see section 6.3 below).

### **6.1.2 Pillar Type Sema**

Pillar type sema are roughly squared-shaped stones with a pyramidal head, usually devoid of artistic motifs except for a lotus band at their base. Their average dimensions are 145cm high, 45cm wide and 45cm deep, giving a ratio of 3:1:1. They can be subdivided into four types and represent the second-most common form of sema after slab type, making up 134 out 1291 sema, or ten percent of the sema recorded in this

study. In terms of distribution they are almost exclusively restricted to the Chi river system with the majority coming from clusters 1 and 3 (see figure 6.10).

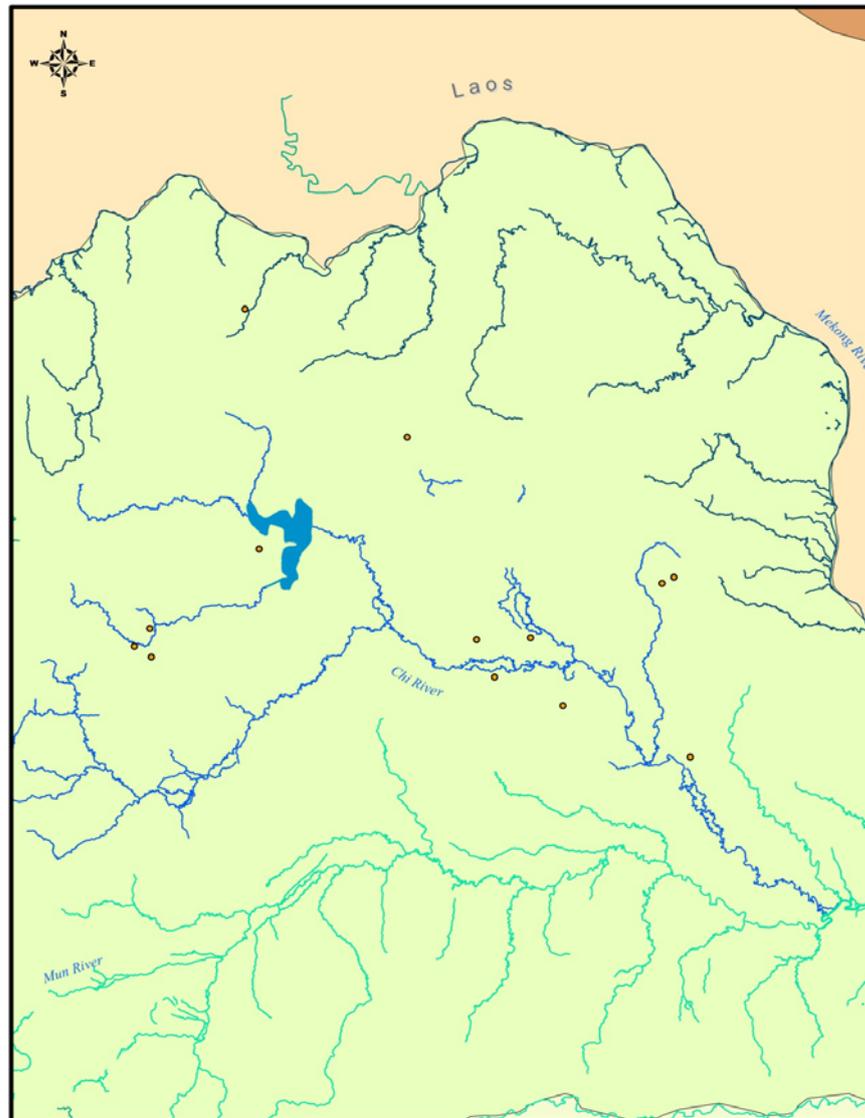


Figure 6.10: Distribution of Pillar type sema.

#### Pillar Type 1 (fig. 6.11)

Pillar Type 1 is a squared-shaped, straight-sided sema, terminating in a pyramidal top, however, a number of examples taper outwards slightly. On average they measure 80cm high, 40cm wide and 40cm deep, giving a ratio of 2:1:1. They are primarily restricted to cluster 1, however, they also appear in one site (L25) in cluster 3 and one in cluster 6 (L60). They seldom have artwork upon them except for double lotus bands carved on all sides around their base. One example (S20) has an inscription but it is extremely badly eroded and has never been read or studied.

A number of these sema that have been collected at the Khon Kaen National Museum are of unknown provenance. However, on typological grounds they appear to come from either Muang Fa Daed or Lam Pao 5 in Kumphawapi, Udon Thani province. Lam Pao 5 corresponds to the area in the vicinity of site Bahn Don Keao (L7) and was surveyed by Solheim and Gorman during their Archaeological Salvage Program (1966, 158-159). In their report there is photographic evidence showing sema of a very similar type (1966, Plate XV). In fact the sema in Plate XV-d looks as though it could be sema S20. The reported dimensions also match, with Solheim and Gorman (1966, 158-159) stating that they range between 70-100cm in height and 40cm in width.

Furthermore, at Muang Fa Daed, there is photographic evidence (FAD 1969-1971, 44) showing this type of sema present during the 1969-1970 survey work. Today some are still *in situ* around the *ubosot* (Semas S280-S288). It is highly likely therefore that many of these sema at the Khon Kaen Museum come from Muang Fa Daed and Lam Pao 5. It appears likely therefore, that this type of sema originated at the site of Muang Fa Daed, as the majority of surviving examples come from here. It is plausible therefore, to assign a date range of the 8<sup>th</sup>-11<sup>th</sup> centuries for this type of sema.



Figure 6.11: Pillar Type 1 sema.



Figure 6.12: Pillar Type 2 sema.

### Pillar Type 2 (fig. 6.12)

Pillar Type 2 is the largest and most refined form of the pillar type. In most literature on sema it is referred to as the ‘tapered pillar type’ (Krairiksh 1974a; Vallibhotama 1975) due to its distinctive shape. Pillar Type 2 sema have squared bases, which are elaborately carved with floral motifs. The main body of the sema tapers inwards then outwards before tapering back inwards again to form a pyramidal top. They are the tallest of the pillar type sema, averaging 260cm high, 55cm wide and 55cm deep giving them a ratio of 5:1:1. Unlike all other examples of pillar type sema, they have narrative artwork depicted on the lower parts of their body, usually on all four sides. This narrative art depicts *jataka* tales and in one instance, a bodhisattva, most likely to be Maitreya (see chapter 5.4.2). The style of the narrative art and the floral motifs betray Khmer influence pointing towards a late 10<sup>th</sup>-11<sup>th</sup> century date. This is confirmed by an inscription on S91 which has been dated to the 10<sup>th</sup> century (Krairiksh 1974a 58; see chapter 5.4.2 and Table A5).

Pillar Type 2 sema are found at two sites only, Muang Fa Daed and Bahn Nong Hang, both in cluster 1 and in close vicinity to each other. The presence of Pillar Type 1 sema at Muang Fa Daed and the later date of Pillar Type 2, strongly suggests that Pillar Type 2 evolved out of Pillar Type 1.

### Pillar Type 3 (fig. 6.13)

Pillar Type 3’s defining characteristic is that it is laterite, not sandstone. This type of sema is restricted to sites within clusters 1 and 2 and one site in cluster 7 (L7). It is therefore, a very localised phenomenon. Pillar Type 3 is roughly squared-shaped and the top usually ends in a pyramidal apex. Their average dimensions are 90cm high, 45cm wide and 40cm deep giving a ratio of 2:1:1. They have no form of carving on them, presumably because of the material used. Most are straight-sided, however, a number of examples do taper outwards.

Dating Pillar Type 3 sema is difficult due to the lack of artwork or inscriptions. However, an inscription on an octagonal sandstone sema (S105) from Bahn Dorn Kao has been dated to the 7<sup>th</sup> century. If the Pillar Type 3 sema from this site are contemporary with Sema S105, then they also would date from the 7<sup>th</sup> century onwards.

The other sites in clusters 1 and 2 have a date range of 8<sup>th</sup>-9<sup>th</sup> centuries. This therefore, gives Pillar Type 3 sema a chronology spanning the 7<sup>th</sup>-9<sup>th</sup> centuries.

Pillar Type 4 (fig. 6.14)

Pillar Type 4 come exclusively from cluster 3 and can therefore be said to be a local variant. They are more irregular in form than Pillar Types 1-3, however, numerous examples have motifs carved upon them, a *dharmacakra* in one instance (S631/fig. 5.157), a trident (most likely representing Shiva) and floral motif on another (S333) and cloud motifs on a further example (S617). Some examples taper inwards, however none of them terminate in a pyramidal apex, but instead have more rounded tops. Their average dimensions are 150cm high, 40cm wide and 33cm deep giving a ratio of 5:4:1. From the artistic evidence alone, it is difficult to date these sema with any certainty. However, numerous sites in cluster 3 have been dated epigraphically, archaeologically and artistically to the 8<sup>th</sup>-9<sup>th</sup> centuries. We can therefore assume that Pillar Type 4 also falls within this date range.



Figure 6.13: Pillar Type 3 sema.



Figure 6.14: Pillar Type 4 sema.

### 6.1.3 Octagonal Type Sema

Octagonal sema, as the name suggests, are 8-sided and culminate in a cone-shaped top. They are the least common form of sema, accounting for 4 percent or 49 out of the 1291 sema surveyed. They are not found at all in the Mun river system with the majority being located in the Chi and to a lesser extent the Middle Mekong (see figure 6.15). They can be divided into four subtypes. Their overall average dimensions are 130cm high, a diameter of 55cm, with the faces/sides being 25cm in width. This gives a ratio of 5:2:1. They are seldom decorated with artwork but some display lotus bands on their bases.



Figure 6.15: Distribution of Octagonal type sema.

### Octagonal Type 1 (fig. 6.16)

Octagonal Type 1 sema are the most common octagonal type, being distributed in both the areas of the Chi and Middle Mekong river systems. They sometimes have a lotus band carved at their base and their bodies taper outwards before forming a conical apex. Their average dimensions are 110cm tall, 48cm in diameter and 28cm wide faces, giving a ratio of 4:2:1. The lack of epigraphic and artistic evidence means that dating must be arrived at from site locations. This therefore places Octagonal Type 1 within an 8<sup>th</sup>-11<sup>th</sup> century date range.



Figure 6.16: Octagonal Type 1 sema.



Figure 6.17: Octagonal Type 2 sema.

### Octagonal Type 2 (fig. 6.17)

Octagonal Type 2 are sometimes referred to in the literature as ‘bullet type’ due to their resemblance in shape (Paknam 1981, 61). This type of sema tapers inwards, then outwards before tapering back in to form the conical-shaped top and the base is sometimes decorated with three plain bands. The average dimensions are 120cm high, 50cm in diameter with the faces being 20cm wide, giving a ratio of 5:3:1. This type of sema is restricted to two sites in cluster 1 (L6, L38) and can thus be said to be a localised phenomenon. Dating is based on site locations meaning that they fall within the 8<sup>th</sup>-11<sup>th</sup> centuries.



Figure 6.18: Octagonal Type 3 sema.



Figure 6.19: Octagonal Type 4 sema.

#### Octagonal Type 3 (fig 6.18)

This type of sema is the largest and most monumental form of the octagonal type with their diameters also being much wider. Some examples are also almost completely cylindrical. Their average dimensions are 160cm high, a diameter of 70cm with the faces being 30cm wide giving a ratio of 5:2:1. They are straight-sided and do not taper in any way and they have rather squat conical apices. They show no form of carved artwork or motifs upon them, however one, S105 has a 7<sup>th</sup> century inscription (see table A5). They are restricted to four sites, three in the Middle Mekong and one in the Chi. Their lack of artwork or tapering, together with the presence of a 7<sup>th</sup> century inscription, points to this type being amongst the earliest surviving forms of sema. They therefore appear to be 7<sup>th</sup>-8<sup>th</sup> centuries in date.

#### Octagonal Type 4 (fig. 6.19)

This type of sema is characterised by the fact that it is made from laterite, not sandstone. In form and dimensions, it is very similar to Octagonal Type 1, having a conical apex and tapering outwards from the base. The average size is 116cm high, 50cm in diameter with the faces being 23cm in width. This gives a ratio of 5:2:1. This type of sema, however, is restricted to three sites in the Chi river system located in clusters 1 and 4.

The overall similarity in form and size, taken in conjunction with the site locations points towards this type being contemporary with Octagonal Type 1, and therefore 8<sup>th</sup>-11<sup>th</sup> centuries in date.

#### **6.1.4 Unfashioned Type**

This type of sema refers to those that have no artwork or carving whatsoever and are also rather crude in form (fig. 6.21). They can take a variety of shapes but are usually either slab type or pillar type in form. Caution, however, must be exercised with this type as on many occasions what appears as an unfashioned sema today is in fact the result of severe erosion. Therefore, in many incidences, these sema could have previously been a form of slab or pillar type such as those described above, however, as today they are in such a poor state of preservation it is not possible to assign them to a certain type of sema. On the other hand, certain sema do seem to be completely unfashioned. The distribution of this type of sema is varied and spread throughout the entire region and no definite conclusions can be drawn in light of the difficulty of separating genuinely unfashioned sema from those that are badly eroded or fragmentary. A precise date can also not be proposed due to the aforementioned reasons, but it is safe to say that the majority if not all, must fall within the broad range of the 7<sup>th</sup>-11<sup>th</sup> centuries.

#### **6.1.5 Unfinished Type**

This type of sema forms a subgroup in itself due to the fact that they appear to be unfinished (fig. 6.20). They are predominantly slab type sema of types 1 and 2, however, there are also a few pillar type that correspond closely with Pillar Type 4. Interestingly, this type is restricted to four sites, three in cluster 3 (L22, L24, L30) and 1 in cluster 2 (L26). They are designated unfinished as it appears that the slab type design has been carved upon them ready for it to be shaped into the finished article. However, in the examples recorded, this was never completed. Even more curious is the fact that sometimes two to three slab type outlines reducing in size have been carved on one stone. Did these stones therefore act as templates or models for the others thus explaining their apparently unfinished state? If this is the case, it is curious that examples such as these are not found elsewhere throughout the Khorat Plateau. Another possibility is that this was a new motif, which depicted a slab type sema within another

slab type sema, however, once again if this is the case then certain examples were still left unfinished as the outermost slab design has in some cases been left uncarved.



Figure 6.20: Unfinished Type sema.



Figure 6.21: Unfashioned Type sema.

## 6.2 Dating Sequence and Evolution

Combining the dates proposed in the above typology with the analysis of sema distribution (chapter 4) and artwork on sema (Chapter 5) it is possible to propose a more refined dating sequence of these objects and their evolution. This sequence shows that sema originated in circa 7<sup>th</sup> century CE and continued to evolve until the late 11<sup>th</sup> to early 12<sup>th</sup> centuries. There is no direct evidence, however, to support the theory that they developed out of a pre-existing ‘megalithic culture’ (see section 6.3). From the 13<sup>th</sup> century onwards the form evolves into the smaller, more stylised Sukhothai and Ayutthaya type sema, with the sema from Wat Mahathat in Petchaburi perhaps representing the best evidence of this transition. The dating, as with the typology has been divided into slab type, pillar type and octagonal type sema.

### Slab Type

The Dvaravati period Slab Type sema has a date range of the 7<sup>th</sup> to 11<sup>th</sup> centuries (see table 6.1). It is possible that Type 5 is one of the earliest forms, however, it is not possible to confirm this for certain. Slab Types 1, 2, 3 and 7 all appear from the 8<sup>th</sup>

century onwards. Slab types 2, 3, and 7 are 8<sup>th</sup>-9<sup>th</sup> centuries in date, however Type 1 continues up until the 11<sup>th</sup> century. Slab Type 8 develops out of Slab Type 1 and falls within the 8<sup>th</sup> to 9<sup>th</sup> centuries, while Slab Type 4 also evolves out of Slab Type 1 and 7 in particular, but is 10<sup>th</sup>-11<sup>th</sup> century in date.

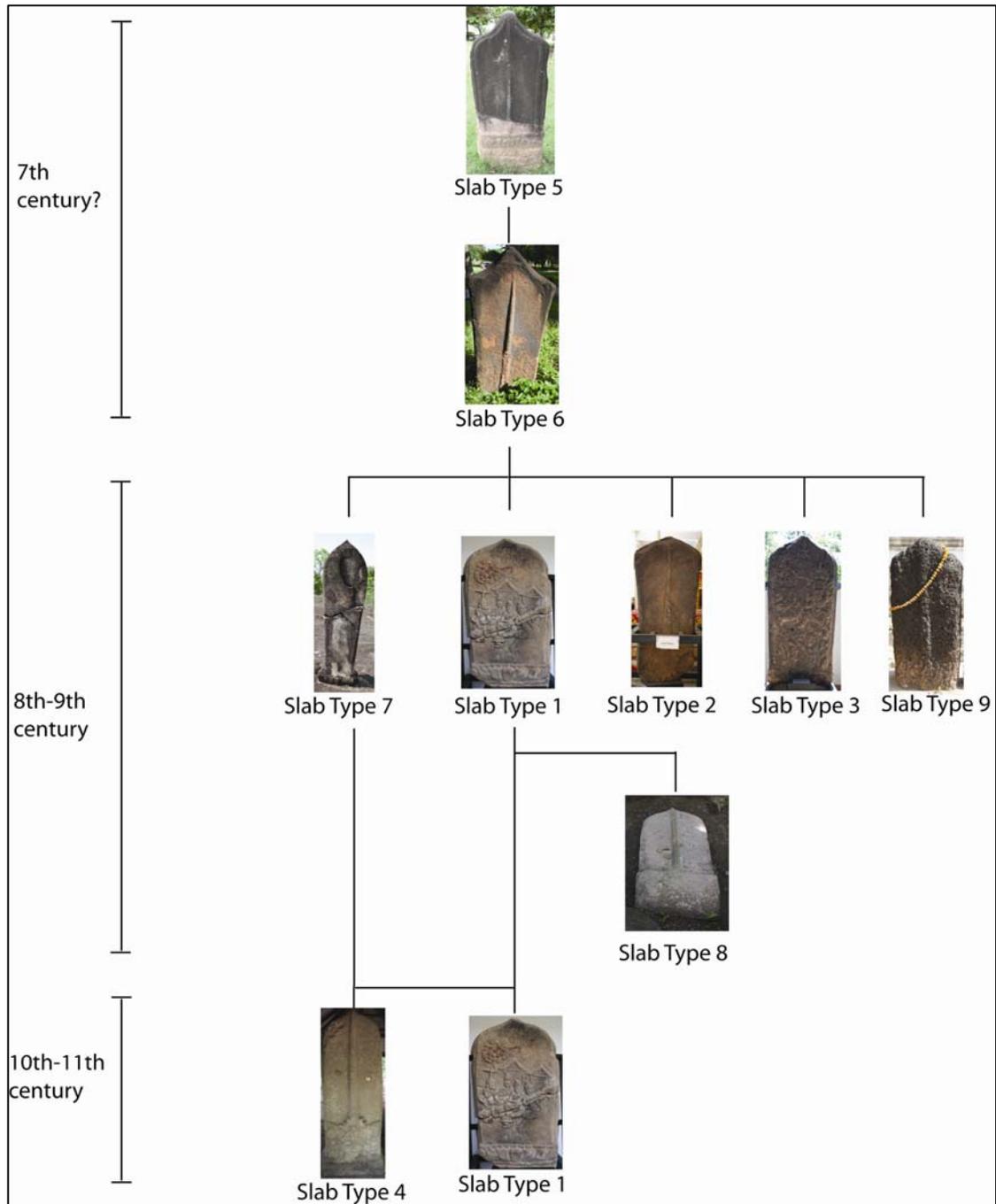


Table 6.1: Dating and evolution of the Slab Type sema.

### Pillar Type

The Pillar Type sema spans the 7<sup>th</sup>-11<sup>th</sup> centuries in date (see table 6.2). Pillar Type 3 is 7<sup>th</sup>-9<sup>th</sup> centuries in date while type 1 and 4 are 8<sup>th</sup>-9<sup>th</sup> centuries in date. Pillar Type 2, evolving out of Type 1, is 10<sup>th</sup>-11<sup>th</sup> century in date.

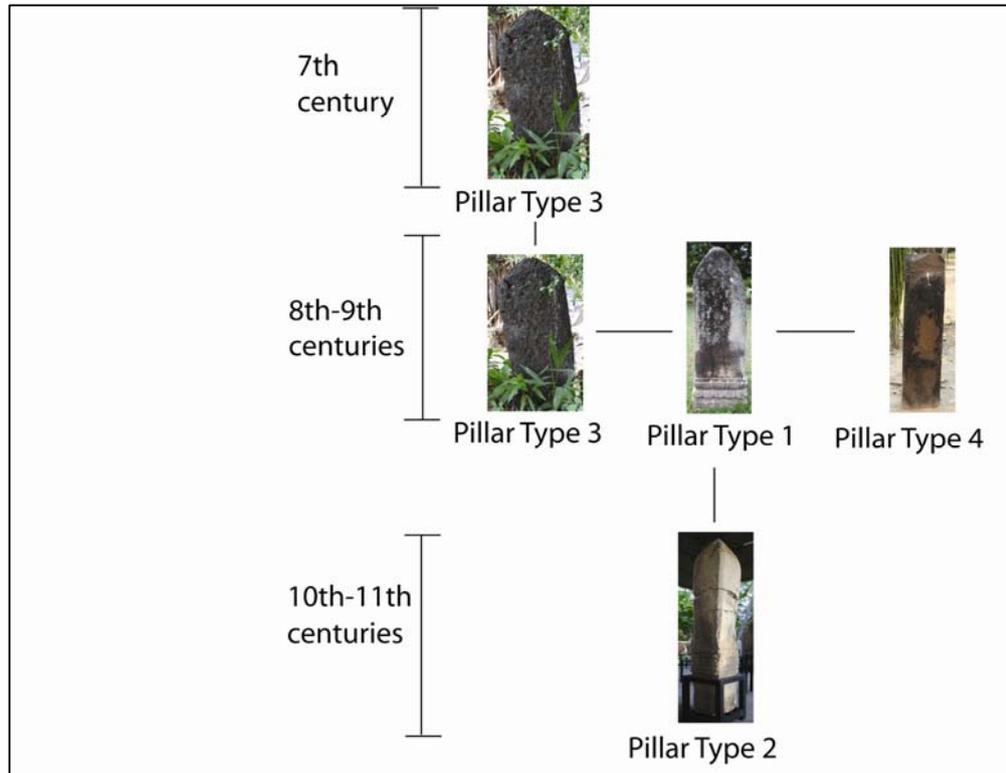


Table 6.2: Dating and evolution of the Pillar type sema.

### Octagonal Type

Octagonal Type sema span the 7<sup>th</sup>-10<sup>th</sup> centuries in date (see table 6.3). The earliest form, Type 3 are 7<sup>th</sup> century and Types 1, 2 and 4 which are 8<sup>th</sup>-10<sup>th</sup> centuries in date most likely evolved out of Type 3.

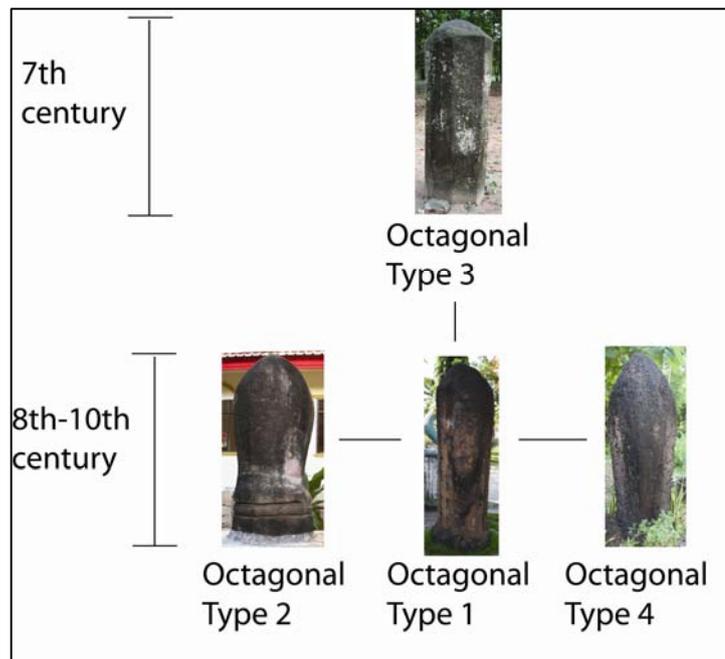


Table 6.3: Dating and evolution of the Octagonal type sema.

### Post-Dvaravati Sema

From the Sukhothai and Ayutthaya periods onwards, sema are found throughout the region of what is today modern Thailand.<sup>1</sup> The earliest Sukhothai sema are slab type, rather plain in design with the axial stupa having evolved into a thin line that now seems to represent the central spine of a leaf. They were usually made out of grey schist as opposed to sandstone (Paknam 1981, 72). It is likely that the sema tradition reached Sukhothai from the Khorat Plateau perhaps coming via Loei province or along the Pasak river from sites such as Sri Thep in the Upper Chao Phraya Basin.

Ayutthaya also carried on the sema tradition, and as with Sukhothai, the sema become smaller in size, the axial stupa becomes part of the leaf design and they lack any form of narrative art (fig. 6.22). They were carved from both grey schist and sandstone, most probably depending on availability. The axial line was sometimes decorated with lozenge and half lozenge motifs. Furthermore, on some examples the base from which the axial line emerged formed a triangular motif that were usually filled with foliate designs or sometimes a figure in worship, perhaps a celestial being of some kind (see Paknam, 1981, fig. 75). In the late Ayutthaya Period, sema begin to be placed upon pedestals or enclosed within shrines, sometimes with a *luk nimit* placed directly below them, a tradition that continues to this day (see figure 3.10). Modern sema generally

<sup>1</sup> For a comprehensive study of Ayutthaya and Sukhothai period sema see Paknam (1981) and Bunnag (2008).

follow the late Ayutthaya style, and are found at temples and monasteries throughout Thailand demarcating the *ubosot* and can also form crenellations on monastery and palace walls.



Figure 6.22: Fragment of an Ayutthaya Period sema.



Figure 6.23: Khmer sema located at the Bayon Terraces, Angkor Thom.



Figure 6.24: (Left) Pilaster from Phimai (Roveda 2005, fig. 2.38) and sema S1255 from Wat Mahathat in Petchaburi (right) both showing a figure grasping a foliate motif springing from beneath their feet.

Sema also re-emerge in Angkor in the 13<sup>th</sup> century in the temple terraces at Angkor Thom which surround the Bayon. Under Jayavarman VII, the Khmer Empire turned to Mahayana Buddhism or more probably, a Tantric form of it (Sharrock 2007). The Bayon, Jayavarman's state temple built in the late 12<sup>th</sup> to early 13<sup>th</sup> century, was surrounded by what appear to be *ubosots* or possibly *viharas*. These structures are in turn surrounded by sema, set up in pairs, that are still *in situ* today. They are sandstone slab type, similar in form to the Dvaravati type and those found on Phnom Kulen. However, they are straight-sided, more squat and angular in form and have a lotus carved on top forming their apexes (fig. 6.23). The tradition of fixing sema around Cambodian temples has survived until today.

However, perhaps the most intriguing post-Dvaravati sema are those that are today located around an *ubosot* at Wat Mahathat in Petchaburi, central Thailand. These slab type sema seem to be a fusion of Khmer, Dvaravati and early Ayutthaya period elements and must date to somewhere around the 12<sup>th</sup>-13<sup>th</sup> centuries. The form resembles the Dvaravati slab type, however, they are smaller in size, measuring approximately 80cm tall, 30cm wide and 15cm deep. The artwork and motifs, are clearly Khmer, with a number of sema (S1253, S1254, S1259, S1260 and S1267) having *kala* motifs depicted upon them disgorging foliage. Another example (S1255) has a figure grasping a floral motif, extremely similar in design and composition to a figure depicted on a pilaster at Phimai (fig. 6.24). The apexes of these sema terminate in lotus flowers, showing similarity with those found at Angkor Thom. The lozenge design at the centre of others (S1263), however, is a motif that is picked up in Sukhothai and Ayutthaya period sema. The Petchaburi sema, therefore represent an interesting example of how sema in the 12<sup>th</sup> and 13<sup>th</sup> centuries began to incorporate new motifs, designs and styles of the various cultures and traditions that were active in the region during this period.

### **6.3 The Megalithic Argument: Religious Syntheism, Diffusionism and Misidentification**

In much of the literature on Dvaravati sema it has been proposed that this tradition developed out of an indigenous forerunner and that this in turn explains their proliferation throughout the Khorat Plateau. The most popular explanation therefore, is that sema developed out of a pre-Buddhist megalithic culture already in existence in the

region. As Buddhism entered, it is argued that it subsumed this more primitive indigenous religious culture and replaced it with its own Indianised traditions. Quatritch Wales, being the first to propose this theory, states that just as pre-Christian *ogham* stones in Ireland developed into Celtic crosses with the arrival of Christianity, so too did the megaliths of Isan morph into sema (1969, 109-111). Paknam (1981, 61) proposes a similar line of thought and states somewhat poetically that ‘the menhir was brought to the monastery’. Vallibhotama (1985) on the other hand uses a somewhat circumstantial argument in an attempt to prove that sema evolved out of megaliths (see chapter 3.7.2).

While at first glance, these are rather convenient and seemingly plausible explanations for the origins of the sema tradition, they are problematic on a number of fronts, not least being the fact that there is no direct evidence whatsoever for a megalithic culture within the Khorat Plateau. What follows therefore, is a critical evaluation and discussion of the ‘megalithic theory’, in order to illustrate the problems and misconceptions that have arisen from it.

The first significant problem with this argument revolves around the term ‘megalith’ itself and its rather loose application in Southeast Asian archaeology. As Glover (1998, 23-31) has pointed out, the term megalith has a number of meanings arising out of definitions based on their study in northwestern Europe in particular. In its simplest sense a megalith, being etymologically derived from Greek, means ‘large stone’ and can consist of single or multiple stone pillars, dolmens, stone alignments, circles of stones and graves built from massive stone slabs. Megalithic graves are usually considered to represent collective tombs of clans or kin groups so that single stone burials would not, in a European sense, be classified as megalithic. However, in Southeast Asia, and Indonesia in particular, the term megalith has been applied much more generally and also includes stone seats, terraces, cairns, stone urns and crudely shaped statues of men and animals (Glover 1998, 23). Similar attributions have been made in other parts of Southeast Asia. The Plain of Jars in Laos for example, has been classified as megalithic on the grounds of the scale and monumentality of the urns as well as its burial practices (Colani 1935; Higham 2002, 183-184).

Megaliths have also been identified in the neolithic culture in the Lower Chindwin Valley of Burma. Standing stones and heaps of stone slabs may have been used in a funerary context, with Moore suggesting that large stones may have had supernatural

associations for those who erected them (2007, 76-77). Large monumental urns from Sri Kshetra have also been termed megalithic even though they appear to be part of Buddhist religious practice (Moore 2007, 140). Even more problematic is Luce's use of the term 'Buddhist Megaliths' to describe large stone slabs with Buddhist imagery discovered at Sri Kshetra (Luce 1985, 130-131) as there is no direct evidence for a funerary association.

Another factor that also appears to be at play in the megalithic argument for sema is the idea that there is something that can be defined as a 'universal megalithic culture'. As Glover points out (1998, 23-25) this idea is part of a 19<sup>th</sup> and early 20<sup>th</sup> century colonialist mindset which propagated the now outdated Diffusionist theory that civilisation spread out from one point and brought a set of technologies and cultural trappings to 'enlighten' less developed, traditional or 'savage' societies. One of the most exaggerated claims in this regard was that the megaliths in Indonesia were the work of sun-worshipping immigrants from Egypt (see Glover 1998, 25, citing Perry 1918, 2).

Interestingly it appears that this Diffusionist, colonial viewpoint has seeped somewhat unknowingly into both indigenous and modern western scholarship on Southeast Asia. As a result, a type of universal theory regarding the spread and development of religion seems to have arisen whereby incoming, 'more sophisticated' religions (in this case Buddhism and Hinduism), fuse with indigenous 'primitive' religions. The indigenous religion is not wiped out but is instead subsumed and its beliefs, practices and religious objects (in this case the hypothetical megaliths) become incorporated into the incoming belief system. However, is this general, universal theory of how incoming religions function really able to be applied in a blanket fashion or should we instead look at the phenomenon on a case by case basis? In terms of sema, a re-evaluation of this theory in light of the available evidence points towards the conclusion that overarching universal theories like the one outlined above do not always fit the facts on the ground.

It is clear therefore, that in Southeast Asia today the term 'megalith' is applied in a loose and rather general fashion. This is particularly true in Thailand and Thai scholarship where the word 'megalith' appears to be used to describe any type of standing stone, whether it be an isolated incident, an alignment, a stone circle or a stone-lined grave. Some Thai archaeologists such as Roong-ruchee (1976) provide

descriptions of European megalithic structures such as dolmens or stone circles and then try to draw comparisons, largely unsuccessfully, with incidences of standing stones at the site of Bahn Tohnot (L50). Furthermore, none of the authors' from Wales to Vallibhotama, who propose the 'megalithic theory' for sema, define with any precision what they mean by the term megalith. Therefore, not only is there little to no evidence for megaliths in the Khorat Plateau, there is not even a clear working definition of what these objects are.

The most damning evidence against the megalithic theory, however, is not its semiotic ambiguity, but the fact that no substantial evidence has been found for these objects in the Khorat Plateau. Quatritch Wales (1969), who first proposed the theory, did so on the grounds of a FAD survey report (1959, 60-61) and jumps to the conclusion that the stones reported are megaliths. However, the report actually states 'They [*hin tang*/standing stones] have not yet been excavated but they might represent shrines, burial sites or boundary stones of a town.' (1959, 61). Furthermore as Krairkish (1974a, 43) rightly points out, while the FAD report stated that many of these *hin tang* were found in straight lines or circles, this does not correspond to their positions on a FAD map of the same report which shows the stones erected in sets of eight in quadrangular not circular fashion (FAD 1959, 20). The specific site in question is Bahn Tohnot (L50) where two stones with lotus bands on their base have been identified as sema (Kayajonakom 1996, 17-19). This factor plus that fact that they were erected in sets of eight makes it apparent therefore, that what are being described here are sema, not megaliths. Quatritch Wales also based his megalithic assertion on the sheer quantity of sema at Maung Fa Daed (1969, 109-111). He seemed unable to accept that this amount of sema were the result of purely Buddhist practice and instead proposes that there was a megalithic cult functioning at the site. Once again, however, there is no archaeological evidence to support this claim.

The misidentification of sema as megaliths in FAD site reports is understandable and arises for a number of reasons. Firstly, up until Diskul's short paper in 1954, Krairkish's 1974 article and Vallibhotama's survey of sema in 1975, very little had been published on these objects. Therefore, sema without narrative art were most likely identified and classified under the general term of *hin tang* (standing stones), as the FAD archaeologists carrying out the surveys had no comparative typological evidence to base their interpretations on. However, today it is clear that many of these stones are in fact

sema. Secondly, in certain instances such as at the sites of Bahn Na Ngam (L4) and Bahn Ilai (L78), sema were actually set up in stone circles, usually eight in number, so once again following prevailing views at the time, in the absence of a religious building, stones set up in this alignment were defined as megaliths. However, as shown in chapter 3.4, this type of configuration also exists for sema and may represent a Buddhist community that built religious structures of perishable materials so that they are no longer present today.

Thirdly, the FAD archaeologists most likely went along with local identifications and beliefs. In many cases, even today, local villagers refer to Dvaravati sema, particularly those that are still *in situ* in fields, not as '*baisema*', but as '*hin sao*' or '*hin tang*', literally meaning 'stone post' or 'standing stone' respectively. This difference in nomenclature was also encountered on numerous occasions during the course of my fieldwork. Upon arriving at villages or temples where sema were said to be located I would ask the local villagers or monks in Thai if there were any '*baisema samai tawarawadee*' which can be literally translated as 'Dvaravati Period sema stones'. Usually, this question was greeted with confusion or a shake of the head followed by a reply that there were no such objects in the village. However, once I rephrased the question and asked if there were any '*hin tang boran*' (ancient standing stones) more often than not the previous look of confusion quickly transformed into one of understanding and knowing and I would be taken and shown a collection of '*hin tang*' that almost always in fact turned out to be Dvaravati period sema.

Therefore, we can envisage a situation where those carrying out the survey followed local knowledge and nomenclature, thus recording the sema as *hin tang* as opposed to *baisema*. At the site of Bahn Nong Hin Tang (L24) in Chiayapoom province for example, the sema have clearly long been identified by the local community as *hin tang* as is indicated by the name of the village itself, which can be translated approximately as 'Village of the Standing Stones'(fig. 6.25).

Solheim and Gorman also experienced a similar situation during their Archaeological Salvage Expedition (1966). In one case they received a report from locals telling them of a megalithic structure similar in form to a dolmen. However, upon investigation it turned out to be nothing more than a natural rock formation (Solheim and Gorman 1966, 178). The misidentification of sema as 'megaliths' or '*hin sao/hin tang*' goes a long way

in explaining why the theory that sema evolved out of an indigenous forerunner is still so prevalent in scholarship.

Contemporary ethnographic evidence for megaliths has been documented by Kaufmann (1971). He looks at the Lawa tribe of northern Thailand who have a tradition of erecting wooden posts or '*sagang*', to which they tether buffalo to be sacrificed to the village spirit. The Lawa also use wooden posts as grave markers. However, while this represents clear evidence for a culture which demarcated burials with posts in the recent present, this does not in any way prove that this practice existed in stone over 1500 years ago in a separate lowland region.



Figure 6.25: Sema from Bahn Nong Hin Tang (L24) which appears to have been mistaken as a megalithic stone alignment.

The only area in relatively close proximity to the Khorat Plateau that exhibits clear evidence for a megalithic culture of standing stones is northern Laos. Colani (1935) recorded 150 standing stones in Hua Phan province during her survey work there. At a number of these sites, there are cist and dolmen type burials accompanying the standing stones. Furthermore, Keosphha (2006, 148-153) has documented over twenty sites where standing stones were used to demarcate burials. Megaliths made from slate have also been discovered in Luang Namtha province, particularly in the area around Ban Chomsy (Keosphha 2006, 151). Colani thought that the megaliths from Hua Phan may predate the Plain of Jars, giving a date of pre 300 BCE, however, the megaliths from Luang Namtha province have not been dated.

It appears therefore, that the megalithic tradition was restricted to highland areas and was not in existence in the lowlands or the Khorat Plateau. No evidence to date has been found in the Khorat Plateau of standing stones directly related to cist or dolmen type burials such as that found in Hua Phan. Instead only circumstantial evidence, such as that given by Vallibhotama (1985) has been put forward, where sema and burials are found at the same site, but not in direct relation to each other and also from differing time periods. Despite these factors, both Keosphha (2006, 153) and Piromanukul (2009, 100-102) argue that the standing stones from the upland areas of Laos provide the evidence needed to confirm the theory that sema arose out of megaliths. However, given the geographical distances involved it is highly unlikely that the megaliths from northern Laos had any direct bearing on sema. If there was such a strong link between the two areas, then why did the megalithic tradition in northern Laos not take hold in the Khorat Plateau in the pre-historic period before the arrival of Buddhism? The idea that it only supposedly made its presence felt once Buddhism began to arrive on the scene is unconvincing. The argument that the highland megalith tradition of Laos could have directly influenced sema in the lowlands of Isan once again appears to be a manifestation of the Diffusionist argument.

A number of other arguments have been proposed to support the megalithic argument. One is that sema are in fact re-carved megaliths, or that unfashioned sema are megaliths. However, as shown above, unfashioned sema are usually the result of erosion and in the past would have in fact been carved sema. Furthermore, the idea that sema are re-carved megaliths is difficult to prove as close typological study of these objects in this thesis has shown no clear evidence for re-working or re-carving.

A basic evolutionary argument has also been proposed along the lines that objects start as crude forms, and gradually evolve into more sophisticated and aesthetically pleasing designs. Using this logic, Vallibhotama (Silpakorn 1981, 37-38) argues that laterite sema are in fact megaliths and that over time, sandstone sema evolved out of these objects. However, this argument falls down on one particular point, that is, that quite a number of laterite sema have Buddhist imagery carved upon them, usually axial stupas (see S420 for example) or in a few cases lotus bands (S437). In one case a laterite sema (S941) also appears to have a stupa-*kumbha* carved on it but it is difficult to make out for certain (fig. 6.26). The fact that laterite cannot be carved once dried also illustrates

that these sema have not been re-carved out of pre-Buddhist megaliths. The argument that sema evolved out of laterite ‘megaliths’ is therefore far from certain.

A combination of misidentification, a rather loose and ambiguous use of the term ‘megalith’, the remnants of a colonial Diffusionist viewpoint and universalist ideas of the evolution of religions have led many scholars to accept the theory that sema evolved out of an indigenous forerunner in the shape of a widespread megalithic cult. However, the archaeological evidence on the ground paints a very different picture. No evidence whatsoever has been found to date for a megalithic culture in the Khorat Plateau with the vast majority of claims of this nature being misidentifications. Instead it appears that the sema tradition arose as a result of Buddhism entering the region and the need to demarcate sacred space. In fact, a counter-argument to the more universal ‘religious fusion/synthesis argument’ can be proposed along the lines that, due to their monumentality and visual impact in the landscape, sema did not represent a tie with the past but instead were employed to represent a clean break with former traditions and situate the new incoming religion in a dominant and permanent manner.



Figure 6.26: Laterite sema with what appears to be a stupa-kumbha motif.

## 6.4 Summary

This chapter has proposed a detailed typology of sema in order to aid in the identification, study, dating and distribution of these objects throughout the Khorat Plateau. This was done primarily on stylistic grounds as carrying out an indepth typology was beyond the scope of this thesis. It is hoped however, it will serve as both a practical and analytical guide to the study of these objects, their evolution, chronology and extent. Furthermore, the fact that a certain uniformity of design existed in regard to sema points towards a degree of homogeneity in the tradition. It suggests that the tradition originated within the region and spread out along the trade routes and settlements it encountered (see chapter 4.9).

Identifying sema on typological grounds is also an essential method for the study of these objects. By comparing sema from *in situ* locations and those with secure provenance or inscriptions we can then use this information to identify sema that have less secure archaeological contexts. In other words, by analysing the form, dimensions and style of sema we can then conclude whether stones are Dvaravati period sema or not. Typological evidence therefore allows us to recognise and record sema that may otherwise have been unidentifiable. It also enables us to distinguish between Dvaravati period sema and those of later periods such as Sukhothai and Ayutthaya where the form and design change considerably.

In discussing the evolution of sema, a more refined dating sequence has also been proposed to allow for more accurate understanding of the spread and development of the tradition. Furthermore, in analysing the evidence for the proposed pre-existing megalithic culture, it has been illustrated that this theory is problematic and untenable on a number of levels. First, and most significantly, on an empirical level, there is no firm archaeological evidence whatsoever from the Khorat Plateau to support this theory. Evidence that was in the past proposed to illustrate the presence of megaliths has in fact turned out to be, by and large, misidentified sema. On a theoretical level, the megalithic claim is also questionable. Ideas of megaliths as a universal prehistoric phenomena (Vallibhotama 1985, 32) spreading over vast areas of Southeast Asia, seem to be largely influenced by the dubious claims of the old colonial Eurocentric Diffusionist mindset.

The exact origins of the sema tradition may forever elude us. As discussed in chapter 3, the evidence for sema before the 7<sup>th</sup> century in Sri Lanka is inconclusive with clear examples datable from only the 12<sup>th</sup> century onwards. The evidence for megaliths in the Khorat Plateau is equally inconclusive with the only certain examples coming from the highlands of northern Laos. Another goal of the typology was to develop a more defined dating sequence of sema and to a certain extent this chapter has succeeded in doing so. However, due to a number of factors, such as the paucity of the epigraphic evidence, the very few examples of sema excavated *in situ* and the overall state of research that has taken place in regard to the Khorat Plateau during the 7<sup>th</sup>-11<sup>th</sup> centuries, it has not been possible to refine the dating sequence as much as hoped. The typology has been able to narrow date ranges down to within one to two centuries in a number of cases but has not been able to refine it further than that. In certain other cases the date ranges are wider, spanning two to three centuries.

What is clear, however, is that by the 7<sup>th</sup> century CE sema have taken hold in this region and the tradition began to develop and spread. Slab type, Pillar Type and Octagonal Type sema had all begun to be produced in both sandstone and laterite. By the 8<sup>th</sup>-9<sup>th</sup> centuries the tradition had developed substantially in the Chi river system in particular and was producing refined forms of the slab type sema, sometimes accompanied with narrative art or Buddhist symbolism such as stupa-*kumbhas*. The Middle Mekong was also fashioning slab type sema, once again with stupa and stupa-*kumbha* motifs and narrative art to a very small extent. By the 10<sup>th</sup>-11<sup>th</sup> centuries the tradition had firmly rooted itself throughout the Khorat Plateau. The sema form evolved in some cases, as can be seen in the tapered pillar type sema (Pillar Type 2) and the Slab Type 4 form which increased in height to over 2.5 metres in most cases. At this stage the tradition also spread outside the Khorat Plateau and even came to within touching distance of the great Khmer capital at Angkor. As the centuries passed and states such as Sukhothai and Ayutthaya rose and fell, the sema tradition remained a permanent aspect of the Buddhism being practiced within these cultures and today continues to form an integral part of the modern religious landscape.

## Chapter 7

### Conclusion

*'The only thing new in this world is the history you don't know'*

Harry Truman

*'Man's consciousness not only reflects the objective world, but creates it'*

Vladimir Ilyich Lenin (*Lenin's Collected Works*, Volume 38)

The idea for this thesis grew out of a number of unanswered questions, or to paraphrase Harry Truman, out of history that I didn't know. For instance, what was the nature and extent of early Buddhism in the Khorat Plateau and how did it shape and in turn become shaped by the cultures, societies and environments that it encountered? What precisely was the sema tradition, how did it function, where did it originate, what can the artwork tell us and why did it emerge and proliferate so extensively in the Khorat Plateau? Why has the majority of previous scholarship viewed the Khorat Plateau as a periphery between Dvaravati culture of the Chao Phraya Basin and the great Angkorian Empire and could it alternatively be seen as a region in its own right? And if so, does the sema tradition then represent the epitome of this identity during the emergence of Buddhism in the region during the 7<sup>th</sup>-12<sup>th</sup> centuries CE. Finally, to what extent is it possible to integrate Western and Thai scholarship on the subject and are the views expressed in these different cultures mutually exclusive or inclusive?

These questions were addressed and answers were sought by the objective study, documentation and analysis of the available data. Through extensive fieldwork which led to the creation of a database of sema and study of the relevant literature in both European and Thai languages new insights, understandings and observations emerged and more significantly, a new perspective was *created*. This concluding chapter begins by outlining the results arrived at in chapters 2-6 followed by a synthesis of these insights to create an overall picture of not only the sema tradition itself, but the nature of Buddhism in the Khorat Plateau during the 7<sup>th</sup>-12<sup>th</sup> centuries.

The thesis first provided the cultural, artistic, political and archaeological backdrop within which the analysis of sema takes place (chapter 2). In defining what was meant by the term Dvaravati, it has been shown that politically, it was restricted to central Thailand disproving earlier scholarship, which by using sema as their primary source of evidence, argued that political control in the form of a Dvaravati kingdom encompassed the Khorat Plateau. The salient features of the Dvaravati art style and how sema fitted into this overall framework were also reviewed. This in turn allowed for the art on sema to be analysed and Dvaravati characteristics identified, while also providing some chronological markers for their evolution. However, at the same time, it highlighted a number of stylistic features unique to the art of the northeast and these in turn formed the basis for the idea of a Khorat Plateau aesthetic. The Khorat Plateau aesthetic therefore can first and foremost be said to be best represented by the sema tradition. Secondly, it contains certain stylistic traits particular to the region. Narrative art and motifs on sema are usually depicted against a blank background, the robes of figures can show a *drápe-en-poché* while their hair can be matted and hill and mountaintop sites can possess Buddha images in *parinirvana*.

In discussing Dvaravati therefore, the thesis proposes a shift in perspective in regard to the study of sema, arguing that these objects and the religious tradition they represent are a unique expression of the Khorat Plateau and occur in this region before any other. In order to fully understand the development, significance and aesthetic of sema we must do so from within the context in which they arose.

The thesis then set out to review the evidence for sema from a textual, epigraphic, archaeological and modern re-use standpoint and from this build a definition of what they are and how they functioned (chapter 3). The textual evidence from the *Mahavagga* provided the basis for the understanding of the need to demarcate sacred space in order to carry out certain essential rituals, while the archaeology showed the physical evidence of how this was done. However, the archaeology also highlighted that sema could be used in ways and configurations not specified in the religious texts. This can be seen for example in the demarcation of rock-shelters and stupas or in the issue of re-use. It also raised the possibility that sema may have functioned to fix sacred space

for ritual purposes when no buildings were present or to add a sense of monumentality when religious structures were modest and built of perishable materials.

Inscriptional evidence, though scant, casts light on the social and political importance that was attached to sema and the demarcation of sacred space. The limited epigraphic evidence available suggests that sema consecration ceremonies were sponsored and the stone donated by local dignitaries or rulers eager to gain merit and increase social or political standing. The modern re-use of sema at temples and shrines throughout the Khorat Plateau reminds us that they are still potent religious objects and touches on the fluidity of meaning attached to sema. It cautions us not to restrict our understandings to narrow definitions of an object used only to create sacred space. That today they are found in a variety of other religious contexts highlights the possibility that this may also have been the case in the past. Reviewing the literature on sema allowed for an understanding of how they were viewed and perceived by modern scholarship and also illustrated how certain explanations, classifications and theories arose. It also provided the basis for forming a number of the research questions of the thesis with some of the assumptions and hypotheses such as the megalithic argument being subsequently challenged and disproved.

Overall it was illustrated that sema arose to fulfil the doctrinal need to create sacred space. However, their varied usage and configurations shows that the Buddhism being practiced possessed a fair degree of flexibility and creativity in its praxis. This then provided the basis of the definition of the sema tradition which was applied throughout the thesis.

A key issue of the thesis has been the recontextualisation of sema back into the physical and cognitive landscape of the Khorat Plateau (chapter 4). Growing out of theories of landscape archaeology that see human environments as both objective and subjective, these approaches were applied to the sema tradition. Analysing them from the perspective of the geography of the region and their relationship to settlement patterns, the distribution of their artwork and the amounts of sema present, allowed for a number of questions to be answered.

First, sema were divided into three distinct groups and eight clusters, revealing that the Chi river system was the most prominent area in regard to the sema tradition. From this was concluded that the areas around clusters 1 and 2 in particular, represent centres of the sema tradition. Furthermore, the concentration of sites around Vientiane, Loei, Udon Thani, and Nong Khai provinces in cluster 6 highlighted the significance of this subgroup and the role played by the Middle Mekong in spreading the sema tradition beyond the confines of central Isan. The sema tradition in Mun river system on the other hand, did not develop or flourish as strongly as it did in the Chi and Middle Mekong, most likely as a result of the strong Khmer/Hindu presence in lower Isan.

Clear patterns regarding the distribution of motifs throughout the Khorat Plateau also emerged from the distribution analysis. Narrative art is shown to be restricted to a handful of key locations, predominantly in Clusters 1, 2 and 6. The axial stupa and stupa-*kumbha* motifs on the other hand, were much more widely spread and are more representative of the artwork of the sema tradition as a whole. Finally, using sema as a case study the thesis shed further light on the distribution of Buddhism throughout the region. It shows the extent to which this religion was present by the 8<sup>th</sup>-9<sup>th</sup> centuries and proposed that it centred in particular around cluster 1 in the Chi river system. It is also clear that Buddhism spread primarily along the major river systems and as a result emerged and developed primarily in these lowland, alluvial plains.

In studying the art of sema, this thesis first and foremost set out to identify and interpret the style and iconography of the tradition (chapter 5). In its analysis of narrative art it discusses numerous *jataka* tales, episodes from the Life of the Buddha, Buddha images and to a lesser extent, brahmanical iconography. It proposes seventy-one identifications in total, with twenty-eight of them new proposals by the author. It also looks at axial and stupa-*kumbha* motifs and attempts to unlock their symbolic significance arguing that they may represent aniconic images of the Buddha and subsequently the Buddha as Dharma. In doing so it is hoped that this discussion will stimulate greater interest, study and understanding of the sema tradition and its artwork.

The thesis also dated the sema tradition by style and the evolution of its motifs combining this with the distribution analysis in chapter 4 and the typology in chapter 6. However, in doing so it did not follow a traditional linear approach, but looked at the

changes from a more lateral perspective taking into account aspects such as location, cultural influences and settlement patterns. As a result, sema with narrative art were divided into three groups, corresponding to the 8<sup>th</sup>-9<sup>th</sup> centuries, the 10<sup>th</sup>-11<sup>th</sup> centuries and the 11<sup>th</sup> - 12<sup>th</sup> centuries respectively, while stupa-*kumbha* motifs were placed into five groups. Types 1-4 were contemporary with narrative art group 1 dating from the 8<sup>th</sup> - 9<sup>th</sup> centuries while Type 5, showing a fusion of Dvaravati and Khmer art, corresponding to group 2 of the 10<sup>th</sup> - 11<sup>th</sup> centuries.

The thesis was also able to hone in and identify workshops or schools that may have been active which may have functioned as restricted centres of diffusion (Brown 1994). The first and most prolific of these was at Muang Fa Daed with Bahn Nong Hang acting as a satellite school. The second, in cluster 2, was the site of Bahn Kut Ngong, but it was on a smaller scale than the latter two. However, it too produced a number of highly accomplished compositions showing that this workshop was well developed. The site of Bahn Korn Sawan was also a possible candidate for a workshop, however, the artwork on the sema from this site is of a lesser quality than the previous three with the scenes being executed in lower relief. A workshop of a different kind emerged in cluster 4 based around sites of Bahn Tat Tong and Bahn Kum Ngoen and chose to depict stupa-*kumbha* imagery on their sema as opposed to narrative art or Buddha images. In the 10<sup>th</sup> or 11<sup>th</sup> centuries a workshop appears to have emerged based around the sites of Bahn Nong Kluem and Bahn Pailom in cluster 6 and managed to fuse Dvaravati narrative modes with Khmer stylistic conventions.

It has been shown that the location of the major workshops confirms the results of the distribution analysis in chapter 4, highlighting the fact that the apogee of the sema artistic tradition was the period spanning the 8<sup>th</sup>-9<sup>th</sup> centuries and that its centre was in the Chi river system, specifically around the areas of clusters 1 and 2.

By studying the art and iconography the issue of what forms of Buddhism and what texts and oral traditions may have been in circulation at the time was considered. However, the results were not wholly conclusive with no one form or sect of Buddhism coming to the forefront. However, the presence of various *jatakas* on sema which at times closely follow descriptions of episodes in the Pali texts suggests that this form of

Buddhism was being practiced in certain areas. Sites in Clusters 1 and 2 in particular may have been focused around Pali based Buddhism in the 7<sup>th</sup>-9<sup>th</sup> centuries with this further being evidenced by *Ye Dhamma...* inscriptions at settlements in the area. However, it should be kept in mind that the Sanskrit tradition also had its own collection of the past lives of the Buddha, the *avadanas*, and their presence cannot be discounted. Khmer influence, particularly from the 10<sup>th</sup>-11<sup>th</sup> centuries onwards, also brought with it Mahayana Buddhism to a certain extent.

Considering the wide geographical range of the sema tradition and a timespan of over four hundred years, from the 7<sup>th</sup> -12<sup>th</sup> centuries, it is also unlikely that one form of Buddhism could lay an absolute claim to this phenomenon. It seems likely therefore, that the sema tradition was also fluid to a certain extent and drew its inspiration from a wide variety of texts, ideas, sects and patrons that it encountered throughout its development.

A detailed typology of sema was also proposed in order to aid in the identification, study, dating and distribution of these objects throughout the Khorat Plateau (chapter 6). This was done primarily on stylistic grounds as carrying out an indepth typology was beyond the scope of this thesis. It is hoped however, that it will provide the basis for further research and be utilised and referred to in the field by researchers carrying out studies on sema throughout the region and farther afield. Possible future avenues of typological research could involve methods to analyse the stone in order to identify possible quarry sites or places of origin.

The typology also attempted to form a more refined dating sequence, however, it has only been able to narrow the date ranges down to within a one to two century timescale at best. The thesis also debunks the megalithic theory by showing that there is no firm evidence to date to support the claim that sema evolved out of these objects.

In terms of an overall chronology of the sema tradition, the thesis illustrates that by the 7<sup>th</sup> century CE it had taken hold in the Khorat Plateau and had begun to develop and spread. Slab type, Pillar Type and Octagonal Type sema all began being produced in both sandstone and laterite. By the 8<sup>th</sup>-9<sup>th</sup> centuries, the tradition had developed substantially in the Chi river system in particular and was producing refined forms of

the slab type sema, sometimes accompanied with narrative art or Buddhist symbolism such as stupa-*kumbhas*. The Middle Mekong was also fashioning slab type sema, once again with stupa and stupa-*kumbha* motifs and narrative art to a very limited extent. By the 10<sup>th</sup>-11<sup>th</sup> centuries the tradition had firmly rooted itself throughout the Khorat Plateau and began to fuse with Khmer art forms and modes of expression. By the 12<sup>th</sup>-13<sup>th</sup> century sema have spread out of the Khorat Plateau into regions such as Angkor, Ayutthaya and Sukhothai where the tradition evolved further and has remained to this day.

This thesis also acted as a case study in regard to bringing together insights, data and theories from both Western and Thai academic traditions. It should be said at the outset, that without the ability to read Thai site reports and surveys in particular, much of the information gained in this thesis about the location of sema and extent and nature of the tradition would not have been accessible. Articles written in Thai journals discussing the artwork and iconography of sema, in particular those of Arunsak Kingmanee, have also been a vital resource. This is clearly reflected in the Bibliography with numerous entries being works of Thai scholarship. Thai language skills have been essential in making this thesis as comprehensive and encompassing as possible and also in allowing new data to be presented to a wider Western audience. Conversely, the data and results from chapter 4 of this thesis have been published in a summarised form in Thai language (Murphy 2010). This is to make the information available not only to Thai academics but to the Thai general public at large.

However, this thesis did come across issues in regard to research approaches. Modern Western academia places great emphasis on theoretical approaches and question-orientated research. Thai scholarship on the other hand, focuses much more on ‘data-centred’ research, with theses and journal articles being more description-based rather than interpretative. This however, is more a result of differing academic and regional cultures and traditions as opposed to anything else.

One area however, where this thesis has been clearly influenced by Thai scholarship is in regard to the concept of Dvaravati. Western scholarship has by and large reduced this to an art historic and to a lesser extent, an archaeological enquiry, with little consideration being given to other possible approaches. Thai scholarship on the other

hand, has a much broader understanding and prefers to see Dvaravati as a culture, a view that is also expressed in this thesis. One of the reasons for the lack of new perceptions on Dvaravati in Western scholarship is again down to language. Thai archaeologists are doing considerable work in terms of excavations and survey of Dvaravati sites, the results of which are published in Thai. Therefore, at times Western academics can be either unaware or unable to access this information. By synthesising Thai and Western viewpoints and ideas in regard to Dvaravati, this thesis has endeavored to bring new insights to bear on the subject as well as highlighting the extent of research taking place within Thailand.

Bringing together the findings and conclusions in this thesis, a synthesis can be formed and certain insights and observations arise regarding both sema and Buddhism. Firstly, the tradition of using large stone boundary markers to demarcate sacred and ritual Buddhist space appears to have originated in the Khorat Plateau. Buddhist texts require certain areas to be consecrated and clearly marked by *nimitta* and while other regions may have used natural features such as rocks, streams, lakes or trees, in the Khorat Plateau this requirement was fulfilled by sema. This tradition spanned the 7<sup>th</sup>-12<sup>th</sup> centuries with the 8<sup>th</sup>-9<sup>th</sup> centuries being the key period in its existence. During these two centuries the majority of the narrative art was created and the tradition began to spread out and cover the entire region.

Secondly, this tradition flourished and reached its apogee in the Chi river system, particularly in clusters 1, 2 and 4, and more specifically at the site of Muang Fa Daed during the 8<sup>th</sup>-9<sup>th</sup> centuries in particular. The distribution analysis, the quantity of sema present and the study of the artwork confirms this conclusion. However, this does not also mean that the sema tradition originated at this site or in these clusters and unfortunately it is not possible to pinpoint precisely where it started. Numerous early examples of sema also exist in the Mun and Mekong river systems so the tradition could also possibly have started here and moved along the various river systems until it found a suitable place to flourish.

Thirdly, it has been shown that the sema tradition represents a unique phenomenon of the Khorat Plateau and must be viewed from this vantage point. The recontextualisation of sema into the landscape allows for this perspective to come to the fore while the

analysis of the artwork allows for the identification of a Khorat Plateau aesthetic that is not a derivative of Khmer or Dvaravati culture, but an artistic expression in its own right. This thesis has argued consistently throughout that the Khorat Plateau should be seen and understood as a distinct region in its own right. The study of settlement patterns such as moated sites and earthen mounds and their associated material in conjunction with the analysis of the sema tradition, its distribution and artwork, clearly illustrates that this region had its own distinct culture and must therefore be approached and understood from this perspective.

Fourthly by using sema as a case study as to how Buddhism emerged and spread into the region, a number of conclusions can be drawn. First, it is clear that Buddhism was primarily a lowland phenomenon and spread along the courses of the existing river systems. During this period, it does not seem to have reached the highland areas of Laos and instead is restricted to the Khorat Plateau. As rivers such as the Chi and Mekong were major trade, transport and communication routes, this to a certain extent explains Buddhism's profusion in these areas. Furthermore, Buddhism needed patronage to thrive and develop and therefore would have been drawn to the large moated sites which were in turn dependent on the major river systems. Buddhism and the sema tradition, in the Chi in particular are usually found in conjunction with these forms of settlement. However, Buddhism did manage to spread to smaller communities and more isolated areas and in the absence of clearly defined sites or remains of religious buildings, sema provide the primary evidence for the presence of this religion. There is also some evidence for the tradition of forest monks, as can be seen in sites such as Phu Phra Baht. These members of the *sangha* most likely chose to separate themselves from society in order to pursue their own personal path to enlightenment.

Finally, the question of what texts and types of Buddhism were being practiced can be broached but not definitively answered. The depiction of the *khakkharaka* on two sema has been argued by some to show evidence for the Mulasarvastivadin sect (Revire 2009). This Sanskrit based form of Buddhism was present in Magadha in the middle Ganges basin from the 7<sup>th</sup> century onwards. However, as noted previously the *khakkharaka* was not exclusive to this group and it could therefore also represent other types of Buddhism. The possible association with stupa worship has led others to suggest the presence of

the Aparā-mahāvīnāsēliya sect who were active in Nāgarjunakonda from the 3<sup>rd</sup> century (Indrawoath 1999, 234). However, once again, many, if not all forms of Buddhism recognised the stupa as one of the key symbols of their religion so again, it cannot be used to pinpoint one particular sect over others.

The sometimes close connections between episodes of the Life of the Buddha depicted on sema and the Pali-based text of the *Nidana-katha* as well as the close similarity between the Pali *Jatakas* and the depictions of past lives of the Buddha lend to the assumption these were in fact the texts used. However, the presence of oral traditions cannot be underestimated nor can the possibility that different textual sources could have had very similar renditions of *jataka* and Life of the Buddha tales. However, the lack of bodhisattva images carved on sema and the presence at a number of locations throughout the Khorat Plateau of *Ye Dhamma...* inscriptions does point to the fact that Pali-based Buddhism was being practiced. In the 10<sup>th</sup>-11<sup>th</sup> centuries, however, bodhisattvas begin to appear on sema in Bahn Nong Kluem and Bahn Pailom suggesting that Mahayana Buddhism was being introduced to a certain extent by the Khmers.

In reference to the wider question of the interaction between religion and society, a number of insights can be drawn from this thesis. First and foremost, it becomes clear that the two are mutually interdependent, with both to a certain extent being defined and at the same time defining the other. Buddhism, wishing to spread and take root in the Khorat Plateau, could only do so with the support, both economic and spiritual, of the societies and cultures it encountered. On the other hand, in order for these urban centres and rural communities to evolve and advance, they needed the new skills and concepts which were part and parcel of Buddhism. Literacy was one, as was the introduction of more sophisticated ritual and symbolism. Added to that was the offer of deeper and more profound cosmological and philosophical principles as well as practical guidance for daily life.

However, not everything on offer was of a purely spiritual nature and worldly concerns also played their role. The interaction between rulers and the *sangha* has a long history and local elites would have been quick to realise the legitimising potential of Buddhism.

In order to settle and flourish, Buddhism needed monasteries which were gained and sustained through donations from both the lay community and the elite in society. Likewise, by doing so, these individuals had their status validated by the local *sangha*. Glimpses of this process can be gleaned from sema inscriptions. Furthermore, the fact that the sema tradition flourished at large moated sites such as Muang Fa Daed, points to a considerable degree of support and integration into that particular society. Once again therefore, the interdependence between society and religion becomes apparent.

As Buddhism spread throughout the region it began reshaping both the religious and physical landscape. As Buddhist architecture arose and sema began to be set up, society began to conceptualise their surroundings in terms of the teachings and concepts of this religion. However, at the same time, Buddhism was also being transformed and began to absorb and express local features. The subtle changes in the artwork, bearing features of the Khorat Plateau aesthetic is one such change, as was the emergence of the sema tradition itself. Over time, Buddhism and the traditions of the Khorat Plateau became subsumed into each other so that today they are both part of the region's distinctive culture.

In drawing this thesis to a close, it is worth highlighting a number of potential avenues of future research that have arisen due to questions and conclusions asked herein, but were not followed up on as they fell beyond the scope of the PhD. First, a closer analysis of inter-site relationships within each of the clusters, from both an archaeological and art historic viewpoint could provide further insights into the sema tradition and the development of Buddhism at a more localised level. Following on from this, moated sites and earthen mounds throughout the region should be more thoroughly investigated, both on an individual and regional level so that the exact nature and characteristics of each site can be better understood. Conducting a full-coverage ground survey of the sites and their immediate vicinities is one method that should provide much better evidence in regard to the chronologies and extent of settlements. This in turn, could help in establishing clearer links between sema and settlements as the former could be compared against the pottery and overall archaeological record of the latter.

Furthermore, sites where sema are still *in situ* could be excavated to aid in dating these objects and understanding the contexts within which they arose. Closer regional comparisons between the sema tradition and early Buddhism in the Khorat Plateau and its surrounding neighbours could be undertaken. For instance a study and comparison of the earlier evidence for *ubosots* in Burma, Sri Lanka and the Khorat Plateau may prove informative in regards to the origins and evolution of this monastic architectural form. In regard to the typology, it could form the basis for more detailed typological analyses in regard to geological study of the stone, possible quarry locations and carving techniques.

Much remains to be discovered about the beginnings and development of early Buddhism in Southeast Asia. Questions such as those surrounding the exact date of its arrival from India, its impact on the societies and cultures it encountered and the various texts that may have been in circulation still arouse debate, discussion and enquiry. In this context, the study of the sema tradition has allowed for a greater understanding of the nature and extent of Buddhism in the Khorat Plateau to emerge. Using these objects as a case study, this thesis has tracked the spread and development of the religion throughout the region, answering questions such as when it emerged, at what period, where it flourished as well as documenting and interpreting the types of artwork and iconography that it inspired.

Sema represent a unique phenomenon of the religious landscape of the Khorat Plateau. As mediators of sacred space, their monolithic presence carved with stupa motifs, tales from the *jatakas* or episodes from the Life of the Buddha serve as permanent reminders of the impermanence of all things.

## Glossary of Terms

*Abhisecaniya*: The sprinkling ritual, the second part of the Rajasuya consecration ceremony (see below).

*Anda*: The dome of a stupa, usually a hemispherical structure from which the spire ascends. Also referred to as the *garbha* or womb.

*Antaravasaka*: The undergarment of the Buddhist robe, placed underneath the other layers of clothing and covering almost the entire torso.

*Avadanas*: Name given to Buddhist literature dealing with the past lives of the Buddha. A large amount of this literature is written in Sanskrit and associated with Northern Hinayana Buddhism.

*Avalokitesvara*: The Bodhisattva of compassion. Usually, although not exclusively, associated with Mahayana Buddhism.

*Axis-mundi*: In religious contexts this represents the cosmic pillar, the centre of the world and the connection between the heavens and the earth.

*Bai*: The Thai word for 'leaf'.

*Bhanaka/ Bhanika*: A type of monk or nun respectively who specialised in oral recitation of Buddhist texts.

*Chakravartin*: A Buddhist emperor or monarch best represented by Asoka.

*Chattravali*: An architectural term referring to the rings of a stupa.

*Dakkhinodakam* (Pali): The symbolic act of donation, whereby the giver pours water over the right hand of the receiver.

*Deva*: In Buddhism they represent powerful non-human/divine beings.

*Dharma*: 'The Law' or Teachings of the Buddha.

*Dharmacakra*: Wheel of the Law usually said to represent the moment of the Buddha's first sermon at the deer park in Sarnath.

*Dhoti*: The traditional male garment of India.

*dr pe-en-poche*: An art historic term to describe how the robe is tucked in at the waist and appears under the belt in two separate folds, forming a kind of pocket above.

*Dvarapala*: Door guardians.

*Garbha*: See Anda.

*Garuda*: A mythical bird-like creature, the mount of the god Vishnu.

*Hamsa*: A mythical goose from Buddhist Legends.

*Hin Sao/tang*: The Thai term for 'Standing Stone'.

*Isan*: An alternative name for Northeast Thailand.

*Jata*: The chignon of Shiva in Khmer art.

*Jataka tales*: Past life of the Buddha stories, usually in Pali language.

*Kala motif*: A decorative architectural motif found primarily on Hindu temples showing a monster disgorging floral designs.

*Khakkharaka*: A staff carried by Buddhist monks of various schools such as the Mulasarvastivadins.

*Kinnari*: Mythical half-bird, half-women, the female counterpart of *Kinnaras*, who inhabit the mythical Himavanta forest.

*Kumbha*: A water-pot or jar originating in India which is associated with both Buddhism and Hinduism.

*Lak Muang*: The Thai term for a town pillar.

*Lalitasana*: 'Royal ease posture', common in depictions of bodhisattvas where one leg is folded in half-lotus while the other leg hangs free.

*Luk nimit*: Round stones placed under sema during the consecration ceremony. They appear from around the Sukhothai period onwards.

*Mahadhatu*: In Thai and Burmese language it refers both to a relic and a stupa.

*Mahanipata-Jatakas*: The Ten Great Previous Lives of the Buddha, the Last Ten Pali *Jatakas*.

*Maitreya*: The Buddha of the Future.

*Mandala*: A schematic representation of the Buddhist or Hindu cosmos. It can also refer to a form of political organisation where power emanates from a centre outwards.

*Mudra*: A symbolic or ritual gesture, usually a hand gesture, but some can involve the whole body. In Buddhist and Hindu art they usually had a specific iconographic meaning.

*Anjali mudra*: Both hand pressed together in prayer.

*dharmacakra mudra*: The thumb and index finger of both hands touch at their tips to form a circle and both hands are joined together at the centre of the chest. This represents the moment of the Buddha's first sermon at Sarnath.

*dhyana mudra*: the *mudra* of meditation, both hand placed on the lap, right on top of left, palms facing upwards.

*vitakra mudra*: The *mudra* of instruction indicated by joining the tips of the thumb and the index finger together, and keeping the other fingers straight.

*Naga*: In Hindu and Buddhist mythology they represent mythical deities who take the form of snakes that live in the subterranean world.

*Nagaraja*: King of the *nagas*.

*Nimitta*: The Pali term for boundary markers in general.

*Patimokkha*: A Buddhist ceremony which must be carried out within a *sima* and consists of the recitation of the rules of the order. It is performed twice a month, on the full and new moon, and once a year at the end of the rainy season.

*Parinirvana*: The moment the Buddhist past away and entered nirvana. In Buddhist iconography the Buddha is usually depicted reclining on a pillow, hence the vernacular terms 'sleeping or reclining Buddha'.

*Poyage*: The Sri Lankan term for an *ubosot*.

*Prajna*: Sanskrit word for wisdom.

*Pralambasana*: 'European' posture, referring to the Buddha seated on a chair with legs pendant.

*Puranagata (vase of plenty)*: A water-pot or jar with overflowing foliate designs.

*Rajabhiksu*: A prince who had become a monk.

*Rajasuya*: A royal consecration ceremony outlined in the Vedic text *The Satapatha Brahmana*.

*Sagang*: Wooden posts of the Lawa tribe of northern Thailand.

*Samghati*: An outer robe of a Buddhist monk which is worn over the upper robe (*uttarasanga*), and the undergarment (*antaravasaka*).

*Sampot*: Traditional Cambodian long rectangular cloth worn around the lower body that can be draped or folded in a number of different ways.

*Sangha*: The community of Buddhist monks.

*Sima*: The Pali term for boundary.

*Khandasima*: refers to a specific boundary within the monastery.

*Mahasima*: refers to the boundary of the entire monastery.

*Srivatsa* symbol: The abode of the goddess Sri.

*Stambha*: Sanskrit term for a pillar, usually a constitute part of a Dvaravati period free-standing *dharmacakra*.

*Thein*: The Burmese term for *sima*.

*Tribhanga*: The three bends posture which refers to a pose common in Indian art where the weight is on one leg while the head and lower body slant in one direction and the torso moves in the opposite. Similar to the *contrapposto* pose in Greek art.

*Tripitaka*: The Three Baskets, also known as the Pali canon, are the Buddhist scriptures upon which Theravada Buddhism is based.

*Uposot*: The Thai term for the ordination hall, sometime abbreviated as *bot*, is derived from the Pali term *uposathaghara* which technically means a house where any religious observances takes place.

*Uposatha*: The ordination ceremony.

*Ushnisha*: A hemispherical bulge or truncated cone located on the crown of the Buddha's head representing the fact that he has reached enlightenment.

*Uttarasanga*: A Buddhist robe covering the upper body.

*Vajra*: Sanskrit term for thunderbolt or diamond, an attribute of the god, Indra and the Buddha Vajrasattva.

*Vajrasana*: cross-legged posture where the soles of the feet are pointing upwards.

*Vihara*: Sanskrit term for the assembly hall of a Buddhist monastery (Thai *Viharn*).

*Virasana*: cross-legged posture where the ankles are crossed and the soles of the feet are pointing downwards.

*Yakkha* (Pali) *Yaksha* (Sanskrit): A class of nature-spirits, usually benevolent.

*Ye Dhamma...* inscriptions: Buddhist votive inscriptions which appear in Southeast Asia from circa 5<sup>th</sup> century CE onwards.

## Appendix 1: Sema Database

Table A1a: Sema Site Locations

Note: When อำเภอเมือง/*Ampore Muang* refers to a site within an actual town it has been translated as ‘town’. For example *Ampore Muang Yasothon* is given as Yasothon Town (See L8 for example). When a site is located outside of the town but still within its administrative boundary, *Ampore Muang* has been translated as ‘townland’. See L9 for example where Bahn Tat Tong falls within the administrative boundary of Yasothon town but is in fact approximately 15km outside the town itself.

Site#	Province	District	Subdistrict	Village/Site	Latitude	Longitude
L1	Kalasin	Kamalasai	Nong Paen	Bahn Sema/Muang Fa Daed	16° 18' 55"	103° 31' 7"
L2	Kalasin	Sahat Sakhan		Bahn Sohksai	16° 44' 18"	103° 35' 59"
L3	Kalasin	Kuchinarai	Godwah	Bahn Nong Hang	16° 33' 46"	104° 6' 3"
L4	Kalasin	Khao Wong	Bo Gairo	Bahn Na Ngam/Bahn Dorn Sila	16° 47' 30"	103° 59' 25"
L5	Kalasin	Na Mon	Lak Liam	Bahn Sangkhom Phathana	16° 34' 18"	103° 49' 29"
L6	Kalasin	Kuchinarai Town	Nah Goh	Kuchinarai Town	16° 32' 15"	104° 3' 9"
L7	Udon Thani	Kumphawapi	Bahn Chiang Haeo	Bahn Don Kaeo	17° 8' 8.39"	103° 1' 4."
L8	Yasothon	Yasothon Town		Yasothon Town	15° 47' 45"	104° 8' 52"
L9	Yasothon	Yasothon Townland	Bahn Tat Tong	Bahn Tat Tong	15° 58' 50"	104° 19' 11"
L10	Yasothon	Kham Khuen Kaeo	Song Bueai	Bahn Song Bueai	15° 38' 49"	104° 15' 5"
L11	Yasothon	Maha Chana Chai	Bahn Khu Muang	Bahn Hua Muang	15° 32' 13"	104° 11' 23"
L12	Yasothon	Maha Chana Chai	Bueng Kaeo	Bahn Bueng Kaeo	15° 31' 14"	104° 20' 15"
L13	Yasothon	Kham Khuen Kaeo	Ku Chahn	Bahn Ku Chahn	15° 40' 53"	104° 22' 37"
L14	Yasothon	Yasothon Townland	Nahm Kum Yai	Bahn Nahm Kum Yai	15° 49' 34"	104° 10' 1"
L15	Yasothon	Yasothon Townland		Bahn Kum Ngoen	15° 43' 23"	104° 13' 10"
L16	Khon Kaen	Chum Pae	Chum Pae	Bahn Nohn Muang	16° 31' 33"	102° 12' 2"
L17	Khon Kaen	Chum Pae	Nong Phai	Bahn Phai Hin	16° 51' 3"	102° 13' 6"
L18	Khon Kaen	Minor District Khok Pho Chai	Pho Chai	Bahn Pho Chai	16° 1' 45"	102° 22' 4"
L19	Khon Kaen	Bahn Phai	Bahn Phai	Non Sema Fa Ranguem	16° 4' 38"	102° 39' 34"
L20	Khon Kaen	Chum Pae		Bahn Nohn Chat	16° 41' 51"	102° 1' 11"
L21	Khon Kaen	Chum Pae		Bahn Bua Semaram	16° 40' 43"	102° 24' 58"
L22	Chaiyapoom	Kaset Sombun	Sa Phon Tong	Bahn Non Song	16° 14' 11"	101° 58' 43"
L23	Chaiyapoom	Kaset Sombun	Bahn Hua Kua	Bahn Hua Kua/Bahn Bua	16° 14' 32"	101° 55' 46"
L24	Chaiyapoom	Kaset Sombun		Bahn Nong Hin Tang	16° 14' 11"	101° 58' 43"
L25	Chaiyapoom	Kaset Sombun	Bahn Pao	Bahn Pao	16° 21' 8"	101° 58' 21"
L26	Chaiyapoom	Chaiyapoom Townland	Na Nong Chaeng	Bahn Kut Ngong	15° 47' 12"	102° 7' 57"
L27	Chaiyapoom	Bahn Khao	Lom Lumchi	Bahn Nong Kai Nun	15° 43' 21"	101° 56' 44"
L28	Chaiyapoom	Chutturat		Ban Nong Hin Tang	15° 33' 49"	101° 50' 28"
L29	Chaiyapoom	Chaiyapoom Town	Chaiyapoom Town	Muang Gao	15° 48' 30"	102° 2' 5"
L30	Chaiyapoom	Kaset Sombun		Bahn Phan Lam	16° 16' 49"	101° 54' 35"
L31	Chaiyapoom	Phu Khiao	Bahn Kaeng	Bahn Kaeng	16° 24' 35"	102° 2' 22"

L32	Chaiyapoom	Korn Sawan	Bahn Korn Sawan	Bahn Korn Sawan	15° 56' 36"	102° 19' 38"
L33	Roi Et	Selaphum	Bahn Maung Prai	Bahn Maung Prai	16° 7' 1"	104° 1' 15"
L34	Roi Et	Phanom Phrai	Phanom Phrai Town	Phanom Phrai Town	15° 40' 43"	104° 6' 52"
L35	Roi Et	Roi Et Town	Roi Et Town	Roi Et Town	16° 2' 11"	103° 39' 0"
L36	Maharakham	Na Dun		Bahn Po Tong	15° 43' 20"	103° 16' 16"
L37	Maharakham	Kantharawichai	Khanthararat	Bahn Sra	16° 18' 26"	103° 17' 59"
L38	Maharakham	Maharakham Town	Maharakham Town	Maharakham Town	16° 9' 15"	103° 22' 21"
L39	Amnat Chareon	Lue Amnat	Puey	Bahn Puey Huadong	15° 41' 1"	104° 41' 17"
L40	Amnat Chareon	Hua Taphan		Bahn Chat	15° 56' 8"	104° 44' 6"
L41	Amnat Chareon	Amnat Chareon Townland	Nah Mo Ma	Bahn Nah Mo Ma	15° 57' 1"	104° 30' 13"
L42	Ubon Ratchathani	Muang Samsip	Muang Samsip Town	Muang Samsip Town	15° 30' 44"	104° 43' 33"
L43	Amnat Chareon	Phana		Bahn Phon Muang	15° 56' 31"	105° 0' 24"
L44	Buriram	Prakorn Chai		Bahn Salaeng Thon	14° 46' 53"	103° 3' 27"
L45	Buriram	Brakum		Bahn Brakum	14° 33' 9"	102° 43' 0"
L46	Buriram	Nong Hong		Bahn Muang Fai	15° 2' 4"	102° 45' 16"
L47	Buriram	Khu Muang	Pa Khiap and Bahn Pair	Bahn Pa Khiap and Bahn Nohn Soong	15° 23' 34"	103° 2' 15"
L48	Buriram	Prakorn Chai	Phu Phra Angkhan	Phu Phra Angkhan	14° 32' 55"	102° 50' 58"
L49	Nakorn Ratchasima	Sung Noen		Bahn Hin Tang	14° 55' 15"	101° 47' 47"
L50	Nakorn Ratchasima	Non Sung	Tohnot	Bahn Tohnot	15° 5' 21"	102° 17' 7"
L51	Sri Saket	Rasi Salai	Rasi Salai	Bahn Lupmohk	15° 21' 15"	104° 10' 28"
L52	Udon Thani	Bahn Phue		Bahn Nong Kluem	17° 42' 51"	102° 24' 2"
L53	Udon Thani	Bahn Phue	Khao San	Bahn Hin Tang	17° 44' 15"	102° 30' 7"
L54	Sakon Nakon	Sawan Deang Din	Phan Na	Bahn Ma	17° 26' 31"	103° 33' 58"
L55	Loei	Wang Sapung		Bahn Ruean Rahtsat, Bahn Pahkbeng, Bahn Noinah, Bahn Nohn Kok gleeen	17° 17' 56"	101° 46' 8"
L56	Nakorn Panom	That Panom	That Panom Town	That Panom Town	16° 56' 32"	104° 43' 25"
L57	Udon Thani	Bahn Phue	Bahn Muang	Bahn Muang Pahn/Phu Phra Baht Historical Park	17° 43' 51"	102° 21' 42"
L58	Udon Thani	Nong Hahn	Bahn Chiang	Bahn Chiang	17° 21' 29"	103° 13' 10"
L59	Udon Thani	Nong Hahn	Nong Hahn Town	Nong Hahn Town	17° 21' 34"	103° 6' 21"
L60	Udon Thani	Ban Phue	Muang Pahn	Bahn Pailom	17° 39' 38"	102° 21' 32"
L61	Nong Khai	Sri Chiang Mai	Minor District Podahk	Bahn Podahk	17° 58' 55"	102° 25' 38"
L62	Nong Bua Lampoo	Na Glang	Pu Noi	Bahn Pu Noi	17° 17' 6"	102° 11' 7"
L63	Sakon Nakon	Sakon Nakon Townland		Bahn Tah Wat	17° 15' 41"	104° 22' 26"
L64	Khon Kaen	Nam Phong	Tah Krasoem	Bahn Tah Krasoem	16° 37' 11"	102° 52' 45"
L65	Khon Kaen	Khon Kaen Town	Khon Kaen Town	Bahn Sri Than	16° 26' 1"	102° 49' 1"
L66	Maharakham	Phayakkaphum Phisai	Muang Dao	Bahn Muang Dao	15° 30' 41"	103° 23' 8"
L67	Udon Thani	Nong Hahn	Phang Khon Sai	Phang Khon Sai	17° 12' 14"	103° 6' 30"
L68	Sakon Nakon	Sakon Nakon Townland		Bahn Na Oi	17° 9' 5"	104° 6' 28"
L69	Nakorn Ratchasima	Khonburi	Chorakhe Hin	Bahn Nong Pai	14° 21' 39"	102° 6' 8"
L70	Udon Thani	Bahn Phue	Chumpa Muang	Bahn Daeng	17° 38' 3"	102° 23' 17"
L71	Sakon Nakon	Tao Gnoi	Nah Tahn	Bahn Na-ang	16° 59' 34"	104° 11' 4"
L72	Sakon Nakon	Akat Amnuai	Phon Phaeng		17° 31' 17"	103° 57' 5"

L73	Yasothon	Sai Mun	Pai	Bahn Kor	15° 54' 35"	104° 17' 22"
L74	Kalasin			Ban Kud Namkin	n/a	n/a
L75	Siem Reap	Phnom Kulen		Ban Gre/Tun Mas	13° 42' 43"	103° 58' 25"
L76	Vientiane	Vientiane province		Bahn Na Sone	18° 6' 28"	102° 29' 50"
L77	Vientiane	Vientiane province		Bahn Nong Khan Khu	18° 8' 25"	102° 30' 17"
L78	Vientiane	Vientiane province		Bahn Ilai	18° 9' 4"	102° 30' 6"
L79	Vientiane	Vientiane province		Bahn Simano	17° 59' 0"	102° 53' 26"
L80	Vientiane	Vientiane province		Bahn Thoun Loua	18° 3' 46"	103° 4' 16"
L81	Vientiane	Vientiane province		Bahn Nong Khon	18° 22' 60"	102° 23' 18"
L82	Vientiane	Vientiane province		Bahn Nam Pot	18° 33' 29"	102° 29' 50"
L83	Vientiane	Vientiane province		Bahn Thalot	18° 29' 56"	102° 30' 9"
L84	Vientiane	Vientiane province		Bahn Muang Kao	18° 26' 25"	102° 32' 3"
L85	Vientiane	Vientiane province		Bahn Viengkham	18° 22' 14"	102° 33' 7"
L86	Vientiane	Vientiane province		Bahn Sa Feu	18° 17' 43"	102° 40' 27"
L87	Vientiane	Vientiane City		Bahn Somsanouk	17° 53' 14"	102° 38' 48"
L88	Vientiane	Vientiane City		Muang Vientiane	17° 58' 9"	102° 36' 50"
L89	Vientiane	Muang Sanakham		Muang Sanakham	17° 54' 40"	101° 40' 2"
L90	Savannakhet			Bahn Sikhai	17° 1' 38"	104° 55' 50"
L91	Savannakhet			Bahn Kang	17° 2' 1"	104° 57' 15"
L92	Savannakhet			Bahn Na Mouang	16° 59' 32"	105° 1' 17"
L93	Sakon Nakhon	Sawan Deang Din	Panna	Bahn Panna	17° 21' 21"	103° 51' 20"
L94	Ubon Ratchathani	Khuang Nai	Sang Tho	Bahn Si Bua	15° 23' 18"	104° 31' 14"
L95	Nakhon Phanom	That Phanom	Phra Klang Thung	Bahn Lak Sila	16° 59' 28"	104° 43' 28"
L96	Nakhon Phanom	That Phanom		Bahn Fang Daeng	16° 55' 43"	104° 40' 36"
L97	Nakhon Phanom	That Phanom		Bahn Saphang Thong	16° 54' 40"	104° 42' 34"
L98	Nakhon Phanom	That Phanom		Bahn Na Ngam	16° 52' 35"	104° 42' 13"
L99	Nong Khai	Nong Khai Townland	Wiang Khuk	Wiang Khuk	17° 47' 59"	102° 40' 5"
L100	Kalasin	Kalasin Townland	Phu Din	Bahn Non Sala	16° 38' 27"	103° 30' 33"
L101	Buriram	Satuk	Thung Wang	Bahn Thung Wang	15° 15' 9"	103° 23' 48"
L102	Sakon Nakhon	Sawang Daen Din	That Thong	Bahn Thatdu	17° 28' 59"	103° 33' 31"
L103	Sakon Nakhon	Kut Bak	Na Mong	Bahn Choeng Doi	17° 6' 4"	103° 54' 9"
L104	Sakon Nakhon	Phanna Nikhom	Na Hua Bo	Bahn Phu Phek	17° 9' 48"	103° 50' 9"
L105	Nong Khai	Tah Bo	Khok Khon	Bahn Khok Khon	17° 47' 11"	102° 30' 16"
L106	Nong Khai	Minor District Rattana Wapi	Phon Phaeng	Bahn Peng Chan	18° 11' 60"	103° 13' 6"
L107	Udon Thani	Sri That	Cham Pi	Bahn Cham Pi	17° 1' 7"	103° 14' 43"
L108	Udon Thani	Minor District Ku Kaeo	Khon Sai	Bahn Khon Sai	17° 12' 17"	103° 5' 53"
L109	Ubon Ratchathani	Khuang Nai	Bahn Thai	Bahn Thung Yai	15° 27' 51"	104° 26' 20"
L110	Udon Thani	Nong Wow Sor	Bahn Oop Mong	Bahn Oup Mong	17° 6' 43"	102° 34' 54"
L111	Surin	Sikhoraphum	Truem	Bahn Truem	15° 1' 19"	103° 51' 15"

Table A1b: Sema Site Locations in Thai

Note: Village names in Laos have been left in Roman script as the Laotian alphabet and spelling differs from Thai.

Site#	จังหวัด	อำเภอ	ตำบล	หมู่บ้าน	ปัจจุบันอยู่ที่
L1	กาฬสินธุ์	กมลาสัย	หนองแปน	บ้านเสมา	พระธาตุยาคูที่เมืองฟ้าแดดสูงยาง วัดโพธิ์ชัยเสมาราม
L2	กาฬสินธุ์	สหัสขันธ์		บ้านโสกทราย	วัดภูขาวพุทธนิมิตร
L3	กาฬสินธุ์	กุฉินารายณ์		บ้านหนองห้าง	วัดโพธิ์ชัยบ้านหนองห้าง
L4	กาฬสินธุ์	เขาวง	บ่อแก้ว	บ้านนางาม	
L5	กาฬสินธุ์	นามน	หลักเหลี่ยม	บ้านสังคมพัฒนา	วัดสังคมพัฒนาราม
L6	กาฬสินธุ์	กุฉินารายณ์	นาโก	กุฉินารายณ์	วัดสินาโกदानโก/วัดสามัคคีธรรมบัวขาว
L7	อุดรธานี	กุมภวาปี	พันดอน/เชียงแหว	บ้านดอนแก้ว	พระมหาธาตุเจดีย์ บ้านพันดอนบ้านเชียงแหว
L8	ยโสธร	เมือง	ในเมือง		วัดศรีธรรมาราม
L9	ยโสธร	เมือง	ดาดทอง	บ้านดาดทอง	วัดศรีมงคลธาตุทอง ธาดุกองข้าวน้อยเจดีย์
L10	ยโสธร	คำเขื่อนแก้ว	สงเปือย	บ้านสงเปือย	วัดบ้านสงเปือย
L11	ยโสธร	มหาชนะชัย	คูเมือง	บ้านหัวเมือง	วัดหัวเมือง
L12	ยโสธร	มหาชนะชัย	บึงแก	บ้านบึงแก	วัดโพธิ์กาญจนาราม
L13	ยโสธร	คำเขื่อนแก้ว	กู่จาน	บ้านกู่จาน	พระธาตุกู่จานเจดีย์
L14	ยโสธร	เมือง	น้ำคำใหญ่	บ้านน้ำคำใหญ่	วัดบ้านน้ำคำใหญ่
L15	ยโสธร	เมือง	ขุมเงิน	บ้านขุมเงิน	วัดบ้านขุมเงิน
L16	ขอนแก่น	ขุมแพ	ขุมแพ	บ้านโนนเมือง	วัดพระนอนพัฒนาราม
L17	ขอนแก่น	ขุมแพ	หนองไผ่	บ้านฝ้ายหิน	วัดโนนศิลา
L18	ขอนแก่น	กิ่งอำเภอโคกโพธิ์ไชย	โพธิ์ไชย	บ้านโพธิ์ไชย	วัดโพธิ์ไชย
L19	ขอนแก่น	บ้านไผ่	บ้านไผ่	โนนเสมาฟ้าระงิม	บริเวณวัดโนนเสมาฟ้าระงิม
L20	ขอนแก่น	ขุมแพ		บ้านโนนชาติ	วัดไตรรงค์
L21	ขอนแก่น	ขุมแพ	โนนอุดม	บ้านบัวสิมาราม	วัดหนองสะพัง
L22	ชัยภูมิ	เกษตรสมบูรณ์	สระโพนทอง	บ้านโนนซ่อง	บ้านโนนซ่อง
L23	ชัยภูมิ	เกษตรสมบูรณ์	หนองขา	บ้านหัวขัว/บ้านบัว	วัดบัว
L24	ชัยภูมิ	เกษตรสมบูรณ์	สระโพนทอง	บ้านหนองหินตั้ง	หนองหินตั้ง
L25	ชัยภูมิ	เกษตรสมบูรณ์	บ้านเป่า	บ้านเป่า	วัดธาตุ
L26	ชัยภูมิ	เกษตรสมบูรณ์	บึงคล้า	บ้านกุดโง้ง	วัดกุดโง้ง
L27	ชัยภูมิ	บ้านเขว้า	ลุ่มลำชี	บ้านหนองไข่นุ่น	
L28	ชัยภูมิ	จัตุรัส		บ้านหนองหินตั้ง	

L29	ชัยภูมิ	เมือง	เมือง	บ้านเมืองเก่า	วัดไพรพินาศ
L30	ชัยภูมิ	เกษตร สมบูรณ์		บ้านพรรณสำ	
L31	ชัยภูมิ	ภูเขียว	บ้านแก่ง	บ้านแก่ง	วัดพระธาตุสมหมื่นหนอง
L32	ชัยภูมิ	คอนสวรรค์	คอนสวรรค์	บ้านคอน สวรรค์	วัดคอนสวรรค์
L33	ร้อยเอ็ด	เสลภูมิ	เมืองไพร	บ้านเมืองไพร	วัดมิ่งเมือง, วัดสวรรค์อรุณ, เกล็นทะเลาคาด
L34	ร้อยเอ็ด	พนมไพร	พนมไพร		วัดป่าอัมพวัน อำเภอพนมไพร
L35	ร้อยเอ็ด	เมือง			วัดพระลานชัย, วัดเหนือ, วัดสระ ทอง, วัดกลางมิ่งเมือง, วัดคุ้ม นาราม
L36	มหาสารคาม	นาคูน	กุสันดรรัตน์	บ้านโพธิ์ทอง	พระธาตุกุสันดรรัตน์
L37	มหาสารคาม	กันทรวิชัย	คันธารรา ษฏร์	บ้านสระ	วัดพุทธมงคล
L38	มหาสารคาม	เมือง			วัดมหาชัย
L39	อำนาจเจริญ	ลืออำนาจ	เปือย	บ้านเปือยหัว ดง	วัดโพธิ์ศิลา, วัดป่าไร่ไร, โรงเรียนชุมชนเปือยหัวดง
L40	อำนาจเจริญ	หัวตะพาน		บ้านขาด	เมืองจิว
L41	อำนาจเจริญ	เมือง	นาหมอม้า		วัดดงเด่าเก่า
L42	อุบลราชธานี	ม่วงสามสิบ			วัดม่วงสามสิบ
L43	อำนาจเจริญ	พนา		บ้านโพนเมือง	วัดไชยาศึกการาม
L44	บุรีรัมย์	ประโคนชัย	แสลงโทน	บ้านแสลง โทน	
L45	บุรีรัมย์	นางรอง(ปะคำ)		บ้านปะคำ	วัดโพธิ์อ้อย
L46	บุรีรัมย์	หนองหงส์	เมืองฝ้าย	บ้านฝ้าย	วัดเมืองฝ้าย
L47	บุรีรัมย์	คูเมือง	ปะเคียบ/ บ้านแพ	บ้านปะเคียบ/ บ้านโนนสูง	วัดทรงศิรินาวาส
L48	บุรีรัมย์	ประโคนชัย		ภูพระอังคาร	วัดภูพระอังคาร
L49	นครราชสีมา	สูงเนิน		บ้านหินตั้ง	วัดพระนอน/โบราณสถานเมือง เสมา
L50	นครราชสีมา	โนนสูง	โดนด	บ้านโดนด	วัดบอหด
L51	ศรีสะเกษ	ราชไศล	เมืองคง	บ้านหลุมโมก	วัดเมืองคง
L52	อุดรธานี	บ้านฝ้อ	เมืองพาน	บ้าน หนองคลุ้ม	วัดโนนศิลา
L53	อุดรธานี	บ้านฝ้อ	ข้าวสาร	บ้านหินตั้ง	
L54	สกลนคร	สว่างแดนดิน	พันนา	บ้านม้า	วัดบ้านม้า/วัดดอนกรรม
L55	เลย	วังสะพุง		1. บ้านเรือน ราษฎร์ 2. บ้านปากเป่ง 3. วัดบ้าน น้อยนา 4. บ้านโนนกก เกลี้ยง	วัดเสมาหิน วัดพัทธสีมาราม
L56	นครพนม	ธาตุพนม	พระกลาง ทุ่ง	ธาตุพนม	วัดธาตุพนม
L57	อุดรธานี	บ้านฝ้อ	เมืองพาน	บ้านเมืองพาน	อุทยานประวัติศาสตร์ภูพระบาท
L58	อุดรธานี	หนองหาร	บ้านเชียง	บ้านเชียง	
L59	อุดรธานี	หนองหาน	หนองหาน	หนองหาน	
L60	อุดรธานี	บ้านฝ้อ	เมืองพาน	บ้านไผ่ล้อม	วัดพระพุทธบาทบัวบาน
L61	หนองคาย	ศรีเชียงใหม่	โพธิ์ตาก	บ้านโพธิ์ตาก	วัดหินหมากเป้ง
L62	หนองบัวลำภู	นากลาง	นากลาง	บ้านภูน้อย	วัดสันติธรรมบรรพต วัดพระธาตุ เมืองพิณ
L63	สกลนคร	เมืองสกลนคร	เหล่าปอ	บ้านท่าวัดใต้	วัดกลางศรีเชียงใหม่

			แดง		
L64	ขอนแก่น	น้ำพอง	ท่ากระ เสริม	บ้านท่ากระ เสริม	เมืองโบราณบ้านท่ากระเสริม
L65	ขอนแก่น	เมือง	ในเมือง	บ้านศรีฐาน	
L66	มหาสารคาม	พยัคฆภูมิพิสัย	เมืองเดา	บ้านเมืองเดา	
L67	อุดรธานี	หนองหาร(กิ่ง อำเภอแก้ว)	คอนสาย	บ้านคอนสาย	
L68	สกลนคร	เมืองสกลนคร	ธาตุเชิง ชุม	บ้านนาอ้อย	
L69	นครราชสีมา	ครบุรี	จระเข้หิน	บ้านหนองไผ่	
L70	อุดรธานี	บ้านฝ้อ	จำปาโมง	บ้านแดง	วัดบ้านแดง
L71	สกลนคร	เต่างอย	นาตาล	บ้านนาอ่าง	
L72	สกลนคร	อากาศอำนวย	โพนแพง		
L73	ยโสธร	ทรายมูล	ไผ่		
L74	กาฬสินธุ์	เมืองกาฬสินธุ์		กุดน้ำกิน	
L75	Phnom Kulen			Ban Gre/Tun Mas	
L76	เวียงจันทน์	เวียงจันทน์		Bahn Na Sone	
L77	เวียงจันทน์	เวียงจันทน์		Bahn Nong Khan Khu	
L78	เวียงจันทน์	เวียงจันทน์		Bahn Ilai	
L79	เวียงจันทน์	เวียงจันทน์		Bahn Simano	
L80	เวียงจันทน์	เวียงจันทน์		Bahn Thoun Loua	
L81	เวียงจันทน์	เวียงจันทน์		Bahn Nong Khon	
L82	เวียงจันทน์	เวียงจันทน์		Bahn Nam Pot	
L83	เวียงจันทน์	เวียงจันทน์		Bahn Thalot	
L84	เวียงจันทน์	เวียงจันทน์		Bahn Muang Kao	
L85	เวียงจันทน์	เวียงจันทน์		Bahn Viengkham	
L86	เวียงจันทน์	เวียงจันทน์		Bahn Sa Feu	
L87	เวียงจันทน์	นครหลวงเวียงจันทน์		Bahn Somsanouk	
L88	เวียงจันทน์	นครหลวงเวียงจันทน์		นครหลวง เวียงจันทน์	
L89	เวียงจันทน์	Muang Sanakham		Muang Sanakham	
L90	สะหวันนะเขต			Bahn Sikhai	
L91	สะหวันนะเขต			Bahn Kang	
L92	สะหวันนะเขต			Bahn Na Mouang	
L93	สกลนคร	สว่างแดน ดิน	พันนา	บ้านพันนา	
L94	อุบลราชธานี	เขื่องใน	สร้างถ่อ	บ้านศรีบัว	
L95	นครพนม	ธาตุพนม	พระกลางทุ่ง	บ้านหลักศิลา	
L96	นครพนม	ธาตุพนม		บ้านฝั่งแดง	
L97	นครพนม	ธาตุพนม		บ้านสะพัง ทอง	
L98	นครพนม	ธาตุพนม		บ้านนางาม	

L99	หนองคาย	อำเภอเมือง	เวียงคุก	วัดสาวสุวรรณ นาราม	
L100	กาฬสินธุ์	อำเภอเมือง	ภูดิน	บ้านโนน ศาลา	เนินดินมีเสมาหินปึกรอบ 6 หลัก
L101	บุรีรัมย์	อำเภอสตึก	ตำบลทุ่งวัง	บ้านทุ่งวัง	
L102	สกลนคร	สว่างแดน ดิน	ธาตุทอง	บ้านธาตุ	
L103	สกลนคร	กุดบาก	นาม่อง	บ้านเชิงดอย	ภูถ้ำพระ
L104	สกลนคร	พรรณานิคม	นาหัวบ่อ	บ้านภูเพ็ก	ปราสาทภูเพ็ก
L105	หนองคาย	ท่าบ่อ	โคกคอน	บ้านโคกคอน	
L106	หนองคาย	กิ่งอำเภอ รัตนวาปี	โพนแพง	บ้านเป่งจาน	
L107	อุดรธานี	ศรีธาตุ	จำปี	บ้านจำปี	
L108	อุดรธานี	กิ่งอำเภอกุ แก้ว	คอนสาย	บ้านคอนสาย	
L109	อุบลราชธานี	เขื่องใน	บ้านไทย	บ้านทุ่งใหญ่	
L110	อุดรธานี	หนองวัวซอ		บ้านอุบมุง	
L111	สุรินทร์	ศีขรภูมิ	ดริม	บ้านดริม	วัดบ้านดริม

Table A2: Sema Database

Abbreviations

- a.s.: axial stupa,  
 B.I: Buddha Image  
 Bo: Bodhisattva  
 d.: *dharmacakra*  
 F.: Fragment  
 H.I.: Hindu Image  
 J.: *Jataka*  
 LA: Laterite  
 L.B.: Life of the Buddha  
 LM: Limestone  
 M.: Material  
 N.A.: Not available  
 N. Art: Narrative Art  
 N.P.: No Provenance  
 SA: Sandstone  
 s.k. : *stupa-kumbha*  
 U.: Unidentified

Sema #	Site #	Site Name	Current Location	Type	M.	Height	Width	Depth	N. Art	Motifs	In situ
S1	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	170cm	84cm	24cm	J.	No	No
S2	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	156cm	74cm	21cm	L.B.	a.s	No
S3	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	120cm	60cm	21cm	J.	No	No
S4	L55	Wang Sapung	Khon Kaen Museum	Slab Type	SA	128cm	35cm	23cm	No	s.k	No
S5	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type, F.	SA	N.A.	82cm	9cm	L.B.	No	No
S6	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type	SA	220cm	50cm	24cm	L.B.	No	No
S7	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type, F.	SA	64cm	60cm	11cm	J.	No	No
S8	L7	Bahn Don Kaeo	Khon Kaen Museum	Slab Type, F.	SA	66cm	60cm	17cm	No	a.s	No
S9	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	184cm	80cm	22cm	L.B.	a.s	No
S10	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	140cm	80cm	20cm	J.	a.s	No
S11	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	154cm	77cm	20cm	L.B.	No	No
S12	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	84cm	90cm	23cm	J.	No	No
S13	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	108cm	104cm	34cm	J.	No	No
S14	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	160cm	52cm	14cm	J.	No	No
S15	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	170cm	80cm	27cm	L.B.	a.s	No
S16	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	100cm	75cm	23cm	L.B.	No	No
S17	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	167cm	83cm	27cm	L.B.	a.s	No
S18	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	158cm	42cm	47cm	No	No	No
S19	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	188cm	49cm	27cm	No	No	No
S20	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	155cm	50cm	50cm	No	No	No
S21	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	158cm	48cm	46cm	No	No	No
S22	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	140cm	48cm	46cm	No	No	No
S23	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	165cm	50cm	40cm	No	No	No

S24	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	150cm	45cm	40cm	No	No	No
S25	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	133cm	45cm	45cm	No	No	No
S26	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	135cm	45cm	45cm	No	No	No
S27	N.P	N.P.	Khon Kaen Museum	Pillar Type, F.	SA	100cm	46cm	40cm	No	No	No
S28	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	153cm	46cm	48cm	No	No	No
S29	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	158cm	46cm	40cm	No	No	No
S30	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	127cm	44cm	32cm	No	No	No
S31	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	120cm	47cm	44cm	No	No	No
S32	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	190cm	47cm	40cm	No	No	No
S33	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	138cm	60cm	37cm	No	No	No
S34	N.P	N.P.	Khon Kaen Museum	Slab/Pillar Type	SA	133cm	45cm	30cm	No	No	No
S35	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	140cm	47cm	40cm	No	No	No
S36	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	145cm	71cm	30cm	No	a.s	No
S37	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	145cm	56cm	22cm	No	a.s	No
S38	N.P	N.P.	Khon Kaen Museum	Pillar Type	SA	148cm	44cm	42cm	No	No	No
S39	N.P	N.P.	Khon Kaen Museum	Pillar Type, base only	SA	77cm	50cm	50cm	No	No	No
S40	N.P	N.P.	Khon Kaen Museum	Pillar Type, base only	SA	80cm	47cm	53cm	No	No	No
S41	N.P	N.P.	Khon Kaen Museum	Pillar Type, base only	SA	100cm	56cm	45cm	No	No	No
S42	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	157cm	75cm	19cm	No	No	No
S43	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	150cm	83cm	29cm	No	a.s	No
S44	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	75cm	60cm	23cm	No	a.s	No
S45	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	110cm	68cm	27cm	No	a.s	No
S46	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	58cm	60cm	23cm	No	a.s	No
S47	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	220cm	80cm	30cm	No	a.s	No
S48	L54	Bahn Ma	Khon Kaen Museum	Octagonal Type	SA	145cm	40cm (diameter)		No	No	No
S49	L54	Bahn Ma	Khon Kaen Museum	Octagonal Type	SA	140cm	50cm (diameter)	faces 27cm	No	No	No
S50	N.P.	N.P.	Khon Kaen Museum	Slab Type	SA	N.A.	N.A.	N.A.	No	a.s	No
S51	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	308cm	86cm	40cm	No	a.s	No
S52	L42	Muang Samsip Town	Khon Kaen Museum	Slab Type	LA	182cm	97cm	33cm	No	a.s	No
S53	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	170cm	70cm	30cm	No	a.s	No
S54	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	157cm	75cm	25cm	No	No	No
S55	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	137.5cm	67.5cm	27cm	No	a.s	No
S56	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	150cm	77cm	20cm	No	No	No
S57	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	154cm	70cm	24cm	No	No	No
S58	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	80cm	68cm	27cm	No	a.s	No
S59	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	135cm	90cm	28cm	No	a.s	No
S60	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	132cm	66cm	26cm	No	No	No
S61	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	134cm	92cm	15cm	No	a.s	No
S62	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	155cm	90cm	18cm	No	a.s	No
S63	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	150cm	77cm	20cm	No	a.s	No
S64	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	160cm	70cm	33cm	No	a.s	No
S65	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	135cm	90cm	28cm	No	a.s	No
S66	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	145cm	68cm	19cm	No	a.s	No
S67	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	138cm	90cm	29cm	No	No	No
S68	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type, F.	SA	115cm	87cm	20cm	No	a.s	No
S69	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	99cm	71cm	22cm	B.I	No	No
S70	L3	Bahn Nong	Khon Kaen Museum	Slab Type	SA	163cm	53cm	27cm	J.	no	No

		Hang									
S71	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	95cm	100cm	20cm	J.	a.s	No
S72	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	176cm	76cm	25cm	J.	a.s	No
S73	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	131cm	70cm	16cm	H.I	a.s	No
S74	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	65cm	73cm	25cm	U	a.s	No
S75	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	74cm	79cm	25cm	J.	a.s	No
S76	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	94cm	64cm	14cm	J.	a.s	No
S77	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	122cm	54cm	17cm	H.I	No	No
S78	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	91cm	55cm	13cm	L.B.	No	No
S79	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	105cm	60cm	18cm	No	s.k	No
S80	L1	Muang Fa Daed	Khon Kaen Museum	Tapered pillar type	SA	256cm	44cm	44cm	No	No	No
S81	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	197cm	81cm	24cm	L.B.	a.s	No
S82	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	96cm	66cm	17cm	J.	a.s	No
S83	L74	Ban Kud Namkin	Khon Kaen Museum	Slab Type	SA	186cm	80cm	20cm	J.	No	No
S84	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type, F.	SA	149cm	59cm	20cm	No	s.k	No
S85	L3	Bahn Nong Hang	Khon Kaen Museum	Tapered pillar type	SA	284cm	54cm	54cm	J.	No	No
S86	N.P	N.P.	Khon Kaen Museum	Tapered pillar type	SA	298cm	50cm	50cm	No	No	No
S87	L61	Bahn Podahk	Khon Kaen Museum	Slab type	SA	153cm	66cm	23cm	No	a.s	No
S88	L3	Bahn Nong Hang	Khon Kaen Museum	Tapered pillar type	SA	242cm	50cm	50cm	J.	No	No
S89	L1	Muang Fa Daed	Khon Kaen Museum	Tapered pillar type	SA	227cm	50cm	50cm	No	No	No
S90	L1	Muang Fa Daed	Khon Kaen Museum	Tapered pillar type	SA	225cm	46cm	46cm	No	No	No
S91	L3	Bahn Nong Hang	Khon Kaen Museum	Tapered pillar type	SA	267cm	93cm	93cm	J./L.B.	No	No
S92	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	199cm	84cm	14cm	L.B.	No	No
S93	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	153cm	82cm	20cm	J.	a.s	No
S94	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	90cm	62cm	13cm	No	No	No
S95	L36	Bahn Po Tong	Khon Kaen Museum	Slab Type, F.	SA	108cm	69cm	24cm	No	s.k	No
S96	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type	SA	210cm	76cm	26cm	No	No	No
S97	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	73cm	46cm	14cm	No	a.s	No
S98	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	147cm	78cm	20cm	B.I	a.s	No
S99	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	173cm	70cm	20cm	L.B.	a.s	No
S100	L3	Bahn Nong Hang	Khon Kaen Museum	Slab Type	SA	153cm	76cm	9cm	J.	No	No
S101	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	133cm	85cm	14cm	U	No	No
S102	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	133cm	73cm	30cm	J.	a.s	No
S103	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	178cm	80cm	30cm	J.	a.s	No
S104	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	113cm	60cm	17cm	No	s.k	No
S105	L7	Bahn Don Kaeo	Khon Kaen Museum	Octagonal Type	SA	114cm	55cm (diameter)		No	No	No
S106	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	50cm	60cm	18cm	U	No	No
S107	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	54cm	60cm	20cm	U	No	No
S108	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	55cm	64cm	17cm	No	No	No
S109	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	35cm	38cm	9cm	No	No	No
S110	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	53cm	70cm	27cm	No	No	No
S111	L63	Bahn Tah Wat	Khon Kaen Museum	Slab Type, F.	SA	48cm	50cm	20cm	No	No	No

S112	L36	Na Dun	Khon Kaen Museum	Slab Type, F.	SA	82cm	56cm	22cm	No	a.s	No
S113	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	44cm	55cm	15cm	No	No	No
S114	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	43cm	46cm	15cm	U	No	No
S115	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	104cm	50cm	25cm	No	No	No
S116	N.P	Udon Thani Province	Khon Kaen Museum	Slab Type	SA	134cm	62cm	26cm	No	a.s	No
S117	N.P	Udon Thani Province	Khon Kaen Museum	Slab Type	SA	154cm	62cm	29cm	No	a.s	No
S118	L60	Bahn Phue	Khon Kaen Museum	Slab/Pillar Type	SA	128cm	38cm	27cm	No	No	No
S119	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	101cm	68cm	20cm	No	a.s	No
S120	L60	Bahn Phue	Khon Kaen Museum	Slab Type	SA	110cm	55cm	24cm	No	a.s	No
S121	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	114cm	65cm	17cm	No	a.s	No
S122	L60	Bahn Phue	Khon Kaen Museum	Pillar Type	SA	144cm	37cm	37cm	No	No	No
S123	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	97cm	59cm	22cm	No	No	No
S124	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	130cm	75cm	20cm	No	No	No
S125	N.P	Udon Thani Province	Khon Kaen Museum	Slab Type	SA	147cm	57cm	21cm	No	a.s	No
S126	L54	Bahn Ma	Khon Kaen Museum	Octagonal Type	SA	142cm	48cm (diameter)		No	No	No
S127	L54	Bahn Ma	Khon Kaen Museum	Octagonal Type	SA	153cm	47cm (diameter)		No	No	No
S128	L42	Muang Sam Sip	Khon Kaen Museum	Slab Type	LA	180cm	97cm	29cm	No	a.s	No
S129	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	105cm	65cm	22cm	No	a.s	No
S130	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	78cm	58cm	22cm	No	a.s	No
S131	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	139cm	73cm	23cm	No	No	No
S132	N.P	N.P.	Khon Kaen Museum	Slab Type	SA		97cm	19cm	No	No	No
S133	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	67cm	66cm	26cm	No	No	No
S134	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	91cm	70cm	21cm	No	No	No
S135	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	97cm	81cm	28cm	No	No	No
S136	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	66cm	72cm	20cm	No	No	No
S137	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	155cm	64cm	19cm	No	a.s	No
S138	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	127cm	68cm	22cm	No	No	No
S139	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	80cm	59cm	19cm	No	a.s	No
S140	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	99cm	60cm	23cm	No	No	No
S141	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	144cm	74cm	20cm	No	No	No
S142	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	100cm	63cm	21cm	No	a.s	No
S143	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	98cm	70cm	19cm	No	a.s	No
S144	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	86cm	46cm	15cm	No	a.s	No
S145	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	89cm	32cm	16cm	No	No	No
S146	N.P	N.P.	Khon Kaen Museum	Slab Type	SA	129cm	58cm	23cm	No	a.s	No
S147	L60	Bhan Phue	Khon Kaen Museum	Slab Type	SA	115cm	44cm	16cm	No	a.s	No
S148	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	94cm	65cm	26cm	No	a.s	No
S149	N.P	Udon Thani Province	Khon Kaen Museum	Slab Type, F.	SA	106cm	55cm	12cm	no	a.s	No
S150	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	77cm	59cm	16cm	No	a.s	No
S151	N.P	Kunchin-arai	Khon Kaen Museum	Slab Type, F.	SA	120cm	77cm	14cm	No	a.s	No
S152	N.P	Udon Thani Province	Khon Kaen Museum	Slab Type	SA	153cm	45cm	29cm	No	a.s	No
S153	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type	SA	131cm	42cm	17cm	No	No	No
S154	L54	Bahn Ma	Khon Kaen Museum	Pillar Type, F.	SA	56cm	43cm	43cm	No	No	No
S155	L54	Bahn Ma	Khon Kaen Museum	Pillar Type, F.	SA	62cm	48cm	43cm	No	No	No
S156	N.P	N.P.	Khon Kaen Museum	Slab Type,	SA	74cm	41cm	33cm	No	no	No

				F.							
S157	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	110cm	60cm	19cm	No	a.s	No
S158	L43	Bahn Phon Muang	Khon Kaen Museum	Slab Type, F.	SA	102cm	54cm	17cm	No	No	No
S159	L42	Muang Samsip Town	Khon Kaen Museum	Slab Type, F.	SA	194cm	69cm	22cm	No	a.s	No
S160	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	67cm	71cm	11cm	No	No	No
S161	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	82cm	59cm	12cm	No	No	No
S162	L42	Muang Samsip Town	Khon Kaen Museum	Slab Type, F.	SA	95cm	44cm	17cm	No	No	No
S163	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	39cm	64cm	23cm	No	No	No
S164	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	68cm	74cm	12cm	No	a.s	No
S165	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	61cm	45cm	27cm	No	No	No
S166	L6	Kunchin-arai	Khon Kaen Museum	Slab Type, F.	SA	90cm	80cm	26cm	No	No	No
S167	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	37cm	30cm	22cm	No	No	No
S168	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	66cm	79cm	19cm	No	No	No
S169	L1	Muang Fa Daed	Khon Kaen Museum	Slab Type, F.	SA	63cm	79cm	20cm	No	No	No
S170	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	69cm	59cm	15cm	No	No	No
S171	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	51cm	71cm	16cm	No	No	No
S172	N.P	N.P.	Khon Kaen Museum	Slab Type, F.	SA	66cm	86cm	8cm	No	No	No
S173	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	196cm	67cm	20cm	L.B.	No	No
S174	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	190cm	74cm	18cm	L.B.	No	No
S175	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	120cm	88cm	26cm	J.	a.s	No
S176	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	175cm	68cm	25cm	J.	a.s	No
S177	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	233cm	86cm	30cm	J.	a.s	No
S178	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	164cm	89cm	14cm	J.	a.s	No
S179	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	130cm	90cm	10cm	J.	a.s	No
S180	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	140cm	84cm	25cm	J.	a.s	No
S181	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	156cm	76cm	26cm	J.	a.s	No
S182	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	160cm	85cm	25cm	J.	a.s	No
S183	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	120cm	77cm	19cm	J.	No	No
S184	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	90cm	66cm	26cm	No	a.s	No
S185	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	25cm	67cm	24cm	No	a.s	No
S186	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	78cm	75cm	30cm	No	a.s	No
S187	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	77cm	78cm	20cm	No	a.s	No
S188	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	20cm	70cm	26cm	No	No	No
S189	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	135cm	67cm	35cm	No	a.s	No
S190	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	90cm	58cm	18cm	No	a.s	No
S191	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	90cm	75cm	20cm	No	a.s	No
S192	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	71cm	70cm	23cm	No	a.s	No
S193	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	100cm	80cm	23cm	No	a.s	No
S194	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	90cm	70cm	26cm	No	a.s	No
S195	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	67cm	70cm	20cm	No	a.s	No
S196	L1	Muang Fa	Wat Po Chai	Slab Type,	SA	102cm	60cm	33cm	No	a.s	No

		Daed	Semaram	F.							
S197	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	83cm	73cm	23cm	No	a.s	No
S198	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	N.A.	N.A.	N.A.	No	a.s	No
S199	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	120cm	70cm	25cm	No	a.s	No
S200	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	80cm	63cm	23cm	No	a.s	No
S201	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	66cm	58cm	20cm	No	a.s	No
S202	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	N.A.	N.A.	N.A.	U	a.s	No
S203	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	164cm	80cm	25cm	No	No	No
S204	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	80cm	72cm	23cm	No	a.s	No
S205	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	102cm	60cm	30cm	No	s.k	No
S206	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	87cm	66cm	25cm	No	a.s	No
S207	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	80cm	70cm	20cm	No	a.s	No
S208	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	66cm	65cm	25cm	No	a.s	No
S209	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	90cm	60cm	20cm	No	a.s	No
S210	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	66cm	60cm	24cm	No	a.s	No
S211	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	N.A.	N.A.	N.A.	U	No	No
S212	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	66cm	70cm	24cm	No	No	No
S213	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	94cm	75cm	24cm	No	a.s	No
S214	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	60cm	80cm	20cm	No	a.s	No
S215	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	70cm	70cm	20cm	No	a.s	No
S216	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	80cm	63cm	23cm	No	a.s	No
S217	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	60cm	83cm	30cm	No	No	No
S218	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	50cm	65cm	22cm	No	No	No
S219	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	92cm	60cm	15cm	No	No	No
S220	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	N.A.	N.A.	N.A.	U	a.s	No
S221	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	45cm	85cm	25cm	No	a.s	No
S222	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	70cm	63cm	18cm	No	a.s	No
S223	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	65cm	86cm	24cm	No	a.s	No
S224	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	60cm	60cm	27cm	No	a.s	No
S225	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	30cm	70cm	18cm	No	a.s	No
S226	?	Kalasin	Private Collection	Slab Type, F.	SA	N.A.	N.A.	N.A.	J.	No	No
S227	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	102cm	83cm	30cm	No	a.s	No
S228	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	150cm	85cm	33cm	No	a.s	No
S229	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	80cm	60cm	22cm	No	a.s	No
S230	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	127cm	60cm	22cm	No	a.s	No
S231	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	105cm	80cm	24cm	No	a.s	No
S232	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	85cm	70cm	27cm	No	a.s	No
S233	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	155cm	77cm	25cm	No	a.s	No
S234	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	130cm	75cm	28cm	No	a.s	No
S235	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	97cm	65cm	23cm	No	a.s	No
S236	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	115cm	67cm	30cm	No	a.s	No
S237	L1	Muang Fa	Wat Po Chai	Slab Type	SA	108cm	80cm	32cm	No	a.s	No

		Daed	Semaram								
S238	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	120cm	74cm	24cm	No	a.s	No
S239	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	155cm	70cm	28cm	No	a.s	No
S240	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	145cm	80cm	27cm	No	a.s	No
S241	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	120cm	63cm	23cm	No	a.s	No
S242	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	123cm	59cm	36cm	No	a.s	No
S243	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	115cm	66cm	23cm	No	a.s	No
S244	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	113cm	76cm	18cm	No	No	No
S245	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	104cm	47cm	30cm	No	a.s	No
S246	L1	Muang Fa Daed	Wat Po Chai Semaram	Octagonal Type	SA	90cm	47cm (diameter)	N.A.	No	No	No
S247	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	106cm	60cm	22cm	No	a.s	No
S248	L1	Muang Fa Daed	Wat Po Chai Semaram	Octagonal Type	SA	200cm	60cm (diameter)	N.A.	No	No	No
S249	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	128cm	75cm	26cm	No	No	No
S250	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	80cm	70cm	20cm	No	a.s	No
S251	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	80cm	67cm	30cm	No	a.s	No
S252	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	110cm	80cm	20cm	No	a.s	No
S253	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	90cm	64cm	24cm	No	No	No
S254	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	100cm	73cm	24cm	No	a.s	No
S255	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	103cm	60cm	13cm	No	a.s	No
S256	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type, F.	SA	60cm	64cm	16cm	No	a.s	No
S257	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	84cm	70cm	20cm	No	a.s	No
S258	L1	Muang Fa Daed	Wat Po Chai Semaram	Slab Type	SA	83cm	59cm	23cm	No	a.s	No
S259	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type	SA	130cm	83cm	15cm	J.	a.s	No
S260	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	110cm	85cm	24cm	No	No	No
S261	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	70cm	50cm	30cm	No	No	No
S262	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	157cm	92cm	20cm	No	No	No
S263	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	79cm	80cm	20cm	No	No	No
S264	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type	SA	140cm	78cm	27cm	B.I	a.s	No
S265	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type	SA	142cm	89cm	24cm	J.	No	No
S266	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type	SA	173cm	84cm	27cm	J.	a.s	No
S267	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	60cm	84cm	20cm	No	No	No
S268	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	78cm	80cm	19cm	No	No	No
S269	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	107cm	74cm	30cm	No	a.s	No
S270	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	81cm	65cm	27cm	No	No	No
S271	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	77cm	48cm	13cm	No	No	No
S272	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	83cm	84cm	23cm	No	a.s	No
S273	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	58cm	88cm	18cm	No	a.s	No
S274	L1	Muang Fa Daed	Prataduyaku Stupa	Slab Type, F.	SA	80cm	75cm	20cm	No	No	No
S275	L1	Muang Fa Daed	Sala in the forest about 200 metres behind Wat Prataduyaku Temple	Slab Type	SA	160cm	86cm	30cm	No	a.s	No
S276	L1	Muang Fa Daed	Sala in the forest about 200 metres behind Wat	Slab Type	SA	150cm	80cm	30cm	No	a.s	No

			Prataduyaku Temple								
S277	L1	Muang Fa Daed	Sala about 3km away from Bahn Sema	Octagonal Type, F.	SA	72cm	40cm (diameter)	N.A.	No	No	No
S278	L1	Muang Fa Daed	Sala about 3km away from Bahn Sema	Octagonal Type, F.	SA	80cm	49cm (diameter)	N.A.	No	No	No
S279	L1	Muang Fa Daed	Sala about 3km away from Bahn Sema	Octagonal Type, F.	SA	77cm	50cm (diameter)	N.A.	No	No	No
S280	L1	Muang Fa Daed	Ubosot	Slab Type	SA	86cm	67cm	16cm	No	No	Yes
S281	L1	Muang Fa Daed	Ubosot	Pillar Type, F.	SA	46cm	38cm	40cm	No	No	Yes
S282	L1	Muang Fa Daed	Ubosot	Pillar Type, F.	SA	92cm	58cm	30cm	No	No	Maybe
S283	L1	Muang Fa Daed	Ubosot	Pillar Type, F.	SA	60cm	50cm	29cm	No	No	Yes
S284	L1	Muang Fa Daed	Ubosot	Slab Type, F.	SA	36cm	40cm	13cm	No	No	Yes
S285	L1	Muang Fa Daed	Ubosot	Pillar Type	SA	113cm	44cm	27cm	No	No	Yes
S286	L1	Muang Fa Daed	Ubosot	Pillar Type, F.	SA	60cm	40cm	40cm	No	No	Yes
S287	L1	Muang Fa Daed	Ubosot	Slab Type, F.	SA	50cm	62cm	28cm	No	no	Yes
S288	L1	Muang Fa Daed	Ubosot	Slab Type, F.	SA	90cm	59cm	29cm	No	No	No
S289	L1	Muang Fa Daed	Wat Nong Sila Nun	Slab Type	SA	120cm	33cm	18cm	No	a.s	No
S290	L1	Muang Fa Daed	Wat Nong Sila Nun	Slab Type	SA	119cm	70cm	25cm	No	a.s	No
S291	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	140cm	103cm	30cm	No	No	Maybe
S292	N.P	Muang Fa Daed?	British Museum	Slab Type	SA	N.A.	N.A.	N.A.	H.I	No	No
S293	L1	Muang Fa Daed	National Museum Bangkok	Slab Type	SA	N.A.	N.A.	N.A.	L.B.	No	No
S294	L1	Muang Fa Daed	N.A.	Slab Type	SA	N.A.	N.A.	N.A.	L.B.	No	No
S295	L1	Muang Fa Daed	Wat Sribunruang	Slab Type	SA	N.A.	N.A.	N.A.	J.	No	No
S296	N.A	Ratchburi	Wat Mahathat	Slab Type, F.	SA	50cm	26cm	15cm	No	a.s	No
S297	N.A	Ratchburi	Wat Mahathat	Slab Type	SA	40cm	32cm	13cm	No	a.s	No
S298	N.A	Ratchburi	Wat Mahathat	Slab Type, F.	SA	30cm	30cm	14cm	No	a.s	No
S299	N.A	Ratchburi	Wat Mahathat	Slab Type, F.	SA	44cm	33cm	14cm	No	a.s	No
S300	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type	SA	185cm	89cm	20cm	No	s.k	No
S301	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type	SA	155cm	72cm	30cm	No	a.s	No
S302	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type	SA	140cm	80cm	26cm	No	s.k	No
S303	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type, F.	SA	56cm	55cm	30cm	No	No	No
S304	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type	SA	153cm	64cm	34cm	No	a.s	No
S305	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type, F.	SA	96cm	47cm	20cm	No	a.s	No
S306	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type	SA	136cm	82cm	33cm	No	a.s	No
S307	L17	Bahn Phai Hin	Wat Nohn Sila	Pillar Type	SA	130cm	32cm	32cm	No	No	No
S308	L17	Bahn Phai Hin	Wat Nohn Sila	Slab Type, F.	SA	70cm	42cm	20cm	No	No	No
S309	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	166cm	54cm	27cm	No	a.s	No
S310	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	133cm	67cm	13cm	No	s.k	No
S311	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	N.A.	N.A.	N.A.	No	No	No
S312	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	115cm	56cm	25cm	No	s.k	No
S313	L20	Bahn Nohn Chat	Wat Dang	Slab Type, F.	SA	85cm	60cm	25cm	J.	No	No
S314	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	130cm	77cm	25cm	No	No	No
S315	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	170cm	57cm	20cm	No	s.k	No
S316	L20	Bahn Nohn Chat	Wat Dang	Tapered pillar type	SA	160cm	46cm	30cm	No	No	No
S317	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	120cm	70cm	20cm	J.	a.s	No

S318	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	130cm	80cm	29cm	No	a.s	No
S319	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	102cm	77cm	20cm	No	a.s	No
S320	L20	Bahn Nohn Chat	Wat Dang	Slab Type	SA	92cm	56cm	13cm	No	a.s	No
S321	L20	Bahn Nohn Chat	Wat Dang	Slab Type, F.	SA	84cm	68cm	16cm	No	s.k	No
S322	L20	Bahn Nohn Chat	Wat Dang	Slab Type, F.	SA	60cm	66cm	25cm	No	No	No
S323	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	140cm	53cm	30cm	No	d.	No
S324	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type, F.	SA	80cm	85cm	20cm	No	No	No
S325	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	95cm	60cm	15cm	No	No	No
S326	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	83cm	50cm	20cm	No	No	No
S327	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type, F.	SA	64cm	50cm	26cm	No	a.s	No
S328	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	104cm	50cm	26cm	No	No	No
S329	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type, F.	SA	70cm	44cm	20cm	No	No	No
S330	L21	Bahn Bua Semram	Wat Nong Srapang	Pillar Type	SA	115cm	40cm	35cm	No	No	No
S331	L21	Bahn Bua Semram	Wat Nong Srapang	Pillar Type	SA	72cm	54cm	30cm	No	No	No
S332	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	130cm	63cm	20cm	No	s.k	No
S333	L21	Bahn Bua Semram	Wat Nong Srapang	Pillar Type	SA	81cm	27cm	30cm	No	No	No
S334	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	150cm	50cm	15cm	No	No	No
S335	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type, F.	SA	82cm	74cm	17cm	No	No	No
S336	L21	Bahn Bua Semram	Wat Nong Srapang	Slab Type	SA	147cm	74cm	20cm	No	a.s	No
S337	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type	SA	162cm	7cm	16cm	No	No	No
S338	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	90cm	70cm	20cm	No	a.s	No
S339	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	60cm	57cm	16cm	No	No	No
S340	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	38cm	50cm	23cm	No	No	No
S341	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Pillar Type, F.	SA	64cm	30cm	30cm	No	No	No
S342	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type	SA	140cm	49cm	25cm	No	No	No
S343	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	93cm	70cm	20cm	No	No	No
S344	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Dharmacakra socle	SA	232cm	37cm	faces 15cm	No	No	No
S345	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	82cm	62cm	15cm	No	No	No
S346	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	73cm	47cm	10cm	No	No	No
S347	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	110cm	80cm	29cm	No	No	No
S348	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	103cm	65cm	40cm	No	No	No
S349	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	40cm	62cm	25cm	No	No	No
S350	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	80cm	66cm	20cm	No	a.s	No
S351	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	55cm	60cm	17cm	No	No	No
S352	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	55cm	60cm	17cm	No	a.s	No
S353	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	60cm	80cm	17cm	No	No	No
S354	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type	SA	145cm	75cm	22cm	No	s.k	No
S355	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type	SA	145cm	80cm	23cm	No	No	No
S356	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type, F.	SA	130cm	75cm	24cm	No	No	No
S357	L18	Bahn Pho Chai	Sala, approx 1km from Bahn Pho Chai	Slab Type	SA	268cm	80cm	35cm	No	a.s	No
S358	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	80cm	95cm	20cm	No	No	Maybe

S359	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	120cm	95cm	25cm	No	No	Maybe
S360	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	62cm	80cm	14cm	No	No	Maybe
S361	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	170cm	68cm	38cm	No	No	Maybe
S362	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	175cm	60cm	17cm	No	No	Maybe
S363	L18	Bahn Pho Chai	Excavation site	Pillar Type, F.	SA	95cm	35cm	35cm	No	No	Maybe
S364	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	70cm	104cm	30cm	No	No	Maybe
S365	L18	Bahn Pho Chai	Excavation site	Slab Type	SA	197cm	97cm	30cm	No	No	Maybe
S366	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	140cm	98cm	15cm	No	No	Maybe
S367	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	147cm	89cm	30cm	No	No	Maybe
S368	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	138cm	80cm	30cm	No	No	Maybe
S369	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	115cm	98cm	15cm	No	No	Maybe
S370	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	90cm	105cm	20cm	No	No	Maybe
S371	L18	Bahn Pho Chai	Excavation site	Pillar Type, F.	SA	167cm	42cm	30cm	No	No	No
S372	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	110cm	90cm	12cm	No	No	No
S373	L18	Bahn Pho Chai	Excavation site	Slab Type	SA	115cm	50cm	8cm	No	No	No
S374	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	58cm	60cm	10cm	No	No	No
S375	L18	Bahn Pho Chai	Excavation site	Slab Type, F.	SA	80cm	65cm	20cm	No	No	No
S376	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	120cm	40cm	45cm	No	No	No
S377	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	90cm	46cm	46cm	No	No	No
S378	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	98cm	46cm	43cm	No	No	No
S379	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	96cm	45cm	41cm	No	No	No
S380	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	112cm	47cm	49cm	No	No	No
S381	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	106cm	46cm	40cm	No	No	No
S382	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	100cm	50cm	45cm	No	No	No
S383	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	102cm	50cm	50cm	No	No	No
S384	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	85cm	48cm	40cm	No	No	No
S385	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	105cm	46cm	46cm	No	No	No
S386	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	115cm	50cm	45cm	No	No	No
S387	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	124cm	40cm	42cm	No	No	No
S388	L38	Mahasarakham Town	Wat Mahachai	Slab Type, F.	SA	60cm	56cm	10cm	No	No	No
S389	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	115cm	50cm	45cm	No	No	No
S390	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	115cm	45cm	48cm	No	No	No
S391	L38	Mahasarakham Town	Wat Mahachai	Slab Type, F.	SA	70cm	64cm	16cm	No	a.s	No
S392	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	80cm	50cm	50cm	No	No	No
S393	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	60cm	45cm	45cm	No	No	No
S394	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	100cm	40cm	40cm	No	No	No
S395	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	110cm	50cm	40cm	No	No	No
S396	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	100cm	50cm	30cm	No	No	No
S397	L38	Mahasarakham Town	Wat Mahachai	Slab Type	LA	90cm	60cm	20cm	No	No	No
S398	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	80cm	40cm	30cm	No	No	No
S399	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	90cm	50cm	50cm	No	No	No

S400	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	90cm	40cm	40cm	No	No	No
S401	L38	Mahasarakham Town	Wat Mahachai	Octagonal type	SA	87cm	47cm	faces 16-20cm	No	No	No
S402	L38	Mahasarakham Town	Wat Mahachai	Octagonal Type, F.	SA	90cm	40cm	faces 16-20cm	No	No	No
S403	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	122cm	45cm	40cm	No	No	No
S404	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	90cm	45cm	45cm	no	No	No
S405	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	70cm	40cm	35cm	No	No	No
S406	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	90cm	45cm	45cm	No	No	No
S407	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	60cm	35cm	35cm	No	No	No
S408	L38	Mahasarakham Town	Wat Mahachai	Pillar Type, F.	LA	60cm	50cm	40cm	No	No	No
S409	L38	Mahasarakham Town	Wat Mahachai	Pillar Type	LA	90cm	40cm	40cm	No	No	No
S410	L38	Mahasarakham Town	Wat Mahachai	Slab Type, F.	SA	76cm	67cm	17cm	No	No	No
S411	L38	Mahasarakham Town	Wat Mahachai	Slab Type	SA	74cm	68cm	17cm	No	No	No
S412	L38	Mahasarakham Town	Wat Mahachai	Octagonal Type	SA	173cm	70cm	faces 25cm	No	No	No
S413	L38	Mahasarakham Town	Wat Mahachai	Octagonal Type	SA	136cm	57cm	faces 20cm	No	No	No
S414	L37	Bahn Sra	Wat Pra yuem	Pillar Type	SA	124cm	50cm	45cm	No	No	No
S415	L37	Bahn Sra	Wat Pra yuem	Slab Type, F.	SA	82cm	75cm	8cm	No	No	No
S416	L37	Bahn Sra	Wat Pra Yuem	Pillar Type	SA	102cm	45cm	26cm	No	No	No
S417	L37	Bahn Sra	Wat Pra Yuem	Slab Type, F.	SA	92cm	80cm	11cm	No	No	No
S418	L37	Bahn Sra	Wat Pra Putamongkon	Slab Type, F.	SA	98cm	52cm	18cm	No	No	No
S419	L37	Bahn Sra	Wat Pra Pootamongkon	Slab Type, F.	SA	97cm	97cm	18cm	No	No	No
S420	L36	Bahn Po Tong	Ku Santaranatana	Slab Type, F.	LA	93cm	54cm	21cm	No	a.s	No
S421	L36	Bahn Po Tong	Ku Salanangkao	Slab Type, F.	LA	98cm	72cm	42cm	No	a.s	No
S422	L36	Bahn Po Tong	Ku Salanangkao	Slab Type, F.	LA	91cm	72cm	42cm	No	a.s	No
S423	L35	Roi Et Town	Wat Nuea	Slab Type	SA	153cm	74cm	25cm	No	s.k	No
S424	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	117cm	68cm	22cm	No	s.k	No
S425	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	87cm	56cm	20cm	No	a.s	No
S426	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	50cm	42cm	15cm	No	a.s	No
S427	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	66cm	70cm	25cm	No	No	No
S428	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	50cm	60cm	20cm	No	No	No
S429	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	70cm	78cm	13cm	No	No	No
S430	L35	Roi Et Town	Wat Nuea	Slab Type, F.	SA	66cm	60cm	20cm	No	No	No
S431	L35	Roi Et Town	Wat Nuea	Octagonal type, F.	LA	base 62cm Top 47cm, total height 109cm	40cm (diameter)	faces 23cm	No	No	No
S432	L35	Roi Et Town	Wat Nuea	Octagonal Type, F.	SA	86cm	54cm (diameter)	faces 38cm	No	No	No
S433	L35	Roi Et Town	Wat Nuea	Pillar Type, F.	LA	54cm	42cm	40cm	No	No	No
S434	L35	Roi Et Town	Wat Sra Tong	Pillar Type	LA	112cm	46cm	40cm	No	No	No
S435	L35	Roi Et Town	Wat Sra Tong	Octagonal Type, F.	LA	68cm	46cm (diameter)	faces 15-19cm	No	No	No
S436	L35	Roi Et Town	Wat Sra Tong	Slab Type, F.	LA	83cm	46cm	28cm	No	No	No
S437	L35	Roi Et Town	Wat Sra Tong	Octagonal Type	LA	77cm	42cm (diameter)	faces 15cm-	No	no	No

								20cm			
S438	L35	Roi Et Town	Wat Sra Tong	Slab Type, F.	SA	82cm	73cm	15cm	No	a.s	No
S439	L35	Roi Et Town	Wat Sra Tong	Slab Type	SA	102cm	72cm	20cm	No	s.k	No
S440	L35	Roi Et Town	Wat Sra Tong	Slab Type, F.	SA	73cm	70cm	21cm	No	No	No
S441	L35	Roi Et Town	Wat Sra Tong	Slab Type, F.	SA	70cm	60cm	20cm	No	a.s	No
S442	L35	Roi Et Town	Wat Sra Tong	Slab Type	SA	123cm	72cm	12cm	No	a.s	No
S443	L35	Roi Et Town	Wat Sra Tong	Slab Type, F.	SA	83cm	70cm	20cm	No	a.s	No
S444	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	63cm	55cm	20cm	No	a.s	No
S445	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	70cm	53cm	20cm	No	a.s	No
S446	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	50cm	58cm	20cm	No	a.s	No
S447	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	64cm	53cm	15cm	No	a.s	No
S448	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	65cm	60cm	15cm	No	a.s	No
S449	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	46cm	55cm	20cm	No	a.s	No
S450	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	57cm	70cm	18cm	No	a.s	No
S451	L35	Roi Et Town	Wat Bueng Pralanchai	Slab Type, F.	SA	60cm	70cm	20cm	No	a.s	No
S452	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	142cm	82cm	25cm	No	s.k	No
S453	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type, F.	LA	78cm	87cm	36cm	No	No	No
S454	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type, F.	LA	84cm	80cm	35cm	No	No	No
S455	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type	LA	130cm	83cm	30cm	No	a.s	No
S456	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type, F.	LA	90cm	74cm	30cm	No	a.s	No
S457	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type	SA	132cm	70cm	20cm	No	a.s	No
S458	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type	LA	144cm	82cm	40cm	No	a.s	No
S459	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type, F.	LA	88cm	85cm	37cm	No	a.s	No
S460	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	208cm	77cm	34cm	No	s.k	No
S461	L33	Bahn Muang Prai	Wat Ming Muang	Slab Type	LA	170cm	90cm	35cm	No	a.s	No
S462	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	180cm	80cm	18cm	No	s.k	No
S463	L33	Bahn Muang Prai	Wat Po Kang	Slab Type, F.	LA	50cm	81cm	40cm	No	No	No
S464	L33	Bahn Muang Prai	Wat Po Kang	Slab Type	LA	137cm	90cm	30cm	No	a.s	No
S465	L33	Bahn Muang Prai	Gleen Ta Khat	Slab Type, F.	LA	50cm	91cm	35cm	No	No	Maybe
S466	L33	Bahn Muang Prai	Gleen Ta Khat	Slab Type, F.	LA	70cm	110cm	30cm	No	No	Maybe
S467	L33	Bahn Muang Prai	Gleen Ta Khat	Slab Type, F.	LA	78cm	80cm	20cm	No	No	Maybe
S468	L33	Bahn Muang Prai	Gleen Ta Khat	Slab Type, F.	LA	110cm	73cm	35cm	No	No	Maybe
S469	L33	Bahn Muang Prai	Wat Baprachan Nok Hun	Slab Type, F.	LA	80cm	50cm	30cm	No	No	No
S470	L33	Bahn Muang Prai	Wat Baprachan Nok Hun	Slab Type, F.	LA	80cm	50cm	24cm	No	No	No
S471	L33	Bahn Muang Prai	Wat Sawan Arun	Slab Type, F.	LA	100cm	60cm	40cm	No	No	No
S472	L33	Bahn Muang Prai	Wat Sawan Arun	Slab Type	LA	113cm	61cm	40cm	No	No	No
S473	L33	Bahn Muang Prai	Wat Sawan Arun	Slab Type, F.	LA	120cm	65cm	30cm	No	No	No
S474	L33	Bahn Muang Prai	Wat Sawan Arun	Slab Type, F.	LA	70cm	80cm	30cm	No	No	No
S475	L33	Bahn Muang Prai	Wat Sawan Arun	Slab Type, F.	LA	110cm	66cm	50cm	No	No	No
S476	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type, F.	LA	142cm	80cm	30cm	No	a.s	No
S477	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type	LA	110cm	70cm	26cm	No	No	No
S478	L33	Bahn	Wat Tepeedah Tewah	Slab Type,	LA	88cm	55cm	23cm	No	no	No

		Muang Prai		F.							
S479	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type	LA	98cm	80cm	30cm	No	No	No
S480	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type, F.	LA	63cm	50cm	30cm	No	No	No
S481	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type	SA	110cm	80cm	22cm	No	No	No
S482	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type	LA	90cm	70cm	30cm	No	a.s	No
S483	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type	LA	115cm	80cm	37cm	No	a.s	No
S484	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type, F.	LA	110cm	70cm	30cm	No	No	No
S485	L33	Bahn Muang Prai	Wat Tepeedah Tewah	Slab Type, F.	LA	110cm	70cm	35cm	No	a.s	No
S486	L33	Bahn Muang Prai	Villagers' house	Slab Type, F.	SA	70cm	75cm	31cm	No	No	No
S487	L33	Bahn Muang Prai	Villagers' house	Slab Type, F.	SA	75cm	75cm	22cm	No	No	No
S488	L33	Bahn Muang Prai	Villagers' house	Slab Type, F.	SA	60cm	74cm	14cm	No	No	No
S489	L33	Bahn Muang Prai	Wat Borapah Peelam	Slab Type	SA	98cm	76cm	20cm	No	a.s	No
S490	L33	Bahn Muang Prai	Wat Borapah Peelam	Slab Type, F.	SA	58cm	70cm	15cm	No	a.s	No
S491	L33	Bahn Muang Prai	Wat Borapah Peelam	Slab Type, F.	SA	46cm	50cm	13cm	No	No	No
S492	L35	Roi Et Town	Wat Glang Ming Muang	Slab Type	SA	85cm	65cm	18cm	No	a.s	No
S493	L35	Roi Et Town	Wat Glang Ming Muang	Octagonal Type, F.	LA	60cm	40cm (diameter)	faces 20cm	No	No	No
S494	L35	Roi Et Town	Wat Glang Ming Muang	Octagonal Type, F.	LA	60cm	46cm (diameter)	20cm	No	No	No
S495	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	153cm	85cm	25cm	No	s.k	No
S496	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	120cm	70cm	20cm	No	a.s	No
S497	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	100cm	70cm	23cm	No	a.s	No
S498	L35	Roi Et Town	Wat Kumwanaram	Slab Type, F.	SA	70cm	70cm	17cm	No	No	No
S499	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	85cm	40cm	17cm	No	No	No
S500	L35	Roi Et Town	Wat Kumwanaram	Slab Type, F.	SA	80cm	80cm	25cm	No	a.s	No
S501	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	130cm	66cm	20cm	No	No	No
S502	L35	Roi Et Town	Wat Kumwanaram	Slab Type	SA	99cm	60cm	15cm	No	a.s	No
S503	L34	Phanom Prai	In front of district office	Slab Type,	SA	210cm	105cm	48cm	No	No	No
S504	L34	Phanom Prai	Wat Bompunan	Slab Type	SA	290cm	140cm	40cm	No	No	No
S505	L34	Phanom Prai	Wat Bompunan	Slab Type, F.	SA	90cm	110cm	36cm	No	No	No
S506	L34	Phanom Prai	Wat Bompunan	Slab Type	SA	190cm	108cm	26cm	No	No	No
S507	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	150cm	80cm	25cm	No	s.k	No
S508	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	156cm	70cm	28cm	No	a.s	No
S509	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	134cm	87cm	28cm	No	a.s	No
S510	L8	Yasothon Town	Wat Si Thammaram	Slab Type, F.	SA	65cm	84cm	26cm	No	a.s	No
S511	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	120cm	85cm	25cm	No	a.s	No
S512	L8	Yasothon Town	Wat Si Thammaram	Slab Type, F.	SA	60cm	87cm	23cm	No	a.s	No
S513	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	148cm	80cm	23cm	No	s.k	No
S514	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	140cm	90cm	24cm	No	s.k	No
S515	L8	Yasothon Town	Wat Si Thammaram	Slab Type, F.	SA	84cm	77cm	23cm	No	a.s	No
S516	L8	Yasothon Town	Wat Si Thammaram	Slab Type, F.	SA	80cm	90cm	15cm	No	a.s	No
S517	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	176cm	96cm	26cm	No	a.s	No
S518	L8	Yasothon Town	Wat Si Thammaram	Slab Type	SA	184cm	80cm	34cm	No	s.b	No
S519	L8	Yasothon	Wat Si Thammaram	Slab Type,	SA	116cm	76cm	24cm	No	a.s	No

		Town		F.							
S520	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	104cm	79cm	27cm	No	a.s	No
S521	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	225cm	100cm	30cm	No	s.k	No
S522	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type	SA	113cm	83cm	22cm	No	s.k	No
S523	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	110cm	80cm	30cm	No	No	No
S524	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	90cm	86cm	27cm	No	a.s	No
S525	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	75cm	76cm	18cm	No	a.s	No
S526	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	97cm	83cm	30cm	No	a.s	No
S527	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	80cm	103cm	40cm	No	a.s	No
S528	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	82cm	77cm	27cm	No	a.s	No
S529	L9	Bahn Tat Tong	Wat Si Mongkon	Slab Type, F.	SA	80cm	80cm	15cm	No	a.s	No
S530	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type	SA	140cm	70cm	30cm	No	a.s	No
S531	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type	SA	150cm	80cm	30cm	No	a.s	No
S532	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	70cm	80cm	30cm	No	a.s	No
S533	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	115cm	95cm	30cm	No	a.s	No
S534	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	76cm	80cm	20cm	No	a.s	No
S535	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type	SA	117cm	80cm	20cm	No	s.k	No
S536	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	58cm	74cm	27cm	No	a.s	No
S537	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	80cm	90cm	20cm	No	a.s	No
S538	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type	SA	120cm	86cm	20cm	No	a.s	No
S539	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	115cm	90cm	22cm	No	a.s	No
S540	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	104cm	86cm	26cm	No	a.s	No
S541	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	74cm	83cm	14cm	No	a.s	No
S542	L9	Bahn Tat Tong	That Kong Kao Noi Chedi	Slab Type, F.	SA	60cm	85cm	20cm	No	a.s	No
S543	L75	Phnom Kulen	Ben Gre	Slab Type	SA	140cm	80cm	24cm	No	d.	Maybe
S544	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	80cm	70cm	16cm	No	No	Maybe
S545	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	100cm	60cm	22cm	No	No	Maybe
S546	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	90cm	74cm	16cm	No	No	Maybe
S547	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	96cm	60cm	27cm	No	a.s	Maybe
S548	L75	Phnom Kulen	Ben Gre	Slab Type	SA	110cm	56cm	13cm	No	No	Maybe
S549	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	50cm	80cm	20cm	No	a.s	Maybe
S550	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	80cm	65cm	15cm	No	s.k	Maybe
S551	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	85cm	60cm	25cm	No	No	Maybe
S552	L75	Phnom Kulen	Ben Gre	Slab Type, F.	SA	110cm	70cm	20cm	No	a.s	Maybe
S553	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	85cm	78cm	20cm	No	No	No
S554	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	85cm	55cm	20cm	No	No	No
S555	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	115cm	80cm	20cm	No	No	No
S556	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	106cm	67cm	30cm	No	No	No
S557	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	54cm	84cm	17cm	No	No	No
S558	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	108cm	80cm	20cm	No	No	No
S559	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	80cm	70cm	37cm	No	No	No
S560	L49	Muang	Wat Pra Noan	Slab Type,	SA	87cm	90cm	14cm	No	no	No

		Sema		F.							
S561	L49	Muang Sema	Wat Pra Noan	Slab Type, F.	SA	80cm	70cm	15cm	No	No	No
S562	L49	Muang Sema	Ubosot	Slab Type, F.	SA	116cm	88cm	17cm	No	No	Yes
S563	L49	Muang Sema	Ubosot	Slab Type, F.	SA	146cm	60cm	15cm	No	No	Yes
S564	L49	Muang Sema	Ubosot	Slab Type, F.	SA	64cm	60cm	22cm	No	No	Yes
S565	L49	Muang Sema	Ubosot	Slab Type, F.	SA	42cm	70cm	18cm	No	No	Yes
S566	L49	Muang Sema	Ubosot	Slab Type, F.	SA	65cm	75cm	18cm	No	No	Yes
S567	L49	Muang Sema	Ubosot	Slab Type, F.	SA	50cm	44cm	16cm	No	No	Yes
S568	L49	Muang Sema	Ubosot	Slab Type, F.	SA	20cm	77cm	35cm	No	No	Yes
S569	L49	Muang Sema	Ubosot	Slab Type, F.	SA	13cm	47cm	10cm	No	No	Yes
S570	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	80cm	80cm	20cm	No	No	No
S571	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	47cm	50cm	10cm	No	No	No
S572	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	60cm	40cm	6cm	No	No	No
S573	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	65cm	50cm	10cm	No	No	No
S574	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	50cm	70cm	19cm	No	No	No
S575	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	50cm	48cm	7cm	No	No	No
S576	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	50cm	49cm	15cm	No	No	No
S577	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	60cm	56cm	10cm	No	No	No
S578	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	168cm	86cm	16cm	No	No	No
S579	L50	Bahn Tohnot	Wat Borhodot	Slab Type, F.	SA	78cm	70cm	15cm	No	No	No
S580	L50	Bahn Tohnot	Wat Borhodot	Slab Type	SA	83cm	60cm	10cm	No	No	No
S581	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	157cm	86cm	28cm	J.	a.s	No
S582	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	201cm	77cm	31cm	J.	a.s	No
S583	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	187cm	60cm	27cm	Bo	a.s	No
S584	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	250cm	93cm	23cm	J.	No	No
S585	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	162cm	70cm	26cm	No	s.k	No
S586	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	104cm	80cm	34cm	no	a.s	No
S587	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	175cm	82cm	27cm	J.	a.s	No
S588	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	170cm	60cm	22cm	J.	a.s	No
S589	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	186cm	92cm	22cm	J.	No	No
S590	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	197cm	93cm	23cm	J.	No	No
S591	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	280cm	78cm	28cm	J.	No	No
S592	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	302cm	93cm	28cm	B.I	No	No
S593	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	153cm	96cm	17cm	No	No	No
S594	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	140cm	97cm	20cm	No	No	No
S595	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	143cm	78cm	28cm	No	No	No
S596	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	170cm	78cm	20cm	No	a.s	No
S597	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	137cm	68cm	28cm	No	a.s	No
S598	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	173cm	85cm	26cm	No	a.s	No
S599	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	144cm	72cm	17cm	No	a.s	No
S600	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	232cm	65cm	28cm	No	a.s	No
S601	L26	Bahn Kut	FAD Shed	Slab Type	SA	210cm	65cm	32cm	No	a.s	No

		Ngong									
S602	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	224cm	84cm	30cm	No	a.s	No
S603	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	220cm	92cm	24cm	No	No	No
S604	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	228cm	106cm	20cm	No	No	No
S605	L26	Bahn Kut Ngong	FAD Shed	Slab Type	SA	148cm	62cm	33cm	No	a.s	No
S606	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	130cm	67cm	21cm	No	No	No
S607	L26	Bahn Kut Ngong	FAD Shed	Slab Type, F.	SA	54cm	62cm	26cm	No	a.s	No
S608	L22	Bahn Nong Song	Side of the road	Slab Type	SA	115cm	78cm	46cm	No	No	No
S609	L22	Bahn Nong Song	Side of the road	Slab Type/Pillar type	SA	150cm	43cm	21cm	No	No	No
S610	L22	Bahn Nong Song	Side of the road	Pillar Type, F.	SA	93cm	29cm	31cm	No	No	No
S611	L22	Bahn Nong Song	Side of the road	Pillar Type	SA	130cm	42cm	32cm	No	No	No
S612	L22	Bahn Nong Song	Side of the road	Pillar Type	SA	166cm	40cm	40cm	No	No	No
S613	L22	Bahn Nong Song	Side of the road	Slab Type, F.	SA	194cm	90cm	30cm	No	No	No
S614	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type	SA	160cm	50cm	30cm	No	No	No
S615	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	232cm	52cm	33cm	No	No	No
S616	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	134cm	49cm	13cm	No	No	No
S617	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type	SA	194cm	60cm	32cm	No	a.s	No
S618	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	80cm	76cm	27cm	No	a.s	No
S619	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	203cm	80cm	29cm	No	No	No
S620	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	233cm	76cm	40cm	No	a.s	No
S621	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type, F.	SA	162cm	35cm	23cm	No	No	No
S622	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	84cm	52cm	26cm	No	No	No
S623	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	110cm	50cm	19cm	No	No	No
S624	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab/Pillar Type	SA	215cm	42cm	37cm	No	No	No
S625	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type, F.	SA	110cm	40cm	23cm	No	No	No
S626	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type	SA	175cm	52cm	23cm	No	No	No
S627	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	94cm	54cm	30cm	No	No	No
S628	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	203cm	53cm	30cm	No	No	No
S629	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	90cm	47cm	28cm	No	No	No
S630	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab/Pillar Type	SA	253cm	40cm	28cm	No	No	No
S631	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type, F.	SA	207cm	36cm	51cm	No	d.	No
S632	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab/Pillar Type	SA	185cm	56cm	51cm	No	No	No
S633	L30	Bahn Phan Lam	Wat Tepalitapolor	Pillar Type	SA	143cm	36cm	20cm	No	No	No
S634	L30	Bahn Phan Lam	Wat Tepalitapolor	Slab Type	SA	170cm	55cm	34cm	Bo	No	No
S635	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Slab Type	SA	150cm	90cm	43cm	No	a.s	Maybe
S636	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Slab Type	SA	150cm	66cm	40cm	No	No	Maybe
S637	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Slab Type, F.	SA	164cm	62cm	62cm	No	a.s	Maybe
S638	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Slab Type, F.	SA	193cm	77cm	32cm	No	a.s	Maybe
S639	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Slab Type	SA	193cm	73cm	33cm	No	a.s	Maybe
S640	L24	Bahn Nong Hin Tang	Farmers Field on outskirts of village	Pillar Type	SA	202cm	49cm	39cm	No	No	Maybe
S641	L23	Bahn Hua Kua	Wat Bua	Slab Type	SA	128cm	74cm	21cm	B.I	No	No

S642	L23	Bahn Hua Kua	Wat Bua	Octagonal Type, F.	SA	45cm	45cm (diameter)	faces 18cm	No	No	No
S643	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type	SA	145cm	70cm	28cm	No	a.s	No
S644	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type	SA	198cm	72cm	32cm	No	a.s	No
S645	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type, F.	SA	178cm	69cm	32cm	No	a.s	No
S646	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type, F.	SA	86cm	66/68cm	37/31cm	No	a.s	No
S647	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type	SA	156cm	78cm	32cm	No	a.s	No
S648	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type, F.	SA	76cm	76cm	21cm	No	a.s	No
S649	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type, F.	SA	68cm	64cm	25cm	No	a.s	No
S650	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Octagonal Type	SA	129cm	49cm (diameter)	faces 20cm	No	No	No
S651	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type	SA	204cm	59cm	31cm	No	No	No
S652	L31	Bahn Kaeng	Wat Pratahdusomnueanong	Slab Type	SA	118cm	83cm	18cm	No	a.s	No
S653	L25	Bahn Pao	Wat Tahtu	Pillar Type	SA	97cm	35cm	23cm	No	No	No
S654	L25	Bahn Pao	Wat Tahtu	Slab Type	SA	100cm	46cm	22cm	No	No	Maybe
S655	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type	SA	92cm	54cm	16cm	No	No	Maybe
S656	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type	SA	110cm	95cm	16cm	No	a.s	No
S657	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type	SA	244cm	100cm	12cm	No	No	No
S658	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type	SA	154cm	76cm	28cm	No	No	No
S659	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type	SA	196cm	87cm	26cm	No	No	No
S660	L29	Chaiyapoom Town	Wat Paireepinat	Slab Type, F.	SA	83cm	83cm	24cm	No	No	No
S661	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	252cm	83cm	27cm	J.	No	No
S662	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	198cm	82cm	25cm	J.	No	No
S663	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	240cm	80cm	20cm	J.	a.s	No
S664	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	198cm	92cm	15cm	J.	No	No
S665	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	195cm	72cm	15cm	No	No	No
S666	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	157cm	55cm	24cm	No	No	No
S667	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	84cm	85cm	16cm	No	No	No
S668	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	120cm	87cm	15cm	B.I	No	No
S669	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	258cm	80cm	17cm	J.	No	No
S670	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	233cm	90cm	16cm	No	s.k	No
S671	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	91cm	63cm	30cm	No	a.s	No
S672	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	190cm	84cm	14cm	U	a.s	No
S673	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	167cm	88cm	16cm	J.	a.s	No
S674	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	114cm	83cm	16cm	U	No	No
S675	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	174cm	81cm	14cm	J.	No	No
S676	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type, F.	SA	150cm	72cm	25cm	No	a.s	No
S677	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab Type	SA	155cm	57cm	31cm	U	No	No
S678	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	167cm	64cm	18cm	No	No	No
S679	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	128cm	65cm	23cm	No	No	No
S680	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	152cm	63cm	22cm	No	No	No
S681	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	115cm	85cm	11cm	No	No	No
S682	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	115cm	60cm	32cm	No	No	No
S683	L32	Bahn Korn	Wat Korn Sawan	Slab type, F.	SA	114cm	77cm	18cm	No	No	No

		Sawan									
S684	L32	Bahn Korn Sawan	Wat Korn Sawan	Pillar type	SA	140cm	35cm	32cm	No	No	No
S685	L32	Bahn Korn Sawan	Wat Korn Sawan	Pillar type, F.	SA	104cm	42cm	45cm	No	No	No
S686	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	203cm	85cm	14cm	No	a.s	No
S687	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	160cm	95cm	18cm	No	No	No
S688	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	136cm	74cm	24cm	No	No	No
S689	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	154cm	62cm	21cm	No	No	No
S690	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	173cm	64cm	12cm	No	No	No
S691	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	131cm	84cm	12cm	No	No	No
S692	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	160cm	85cm	16cm	No	No	No
S693	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	154cm	85cm	26cm	No	a.s	No
S694	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	137cm	94cm	15cm	No	No	No
S695	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	164cm	67cm	23cm	No	No	No
S696	L32	Bahn Korn Sawan	Wat Korn Sawan	Pillar type	SA	170cm	30cm	22cm	No	No	No
S697	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	138cm	45cm	32cm	No	No	No
S698	L32	Bahn Korn Sawan	Wat Korn Sawan	Pillar type	SA	146cm	31cm	19cm	No	No	No
S699	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	102cm	69cm	14cm	No	No	No
S700	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, Flagment	SA	78cm	65cm	27cm	No	No	No
S701	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	147cm	69cm	16cm	No	No	No
S702	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, Flagment	SA	130cm	88cm	13cm	No	a.s	No
S703	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	133cm	77cm	8cm	No	No	No
S704	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	120cm	90cm	7cm	No	No	No
S705	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type, F.	SA	103cm	82cm	11cm	No	No	No
S706	L32	Bahn Korn Sawan	Wat Korn Sawan	Slab type	SA	130cm	79cm	17cm	No	No	No
S707	L3	Bahn Nong Hang	Wat Po Chai	Slab type	SA	140cm	80cm	10cm	J.	No	No
S708	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	128cm	78cm	7cm	J.	No	No
S709	L3	Bahn Nong Hang	Wat Po Chai	Slab Type	SA	176cm	80cm	10cm	J.	No	No
S710	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	121cm	63cm	12cm	J.	No	No
S711	L3	Bahn Nong Hang	Wat Po Chai	Slab Type	SA	167cm	56cm	15cm	No	No	No
S712	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	97cm	65cm	13cm	No	No	No
S713	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	95cm	69cm	9cm	No	No	No
S714	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	128cm	71cm	10cm	No	No	No
S715	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	136cm	89cm	15cm	No	No	No
S716	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	79cm	77cm	7cm	No	No	No
S717	L3	Bahn Nong Hang	Wat Po Chai	Slab Type	SA	139cm	63/71cm	22/25cm	U	No	No
S718	L3	Bahn Nong Hang	Wat Po Chai	Slab Type, F.	SA	170cm	59cm	22/25cm	U	No	No
S719	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type	SA	155cm	76cm	13cm	No	a.s	No
S720	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type, F.	SA	104cm	60cm	14cm	No	No	No
S721	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type, F.	SA	76cm	69cm	17cm	U	No	No
S722	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type	SA	133cm	81cm	21cm	No	No	No
S723	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type, F.	SA	99cm	55cm	14cm	No	No	No
S724	L6	Kunchin-	Wat Sinnahgoh	Slab Type	SA	119cm	80cm	33cm	No	No	No

		arai Town									
S725	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type, F.	SA	85cm	52cm	20cm	No	No	No
S726	L6	Kunchin-arai Town	Wat Sinnahgoh	Slab Type	SA	139cm	70cm	25cm	No	No	No
S727	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	115cm	62cm	23cm	No	a.s	No
S728	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	132cm	84cm	9cm	No	No	No
S729	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	78cm	53cm	20cm	No	No	No
S730	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Pillar type, F.	SA	82cm	33cm	45cm	No	No	No
S731	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	113cm	52cm	31cm	No	No	No
S732	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	98cm	43cm	30cm	No	No	No
S733	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	117cm	44cm	30cm	No	No	No
S734	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Octagonal type	SA	92cm	45cm (diameter)	faces 30cm	No	No	No
S735	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	85cm	44cm	34cm	No	No	No
S736	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Pillar type	SA	101cm	37cm	46cm	No	No	No
S737	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Octagonal type	SA	156cm	45cm (diameter)	faces 34cm	No	No	No
S738	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	107cm	42cm	23cm	No	No	No
S739	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Pillar type	SA	82cm	40cm	30cm	No	No	No
S740	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	125cm	65cm	24cm	No	a.s	No
S741	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	93cm	63cm	18cm	No	a.s	No
S742	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type, F.	SA	168cm	73cm	27cm	No	No	No
S743	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Octagonal type	SA	167cm	50cm (diameter)	faces 25cm	No	No	No
S744	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	85cm	46cm	20cm	No	a.s	No
S745	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	104cm	41cm	19cm	No	a.s	No
S746	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Slab type	SA	162cm	73cm	13cm	No	No	No
S747	L6	Kunchin-arai Town	Wat Samut Deetam Buakao	Octagonal type	SA	118cm	33cm (diameter)	faces 16cm	No	No	No
S748	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type, F.	SA	50cm	46cm	14cm	No	a.s	No
S749	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type, F.	SA	73cm	33cm	12cm	No	No	No
S750	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type	SA	77cm	42cm	15cm	No	No	No
S751	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type, F.	SA	61cm	45cm	10cm	No	a.s	No
S752	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type	SA	75cm	23cm	28cm	No	No	No
S753	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type, F.	SA	68cm	47cm	16cm	No	No	No
S754	L2	Bahn Sohksai	Wat Pukao Putimid	Slab type, F.	SA	53cm	44cm	11cm	No	No	No
S755	L5	Bahn Sangkohm Phathana	Wat Bahn Sangkohm Phathana	Slab type	SA	151cm	102cm	27cm	No	a.s	No
S756	L5	Bahn Sangkohm Phathana	Wat Bahn Sangkohm Phathana	Slab type, F.	SA	99cm	74cm	20cm	No	a.s	No
S757	L5	Bahn Sangkohm Phathana	Wat Bahn Sangkohm Phathana	Pillar type	SA	84cm	32cm	27cm	No	No	No
S758	L5	Bahn Sangkohm Phathana	Wat Bahn Sangkohm Phathana	Slab type	SA	143cm	84cm	18cm	No	a.s	No
S759	L4	Bahn Na Ngam/Bahn Dorn Sila	Farmer field on the outskirts of village	Slab Type	SA	246cm	59cm (half buried)	21cm	No	s.k	No
S760	L4	Bahn Na Ngam/Bahn Dorn Sila	Farmer field on the outskirts of village	Slab Type	SA	323cm	100cm approx	23cm	No	s.k	Yes
S761	L4	Bahn Na Ngam/Bahn Dorn Sila	Farmer field on the outskirts of village	Slab Type	SA	242cm	78cm	23cm	No	s.k	Yes

S762	L4	Bahn Na Ngam/Bahn Dorn Sila	Farmer field on the outskirts of village	Slab Type, F.	SA	30cm	80cm	24cm	No	No	Yes
S763	L4	Bahn Na Ngam/Bahn Dorn Sila	Farmer field on the outskirts of village	Slab Type, F.	SA	76cm	82cm	23cm	No	a.s	Yes
S764	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	115cm	65cm	36cm	L.B	a.s	Yes
S765	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	114cm	58cm	38cm	No	s.k	No
S766	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	112cm	56cm	27cm	No	s.k	No
S767	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	118cm	59cm	38cm	No	s.k	No
S768	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	137cm	73cm	34cm	No	s.k	No
S769	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab Type	SA	133cm	77cm	30cm	No	s.k	No
S770	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type	SA	159cm	83cm	28cm	No	a.s	No
S771	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type	SA	128cm	79cm	27cm	No	a.s	No
S772	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type	SA	115cm	82cm	17cm	No	a.s	No
S773	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Sab type	SA	150cm	75cm	27cm	No	a.s	No
S774	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	83cm	71cm	22cm	No	a.s	No
S775	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	108cm	75cm	25cm	No	a.s	No
S776	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	108cm	77cm	22cm	No	s.k	No
S777	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type	SA	87cm	66cm	23cm	No	a.s	No
S778	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	76cm	58cm	21cm	No	a.s	No
S779	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, Fragemt	SA	75cm	63cm	26cm	No	a.s	No
S780	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type	SA	111cm	75cm	40cm	No	a.s	No
S781	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	86cm	74cm	26cm	No	a.s	No
S782	L15	Bahn Kum Ngoen	Wat Bahn Kum Ngoen	Slab type, F.	SA	91cm	67cm	21cm	No	a.s	No
S783	L14	Bahn Nam Kum Yai	Sala beside the local temple	Pillar Type	LA	91cm	37cm	38cm	No	No	No
S784	L10	Bahn Song Bueai	Beside Dvaravati period stupa	Octagonal Type	LA	130cm	27cm (diameter)	faces 20cm	No	No	No
S785	L10	Bahn Song Bueai	Beside Dvaravati period stupa	Slab type, F.	SA	56cm	44cm	14cm	No	a.s	No
S786	L10	Bahn Song Bueai	Beside Dvaravati period stupa	Slab Type	SA	105cm	74cm	32cm	No	a.s	No
S787	L13	Bahn Ku Chahn	Beside Pratahtdu Ku Chahn	Slab type, F.	SA	78cm	70cm	21cm	No	a.s	No
S788	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	58cm	82cm	11cm	No	No	No
S789	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	61cm	67cm	9cm	No	No	No
S790	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	59cm	60cm	8cm	No	No	No
S791	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	62cm	61cm	11cm	No	No	No
S792	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	60cm	58cm	7cm	No	No	No
S793	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	60cm	63cm	8cm	No	No	No
S794	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	58cm	65cm	10cm	No	No	No
S795	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	61cm	82cm	15cm	No	No	No
S796	L11	Bahn Hua Muang	Wat Hua Muang	Slab type	SA	62cm	9cm	14cm	No	No	No
S797	L11	Bahn Hua Muang	Wat Nah Deen	Slab type	SA	77cm	61cm	18cm	No	a.s	No
S798	L12	Bahn Bueng Kaeo	Wat Pukahm Chonahrahm	Slab type	SA	116cm	83cm	12cm	No	a.s	No
S799	L12	Bahn Bueng Kaeo	Wat Pukahm Chonahrahm	Slab type, F.	SA	67cm	66cm	27cm	No	No	No
S800	L12	Bahn Bueng Kaeo	Wat Pukahm Chonahrahm	Slab type, F.	SA	51cm	57cm	22cm	No	No	No

S801	L12	Bahn Bueng Kaeo	Wat Pukahh Chonahrahm	Slab type	SA	106cm	67cm	22cm	No	a.s	No
S802	L12	Bahn Bueng Kaeo	Wat Pukahh Chonahrahm	Slab type	SA	84cm	55cm	23cm	No	a.s	No
S803	L12	Bahn Bueng Kaeo	Wat Pukahh Chonahrahm	Slab type, F.	SA	77cm	77cm	16cm	No	No	No
S804	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Slab Type	SA	210cm	63cm	17cm	No	No	No
S805	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Octagonal Type	SA	220cm	79cm (diameter)	faces 35cm	No	No	No
S806	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Octagonal type	SA	250cm	72cm (diameter)	faces 41cm	No	No	No
S807	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Slab Type, F.	SA	104cm	64cm	17cm	No	No	No
S808	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Octagonal type	SA	192cm	70cm (diameter)	faces 31cm	No	No	No
S809	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Pillar Type, F.	LA	65cm	36cm	28cm	No	No	No
S810	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Slab Type, F.	SA	142cm	61cm	30cm	No	No	No
S811	L7	Bahn Don Kaeo	Pramahatahdu Chedi	Slab Type	SA	325cm	70cm	35cm	No	No	No
S812	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	60cm	51cm	19cm	No	No	No
S813	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type	SA	100cm	44cm	18cm	No	No	No
S814	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type	SA	114cm	50cm	30cm	No	a.s	No
S815	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	92cm	46cm	25cm	No	No	No
S816	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	84cm	45cm	35cm	No	a.s	No
S817	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	58cm	48cm	22cm	No	s.k	No
S818	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	49cm	54cm	25cm	No	a.s	No
S819	L61	Bahn Podahk	Wat Hinmahkbeng	Slab Type, F.	SA	61cm	51cm	23cm	No	s.k	No
S820	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	235cm	70cm	30cm	No	a.s	Yes
S821	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	295cm	70cm	33cm	Bo	a.s	Yes
S822	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	334cm	75cm	48cm	J.	a.s	Yes
S823	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	268cm	80cm	42cm	J.	a.s	Yes
S824	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	310cm	72cm	40cm	No	a.s	Yes
S825	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	266cm	80cm	40cm	No	a.s	Yes
S826	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	176cm	72cm	42cm	No	a.s	Yes
S827	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	195cm	57cm	36cm	No	a.s	Yes
S828	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	284cm	65cm	40cm	Bo	a.s	Yes
S829	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	346cm	87cm	43cm	Bo	a.s	Yes
S830	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	363cm	80cm	42cm	L.B	a.s	Yes
S831	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	228cm	73cm	38cm	J.	a.s	Yes
S832	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	138cm	69cm	32cm	No	a.s	Yes
S833	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab type, F.	SA	217cm	66cm	45cm	No	a.s	Yes
S834	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	176cm	74cm	35cm	J.	a.s	Yes
S835	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	220cm	81cm	41cm	Bo	a.s	Yes
S836	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab type, F.	SA	173cm	72cm	38cm	Bo	a.s	Yes
S837	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab type, F.	SA	160cm	75cm	38cm	No	a.s	Yes
S838	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab type, F.	SA	137cm	76cm	42cm	No	a.s	Yes
S839	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	95cm	69cm	25cm	No	a.s	Yes
S840	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type	SA	52cm	69cm	41cm	No	a.s	Yes

S841	L52	Bahn Nong Kluem	Wat Nohn Sila	Slab Type, F.	SA	122cm	69cm	37cm	No	a.s	Yes
S842	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab type, F.	SA	71cm	44cm	20cm	No	No	No
S843	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	195cm	60cm	35cm	No	No	Yes
S844	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	74cm	45cm	37cm	No	No	Yes
S845	L57	Bahn Muang	Phu Phra Baht	Slab Type, F.	SA	92cm	45cm	33cm	No	No	Yes
S846	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	180cm	57cm	30cm	No	No	Yes
S847	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	96cm	49cm	32cm	No	No	Yes
S848	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	52cm	46cm	29cm	No	No	Yes
S849	L57	Bahn Muang	Phu Phra Baht	Pillar Type	SA	170cm	41cm	45cm	No	No	Yes
S850	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	184cm	62cm	35cm	No	No	Yes
S851	L57	Bahn Muang	Phu Phra Baht	Pillar/Slab Type	SA	154cm	48cm	35cm	No	No	Yes
S852	L57	Bahn Muang	Phu Phra Baht	Pillar Slab	SA	154cm	48cm	43cm	No	No	Yes
S853	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	118cm	50cm	27cm	No	No	Yes
S854	L57	Bahn Muang	Phu Phra Baht	Pillar Type, F.	SA	78cm	45cm	46cm	No	No	Yes
S855	L57	Bahn Muang	Phu Phra Baht	Pillar Type	SA	180cm	47cm	39cm	No	No	Yes
S856	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	102cm	33cm	28cm	No	No	Yes
S857	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	77cm	46cm	23cm	No	No	Yes
S858	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	71cm	42cm	17cm	No	No	Yes
S859	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	103cm	48cm	22cm	No	a.s	Yes
S860	L57	Bahn Muang	Phu Phra Baht	Slab Type, F.	SA	74cm	29cm	17cm	No	No	Yes
S861	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	288cm	68cm	43cm	No	No	Yes
S862	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	287cm	75cm	42cm	No	No	Yes
S863	L57	Bahn Muang	Phu Phra Baht	Slab Type, F.	SA	276cm	65cm	34cm	No	No	Yes
S864	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	180cm	50cm	35cm	No	No	Yes
S865	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	215cm	59cm	29cm	No	No	Yes
S866	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	244cm	62cm	53cm	No	No	Yes
S867	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	245cm	62cm	23cm	No	No	Yes
S868	L57	Bahn Muang	Phu Phra Baht	Pillar Type	SA	169cm	62cm	47cm	No	No	Yes
S869	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	95cm	39cm	21cm	No	No	Yes
S870	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	79cm	40cm	23cm	No	No	Yes
S871	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	59cm	48cm	16cm	No	No	Yes
S872	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	45cm	42cm	12cm	No	No	Yes
S873	L57	Bahn Muang	Phu Phra Baht	Slab type, F.	SA	44cm	48cm	18cm	No	No	Yes
S874	L57	Bahn Muang	Phu Phra Baht	Octagonal Type, F.	SA	95cm	37cm (diameter)	faces 17cm	No	No	Yes
S875	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	90cm	35cm	15cm	No	No	Yes
S876	L57	Bahn Muang	Phu Phra Baht	Pillar Type	SA	89cm	35cm	35cm	No	No	Yes
S877	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	83cm	35cm	27cm	No	No	Yes
S878	L57	Bahn Muang	Phu Phra Baht	Octagonal type	SA	126cm	35cm (diameter)	faces 18cm	No	No	Yes
S879	L57	Bahn Muang	Phu Phra Baht	Slab Type	SA	210cm	70cm	40cm	No	No	Yes
S880	L54	Bahn Ma	Wat Bahnmah	Slab type, F.	SA	63cm	64cm	22cm	No	a.s	Maybe
S881	L54	Bahn Ma	Wat Bahnmah	Slab Type	SA	85cm	48cm	25cm	No	a.s	Maybe

S882	L54	Bahn Ma	Wat Bahnmah	Slab type, F.	SA	47cm	50cm	11cm	No	a.s	May-be
S883	L54	Bahn Ma	Wat Bahnmah	Slab type	SA	108cm	40cm	10cm	No	No	May-be
S884	L54	Bahn Ma	Wat Dornaram	Slab type, F.	SA	97cm	64cm	11cm	No	s.k	No
S885	L54	Bahn Ma	Wat Dornaram	Slab type, F.	SA	59cm	57cm	24cm	No	No	No
S886	L54	Bahn Ma	Wat Dornaram	Slab type, F.	SA	38cm	65cm	26cm	No	a.s	No
S887	L54	Bahn Ma	Wat Dornaram	Slab type, F.	SA	50cm	44cm	25cm	No	a.s	No
S888	N.A.	Sakon Nakon	Wat Pratahdkom	Khmer Pillar	SA	130cm	36cm	36cm	No	No	May-be
S889	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	65cm	70cm	21cm	No	a.s	May-be
S890	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	87cm	81cm	23cm	No	a.s	May-be
S891	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	63cm	52cm	19cm	No	a.s	May-be
S892	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab Type	SA	108cm	57cm	23cm	No	s.k	May-be
S893	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	39cm	54cm	20cm	No	a.s	May-be
S894	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab Type	SA	83cm	52cm	16cm	No	a.s	May-be
S895	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type	SA	74cm	52cm	14cm	No	No	May-be
S896	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab Type	SA	103cm	53cm	18cm	No	s.k	May-be
S897	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	61cm	52cm	23cm	No	a.s	May-be
S898	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	78cm	68cm	25cm	No	a.s	May-be
S899	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	52cm	47cm	15cm	No	a.s	May-be
S900	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	45cm	68cm	23cm	No	a.s	May-be
S901	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	70cm	74cm	18cm	No	a.s	May-be
S902	L63	Bahn Tah Wat	Wat Glang Si Chiang Mai	Slab type, F.	SA	33cm	47cm	15cm	No	a.s	May-be
S903	L56	That Panom	That Panom Museum	Slab Type	SA	130cm	82cm	25cm	No	No	No
S904	L56	That Panom	That Panom Museum	Slab Type	SA	136cm	70cm	18cm	No	No	No
S905	L56	That Panom	That Panom Museum	Slab Type, F.	SA	97cm	72cm	20cm	No	No	No
S906	L56	That Panom	That Panom Museum	Slab Type	SA	114cm	60cm	20cm	No	a.s	No
S907	L56	That Panom	That Panom Chedi	Octagonal Type	SA	220cm	75cm (diameter)	faces 33cm	No	No	No
S908	L56	That Panom	That Panom Chedi	Octagonal Type	SA	220cm	74cm (diameter)	faces 24cm	No	No	No
S909	L56	That Panom	That Panom Chedi	Octagonal Type	SA	260cm	60cm (diameter)	faces 29cm	No	No	No
S910	L56	That Panom	That Panom Chedi	Slab Type	SA	284cm	50cm	40cm	No	No	No
S911	L56	That Panom	Wat Sila Mongkon	Slab Type	SA	126cm	72cm	22cm	No	s.k	No
S912	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	153cm	42cm	20cm	B.I	s.k	No
S913	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type, F.	SA	108cm	59cm	19cm	B.I	a.s	No
S914	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	135cm	57cm	19cm	B.I	a.s	No
S915	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	122cm	55cm	19cm	No	No	No
S916	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	157cm	72cm	28cm	B.I	No	No
S917	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	149cm	71cm	18cm	No	a.s	No
S918	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	138cm	61cm	12cm	B.I	No	No
S919	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	160cm	49cm	11cm	No	s.k	No
S920	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	160cm	82cm	14cm	U	No	No
S921	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	204cm	44cm	21cm	B.I	No	No
S922	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	144cm	58cm	16cm	B.I	a.s	No
S923	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	174cm	91cm	18cm	B.I	No	No

S924	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	180cm	82cm	20cm	B.I	No	No
S925	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	146cm	90cm	25cm	B.I	No	No
S926	L48	Phu Pra Angkhan	Wat Phu Pra Angkhan	Slab Type	SA	146cm	96cm	22cm	B.I	No	No
S927	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	132cm	89cm	16cm	No	s.k	No
S928	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	144cm	80cm	17cm	No	s.k	No
S929	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	196cm	95cm	25cm	No	s.k	No
S930	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	129cm	93cm	24cm	No	s.k	No
S931	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	120cm	78cm	12cm	B.I	a.s	No
S932	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	95cm	76cm	29cm	No	No	No
S933	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	123cm	79cm	13cm	No	s.k	No
S934	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	100cm	73cm	25cm	No	s.k	No
S935	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	157cm	84cm	15cm	No	s.k	No
S936	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	120cm	76cm	16cm	No	No	No
S937	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	226cm	87cm	17cm	No	s.k	No
S938	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	90cm	70cm	17cm	No	a.s	No
S939	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	149cm	78cm	19cm	No	s.k	No
S940	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	127cm	77cm	25cm	No	s.k	No
S941	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	LA	81cm	56cm	24cm	No	s.k	No
S942	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	158cm	92cm	22cm	No	s.k	No
S943	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	74cm	86cm	24cm	No	a.s	No
S944	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	77cm	83cm	18cm	No	a.s	No
S945	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	85cm	78cm	18cm	No	No	No
S946	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	137cm	79cm	9cm	No	a.s	No
S947	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	135cm	84cm	25cm	No	s.k	No
S948	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	187cm	78cm	15cm	No	s.k	No
S949	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	122cm	81cm	21cm	No	s.k	No
S950	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	93cm	80cm	29cm	No	s.k	No
S951	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type	SA	82cm	89cm	19cm	No	s.k	No
S952	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	147cm	54cm	15cm	No	No	No
S953	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	84cm	79cm	16cm	No	s.k	No
S954	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab type, F.	SA	198cm	92cm	27cm	No	s.k	No
S955	L47	Bahn Pa Khiap	Wat Sangsirinawaht	Slab Type, F.	SA	167cm	92cm	25cm	No	s.k	No
S956	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	LA	83cm	74cm	29cm	No	s.k	No
S957	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	96cm	72cm	25cm	No	s.k	No
S958	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	78cm	80cm	24cm	No	No	No
S959	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	103cm	65cm	18cm	No	s.k	No
S960	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	99cm	67cm	23cm	No	No	No
S961	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	114cm	80cm	26cm	No	s.k	No
S962	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	LA	100cm	62cm	29cm	No	s.k	No
S963	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	SA	103cm	62cm	14cm	No	s.k	No
S964	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type, F.	LA	85cm	50cm	26cm	No	s.k	No

S965	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type	SA	161cm	65cm	19cm	No	s.k	No
S966	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	SA	87cm	85cm	16cm	No	No	No
S967	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab Type	SA	161cm	61cm	18cm	No	No	No
S968	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	SA	94cm	64cm	24cm	No	No	No
S969	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	LA	63cm	44cm	25cm	No	s.k	No
S970	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	SA	137cm	80cm	33cm	No	No	No
S971	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	SA	58cm	47cm	19cm	No	No	No
S972	L47	Bahn Nohn Song	Wat Soponsratahrahm	Slab type, F.	SA	95cm	85cm	20cm	No	No	No
S973	L45	Bahn Brakum	Wat Poyoi	Slab Type	SA	102cm	71cm	21cm	No	s.k	No
S974	L45	Bahn Brakum	Wat Poyoi	Slab type, F.	SA	100cm	69cm	13cm	No	No	No
S975	L45	Bahn Brakum	Wat Poyoi	Slab type, F.	SA	68cm	64cm	12cm	No	d.	No
S976	L51	Bahn Lupmohk	Wat Muang Kong	Slab type, F.	SA	55cm	88cm	20cm	No	a.s	Yes
S977	L51	Bahn Lupmohk	Wat Muang Kong	Slab type, F.	SA	50cm	70cm	20cm	No	a.s	Yes
S978	L51	Bahn Lupmohk	Wat Muang Kong	Slab type, F.	SA	50cm	65cm	20cm	No	a.s	Yes
S979	L51	Bahn Lupmohk	Wat Muang Kong	Slab type, F.	SA	40cm	75cm	20cm	No	a.s	Yes
S980	L50	Non Sung	Phimai Museum	Slab Type	SA	148cm	74cm	26cm	No	No	No
S981	L50	Non Sung	Phimai Museum	Slab type, F.	SA	90cm	61cm	18cm	No	No	No
S982	L50	Non Sung	Phimai Museum	Slab type, F.	SA	96cm	81cm	16cm	No	No	No
S983	?	Kaset Somboon	Phimai Museum	Slab Type	SA	164cm	80cm	57cm	J.	No	No
S984	L23	Bahn Hua Kua	Phimai Museum	Slab Type	SA	202cm	79cm	31cm	B.I	a.s	No
S985	?	Kaset Somboon	Phimai Museum	Slab Type	SA	154cm	67cm	33cm	No	No	No
S986	L50	Non Sung	Phimai Museum	Slab type, F.	SA	114cm	76cm	19cm	No	No	No
S987	?	Kaset Somboon	Phimai Museum	Slab Type	SA	117cm	61cm	42cm	J.	s.k	No
S988	L50	Non Sung	Phimai Museum	Slab Type	SA	202cm	70cm	25cm	No	No	No
S989	L46	Bahn Muang Fai	Wat Muang Fai	Slab Type	SA	N.A	N.A	N.A	No	No	No
S990	?	?	Ubon Ratchatani Museum	Slab Type	SA	170cm	76cm	22cm	No	s.k	No
S991	L39	Bahn Puey Huadong	Ubon Ratchatani museum, taken from Wat Bahrayrai	Slab Type	SA	158cm	80cm	16cm	No	s.k	No
S992	L39	Bahn Puey Huadong	Ubon Ratchatani Museum	Slab Type	SA	263cm	74cm	14cm	No	s.k	No
S993	L39	Bahn Puey Huadong	Ubon Ratchatani Museum	Slab type, F.	SA	252cm	78cm	20cm	No	s.k	No
S994	L42	Muang Samsip Town	Ubon Ratchatani	Slab Type	SA	335cm	75cm	33cm	No	s.k	No
S995	L42	Muang Samsip Town	Wat Muang Samsip	Slab type	LA	115cm	80cm	30cm	No	a.s	No
S996	L42	Muang Samsip Town	Wat Muang Samsip	Slab Type	SA	110cm	65cm	15cm	No	a.s	No
S997	L42	Muang Samsip Town	Wat Muang Samsip	Slab type, F.	SA	83cm	64cm	22cm	No	No	No
S998	L42	Muang Samsip Town	Wat Muang Samsip	Slab type, F.	SA	43cm	66cm	19cm	No	a.s	No
S999	L42	Muang Samsip Town	Wat Muang Samsip	Slab type, F.	SA	63cm	60cm	16cm	No	No	No
S 1000	L42	Muang Samsip Town	Wat Muang Samsip	Slab Type	SA	46cm	60cm	15cm	No	No	No
S 1001	L42	Muang Samsip Town	Wat Muang Samsip	Slab type, F.	SA	67cm	58cm	17cm	No	No	No
S 1002	L42	Muang Samsip	Wat Muang Samsip	Slab type, F.	SA	70cm	65cm	20cm	No	No	No

		Town									
S 1003	L42	Muang Samsip Town	Wat Muang Samsip	Slab Type	SA	60cm	65cm	18cm	No	No	No
S 1004	L42	Muang Samsip Town	Wat Muang Samsip	Slab Type, F.	SA	55cm	40cm	12cm	No	No	No
S 1005	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	100cm	76cm	40cm	No	a.s	No
S 1006	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	120cm	78cm	30cm	No	a.s	No
S 1007	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	N.A	N.A	N.A	No	a.s	No
S 1008	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	77cm	70cm	25cm	No	a.s	No
S 1009	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	70cm	75cm	22cm	No	a.s	No
S 1010	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Pillar Type, F.	LA	77cm	64cm	40cm	No	No	No
S 1011	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	90cm	86cm	35cm	No	a.s	No
S 1012	L42	Muang Samsip Town	Behind market at Muang Samsip Town	Slab Type, F.	LA	80cm	70cm	22cm	No	a.s	No
S 1013	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	102cm	75cm	20cm	No	a.s	No
S 1014	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type	SA	105cm	75cm	15cm	No	s.k	No
S 1015	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type	SA	220cm	84cm	20cm	No	a.s	No
S 1016	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type	SA	215cm	84cm	20cm	No	s.k	No
S 1017	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	77cm	78cm	20cm	No	s.k	No
S 1018	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	70cm	80cm	25cm	No	s.k	No
S 1019	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	90cm	87cm	17cm	No	a.s	No
S 1020	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	85cm	75cm	25cm	No	s.k	No
S 1021	L39	Bahn Puey Huadong	Wat Po Sila	Slab Type, F.	SA	86cm	88cm	20cm	No	a.s	No
S 1022	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	SA	90cm	50cm	20cm	No	a.s	No
S 1023	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	140cm	80cm	30cm	No	a.s	No
S 1024	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	110cm	76cm	25cm	No	a.s	No
S 1025	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	140cm	85cm	25cm	No	a.s	No
S 1026	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	SA	88cm	58cm	22cm	No	a.s	No
S 1027	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	SA	60cm	70cm	25cm	No	s.k	No
S 1028	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	LA	60cm	72cm	22cm	No	a.s	No
S 1029	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	198cm	87cm	22cm	No	a.s	No
S 1030	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	105cm	60cm	20cm	No	a.s	No
S 1031	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	LA	120cm	90cm	28cm	No	a.s	No
S 1032	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	110cm	65cm	26cm	No	No	No
S 1033	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	SA	115cm	80cm	23cm	No	a.s	No
S 1034	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	90cm	64cm	20cm	No	a.s	No
S 1035	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	130cm	77cm	30cm	No	No	No
S 1036	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab type, F.	SA	80cm	78cm	24cm	No	a.s	No
S 1037	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab type, F.	SA	70cm	70cm	20cm	No	a.s	No
S 1038	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab type, F.	SA	106cm	70cm	30cm	No	No	No

S 1039	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	103cm	58cm	17cm	No	a.s	No
S 1040	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type, F.	SA	95cm	60cm	20cm	No	a.s	No
S 1041	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab Type	SA	75cm	77cm	23cm	No	a.s	No
S 1042	L39	Bahn Puey Huadong	Behind Puey Huadong school	Slab type, F.	SA	84cm	78cm	23cm	No	s.k	No
S 1043	L39	Bahn Puey Huadong	Wat Barerai	Slab type, F.	LA	90cm	64cm	32cm	No	s.k	No
S 1044	L39	Bahn Puey Huadong	Wat Barerai	Slab type, F.	LA	100cm	55cm	30cm	No	No	No
S 1045	L39	Bahn Puey Huadong	Wat Barerai	Slab type, F.	LA	86cm	60cm	30cm	No	a.s	No
S 1046	L39	Bahn Puey Huadong	Wat Barerai	Slab type, F.	LA	92cm	66cm	30cm	No	a.s	No
S 1047	L39	Bahn Puey Huadong	Wat Barerai	Slab Type	LA	130cm	50cm	35cm	No	a.s	No
S 1048	L39	Bahn Puey Huadong	Wat Barerai	Octagonal Type	LA	210cm	70cm (diameter)	faces 33cm	No	No	No
S 1049	L39	Bahn Puey Huadong	Wat Barerai	Octagonal Type	LA	106cm	56cm (diameter)	faces 22cm	No	No	No
S 1050	L39	Bahn Puey Huadong	Wat Barerai	Octagonal Type	LA	150cm	70cm (diameter)	faces 30cm	No	No	No
S 1051	L39	Bahn Puey Huadong	Wat Barerai	Octagonal Type	LA	140cm	70cm (diameter)	faces 30cm	No	No	No
S 1052	L39	Bahn Puey Huadong	Wat Barerai	Slab Type	LA	107cm	50cm	25cm	No	a.s	No
S 1053	L39	Bahn Puey Huadong	Wat Barerai	Slab type, F.	LA	102cm	60cm	40cm	No	No	No
S 1054	L39	Bahn Puey Huadong	Wat Barerai	Slab Type	LA	105cm	60cm	36cm	No	a.s	No
S 1055	L39	Bahn Puey Huadong	Wat Barerai	Slab Type, F.	LA	60cm	80cm	25cm	No	a.s	No
S 1056	L39	Bahn Puey Huadong	Wat Barerai	Slab Type, F.	LA	75cm	80cm	27cm	No	No	No
S 1057	L39	Bahn Puey Huadong	Wat Barerai	Slab Type	LA	50cm	80cm	32cm	No	a.s	No
S 1058	L43	Bahn Phon Muang	Shrine on outskirts of village, beside earthen mound	Slab Type, F.	SA	97cm	80cm	25cm	No	No	No
S 1059	L43	Bahn Phon Muang	Shrine on outskirts of village, beside earthen mound	Slab Type, F.	SA	56cm	40cm	15cm	No	No	No
S 1060	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type, F.	SA	60cm	60cm	18cm	No	No	No
S 1061	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type	SA	57cm	54cm	6cm	No	No	No
S 1062	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type, F.	SA	70cm	60cm	17cm	No	No	No
S 1063	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type, F.	SA	62cm	63cm	12cm	No	No	No
S 1064	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type, F.	SA	66cm	70cm	9cm	No	No	No
S 1065	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type	SA	70cm	55cm	13cm	No	No	No
S 1066	L43	Bahn Phon Muang	Wat Chaiyatigarahm	Slab Type	SA	70cm	60cm	10cm	No	No	No
S 1067	L40	Bahn Chat	Muang Ngio	Slab Type	SA	300cm	112cm	20cm	No	a.s	Yes
S 1068	L40	Bahn Chat	Muang Ngio	Slab Type	SA	267cm	83cm	20cm	No	a.s	Yes
S 1069	L40	Bahn Chat	Muang Ngio	Slab Type	SA	235cm	106cm	15cm	No	a.s	Yes
S 1070	L40	Bahn Chat	Muang Ngio	Slab Type	SA	110cm	135cm	23cm	No	a.s	Yes
S 1071	L40	Bahn Chat	Muang Ngio	Slab Type	SA	90cm	80cm	18cm	No	a.s	Yes
S 1072	L40	Bahn Chat	Muang Ngio	Slab type, F.	SA	40cm	70cm	16cm	No	a.s	Yes
S 1073	L40	Bahn Chat	Muang Ngio	Slab Type	SA	102cm	95cm	20cm	No	a.s	Yes
S 1074	L40	Bahn Chat	Muang Ngio	Slab Type	SA	86cm	72cm	20cm	No	s.k	Yes
S 1075	L40	Bahn Chat	Muang Ngio	Slab Type	SA	100cm	78cm	18cm	No	s.k	Yes
S 1076	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	210cm	74cm	20cm	No	a.s	No
S 1077	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	95cm	70cm	20cm	No	a.s	No
S 1078	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	163cm	70cm	23cm	No	a.s	No

S 1079	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	115cm	75cm	25cm	No	a.s	No
S 1080	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	90cm	70cm	20cm	No	a.s	No
S 1081	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	110cm	70cm	20cm	No	a.s	No
S 1082	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	80cm	80cm	15cm	No	a.s	No
S 1083	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	100cm	80cm	22cm	No	a.s	No
S 1084	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	120cm	90cm	20cm	No	a.s	No
S 1085	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	105cm	80cm	22cm	No	a.s	No
S 1086	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	110cm	70cm	20cm	No	a.s	No
S 1087	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	150cm	80cm	20cm	No	a.s	No
S 1088	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	88cm	70cm	20cm	No	a.s	No
S 1089	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	106cm	65cm	15cm	No	a.s	No
S 1090	L41	Bahn Na No Ma	Wat Dongthaokao	Slab type, F.	SA	80cm	83cm	20cm	No	a.s	No
S 1091	L41	Bahn Na No Ma	Wat Dongthaokao	Slab Type	SA	100cm	75cm	23cm	No	a.s	No
S 1092	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	100cm	63cm	17cm	No	a.s	Yes
S 1093	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	140cm	60cm	30cm	No	a.s	Yes
S 1094	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	220cm	76cm	30cm	Bo	s.k	Yes
S 1095	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	130cm	70cm	30cm	No	a.s	Yes
S 1096	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	150cm	80cm	20cm	No	a.s	Yes
S 1097	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	228cm	66cm	28cm	Bo	s.k	Yes
S 1098	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	102cm	70cm	20cm	No	a.s	Yes
S 1099	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	130cm	80cm	20cm	No	a.s	Yes
S 1100	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	156cm	77cm	25cm	Bo	s.k	Yes
S 1101	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	104cm	60cm	25cm	No	a.s	Yes
S 1102	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	132cm	70cm	30cm	No	a.s	Yes
S 1103	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	177cm	72cm	30cm	Bo	a.s	Yes
S 1104	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	120cm	70cm	30cm	No	a.s	Yes
S 1105	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type, F.	SA	95cm	70cm	20cm	No	No	Yes
S 1106	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	210cm	74cm	26cm	Bo	a.s	Yes
S 1107	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	130cm	77cm	44cm	No	a.s	Yes
S 1108	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	170cm	65cm	25cm	H.I	a.s	Yes
S 1109	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	210cm	70cm	30cm	L.B.	a.s	Yes
S 1110	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	84cm	67cm	27cm	No	a.s	Yes
S 1111	?	Chaiya-poom	Sri Thep Museam	Slab Type, F.	SA	90cm	70cm	20cm	U	a.s	No
S 1112	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	150cm	70cm	30cm	No	a.s	Yes
S 1113	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	224cm	80cm	36cm	Bo	s.k	Yes
S 1114	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	84cm	57cm	27cm	No	a.s	Yes
S 1115	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	112cm	70cm	25cm	No	a.s	Yes
S 1116	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	175cm	78cm	27cm	Bo	s.k	Yes
S 1117	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	147cm	60cm	30cm	No	a.s	Yes
S 1118	L60	Bahn Pailom	Wat Prapottahtbuabahn	Slab Type	SA	75cm	40cm	25cm	No	a.s	Yes
S 1119	L60	Bahn Pailom	Wat Prapottahtbuabahn	Octagonal Type	SA	198cm	55cm (diameter)	faces 30cm	No	No	Yes

S 1120	L60	Bahn Pailom	Wat Prapottahtbuabahn	Pillar Type	SA	80cm	40cm	35cm	No	No	Yes
S 1121	L53	Bahn Hin Tang	Outskirts of the village	pillar Type	SA	120cm	35cm	35cm	No	No	Yes
S 1122	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	73cm	50cm	30cm	No	No	Yes
S 1123	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	90cm	60cm	14cm	No	No	Yes
S 1124	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	165cm	75cm	25cm	No	No	Yes
S 1125	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	140cm	60cm	25cm	No	No	Yes
S 1126	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	70cm	55cm	15cm	No	No	Yes
S 1127	L53	Bahn Hin Tang	Outskirts of the village	Pillar Type	SA	230cm	50cm	42cm	No	No	Yes
S 1128	L53	Bahn Hin Tang	Outskirts of the village	Pillar Type	SA	140cm	40cm	30cm	No	a.s	Yes
S 1129	L53	Bahn Hin Tang	Outskirts of the village	Octagonal Type	SA	110cm	40cm (diameter)	faces 20cm	No	No	Yes
S 1130	L53	Bahn Hin Tang	Outskirts of the village	Slab Type	SA	147cm	55cm	27cm	No	a.s	Yes
S 1131	L53	Bahn Hin Tang	Outskirts of the village	Pillar Type	SA	160cm	40cm	38cm	No	No	Yes
S 1132	L53	Bahn Hin Tang	Outskirts of the village	Pillar Type	SA	160cm	35cm	30cm	No	No	Yes
S 1133	L62	Pu Noi	Wat Pratahtumuangpin	Slab Type	SA	67cm	44cm	30cm	No	No	Yes
S 1134	L62	Pu Noi	Wat Pratahtumuangpin	Slab Type	SA	30cm	25cm	8cm	No	No	Yes
S 1135	L62	Pu Noi	Wat Pratahtumuangpin	Slab Type	SA	N.A.	50cm	15cm	No	No	Yes
S 1136	L62	Pu Noi	Wat Pratahtumuangpin	Pillar Type	SA	55cm	25cm	20cm	No	No	Yes
S 1137	L62	Pu Noi	Wat Pratahtumuangpin	Slab Type	SA	90cm	80cm	30cm	No	No	Yes
S 1138	L62	Pu Noi	Wat Pratahtumuangpin	Slab Type	SA	38cm	25cm	10cm	No	No	Yes
S 1139	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	176cm	55cm	22cm	No	s.k	No
S 1140	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	130cm	65cm	20cm	No	s.k	No
S 1141	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	76cm	43cm	22cm	No	s.k	No
S 1142	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	160cm	60cm	35cm	No	s.k	No
S 1143	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	103cm	60cm	22cm	No	s.k	No
S 1144	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	120cm	50cm	20cm	No	s.k	No
S 1145	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	170cm	73cm	30cm	No	s.k	No
S 1146	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	160cm	66cm	30cm	No	s.k	No
S 1147	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	170cm	70cm	30cm	No	s.k	No
S 1148	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	100cm	50cm	20cm	No	s.k	No
S 1149	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	130cm	74cm	12cm	No	s.k	No
S 1150	L55	Wang Saphung	Wat Sema Hin	Pillar Type	SA	180cm	56cm	52cm	No	No	No
S 1151	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	130cm	75cm	25cm	No	No	No
S 1152	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	98cm	48cm	20cm	No	s.k	No
S 1153	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	90cm	67cm	18cm	No	s.k	No
S 1154	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	98cm	70cm	26cm	No	s.k	No
S 1155	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	80cm	67cm	30cm	No	s.k	No
S 1156	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	85cm	50cm	28cm	No	s.k	No
S 1157	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	140cm	75cm	30cm	No	s.k	No
S 1158	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	110cm	70cm	30cm	No	s.k	No
S 1159	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	80cm	60cm	22cm	No	s.k	No
S 1160	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	115cm	60cm	20cm	No	No	No

S 1161	L55	Wang Saphung	Wat Sema Hin	Slab Type, F.	SA	103cm	60cm	20cm	No	s.k	No
S 1162	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	145cm	80cm	30cm	No	s.k	No
S 1163	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	125cm	70cm	30cm	No	s.k	No
S 1164	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	120cm	66cm	25cm	No	s.k	No
S 1165	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	170cm	55cm	26cm	No	s.k	No
S 1166	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	237cm	40cm	20cm	No	s.k	No
S 1167	L55	Wang Saphung	Wat Sema Hin	Octagonal Type	SA	210cm	65cm (diameter)	faces 20cm	No	No	No
S 1168	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	190cm	75cm	42cm	No	s.k	No
S 1169	L55	Wang Saphung	Wat Sema Hin	Slab Type	SA	190cm	77cm	35cm	No	s.k	No
S 1170	L55	Wang Saphung	Bahn Nohn Kok Keenan	Slab Type	SA	83cm	40cm	14cm	No	s.k	No
S 1171	L55	Wang Saphung	Bahn Nohn Kok Keenan	Slab type, F.	SA	75cm	56cm	20cm	No	s.k	No
S 1172	L55	Wang Saphung	Sala Luk Muang	Slab Type	SA	90cm	66cm	23cm	No	a.s	No
S 1173	L16	Bahn Bahn Non Muang	Wat Sri Muang, Khon Kaen Town	Octagonal Type	SA	217cm	28cm (diameter)	faces 15cm	No	No	No
S 1174	L16	Bahn Non Muang	Wat Sri Muang, Khon Kaen Town	Slab Type	SA	190cm	70cm	20cm	No	a.s	No
S 1175	L16	Bahn Non Muang	Wat Pra Noan	Pillar Type	SA	184cm	46cm	46cm	No	No	Maybe
S 1176	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	140cm	80cm	26cm	No	a.s	Maybe
S 1177	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	165cm	65cm	28cm	No	No	Maybe
S 1178	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	120cm	85cm	25cm	No	s.k	Maybe
S 1179	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	175cm	75cm	20cm	No	No	Maybe
S 1180	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	100cm	50cm	25cm	No	No	Maybe
S 1181	L16	Bahn Non Muang	Wat Pra Noan	Slab type, F.	SA	104cm	75cm	20cm	No	No	Maybe
S 1182	L16	Bahn Non Muang	Wat Pra Noan	Slab type, F.	SA	84cm	60cm	24cm	No	No	Maybe
S 1183	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	130cm	100cm	42cm	No	a.s	Maybe
S 1184	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	112cm	74cm	22cm	No	a.s	Maybe
S 1185	L16	Bahn Non Muang	Wat Pra Noan	Slab type, F.	SA	70cm	97cm	20cm	No	No	Maybe
S 1186	L16	Bahn Non Muang	Wat Pra Noan	Octagonal Type	SA	164cm	57cm (diameter)	faces 25cm	No	No	Maybe
S 1187	L16	Bahn Non Muang	Wat Pra Noan	Pillar Type, F.	SA	85cm	45cm	40cm	No	No	Maybe
S 1188	L16	Bahn Non Muang	Wat Pra Noan	Pillar Type, F.	SA	85cm	50cm	40cm	No	No	Maybe
S 1189	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	136cm	60cm	34cm	No	No	Maybe
S 1190	L16	Bahn Non Muang	Wat Pra Noan	Slab type, F.	SA	83cm	66cm	37cm	No	No	Maybe
S 1191	L16	Bahn Non Muang	Wat Pra Noan	Slab Type	SA	160cm	56cm	40cm	No	No	Maybe
S 1192	L16	Bahn Non Muang	Wat Pra Noan	Slab Type, F.	SA	68cm	65cm	22cm	No	a.s	Maybe
S 1193	L19	Bahn Phai	Non Sema Fa Rangeum	Slab Type, F.	SA	45cm	75cm	14cm	No	No	Maybe
S 1194	L19	Bahn Phai	Non Sema Fa Rangeum	Slab Type, F.	SA	60cm	70cm	12cm	No	No	Maybe
S 1195	L19	Bahn Phai	Non Sema Fa Rangeum	Slab Type, F.	SA	20cm	60cm	13cm	No	No	Maybe
S 1196	L19	Bahn Phai	Non Sema Fa Rangeum	Slab Type, F.	SA	50cm	50cm	12cm	No	No	Maybe
S 1197	L19	Bahn Phai	Non Sema Fa Rangeum	Slab Type, F.	SA	70cm	70cm	24cm	No	No	Maybe
S 1198	L62	Pu Noi	Wat Suntitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	B.I	No	Maybe
S 1199	L62	Pu Noi	Wat Suntitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	s.k	Maybe
S 1200	L62	Pu Noi	Wat Suntitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	s.k	Maybe
S 1201	L62	Pu Noi	Wat Suntitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	No	Maybe

S 1202	L62	Pu Noi	Wat Sunitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	B.I	No	May-be
S 1203	L62	Pu Noi	Wat Sunitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	a.s	May-be
S 1204	L62	Pu Noi	Wat Sunitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	No	May-be
S 1205	L62	Pu Noi	Wat Sunitumbupot	Slab Type	SA	N.A.	N.A.	N.A.	No	No	May-be
S 1206	L54	Bahn Ma	Wat Pan Na	Slab Type	SA	75cm	63cm	51cm	H.I	No	May-be
S 1207	L65	Khon Kaen Town	Wat Sri Than	Slab Type	SA	104cm	70cm	15cm	No	No	No
S 1208	L64	Bahn Tah Krasoem	Muang Boran Nakorn Seum	Slab Type	SA	102cm	72cm	10cm	No	No	No
S 1209	L64	Bahn Tah Krasoem	Muang Boran Nakorn Seum	Slab Type	SA	86cm	75cm	15cm	No	No	No
S 1210	L64	Bahn Tah Krasoem	Muang Boran Nakorn Seum	Slab Type	SA	145cm	100cm	12cm	No	No	No
S 1211	L64	Bahn Tah Krasoem	Muang Boran Nakorn Seum	Slab Type, F.	SA	110cm	105cm	20cm	No	No	No
S 1212	L64	Bahn Tah Krasoem	Muang Boran Nakorn Seum	Slab Type	SA	160cm	75cm	20cm	No	No	No
S 1213	L88	Vientiane Province City	Wat Ho Pra Keo	Slab Type	SA	125cm	60cm	18cm	No	s.k	No
S 1214	L88	Vientiane Province City	Wat Ho Pra Keo	Slab Type	SA	90cm	60cm	20cm	No	No	No
S 1215	L88	Vientiane Province City	Wat Ho Pra Keo	Slab Type	SA	84cm	44cm	10cm	No	a.s	No
S 1216	L88	Vientiane Province City	Wat Ho Pra Keo	Slab Type, F.	SA	70cm	50cm	12cm	L.B.	No	No
S 1217	L83	Bahn Thalot	Wat Ho Pra Keo	Pillar Type	SA	90cm	26cm	26cm	No	No	No
S 1218	L88	Vientiane Province City	That Luang	Octagonal Type	SA	190cm	40cm (diameter)		No	No	No
S 1219	L84	Bahn Muang Kao	That Luang	Slab Type	SA	150cm	50cm	20cm	No	s.k	No
S 1220	L88	Vientiane Province City	That Luang	Octagonal Type	SA	210cm	55cm (diameter)	faces 20cm	No	No	No
S 1221	L88	Vientiane Province City	That Luang	Slab Type	SA	150cm	54cm	27cm	No	s.k	No
S 1222	L88	Vientiane Province City	That Luang	Slab Type	SA	145cm	80cm	23cm	No	s.k	No
S 1223	L88	Vientiane Province City	That Luang	Slab Type	SA	100cm	46cm	22cm	No	s.k	No
S 1224	L76	Vientiane Province	Bahn Na Sone	Slab Type	SA	180cm	70cm	20cm	No	No	No
S 1225	L76	Vientiane Province	Bahn Na Sone	Slab Type	SA	126cm	47cm	15cm	No	No	No
S 1226	L76	Vientiane Province	Bahn Na Sone	Slab Type, F.	SA	126cm	40cm	20cm	No	No	No
S 1227	L77	Vientiane Province	Bahn Nong Khan Khu	Slab Type, F.	SA	80cm	70cm	22cm	No	s.k	No
S 1228	L77	Vientiane Province	Bahn Nong Khan Khu	Slab Type	SA	95cm	65cm	20cm	No	a.s	No
S 1229	L78	Vientiane Province	Bahn Ilay	Slab Type	SA	140cm	70cm	25cm	No	No	Yes
S 1230	L78	Vientiane Province	Bahn Ilay	Slab Type, F.	SA	60cm	56cm	18cm	No	No	Yes
S 1231	L78	Vientiane Province	Bahn Ilay	Slab Type, F.	SA	101cm	100cm	20cm	No	No	Yes
S 1232	L78	Vientiane Province	Bahn Ilay	Slab Type, F.	SA	83cm	75cm	30cm	No	No	Yes
S 1233	L78	Vientiane Province	Bahn Ilay	Slab Type	SA	170cm	70cm	28cm	No	No	Yes
S 1234	L78	Vientiane Province	Bahn Ilay	Slab Type, F.	SA	108cm	74cm	26cm	No	No	Yes
S 1235	L78	Vientiane Province	Bahn Ilay	Slab Type	SA	115cm	80cm	24cm	No	a.s	Yes
S 1236	L78	Vientiane Province	Bahn Ilay	Slab Type	SA	40cm	70cm	23cm	No	No	Yes
S 1237	L78	Vientiane Province	Bahn Ilay	Slab Type	SA	130cm	67cm	18cm	No	No	Yes
S 1238	L61	Sri Chiang Mai	Wat Hinmahkbeng	Slab Type	SA	135cm	50 cm (diameter)		J.	No	No

S 1239	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	130cm	33cm	32cm	No	a.s	No
S 1240	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	160cm	31cm	31cm	No	a.s	No
S 1241	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	160cm	29cm	25cm	No	a.s	No
S 1242	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	164cm	47cm	33cm	No	a.s	No
S 1243	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	164cm	42cm	30cm	No	a.s	No
S 1244	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	120cm	48cm	30cm	No	a.s	No
S 1245	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	120cm	47cm	33cm	No	a.s	No
S 1246	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	125cm	44cm	39cm	No	a.s	No
S 1247	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	143cm	38cm	34cm	No	a.s	No
S 1248	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	142cm	36cm	30cm	No	a.s	No
S 1249	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	140cm	35cm	33cm	No	a.s	No
S 1250	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	138cm	29cm	28cm	No	a.s	No
S 1251	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	164cm	35cm	33cm	No	a.s	No
S 1252	N.A.	Ratchburi	Wat Khok Mor	Slab Type	SA	163cm	33cm	33cm	No	a.s	No
S 1253	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	77cm	33cm	15cm	Kala	No	No
S 1254	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	80cm	35cm	20cm	Kala	No	No
S 1255	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	86cm	41cm	15cm	U	No	No
S 1256	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	70cm	35cm	17cm	No	No	No
S1257	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	80cm	32cm	14cm	No	No	No
S 1258	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	80cm	33cm	20cm	No	No	No
S 1259	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	77cm	33cm	16cm	Kala	No	No
S 1260	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	70cm	34cm	14cm	Kala	a.s	No
S 1261	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	84cm	31cm	13cm	U	No	No
S 1262	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	78cm	33cm	14cm	N.A.	No	No
S 1263	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	83cm	39cm	15cm	No	No	No
S 1264	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	75cm	35cm	15cm	N.A.	No	No
S 1265	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	87cm	35cm	16cm	N.A.	No	No
S 1266	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	87cm	38cm	16cm	No	a.s	No
S 1267	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	82cm	39cm	18cm	Kala	No	No
S 1268	N.A.	Petchburi	Wat Mahathat	Slab Type	SA	82cm	36cm	20cm	No	a.s	No
S 1269	N.A.	Dong Mae Nang Muang	Private Collection	Slab Type	SA	N.A.	N.A.	N.A.	H.I	No	No
S 1270	N.A.	Dong Mae Nang Muang	Wat Dong Mae Nang Muang	Slab Type	N.A	N.A.	N.A.	N.A.	B.I	No	No
S 1271	L1	Muang Fa Daed	Private collection	Slab Type	N.A	N.A	N.A	N.A	J.	No	No
S 1272	L93	Bahn Panna	Bahn Panna	Slab Type	SA	75cm	40cm	13cm	No	s.k	No
S 1273	L99	Wiang Khuk	Wat Sao Suwanaram	Slab Type	SA	N.A.	N.A.	N.A.	J.	No	No
S 1274	N.A.	Dong Mae Nang Muang	MS1 south edge	Slab/Pillar Type	LM	180cm	40cm	25cm	No	No	May-be
S 1275	N.A.	Dong Mae Nang Muang	MS1 south edge	Slab/Pillar Type F.	LM	65cm	34cm	10cm	No	No	May-be
S 1276	N.A.	Dong Mae Nang Muang	MS1 top of south edge	Slab/Pillar Type F.	LM	110cm	45cm	20cm	No	No	May-be
S 1277	N.A.	Dong Mae Nang Muang	MS1 east side	Slab/Pillar type	LM	170cm	45cm	25cm	No	No	May-be

S 1278	N.A.	Dong Mae Nang Muang	MS1 middle	Slab/Pillar Type F.	LM	70cm	23cm	15cm	No	no	May-be
S 1279	N.A.	Dong Mae Nang Muang	MS1 west edge	Slab/Pillar Type F.	LM	45cm	35cm	12cm	No	No	May-be
S 1280	N.A.	Dong Mae Nang Muang	MS1 southwest corner	Slab/Pillar Type F.	LM	70cm	22cm	18cm	No	No	May-be
S 1281	N.A.	Dong Mae Nang Muang	approx 10m south of MS1	Slab/Pillar type	LM	190cm	35cm	30cm	No	No	May-be
S 1282	N.A.	Dong Mae Nang Muang	approx 10m south of MS1	Slab/Pillar type	LM	95cm	30cm	15cm	No	No	May-be
S 1283	N.A.	Dong Mae Nang Muang	south of MS2	slab type	LM	75cm	90cm	20cm	No	No	May-be
S 1284	N.A.	Dong Mae Nang Muang	south of MS2	Slab/Pillar Type F.	LM	90cm	60cm	12cm	No	No	May-be
S 1285	N.A.	Dong Mae Nang Muang	south of MS2	Pillar type	LM	110cm	50cm	20cm	No	No	May-be
S 1286	N.A.	Dong Mae Nang Muang	MS 5 or 6?	Slab type	LM	66cm	60cm	28cm	No	No	Yes
S 1287	N.A.	Dong Mae Nang Muang	MS2	Slab Type F.	LM	100cm	90cm	20cm	No	No	May-be
S 1288	N.A.	Dong Mae Nang Muang	MS2	Slab Type F.	LM	100cm	65cm	20cm	No	No	May-be
S 1289	N.A.	Dong Mae Nang Muang	MS2	Slab Type F.	LM	125cm	75cm	25cm	No	No	May-be
S 1290	L49	Muang Sema	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	No	No
S 1291	L75	Phnom Kulen	Tun Mas	Slab Type	LM	N.A.	N.A.	N.A.	H.I	No	No

Table A3: Publication References per site

Site#	Reference
L1	Seidenfaden (1954), Diskul (1956)
L2	Allen (2004)
L3	Krairiksh (1974a), Vallibhotama (1975)
L4	Vallibhotama (1985, 15)
L5	Vallibhotama (1985, 16)
L6	Local testimony
L7	Solheim & Gorman (1966), FAD (1998b, 105), Khon Kaen National Musuem accession records
L8	Vallibhotama (1975)
L9	Vallibhotama (1975)
L10	FAD (1986), Bauer (1991, 57)
L11	Vallibhotama (1981, 25), FAD (1986), Bauer (1991, 57)
L12	Wattanatum...Yasothon (2000, 86-87)
L13	FAD (1986), Bauer (1991, 57)
L14	Wattanatum...Yasothon (2000,86-94)
L15	Kingmanee (2001, 73)
L16	Vallibhotama (1975)
L17	Champa & Thoem (1985, 83-89), Bauer (1991, 65), Vallibhotama (1985, 26)
L18	Vallibhotama (1985, 22)
L19	FAD (1998b, 9)
L20	Wattanatum...Khon Kaen (2000, 82-87)
L21	Wattanatum...Khon Kaen (2000, 82-87)
L22	FAD (1990, 15-26)
L23	FAD (1990, 15-26), Vallibhotama (1975, 95)
L24	FAD (1990, 15-26), Vallibhotama (1975, 95)
L25	FAD (1990, 15-26), Vallibhotama (1975, 95)
L26	FAD (1990, 15-26), Vallibhotama (1975, 95)
L27	Wattanatum...Chaiyapoom (2000)
L28	Paknam (1981, 91)
L29	Wattanatum...Chaiyapoom (2000)
L30	Vallibhotama (1975, 64)
L31	Bauer (1991, 62)
L32	Wattanatum...Chaiyapoom (2000), <a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L33	Wattanatum...Roi Et (2000, 80)
L34	Wattanatum...Roi Et (2000, 43, 80)
L35	Wattanatum...Roi Et (2000, 43, 80)
L36	Wattanatum...Mahasarakham (2000,16-17), FAD (1986, 30)
L37	Vallibhotama (1975, 35, 101)
L38	Paknam (1981, 90-91), FAD (1986, 25)

L39	Bauer (1991, 57)
L40	Bauer (1991, 57)
L41	Bauer (1991)
L42	Bauer (1991, 57)
L43	Silpakorn (1981, 31-37)
L44	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L45	FAD (1959)
L46	FAD (1959)
L47	Vallibhotama (1985, 27)
L48	Vallibhotama (1985, 29)
L49	FAD (1959, 60-61)
L50	Whangsook (2000)
L51	Wattاناتุม...Sri Saket (2000, 124)
L52	FAD (1998a)
L53	Wattاناتุม...Udon Thani (2000)
L54	Suksavasti (1991, 105-111)
L55	Dumrigon (2006, 105-106)
L56	Paknam (1981, 108)
L57	FAD (1998b)
L58	FAD (1998b)
L59	FAD (1998b, 102)
L60	FAD (1998a)
L61	Kingmanee (1998a)
L62	Wattاناتุม...Nong Bua Lampoo (2000, 39, 78)
L63	Wattاناتุม...Sakon Nakon (2000, 29)
L64	Wattاناتุม...Khon Kaen (2000, 87)
L65	Wattاناتุม...Khon Kaen (2000)
L66	FAD (1998b, 38), Silpakorn (1981, 17)
L67	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L68	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L69	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L70	Wattاناتุม...Udon Thani (2000)
L71	Wattاناتุม...Sakon Nakon (2000)
L72	Paknam (1981, 97)
L73	Wattاناتุม...Yasothon (2000)
L74	Khon Kaen Museum accession records
L75	Boulbet & Dagens (1973)
L76	Lorrillard (2008)
L77	Lorrillard (2008)
L78	Lorrillard (2008)
L79	Lorrillard (2008)
L80	Lorrillard (2008)

L81	Lorrillard (2008)
L82	Lorrillard (2008)
L83	Lorrillard (2008)
L84	Lorrillard (2008)
L85	Karlstrom (2009)
L86	Karlstrom (2009)
L87	Lorrillard (2008)
L88	Lorrillard (2008)
L89	Lorrillard (2008)
L90	Pers. Comm. Lorrillard 2009
L91	Pers. Comm. Lorrillard 2009
L92	Pers. Comm. Lorrillard 2009
L93	Weeraprajak (2007)
L94	Baonoed (2006)
L95	Pers. Comm. Lorrillard 2009
L96	Pers. Comm. Lorrillard 2009
L97	Pers. Comm. Lorrillard 2009
L98	Pers. Comm. Lorrillard 2009
L99	Piromanukul (2002)
L100	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L101	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L102	FAD (1998b,38), Silpakorn (1981, 17)
L103	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L104	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L105	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L106	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L107	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L108	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L109	<a href="http://pladaek.media.osaka-cu.ac.jp/econetvis">http://pladaek.media.osaka-cu.ac.jp/econetvis</a>
L110	Pers. Comm. Pipad Krajaejun 2009
L111	FAD (2008, 35)

Table A4: *In situ* Locations

*In situ*

Site#	Province	Village/Site
L1	Kalasin	Muang Fa Daed
L4	Kalasin	Bahn Na Ngam
L18	Khon Kaen	Bahn Pho Chai
L31	Chaiyapoom	Bahn Kaeng
L33	Roi Et	Bahn Maung Prai

L37	Maharakham	Bahn Sra
L40	Amnat Chareon	Bahn Chat
L49	Nakorn Ratchasima	Bahn Hin Tang
L51	Sri Saket	Bahn Lupmohk
L52	Udon Thani	Bahn Nong Kluem
L54	Sakon Nakhon	Bahn Phan Na
L57	Udon Thani	Phu Phra Baht Historical Park
L60	Udon Thani	Bahn Pailom
L62	Nong Bua Lampoo	Bahn Pu Noi
L70	Udon Thani	Bahn Daeng
L75	Cambodia	Ben Gre and Tan Mas
L76	Vientiane	Bahn Na Sone
L78	Vientiane	Bahn Ilai
L82	Vientiane	Bahn Nam Pot
L83	Vientiane	Bahn Thalot
L85	Vientiane	Bahn Viengkham
L87	Vientiane	Bahn Somsanouk
L88	Vientiane	Vientiane City
L94	Ubon Ratchathani	Bahn Si Bua
L100	Chi River	Bahn Non Sala
L109	Ubon Ratchathani	Bahn Thung Yai

Possible *in situ*

Site#	Province	Village/Site
L16	Khon Kaen	Bahn Nohn Muang
L19	Khon Kaen	Non Sema Fa Rangeum
L24	Chaiyapoom	Bahn Nong Hin Tang
L53	Udon Thani	Bahn Hin Tang
L79	Vientiane	Bahn Simano
L84	Vientiane	Bahn Muang Kao
L92	Savannakhet	Bahn Na Mouang
L108	Udon Thani	Bahn Khon Sai
L110	Udon Thani	Bahn Oup Mong

Table A5: Inscriptions on Sema

Sema#	Site	Inscription #	Language	Date
S8	L7		Pallava Script, Old Mon Language	
S20	L1		not read	
S68	L3		not read	
S72	L1		not read	
S94	L1		Old Mon	9th-10th cent.

S96	L3		Sanskrit Script, Khmer Language	
S91	L3	K510	Old Mon Script, Pali Language	10th cent.
S105	L7	K981	Pallava script, Sanskrit Language	7th-8th cent.
S109	N.P.		not read	
S275	L1		not read	
S305	L17		not read	
S300	L17	KhK 17	Pallava Script, Old Mon Language	8th cent.
S301	L17	KhK 16	Pallava Script, Old Mon Language	8th cent.
S643	L31	Jy.11	Old Mon	8th cent.
S645	L31	Jy.10	Old Mon	8th cent.
S646	L31	Jy.i	Old Mon	8th cent.
S983	Phimai Museum		Khmer Script	10th-11th cent.
S984	L23		Khmer script, Sanskrit Language	11th cent.
S985	Phimai Museum		Khmer Script	10th-11th cent.
S1217	L83		Old Mon	
S1270	L49	Bo Ika Inscription	Khmer script, Sanskrit Language	9th cent.
S582	L26	unidentified	unidentified	
S587	L26	unidentified	unidentified	
S588	L26	Jy.8	Old Mon?	8th cent?
S591	L26	Jy.9	Old Mon	8th cent.
S1272	L93		Post Pallava script, Old Mon	9th-10th cent.

Table A6: Sema Amounts per site and Semas present per site

Abbreviations

u/d: Undocumented

Site#	No. of Sema	Sema#
L1	176	S1-3, S9-S17, S42, S47, S51, S53, S66, S69, S71-82, S89, S90, S92-S94, S97-S99 S101-S104, S106-S108, S110, S113-S114, S124, S153, S161, S169,

		S173-S290 S292-S295
L2	7	S748-S754
L3	23	S5-S7, S68, S70, S84, S85, S88, S91, S96, S100, S707-S718
L4	5	S759-S763
L5	4	S755-S758
L6	30	S166, S720-S747
L7	10	S8, S105, S804-S811
L8	13	S507-S519
L9	26	S452, S460, S462, S520-S542
L10	3	S784-S786
L11	10	S788-S797
L12	6	S798-S803
L13	1	S787
L14	1	S783
L15	19	S764-S784
L16	19	S1173-S1192
L17	9	S300-S308
L18	39	S337-S375
L19	5	S1193-S1197
L20	14	S309-S322
L21	14	S323-S336
L22	6	S608-S613
L23	3	S641, S642, S984
L24	6	S635-S640
L25	2	S653-S654
L26	27	S581-S607
L27	0	u/d
L28	0	0
L29	6	S655-S660
L30	21	S614-S634
L31	10	S643-S652
L32	46	S661-S706
L33	37	S453-S459, S461, S463-S491
L34	4	S503-S506
L35	40	S423-S451, S492-S502
L36	5	S420-S422, S95, S112
L37	6	S414-S419
L38	38	S376-S414
L39	48	S991-S993, S1013-S1057
L40	9	S1067-S1075

L41	15	S1076-S1091
L42	23	S52, S128, S159, S162, S994-S1012
L43	10	S1058-S1056
L44	0	0
L45	3	S973-S975
L46	1	S989
L47	46	S927-S972
L48	15	S912-S926
L49	17	S553-S569
L50	16	S570-S580, S980-S982, S986, S988
L51	4	S976-S979
L52	22	S820-S841
L53	12	S1121-S1132
L54	16	S48, S49, S126, S127, S154, S155, S158, S880-S887, S1206
L55	35	S1139-S1172
L56	9	S903-S911
L57	37	S843-S879
L58	0	0
L59	0	0
L60	33	S118, S120, S122, S147, S842, S1092-S1120
L61	10	S87, S812-S819, S1238
L62	14	S1133-S1138, S1198-S1205
L63	15	S111, S889-S902
L64	5	S1208-S1212
L65	1	S1207
L66	u/d	u/d
L67	u/d	u/d
L68	u/d	u/d
L69	u/d	u/d
L70	u/d	u/d
L71	u/d	u/d
L72	u/d	u/d
L73	u/d	u/d
L74	1	S83
L75	10	S543-S552
L76	3	S1224-S1226
L77	2	S1227-S1228
L78	9	S1229-S1237
L79	4	u/d
L80	4	u/d

L81	4	u/d
L82	4	u/d
L83	1	S1217
L84	1	S1219
L85	4	u/d
L86	4	u/d
L87	4	u/d
L88	10	S1213-S1216, S1218, S1220-S1223
L89	1	u/d
L90	7	u/d
L91	9	u/d
L92	8	u/d
L93	2	S1272
L94	3	u/d
L95	u/d	u/d
L96	u/d	u/d
L97	u/d	u/d
L98	u/d	u/d
L99	1	u/d
L100	6	u/d
L101	u/d	u/d
L102	3	u/d
L103	1	u/d
L104	u/d	u/d
L105	u/d	u/d
L106	u/d	u/d
L107	u/d	u/d
L108	u/d	u/d
L109	u/d	u/d
L110	u/d	u/d
L111	8	u/d

Table A7: Sema with Narrative Art and their Locations

<b>Jataka</b>	<b>Sema#</b>	<b>Site</b>
Bhuridatta Jataka	S85, S259, S588, S662	L1, L3, L32
Chaddanta Jataka	S983, S1271	L1?
Hamsa Jataka	S100	L3
Khandahala Jataka	S93, S584, S176	L1, L26
Kulavaka Jataka	S12	L1
Mahakapi Jataka	S88	L3

Mahajanaka Jataka	S7, S317	L3, L20
Mahararakassapa Jataka	S3, S182, S587	L1, L26
Mahosadha Jataka	S1, S82, S180, S265, S589, S669, S987	L1, L3, L26, L32, Phimai Museum
Sama Jataka	S709, S822	L3, L52
Sarabhangha Jataka	S178	L1
Sibi Jataka	S1273	L99
Suvarnakakkata Jataka	S834	L52
Temiya Jataka	S181, S266, S663, S823	L1, L32, L52
Vessantara Jataka	S10, S83, S85, S177, S295, S590, S662, S673	L1, L3, L26, L32, L74
Vidhurapandita Jataka	S72, S76, S85, S91, S591, S661, S831, S1106, S1238	L1, L3, L26, L32, L52, L60, L61
Unidentified Jatakas	S13, S14, S70, S71, S75, S102, S103, S175, S179, S183, S313, S581, S675	L1, L3, L20, L26
<b>Life of the Buddha</b>	<b>Sema#</b>	<b>Site</b>
The Buddha preaching to King Bimbisara	S2	L1
Indra offers fruit to the Buddha	S16	L1
Sotthiya offers Kusa Grass to the Buddha	S17	L1
Angulimala threatens the Buddha	S5	L3
The Buddha's return to Kapilavastu	S9, S11, S294, S830, S1109	L1, L52, L60
Buddha Mucalinda	S6, S15, S174	L1, L3
The Buddha in Aminisa Jetiya	S764	L15
Sujita's Gift	S78	L3
Tapussa and Bhallika	S99	L1
The First Sermon	S81	L1
Unidentified Life of the Buddha Scenes	S92, S173, S293, S1216	L1, L88
<b>Buddha and Bodhisattva Images</b>	<b>Sema#</b>	<b>Site</b>
Buddha Images	S69, S98, S592, S668, S984, S1198, S1202	L1, L23, L26, L32, L62
Bodhisattva Images	S91, S583, S634, S821, S828, S829, S835, S836, S912-S926, S1094, S1097, S1100, S1103, S1106, S1113, S1116	L3, L26, L30, L48, L52, L60

<b>Miscellaneous Buddhist/Brahmanical Imagery</b>	<b>Sema#</b>	<b>Site</b>
The Goddess Laksmi	S73, S1291	L1, L75
Durga/Sutasoma and Garuda/Kinnari	S77	L1
Indra mounted on Airavata	S292	L1?
Suriya the Sun God	S1108	L60
<i>The Ramayana</i>	S1206	L54
Buddha-Rama-Indra Triad	S1269	Dong Mae Nang Muang?
<b>Unidentified Images and Fragments</b>	<b>Sema#</b>	<b>Site</b>
	S74, S101, S106, S107, S114, S672, S674, S677, S721	L1, L6, L32

Table A8: Identifications and Types of Narrative Art per site

<b>Muang Fa Daed (L1)</b>	<b>Bahn Nong Hang (L3)</b>	<b>Bahn Kut Ngong (L26)</b>
Bhuridatta Jataka	Bhuridatta Jataka	Khandahala Jataka
Chaddanta Jataka	Hamsa Jataka	Mahanaradakassapa Jataka
Khandahala Jataka	Mahakapi Jataka	Mahosadha Jataka
Kulavaka Jataka	Mahajanaka Jataka	Vessantara Jataka
Mahanaradakassapa Jataka	Mahosadha Jataka	Vidhurapandita Jataka
Mahosadha Jataka	Sama Jataka	Buddha Images
Sarabhanga Jataka	Vessantara Jataka	Bodhisattva Images
Temiya Jataka	Vidhurapandita Jataka	
Vessantara Jataka	Angulimala threatens the Buddha	
Vidhurapandita Jataka	Buddha Mucalinda	
The Buddha preaching to King Bimbisara	Sujita's Gift	
Indra offers fruit to the Buddha	Bodhisattva Images	
Soththiya offers Kusa Grass to the Buddha		
The Buddha's return to Kapilavastu		
Buddha Mucalinda		
Tapussa and Bhallika		

The First Sermon		
Buddha Images		
The Goddess Laksmi		
Durga/Sutasoma and Garuda/kinnari		
<b>Bahn Korn Sawan (L32)</b>	<b>Bahn Nohn Chat (L20)</b>	<b>Bahn Nong Kluem (L52)</b>
Bhuridatta Jataka	Mahajanaka Jataka	Sama Jataka
Mahosadha Jataka		Suvannakakkata Jataka
Temiya Jataka		Temiya Jataka
Vessantara Jataka		Vidhurapandita Jataka
Vidhurapandita Jataka		The Buddha's return to Kapilavastu
Buddha Images		Bodhisattva Images
<b>Bahn Pailom (L60)</b>	<b>Wiang Khuk (L99)</b>	<b>Ban Kud Namkin (L74)</b>
Vidhurapandita Jataka	Sibi Jataka	Vessantara Jataka
The Buddha's return to Kapilavastu		
Bodhisattva Images		
Suriya the Sun God		
<b>Bahn Podahk (L61)</b>	<b>Bahn Kum Ngoen (L15)</b>	<b>Phu Phra Angkhan (L48)</b>
Vidhurapandita Jataka	The Buddha in Aminisa Jetiya	Bodhisattva images
<b>Phnom Kulen (L75)</b>	<b>Dong Mae Nang Muang?</b>	<b>Bahn Ma (L54)</b>
The Goddess Laksmi	Buddha-Rama-Indra Triad	<i>The Ramayana</i>
<b>Bahn Phan Lam (L30)</b>		
Bodhisattva image		

## Appendix 2: Typology Database

Table A9: Slab Type Sema

Slab Type 1		Slab Type 2		Slab Type 3		Slab Type 4		Slab Type 5	
Sema #	Site								
S1	L1	S83	L1	S4	L1	S357	L18	S37	L1
S2	L5	S87	L8	S6	L3	S820	L52	S44	L6
S3	L8	S102	L9	S14	L20	S821	L60	S47	L35
S9	L9	S180	L17	S70	L26	S823		S51	L60
S10	L15	S301	L18	S81	L32	S824		S57	
S11	L17	S337	L31	S102	L55	S825		S58	
S15	L20	S462	L47	S173	L89	S826		S65	
S16	L26	S514	L48	S174		S827		S67	
S17	L32	S644	L61	S176		S828		S73	
S72	L39	S647	L62	S177		S829		S135	
S93	L55	S923	L64	S309		S833		S136	
S178	L60	S924	L74	S311		S1094		S147	
S181	L84	S1213	L77	S315		S1097		S189	
S182		S928	L78	S583		S1106		S196	
S265		S935	L88	S669		S1113		S209	
S275		S937	L91					S213	
S294		S1205						S223	
S302		S1208						S232	
S312		S1228						S233	
S507		S1233						S242	
S508		S1235						S251	
S518								S252	
S530								S253	
S544								S257	
S581								S443	
S584								S720	
S587								S740	
S588								S741	
S589									
S590									
S594									
S661									
S662									
S664									
S670									
S672									
S673									
S675									

S676									
S758									
S764									
S766									
S767									
S990									
S992									
S1099									
S1144									
S1145									
S1147									
S1219									

<b>Slab Type 6</b>		<b>Slab Type 7</b>		<b>Slab Type 8</b>		<b>Slab Type 9</b>	
Sema #	Site						
S116	L1	S843	L57	S759	L4	S52	L33
S117	L16	S850		S760	L39	S128	L35
S125	L35	S861		S994	L40	S420	L36
S247		S862		S1015	L41	S421	L39
S442		S863		S1067	L42	S422	L42
S1176		S864		S1068		S436	L47
S1189		S865		S1069		S453	
		S866		S1076		S454	
		S867				S455	
		S879				S456	
						S457	
						S458	
						S459	
						S463	
						S464	
						S465	
						S466	
						S467	
						S468	
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						S941	
						S956	
						S962	
						S964	
						S995	
						S1005	
						S1006	
						S1007	
						S1008	
						S1009	
						S1010	
						S1011	
						S1012	
						S1031	
						S1043	
						S1044	
						S1045	
						S1047	
						S1052	
						S1053	
						S1054	
						S1055	
						S1056	
						S1057	

Table A10: Pillar Type Sema

<b>Pillar Type 1</b>		<b>Pillar Type 2</b>		<b>Pillar Type 3</b>		<b>Pillar Type 4</b>	
Sema #	Site						
S18	L1	S80	L1	S376	L7	S333	L21
S21	L6	S85	L3	S377	L14	S617	L22
S21	L25	S86		S382	L35	S621	L30
S22	L37	S88		S383	L38	S631	
S23	L60	S89		S384		S632	
S24		S90		S385		S633	
S25		S91		S386		S609	
S26				S387		S610	
S27				S389		S611	
S28				S390		S612	
S29				S394			

S30				S395			
S31				S396			
S118				S398			
S122				S399			
S281				S400			
S283				S403			
S286				S404			
S414				S405			
S653				S406			
S735				S407			
S736				S408			
S739				S409			
				S433			
				S783			
				S809			

Table A11: Octagonal Type

Octagonal Type 1		Octagonal Type 2		Octagonal Type 3		Octagonal Type 4	
Sema #	Site						
S48	L1	S401	L6	S105	L7	S431	L10
S49	L6	S402	L38	S805	L16	S437	L35
S126	L23	S412		S806	L55	S493	L39
S127	L35	S413		S808	L56	S494	
S246	L54	S747		S907		S784	
S248	L57			S908		S1048	
S278	L60			S909		S1049	
S279				S1167		S1050	
S432				S1186		S1051	
S642							
S734							
S737							
S743							
S874							
S878							
S1119							
S1129							

Table A12: Unfashioned and Unfinished Types

Unfashioned Type		Unfinished Type	
Sema #	Site	Sema #	Site
S96	L1	S593	L22
S124	L3	S596	L24
S219	L17	S598	L26
S307	L18	S603	L30

S330	L21	S608	
S346	L29	S613	
S572	L32	S615	
S573	L50	S619	
S574		S624	
S575		S629	
S576		S630	
S577		S636	
S578		S638	
S579			
S657			
S688			
S689			
S690			
S711			
S1274			
S1275			
S1276			

Table A13: Ratios and Dimensions

	<b>Ratio</b>	<b>Height</b>	<b>Width</b>	<b>Depth</b>
<b>Slab Type 1</b>	7:2:1	170cm	80cm	24cm
<b>Slab Type 2</b>	7:2:1	150cm	75cm	22cm
<b>Slab Type 3</b>	8:3:1	180cm	60cm	23cm
<b>Slab Type 4</b>	6:3:1	222cm	75cm	36cm
<b>Slab Type 5</b>	5:2:1	110cm	70cm	25cm
<b>Slab Type 6</b>	5:2:1	120cm	60cm	25cm
<b>Slab Type 7</b>	7:4:1	255cm	65cm	37cm
<b>Slab Type 8</b>	12:3:1	275cm	90cm	22cm
<b>Slab Type 9</b>	3:2:1	95cm	70cm	30cm
<b>Pillar Type 1</b>	2:1:1	80cm	40cm	40cm
<b>Pillar Type 2</b>	5:1:1	260cm	55cm	55cm
<b>Pillar Type 3</b>	2:1:1	90cm	45cm	40cm
<b>Pillar Type 4</b>	5:4:1	150cm	40cm	33cm
<b>Octagonal Type 1</b>	4:2:1	110cm	48cm	28cm
<b>Octagonal Type 2</b>	5:3:1	120cm	50cm	20cm
<b>Octagonal Type 3</b>	5:2:1	160cm	70cm	30cm
<b>Octagonal Type 4</b>	5:2:1	116cm	50cm	23cm

## Appendix 3: Chronology Tables

Table A14: Chronological Chart

<b>Thailand</b>		<b>Cambodia</b>	
<i>Period</i>	<i>Date</i>	<i>Period</i>	<i>Date</i>
Neolithic	c. 2500-1500 BCE	Funan	c. 1st-7th cent.
Bronze Age	c. 1500-1000 BCE	Chenla	c. 6th-9th cent.
Iron Age	c. 1000 BCE-500 CE	Angkor	c. 9th-13th cent.
Dvaravati	c. 6th - 12th cent.		
Lopburi (Khmer)	c. 10th-12th cent.		
Sukhothai	1238-1448		
Ayutthaya	1351-1767		
Thonburi	1768-1782		
Rattanakosin	1782-1932		

Table A15: Polity Table

<b>Polity/Urban Centre</b>	<b>Location</b>	<b>Dates</b>	<b>Culture</b>
Nakorn Pathom	Nakorn Pathom Province, Central Thailand	c. 5th-12th cent. CE	Dvaravati
U-Thong	Supanburi Province, Central Thailand	c. 5th-11th cent. CE	Dvaravati
Sri Thep	Phetchabun Province, Central Thailand	c. 7th-12th cent. CE	Dvaravati
Ku Bua	Ratchaburi Province, Central Thailand	c. 7th-12th cent. CE	Dvaravati
Muang Fa Daed	Kalasin Province, Northeast Thailand	c. 7th-12th cent. CE	Dvaravati
Muang Sema	Nakorn Ratchasima Province, Northeast Thailand	c. 5th-12th cent. CE	Dvaravati
Lopburi	Lopburi Province, Central Thailand	c. 7th-12th cent. CE	Dvaravati/ Khmer
Chansen	Nakorn Sawan Province, Central Thailand	c. 2nd-7th cent. CE	Dvaravati
Sri Mahasot	Prachinburi Province, Central Thailand	c. 7th-11th cent. CE	Dvaravati
Dong Mae Nang Muang	Nakorn Sawan Province, Central Thailand	c. 8th-12th cent. CE	Dvaravati
Haripunjaya	Lampun Province, Northern Thailand	c. 8th-13th cent. CE	Dvaravati
Phimai	Nakorn Ratchasima Province, Northeast Thailand	c. 7th-13th cent. CE	Chenla/ Khmer
Oc Eo	Thoại Sơn District, Southern An Giang Province, Vietnam	c. 1st-7th cent. CE	Funan

Angkor Borei	Takéo Province, Southern Cambodia	c. 2nd-7th cent. CE	Funan
Sriksetra	Pyay township, Bago Division, Burma	c. 4th-8th cent. CE	Pyu
Beikthano	Taungdwingyi Township, Magwe Division, Burma	c. 2nd cent. BCE-6th cent. CE	Pyu
Halin	Wetlet township, Sagaing Division, Burma	c. 1st-8th cent. CE	Pyu
Vesali	Mrauk-U, Rakhine State, Burma	c. 5th-9th cent. CE	Arakan
Thaton	Mon State, Lower Burma	c. 9th-11th cent. CE	Mon

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<sup>1</sup> This is a Thai language collection published by the Royal Household with each province having its own separate volume. It is abbreviated in the main body of text by the first word of its title followed by the province. For example, 'Wattanutum...Khon Kaen 2000' refers to the volume on Khon Kaen province.

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