



**PROJECT OVERVIEW:
DEVATA FEATURE DATABASE**

A searchable database
of Angkor Wat *devata* carvings

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This non-commercial, educational document
contains illustrations adapted from

“Costumes et Parures Khmer” by Sappho Marchal
published in Paris and Brussels in 1927.

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Thank you for your interest in the Devata Feature Database Project.

The Hindu temple of Angkor Wat is a UNESCO World Heritage Site located in Siem Reap, Cambodia. The temple, built by King Suryavarman II in the early 12th century, is regarded as the epitome of Khmer architecture. A lesser known fact is that the temple features the most extraordinary collection of ancient female portraits on Earth: a group of 1800+ women now called by the Sanskrit terms *apsara* or *devata*.

Each carving is unique and the group draws components from broad geographic areas of South and Southeast Asia. Sappho Marchal, a French researcher in the early 20th century is the only person to have attempted a quantitative analysis thus far. The size of the group and its complexity limited her ability to extrapolate information.

I am now creating a computer database to allow effective analysis of this complex collection of female portraits for the first time in history.

From 2005-2007 I gathered more than 20,000 digital *devata* images organized by location within Angkor Wat. The database will manage multiple images of each subject and track more than 60 features, including location, compass orientation, ethnic features, physical characteristics, jewelry designs, hand positions, foot positions, hair styles, fabric patterns, plant images, carving anomalies, etc.

Once loaded, the database will enable researchers to analyze the portraits based on their individual area of expertise. For example:

- ☞ a mathematician searches for numerical patterns
- ☞ a textile expert searches for fabric patterns from a particular region,
- ☞ an ethnologist searches facial features for a specific group,
- ☞ an art historian searches for particular religious symbols

Initial work on this project has been funded entirely by DatASIA. We are seeking to align ourselves with one or more educational institutions to complete the database.

To maximize success, our approach is cooperative and interdisciplinary. We welcome your suggestions, referrals, expertise and participation.

With best regards,

Kent Davis

Kent Davis



Devata Feature Database

TABLE SHOWING THE DISTRIBUTION OF THE DIVERSE TYPES OF COIFFURES (see p. 10)

Location	Eroded	Type 1	Type 2	Type 3	Type 4	Type 5
West Gopura	0	4	32	11	0	210
South Gopura	0	0	7	2	0	15
East Gopura	0	0	0	0	0	40
1st Level						
Exterior Pavilions	0	5	110	41	5	79
Interior Pavilions	0	0	0	0	0	44
Courtyard	0	0	48	14	0	61
South Library	0	1	10	8	1	3
North Library	0	0	24	18	0	2
2nd Level						
Exterior	37	4	97	44	2	81
Interior	6	4	66	30	1	118
South Library	0	0	27	7	0	5
North Library	0	0	20	11	0	13
3rd Level						
Exterior	0	0	15	6	0	167
Interior	0	0	0	1	0	119
Sanctuary	0	0	0	0	0	61
Totals	43	18	456	193	9	1018

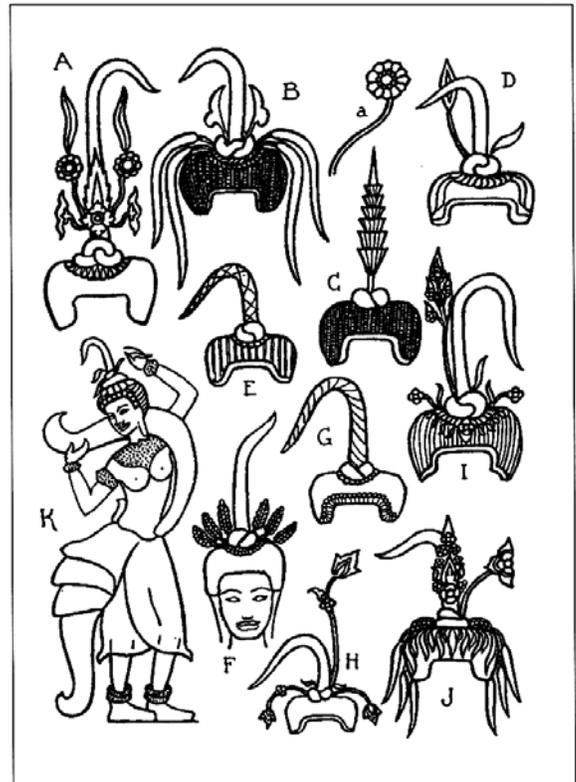


Plate VI

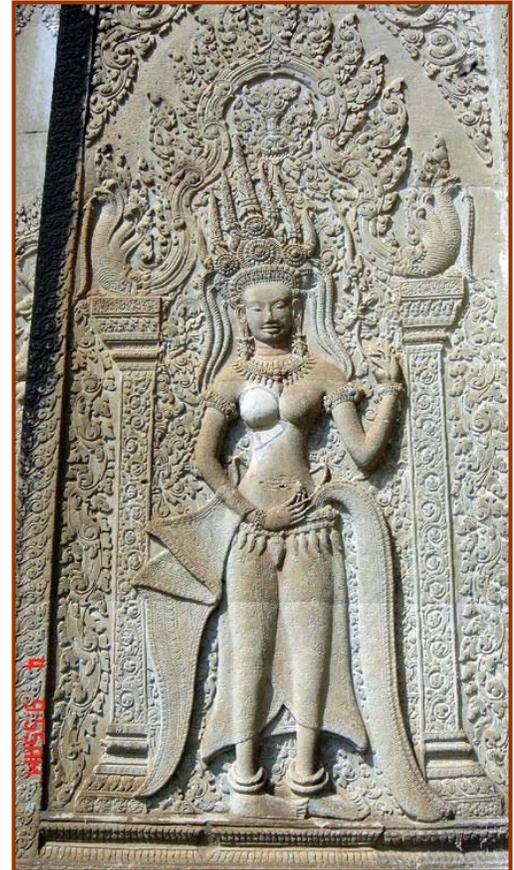
Concept Introduction

- In 1916, l'Ecole Française d'Extrême Orient (EFEO) appointed Henri Marchal as the second curator of the Angkor Wat conservation project. After years among the ruins, his daughter Sappho Marchal published "*Costumes et Parures Khmers: D'apres les Devata D'Angkor-Vat*" in 1927. She was 23 years old.
- Marchal recorded 1,737 Angkor Wat *devata*, not counting the towers.
- The present count is estimated to be 1,860, including the towers. [German Apsara Conservation Project (GACP)].
- Marchal analyzed many *devata* quantitatively by location and features (sample plates above). Marchal is the only person to publish a systematic analysis of the carvings recognizing different attributes.
- In November 2005, independent researcher Kent Davis visited Angkor Wat and conceived a project to analyze the Devata carvings based on features, ethnicity, accessories and location.
- Upon returning to Bangkok, Davis saw Marchal's work for the first time. Merrily Hansen had just translated the work into English for Orchid Press, reissued in 2005 as "*Khmer Costumes and Ornaments of the Devatas of Angkor Wat*".
- Upon discovering Marchal's work, Davis committed himself to continuing Marchal's task using modern computer technology thereby enabling the first comprehensive analysis of the collection of carvings as a whole.



[HBook Link](#)

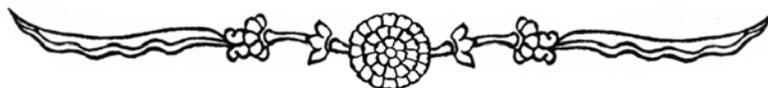




Database Design Features

DatASIA's Devata Database will perform the following functions:

1. Integrate digital images of all 1,800 Devata portrait carvings, each identified by a primary key, with location mapping.
2. Associate detailed feature indices (fields) with each carving
3. Display each feature's statistical significance, based on the entire inventory. E.g. If the DB had four items in it and two were round it would say Shape: Round (50%)
4. Track "Not Visible" features so missing attributes don't alter statistics.
5. Include "confidence" ratings for each feature entered, ranking questionable data due to image deterioration or subjectivity.
6. Offer statistical, verbal and graphic output options that include images, data, location mapping & output photo sets.



Devata Feature Database

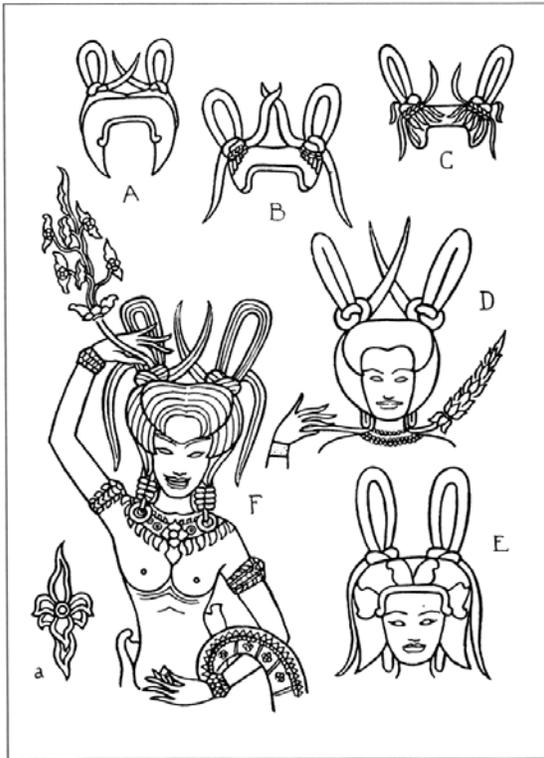


Plate XV



Plate IX

Database Feature Indices Example

Marchal's images above indicate the diversity of styles and accessories the carvings include. Computer technology is the only way to compare and analyze such a large, complex body of information.

The following is the type of information that will be entered for each digital image:

1. Image Location

- i. Building & level
- ii. Compass orientation
- iii. Prominence rating (proximity to main pathways)

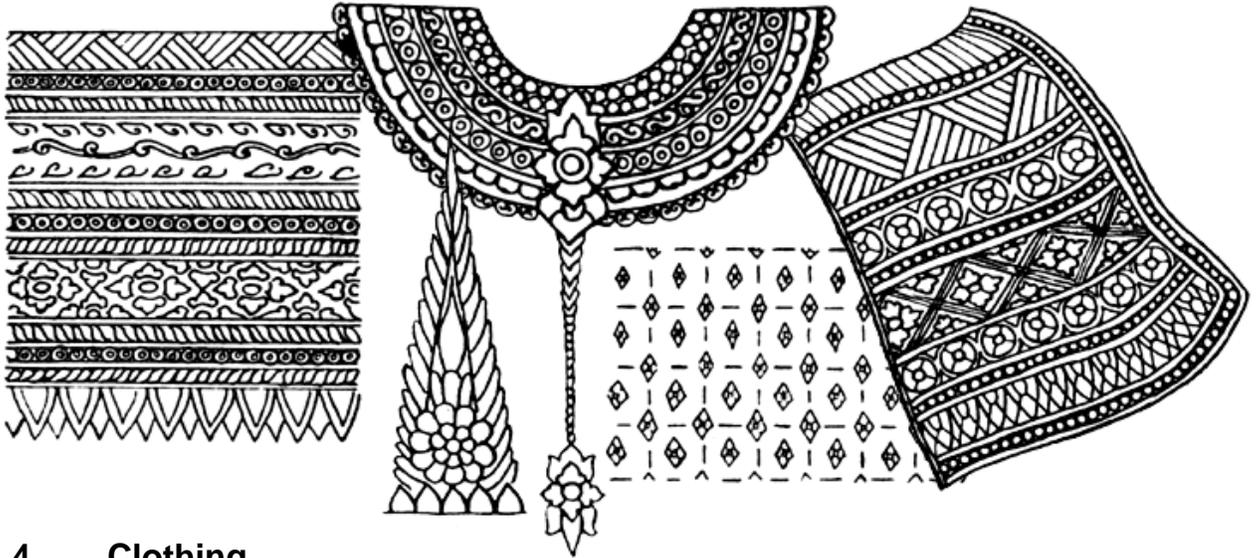
2. Body

- i. Height & body style (e.g. slender, heavy)
- ii. Markings or unusual features

3. Pose

- i. Orientation
- ii. Foot, head, left/right arm and body position





4. Clothing

- i. Dress design
- ii. Fabric patterns
- iii. Attachment style

5. Jewelry

- i. Necklaces, earrings, belts, rings, bracelets, armlets
- ii. Forehead gem

6. Headwear

- i. Crowns, tiaras, flowers,
- ii. Numeric data (# of peaks, flowers, spires, etc.)

7. Hair style

- i. Style types (chignons, braids, cuts)

8. Accessories

- i. Flowers, handheld objects, pets)

9. Face

- i. Eye, head, nose, chin, lip and mouth shapes

10. Ethnicity

- i. Relating features to identifiable Asian subgroups

11. Relationships

- i. Proximity & physical contact with other Apsaras

12. Subjective values

- i. Mood, beauty, age, weight, rank, etc. – e.g. subjective mood characterization with choices of happy, dignified, sad



Devata Feature Database

Sample Analyses:

Once data is entered, database applications like these will begin:

1. To identify occurrence of costume styles and accessories
2. To identify portrayal quantities of different ethnic groups
3. To identify textile variety and patterns
4. To identify botanical variety in the carvings
5. To link carving features to images from other geographic areas
6. To analyze carving symbology in relation to adjacent cultures; Military, religious (Hindu, Buddhist, Animist) & royal
7. To compare patterns of adornment with ethnic features
8. Comparative analysis of costume style and components by location
9. Comparative analysis of features by location and orientation
10. Comparative analysis of dress by ethnic features
11. Comparative analysis of crowns and hairstyles relating to location
12. To seek *Devatas* featured in multiple locations and/or costumes
13. To compare costume to location prominence
14. To compare areas where *Devatas* are missing or were never carved
15. To compare areas with unfinished carvings



