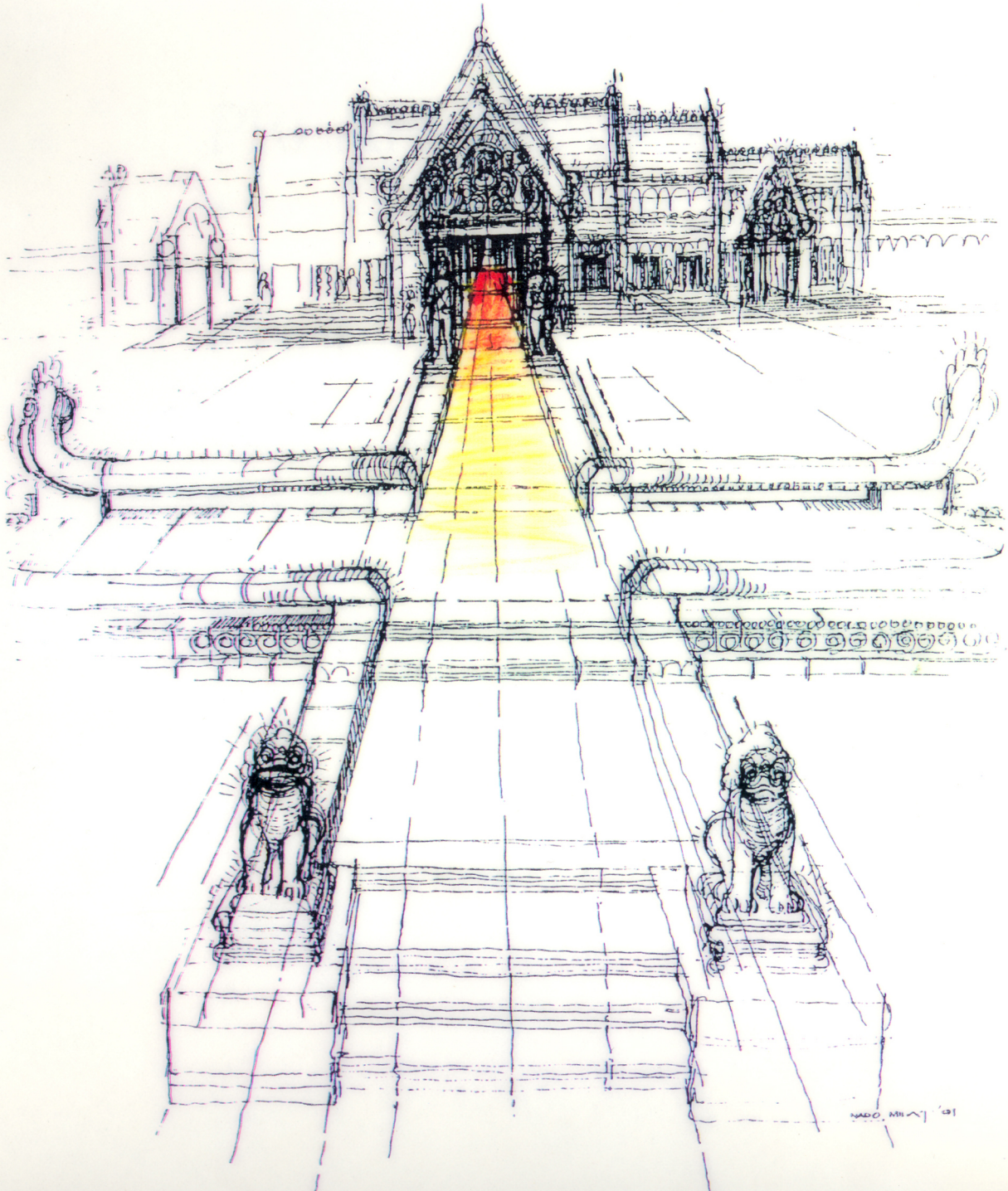


Preah Khan Mission Report

Inventory and Training

for

World Monuments Fund

by

Scott Cunliffe
Lori Anglin
Cultural Management Consultants

Sydney Australia
July 1991

PREAH KHAN MISSION REPORT

INVENTORY AND TRAINING

Contents

Preah Khan Mission 1991

Summary of Achievements

Co-operation and Collaboration

* Strengthening the relationship and co-operation with the Cambodian Government to implement a conservation program at the Angkor site;

* Collaboration with international organisations to achieve consensus and formulate conventions.

Strategy

* Initiation of a comprehensive conservation strategy, setting priorities and analysing opportunities for conservation and tourism.

Training

* Establishment of the first hands-on conservation training program for university students introducing basic conservation concepts: investigative techniques, inventory methods, site recording and architectural drawing.

Inventory

* Development and implementation of the inventory process, introducing the recording methodology, priorities and procedures to the students and Sophia University representatives;

* Recording and scheduling basic field information for enclosures of Preah Khan based on the collaborative design for field work and consensus on nomenclature.

Presentation

* Compilation of the Mission Report and recommendations for the Round Table Meeting in Paris in 1991;

* Display of Preah Khan photographs and University of Phnom Penh Students' drawings.

Promotion and Support

* Liaison with Commonwealth of Australia officials and donation of textbooks to the Fine Arts University in Phnom Penh;

* Australian NGO support in communications and deliveries between Cambodia and Australia.

Introduction

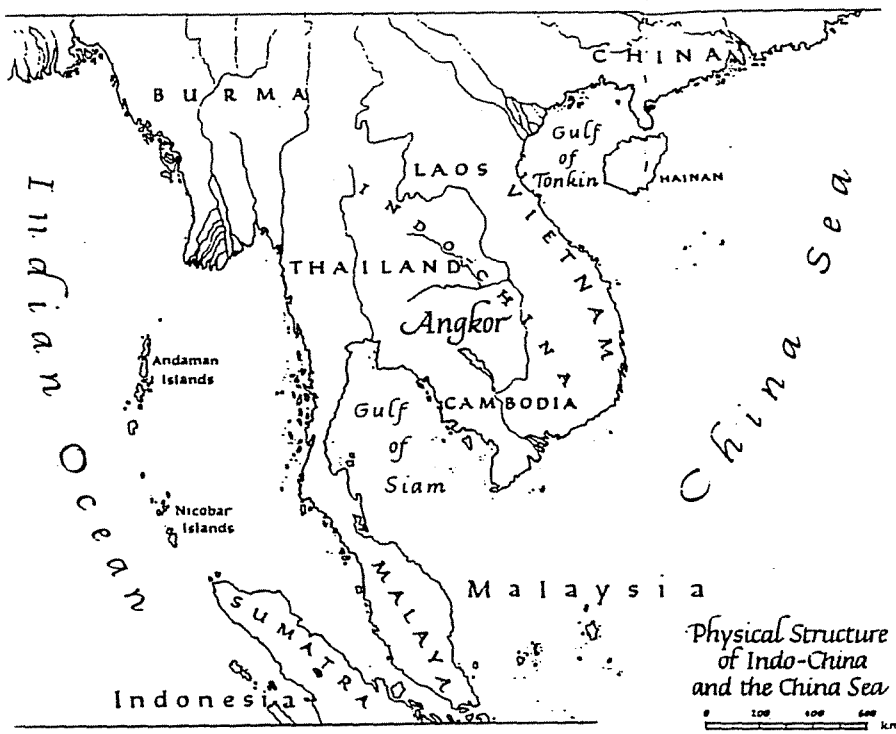
This Mission Report is the conclusion of a twenty day assignment in Cambodia. Twelve days were spent in the ancient region of Angkor, located near the Tonle Sap and Siem Reap in the central west of the country.

Lori Anglin and Scott Cunliffe are partners in Cultural Management Consultants, and were commissioned by the World Monuments Fund to:

* Develop and implement a methodology for the inventory of the Angkor structures;

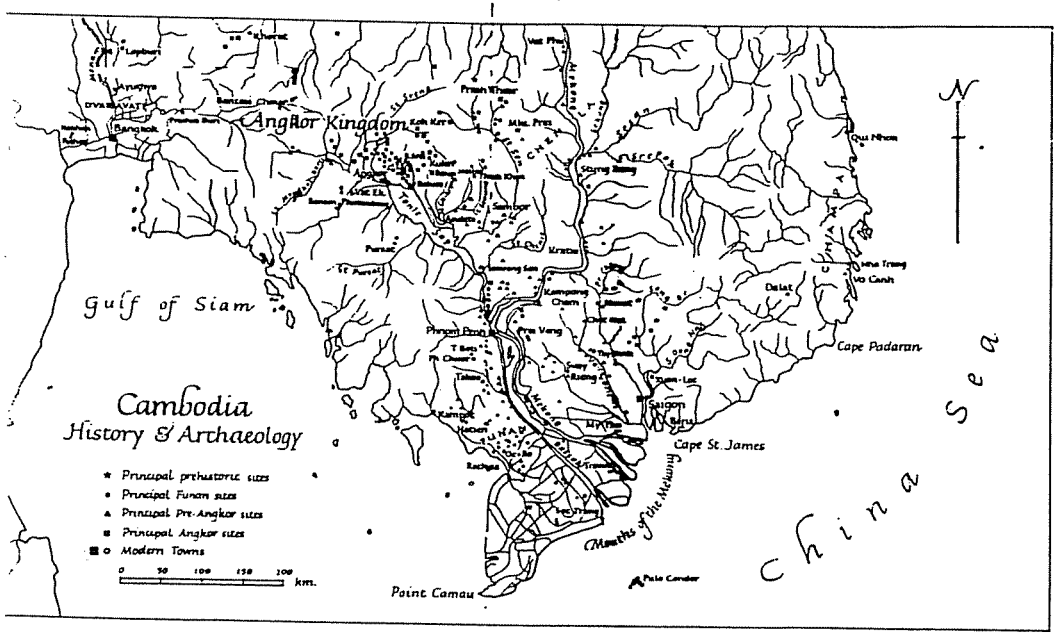
* Train Cambodian students in the surveying and recording of architectural structures.

This report forms a part of the Mission Team's contribution to the architectural and planning conservation of Preah Khan. The document should be read in conjunction with reports produced by other members of the World Monuments Fund Team, Sophia University representatives and the Khmer nationals, who collaborated in the March 1991 Mission.



Part One Graphic Essay

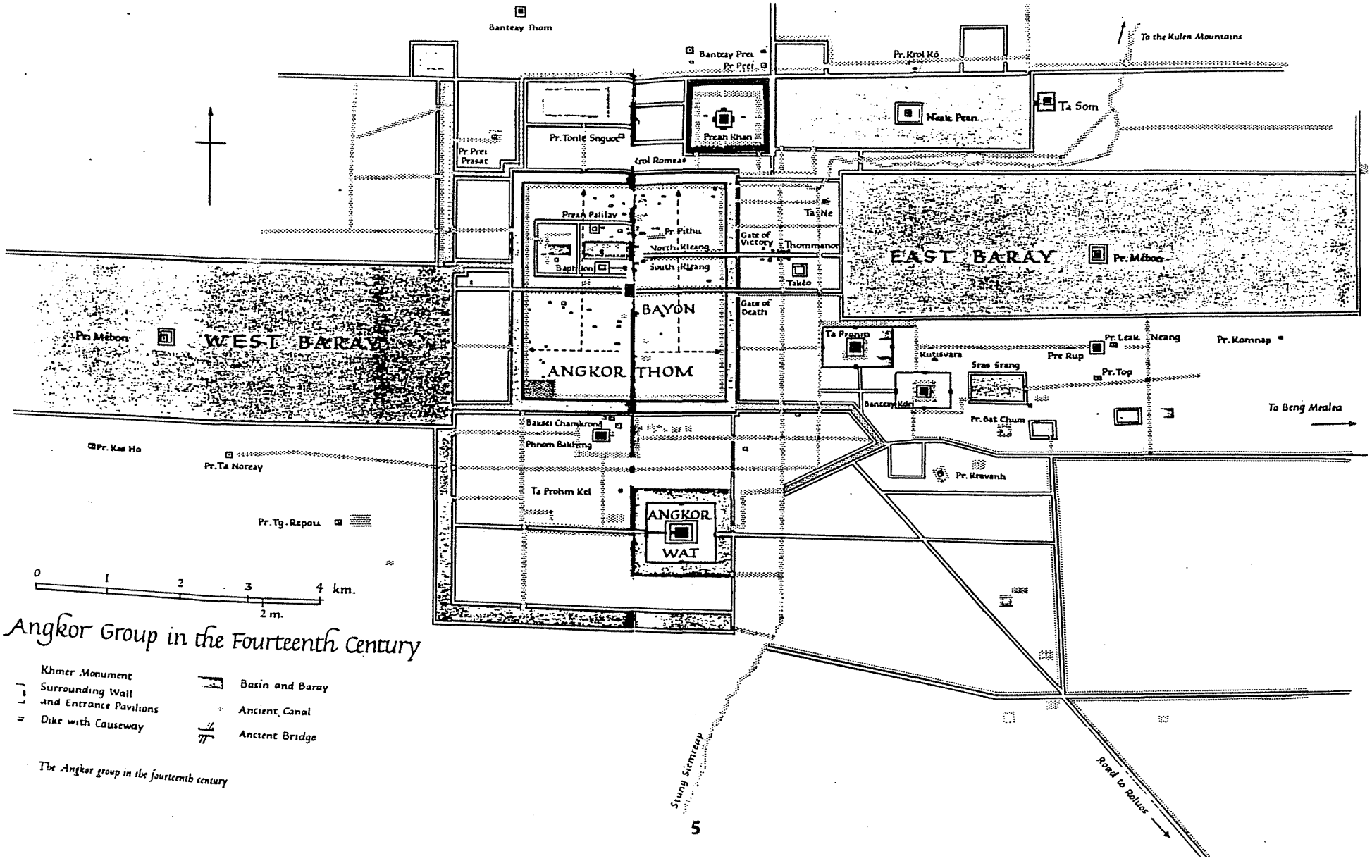
History



The meaning of Preah Khan is "Sacred Sword" or "Holy Palladium". Preah Khan is one of hundreds of ancient temple sites in Cambodia.

The plans establish the context of Cambodia and its monuments and the location of Preah Khan in the magnificent ancient setting of Angkor.

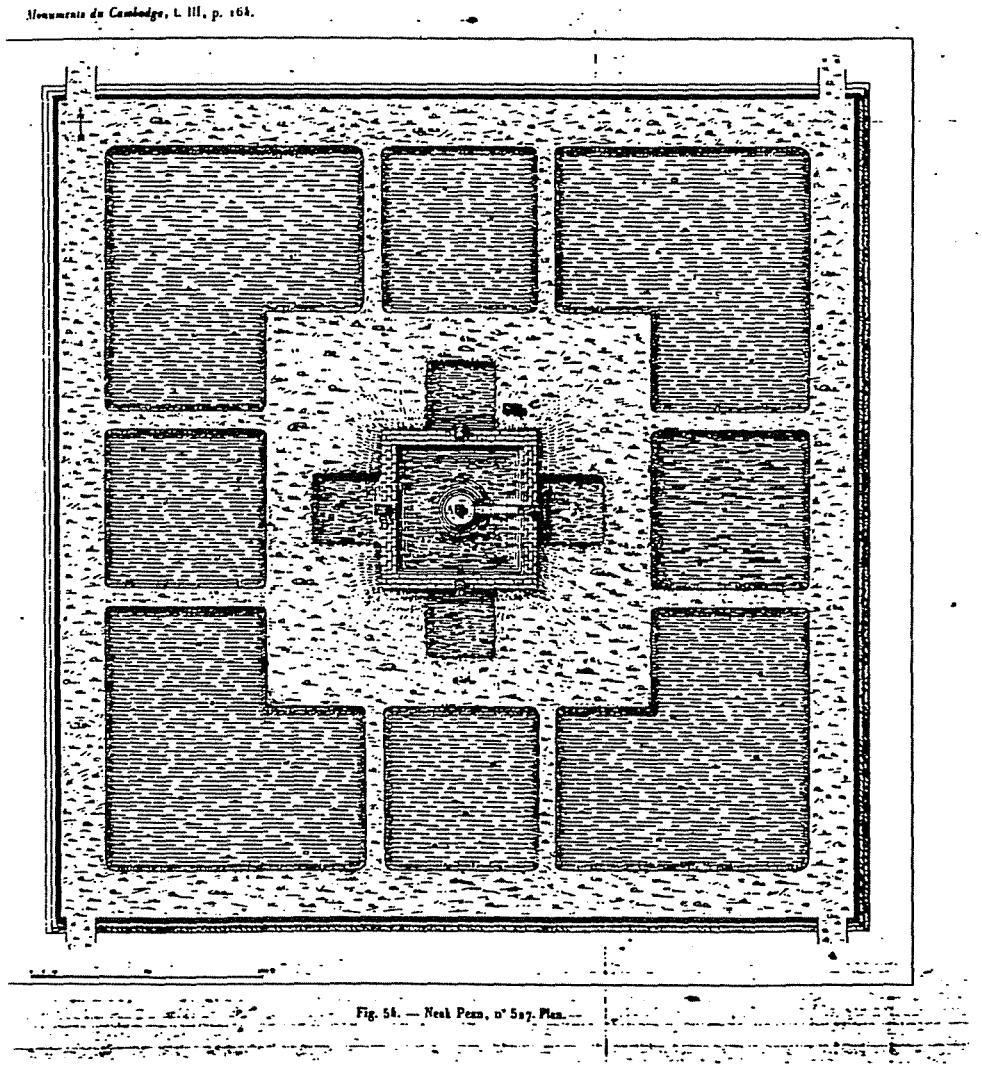
Preah Khan was built by Jayavarman VII (1181-ca. 1215) and dedicated in 1191 to his father, Dharanindravarman. The Preah Khan site is historically linked to Neak Pean and Ta Som, forming a huge east-west axis outside the walls of Angkor Thom. Preah Khan is the main temple element. Neak Pean is at the centre of huge tanks and Ta Som is a smaller temple complex to the east. The illustrations are extracted from J. Arthaud & B. Groslier's '*Angkor - Art & Civilisation*' first published in 1957.



Angkor Group in the Fourteenth Century

Khmer Monument
Surrounding Wall and Entrance Pavilions
Dike with Causeway
Basin and Baray
Ancient Canal
Ancient Bridge

The Angkor group in the fourteenth century



Water Retriculation

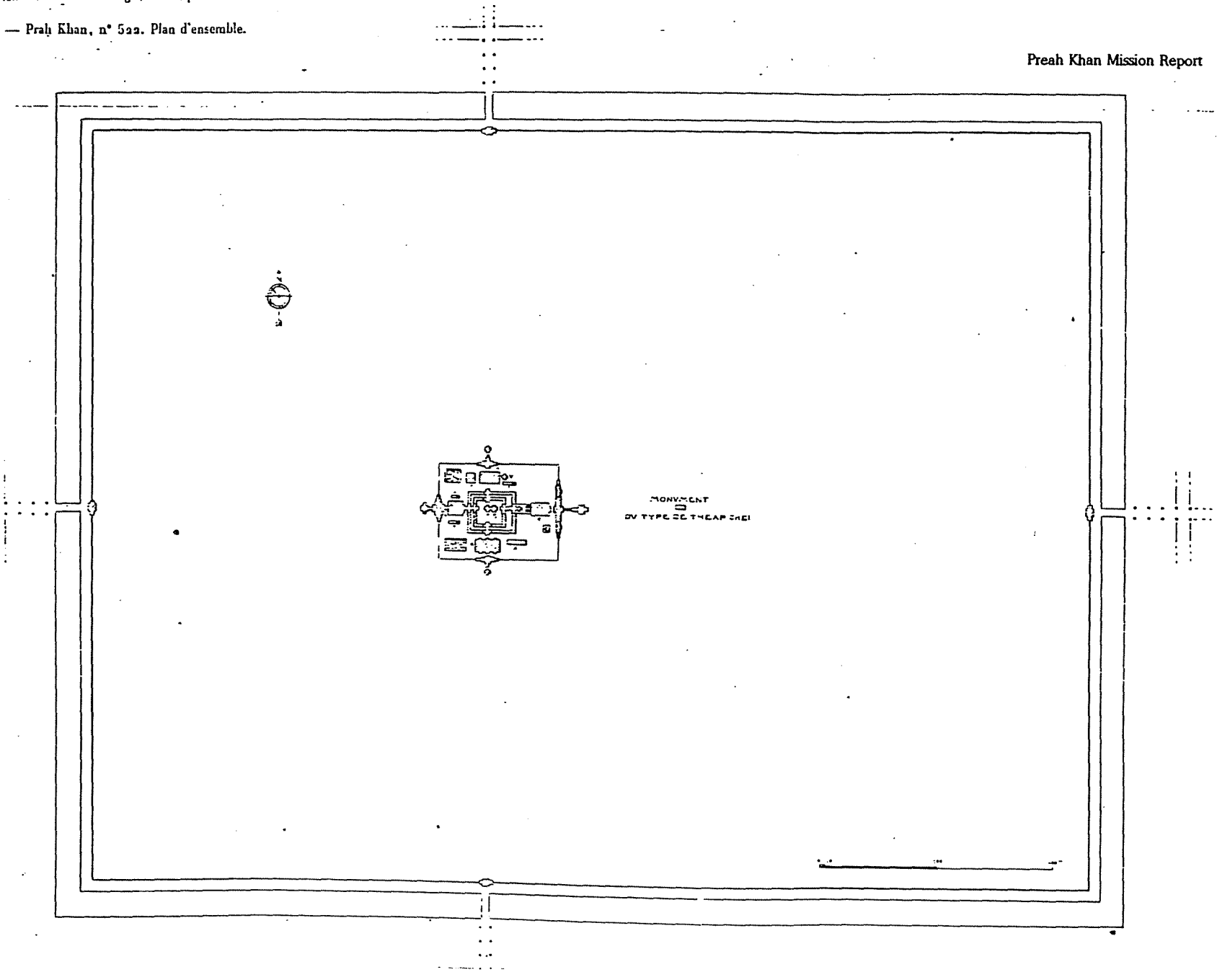
An exploratory archaeological excavation was undertaken during the Mission in March, in order to develop a theory for drainage systems in the courtyards.

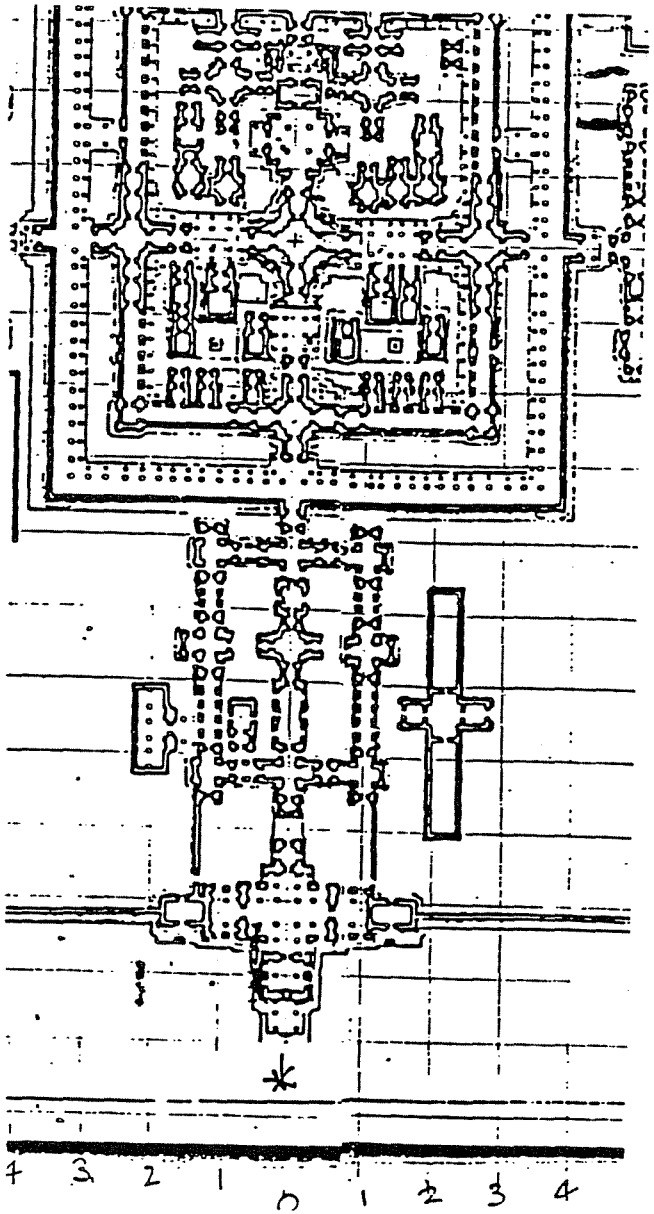
The comparatively sophisticated systems of irrigation, some would argue, was a basis of the ancient Khmer livelihood and culture, supporting the King, his people and the fields. A moat encircles Preah Khan at its fourth enclosure wall as illustrated in 'Inventaire Descriptif des Monuments du Cambodge' by E. Lunet de Lajonquiere, 1911.

The Neak Pean plan (left)
and the Preah Khan Site Plan (right)
Extracts from the E.Lunet Delajonquiere text, 1911.

lonuments du Cambodge, t. III, p. 156.

— Prah Khan, n° 5aa. Plan d'ensemble.

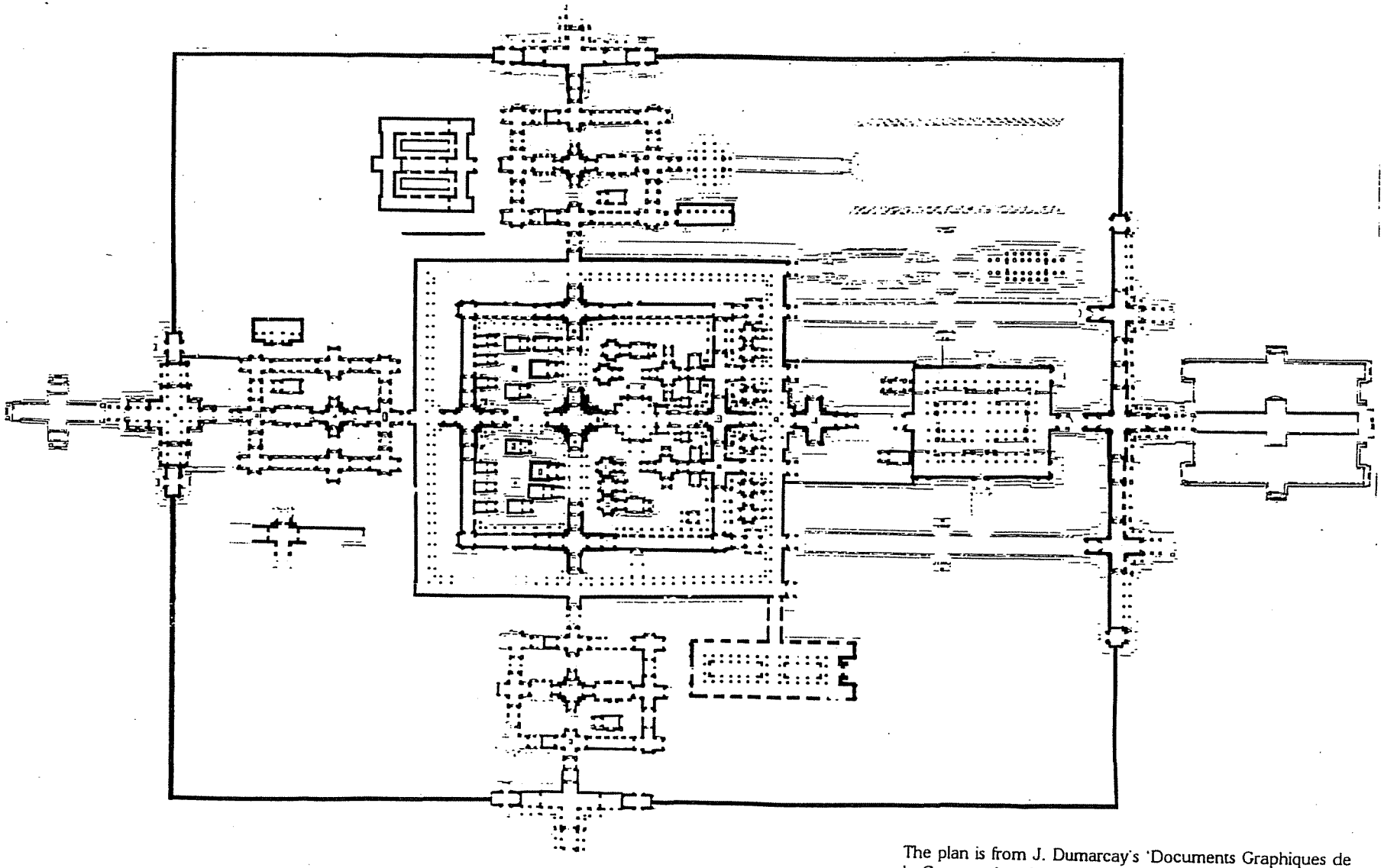




Preah Khan Plan

The original plan of Preah Khan has been complicated by superimposed structures which adapted the place to suit changing religious requirements. The plan is comprised of four enclosures. The inner two enclosures are surrounded by galleries which are linked together in several locations. Within these enclosures there is a maze of chapels, courts, halls, pavilions, and entrance porticos.

The plan is from J. Dumarcay's 'Documents Graphiques de la Conservation d'Angkor', printed by the EFEO in 1988.



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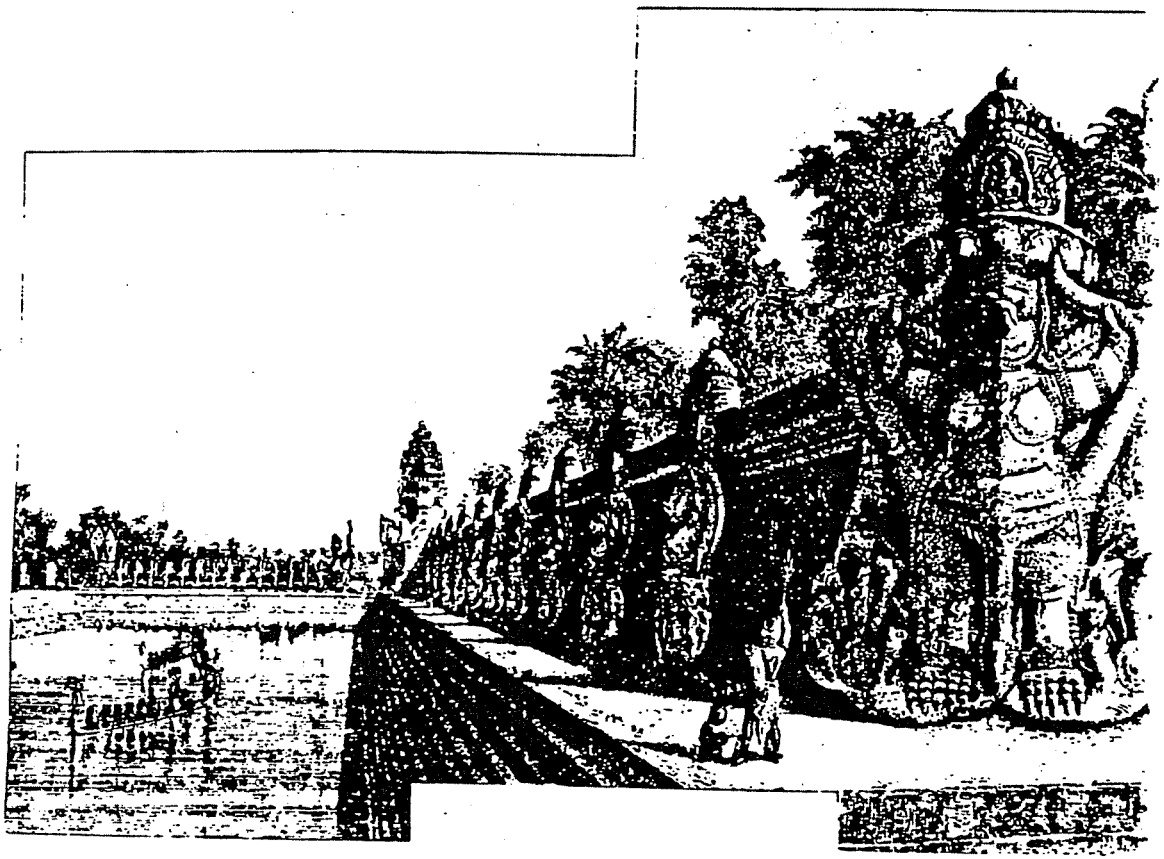
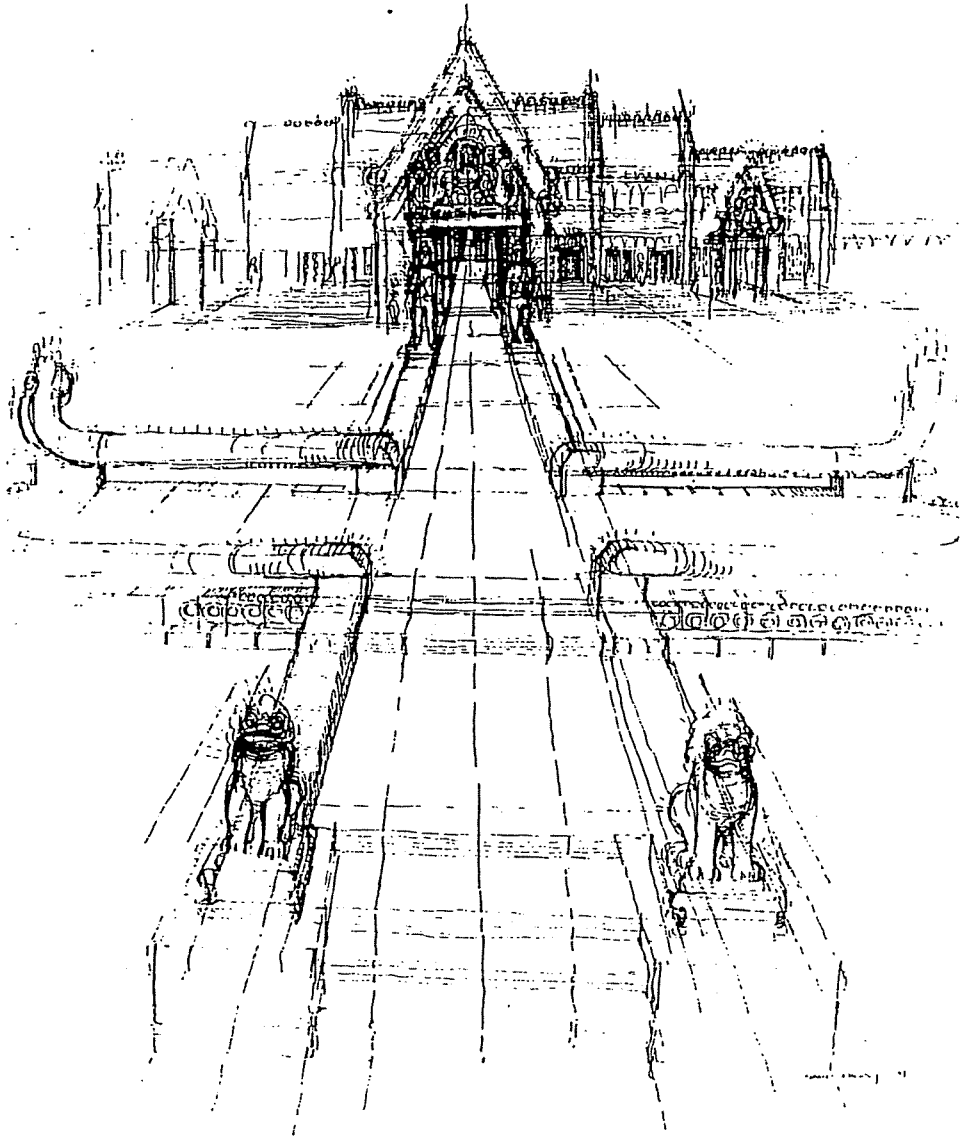


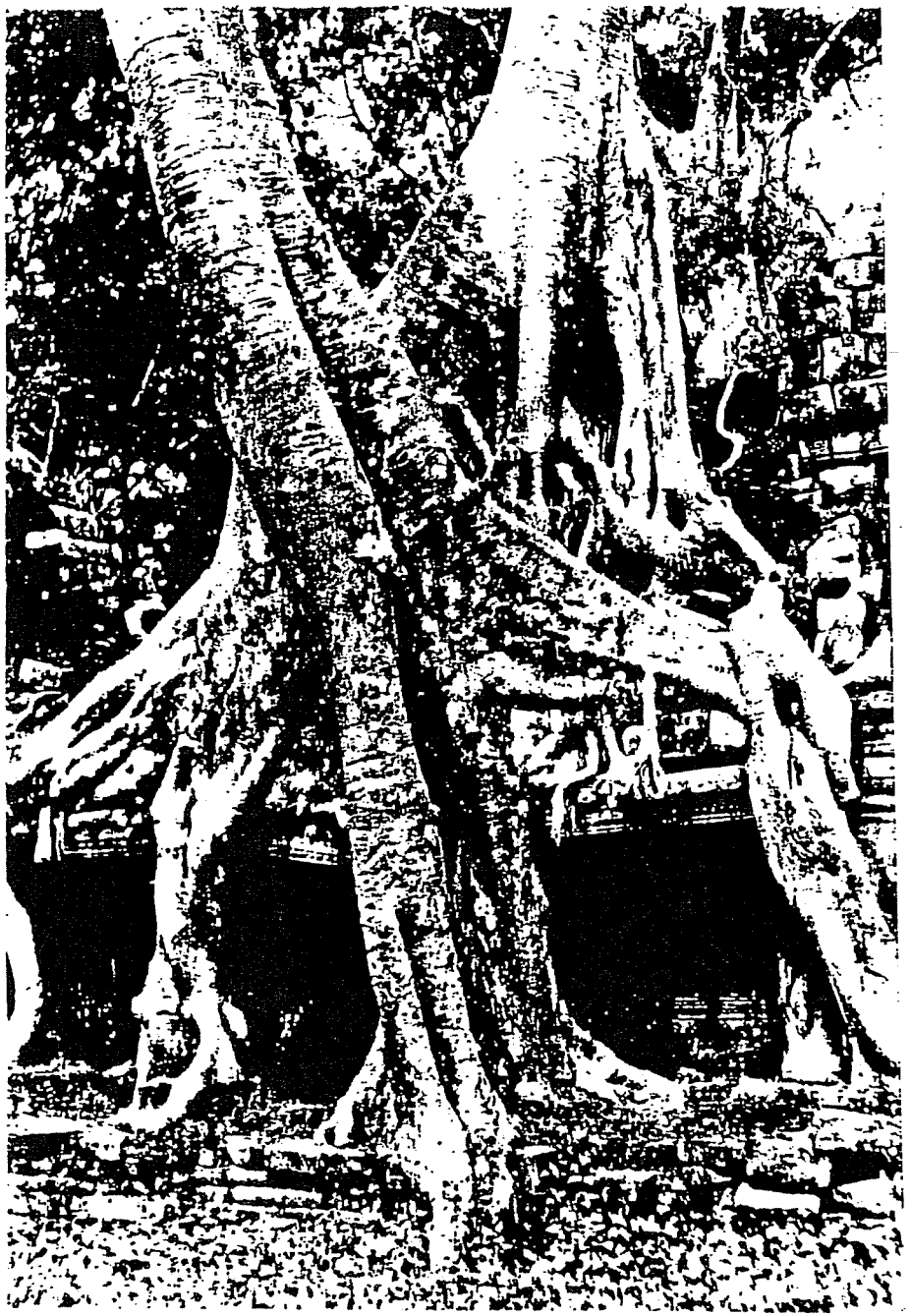
The Architectural Style

The architectural style of Preah Khan is contemporary with that of the great temple mountain of the Bayon, also a product of King Jayavarman VII's building campaign. The architecture and its materials are well described in the comprehensive Mission Reports of the World Monuments Fund Teams.

The main axis of Preah Khan runs east-west and is cut by large gopuras (or grand entrance gates), with multiple entrances. The two axes intercept at the central tower which has a cruciform dome, preceded on four sides by porticos. The main temple is oriented to the east. All gopuras at the third enclosure, have a form similar to our cover illustration. An artist's interpretation of the fourth enclosure wall at Preah Khan is shown at the left. (from M. Giteau, trans. D. Imber, 'Khmer Sculpture and the Angkor Civilisation', London 1965.)

The interior and a detail of the vault construction are illustrated.





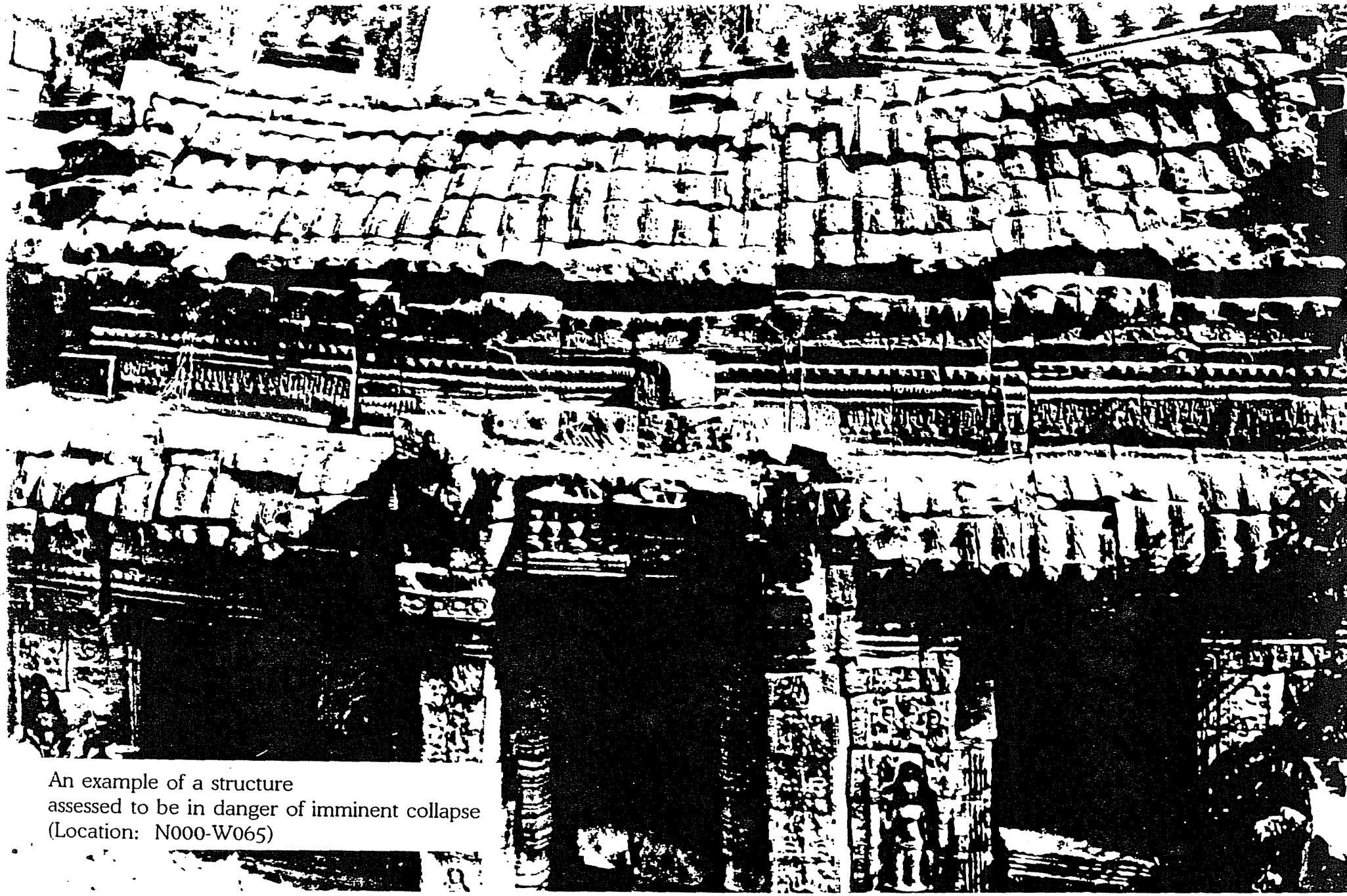
Archival Documentation

There exists a wealth of material (multi-lingual), on the region of Angkor, and the collation of a comprehensive index for Preah Khan forms a part of this project.

Useful in conservation planning, a comparison of the historical photograph of the tree at the East Gopura is shown. The tree was intentionally severed sometime after 1968, the date of the photograph (left). The current photograph (right) shows that it has grafted itself together again. Other photographic comparisons show differences in stone movement or collapse.

The Angkor People

The Khmer workmen who were responsible for undertaking the extensive clearing of scrub during our Mission are pictured. Implements were purchased by the World Monuments Fund Team at the Siem Reap Market and the photo is taken at Enclosure Wall 2 in Preah Khan (Location: S025-E045).



An example of a structure
assessed to be in danger of imminent collapse
(Location: N000-W065)

Part Two The Inventory

Background
Orientation
Design
Recording
Investigations
Computerisation

Part Two THE INVENTORY

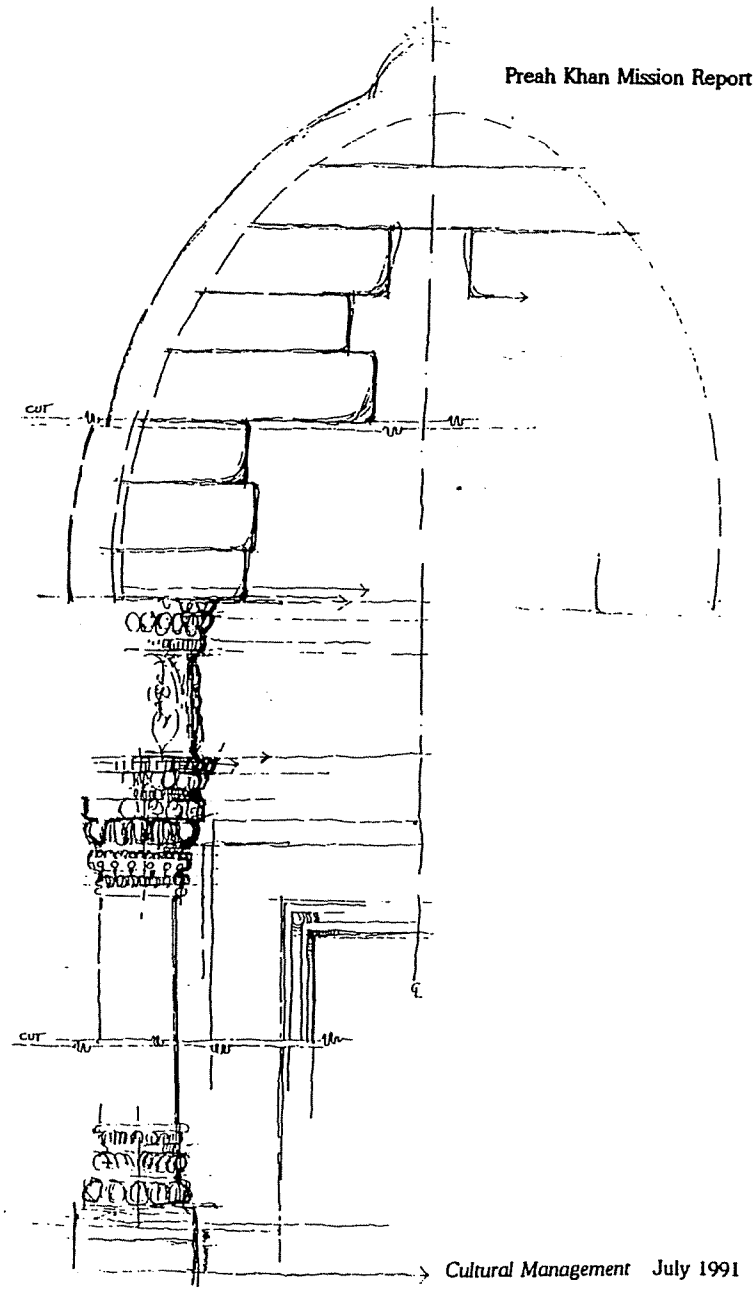
The Process

In its simplest form, a **heritage inventory** is an index to an historic place, compiled in an established time frame with consistent criteria. Conducting an inventory is a logical part of a management process. Once an inventory has commenced, one is equipped to evaluate, plan, set standards and devise plans and budgets for projects. The inventory is dynamic and continually updated.

Just as an inventory in a retail store would count and 'take stock' of all items in order to control the selection and supply, the heritage inventory is established to identify all items within a site or region to begin the planning process. When one knows exactly what exists on site, it is possible to set logical priorities for future programs and to schedule conservation activities accordingly. Thus, the heritage inventory is the fundamental starting point of a conservation management plan.

The inventory was coordinated by Lori Anglin. The field records are formatted for computerisation. This computerisation can provide effective information storage and easy retrieval of archival documentation, photographic catalogues, project scheduling and financial accounting.

The inventory process is multi-faceted. The following pages illustrate the varied requisites undertaken to date in the inventory stage of the **Preah Khan Conservation Project**.



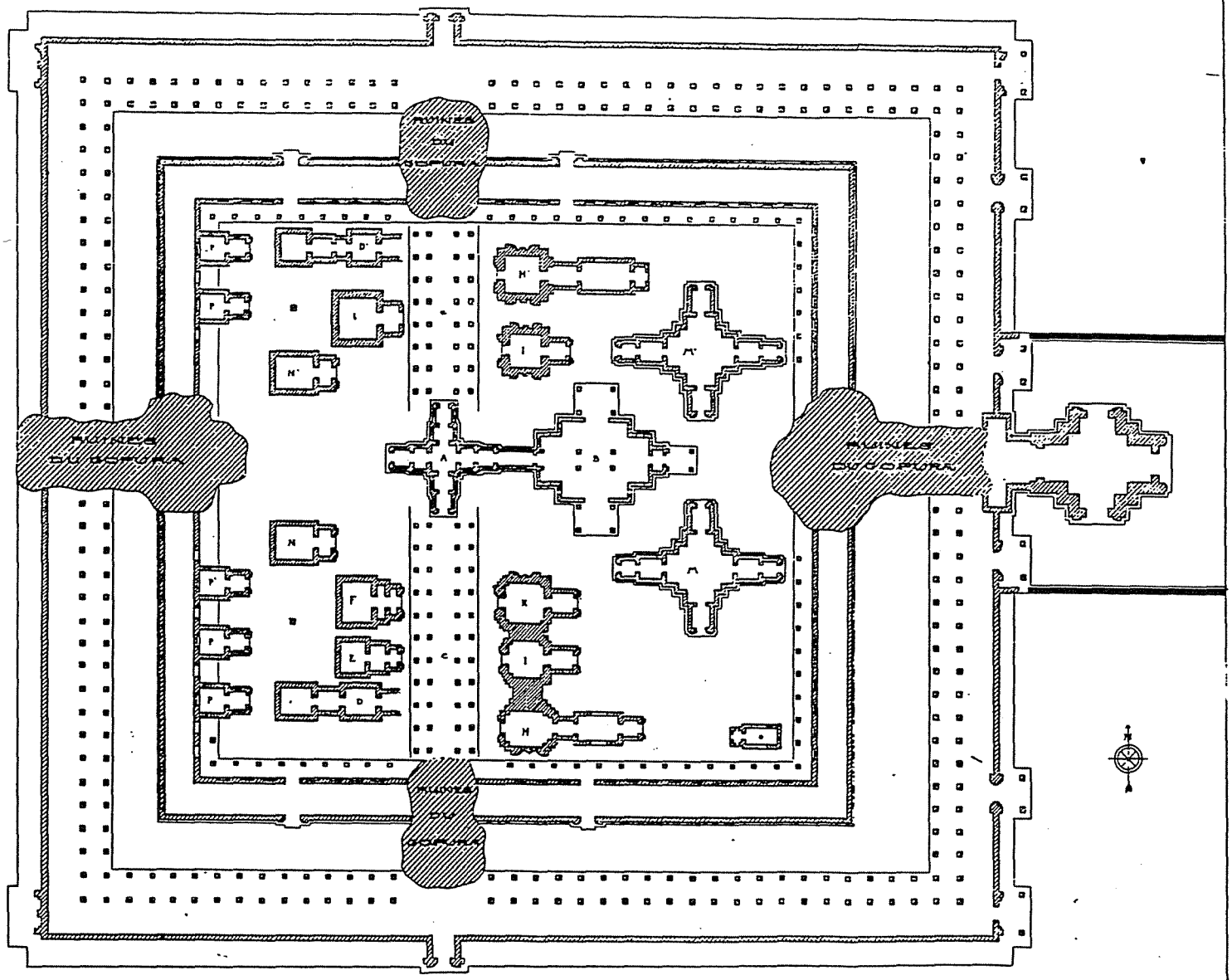


Fig. 43. — Preah Khan, n° 522. Plan des première et deuxième enceintes.

Background

Documentary Research

There is a wealth of material (multi-lingual), on the region of Angkor, and the collation of a comprehensive index for Preah Khan forms a part of this project.

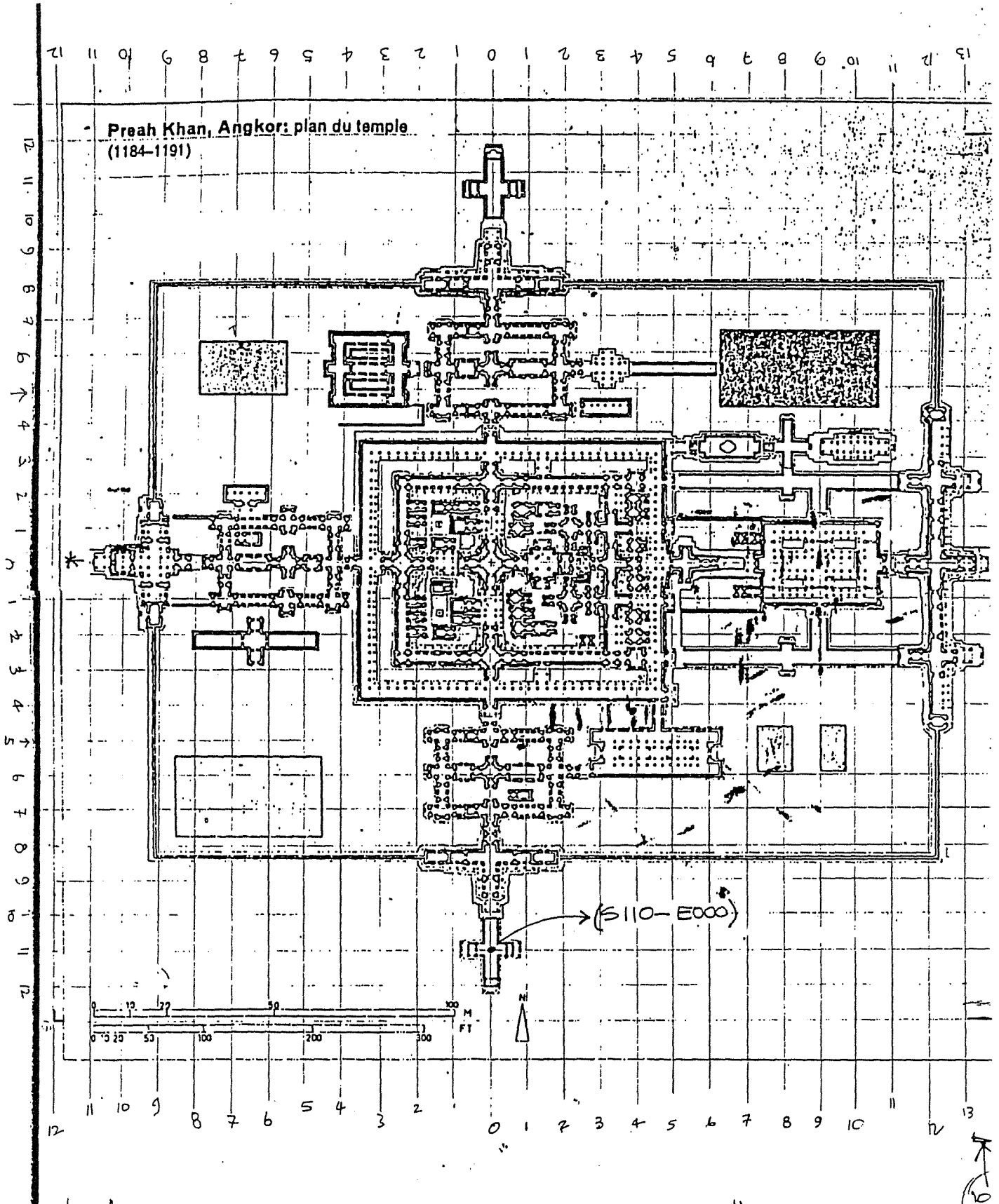
Archival material on ancient Khmer sites was reviewed at the National Museum Library in Phnom Penh during the Mission. The documents related to Preah Khan include drawings, photographs, annual reports, monthly 'journals' and published works such as atlases and explorers accounts of Angkor. Conservation work schedules were compiled by the Ecole Francaise d'Extreme Orient (EFEO), over a period of approximately 40 years, 1930-1960. Archival plans, photographs and descriptions were key to on-site reference.

Many of the sites of Angkor were catalogued in the early text, '**Inventaire Descriptif des Monuments du Cambodge**' by E. Lunet de Lajonquiere in 1911. This publication allocates a reference number to each of the large Angkor complexes and alpha-indexes portions of each complex, including descriptions.

Angkor Kingdoms

An overview of the Angkor region provides a good basis for the identification of the style, building technique and design associated with different periods of Cambodian history. Undertaking a chronological investigation of Angkor sites helped the team to place Preah Khan in its context, in terms of age, architecture and religion. Sites visited included Preah Ko (879), Bakong (881), Lolei, Prasat Kravan (921), Pre Rup (961), Takeo (1000), Phimeanakas, Angkor Wat, Ta Som, Neak Pean and the Bayon.

Extract from 'Inventaire Descriptif des Monuments du Cambodge'
by E. Lunet de Lajonquiere, 1911.



Plan of Preah Khan (detail)

10 METRE GRID

N-W | N-E
S-W | S-E
W
E

10 Metre Grid.

N-W | N-E
S-W | S-E
N
W
E

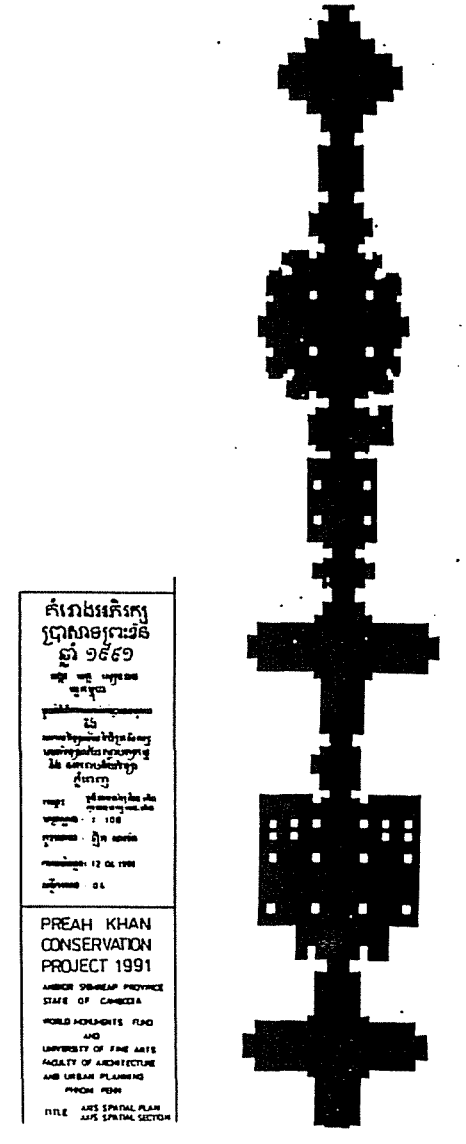
Orientation

The first site inspection at Preah Khan gave the conservators:

1. a familiarity with the overall three dimensional scale and spatial arrangement;
2. an understanding of the common elements, structural and decorative;
3. an opinion of the general condition and the primary sources of deterioration.

In many instances pedestrian access was restricted because of structural failures such as roof collapses. The Access Plan also records the primary enclosures, courtyards, trees and common names for features. A reproduction is included at the end of this section.

Site orientation introduces the need for a geocode, or locational system, in order that inquiries and priorities can be precisely identified on-site. The inventory locates items using grid co-ordinates on a metric scale.



Grid Plan of the Preah Khan site, used to precisely locate each item.

BUILDING INVENTORY: FIELD RECORDING FORM

W.M.F. 3/91

IDENTIFICATION

SITE: PREAH KHAN — ENCLOSURE NO.: 2

ITEM TYPE: VE — GROUP (IF ANY): GW — GRID CO-ORDINATE: 000N 100W — ORIENTATION (AS APPLICABLE): W-E

COMMON NAME: GOPURA WEST VESTIBULE — EFEO REF: 522

DESCRIPTION

GENERAL DESCRIPTION / DECORATION:
SHIVAITE SCULPTURAL BAS RELIEF IM HIGH ON ALL 4 SIDES AT JUST ABOVE CORNICE. TWO COLUMNS IN LINE WITH PORTICO COLUMNS WITH HORIZONTAL BRACES. DECORATED PILASTERS AT CC DOOR, FOUR WINDOWS

PLAN: ☒ RECTILINEAR ☐ SQUARE ☐ CRUCIFORM

APPROX AREA 20 M²

STRUCTURE:
ROOF ☒ CRUDE VAULTED ☐ FINISH VAULTED

WALLS ☒ COURSED ☐ KEYED

BUILDING MATERIALS	LATERITE	SANDSTONE	BRICK	TIMBER	STUCCO FINISH	OTHER
ROOF	▨	▨				
WALL		▨				
FLOOR	▨	▨				

SCULPTURE	BAS RELIEF	SCULPTURE	OTHER
		▨	ON COLUMNS ONLY
		↓	
			DECORATIVE LINTEL

NOTES: SMALL BROKEN STONES (APPROX 6.) ON FLOOR POSSIBLY FROM WINDOWS.

CULTURAL SIGNIFICANCE

ITEM SIGNIFICANCE
UNIQUE ELEMENTS OR PURPOSE: SHIVAITE BAS RELIEF ABOVE CORNICE

PREVIOUS WORK OBSERVED:
☒ STABILIZATION
☒ INTERVENTION — CONCRETE BEAM AT BASE OF ROOF VAULT, STRUTS, LINTEL PATCHED, RIDGE CONCRETING
☐ RECONSTRUCTION ← POSSIBLY PARTIAL ROOF RECONSTRUCTION

CONSERVATION

PRESENT CONDITION 1991:

STRUCTURAL CONDITION

GENERAL ASSESSMENT: 1 (good) **2** 3 4 5 (ruin)

ROOF: 100% COVER ☒ — COLLAPSE ☐ %

FLOOR: 85 % COVER

COLLAPSE IMMINENT ☐

GENERAL OBSERVATIONS
1. WINDOWS ALL OPEN, TWO TIER ROOF STRUCTURE & SOME PATCHING, SOME MOVEMENT APPARENT IN PLINTH.

WALLS:	N	S	E	W	PARTICULARS
INTACT	▨	▨	▨	▨	
RUIN %	*	*			WINDOW DECORATION MISSING
COLLAPSE IMMINENT					

MATERIALS CONDITION

GENERAL ASSESSMENT: 1 (good) 2 **3** 4 5 (ruin)

MISSING ELEMENTS: WINDOWS, PARTS OF ANGKORIAN COLUMNS (COLONETTES)

DETAILS OF PRIMARY DETERIORATION: ROOF WATER PENETRATION → MOSS, ROOTS ONLY PARTIALLY REMOVED, VANDALISM

RECOMMENDATIONS ☐ PRIORITY ☒ SHORT TERM (1.) ☒ MEDIUM TERM (2.3.)

1. Check roof for water penetration, repair.

SEE GW – PO for 2,3

RECORDED BY: SC
DATE: 21 MARCH 91

PHOTO NEG. NO.

Design

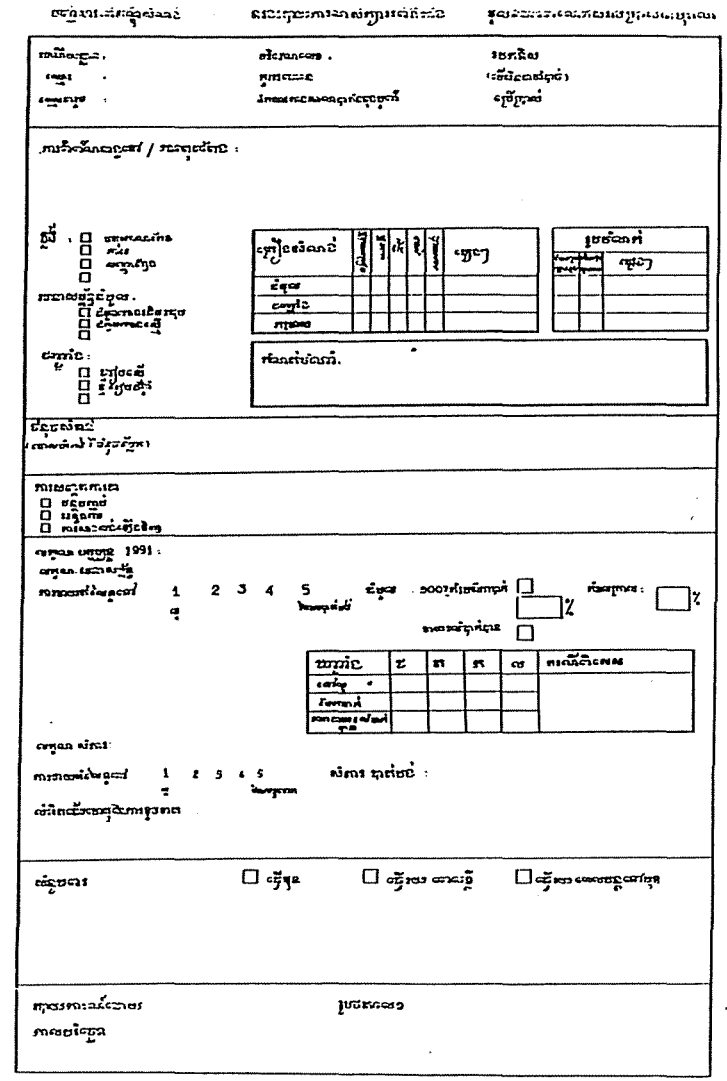
The Field Recording Form was developed specifically for Preah Khan and this customisation enabled the use of checklists and prototype variables.

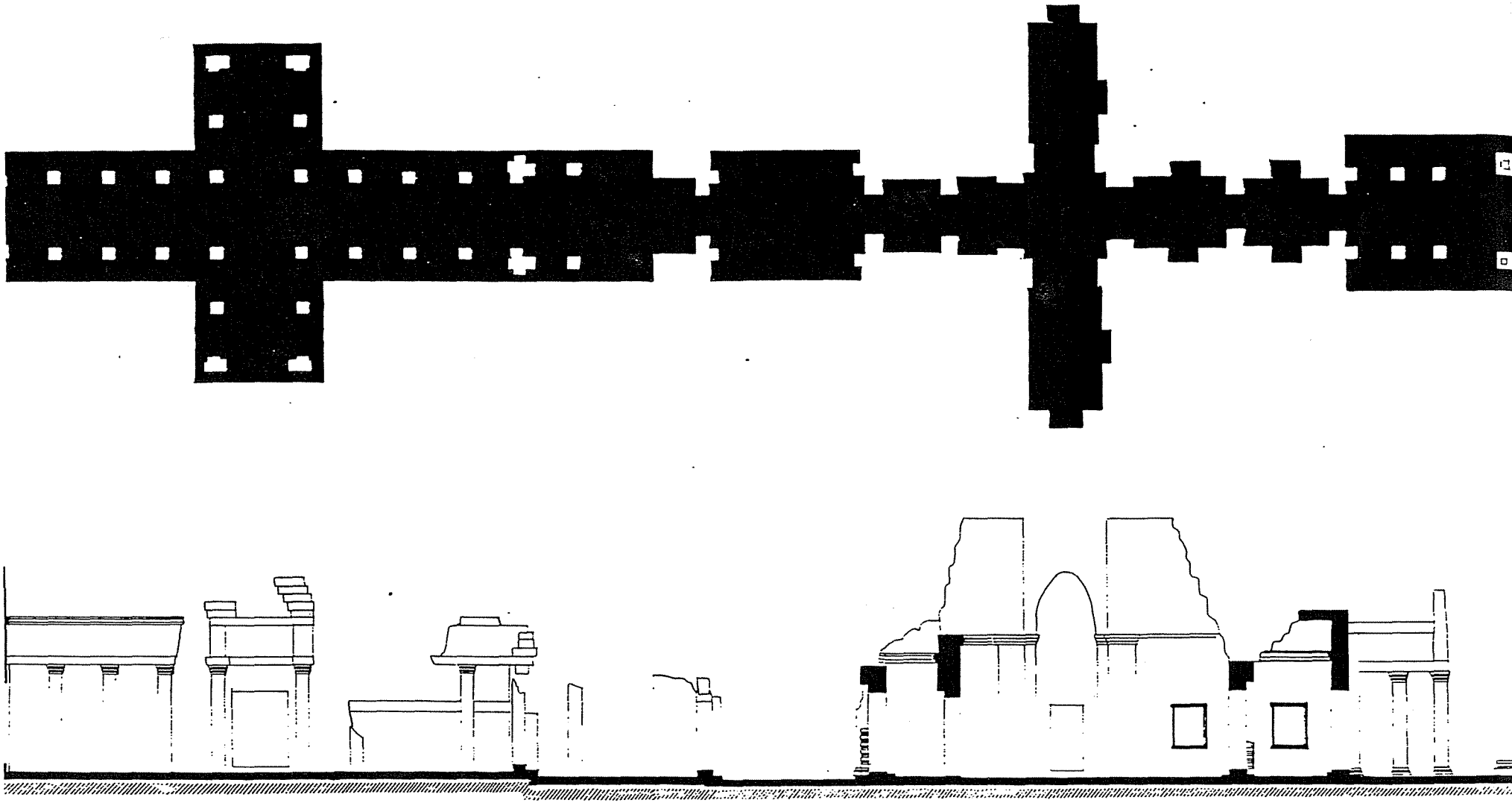
Anglin and Cunliffe briefed the Sophia University team and the Khmer university students on inventory methodology and recording techniques. Defining the architectural terminology generated lively debate and once consensus was achieved, all item types were catalogued with the corresponding typical image.

It was determined that the area within Enclosure Wall 1 would be given priority in recording and that the east-west axis would be fully documented to the extent of Enclosure Wall 2. This decision was based on physical condition, accessibility, time allocated and presentation potential for future visitors.

The inventory requires the collaboration of various disciplines and the historians, architects, engineers, archaeologists, scientists and tourism specialists participated in this design stage.

The Architecture and Archaeology students formed a part of each stage of the inventory work. They were briefed on the purpose of the inventory and the process of investigation and recording. The students translated the field recording form to Khmer and documented the East Gopura 3.





Detail of the students' drawings.
Crossection (above), Linga Post (opposite).

Recording

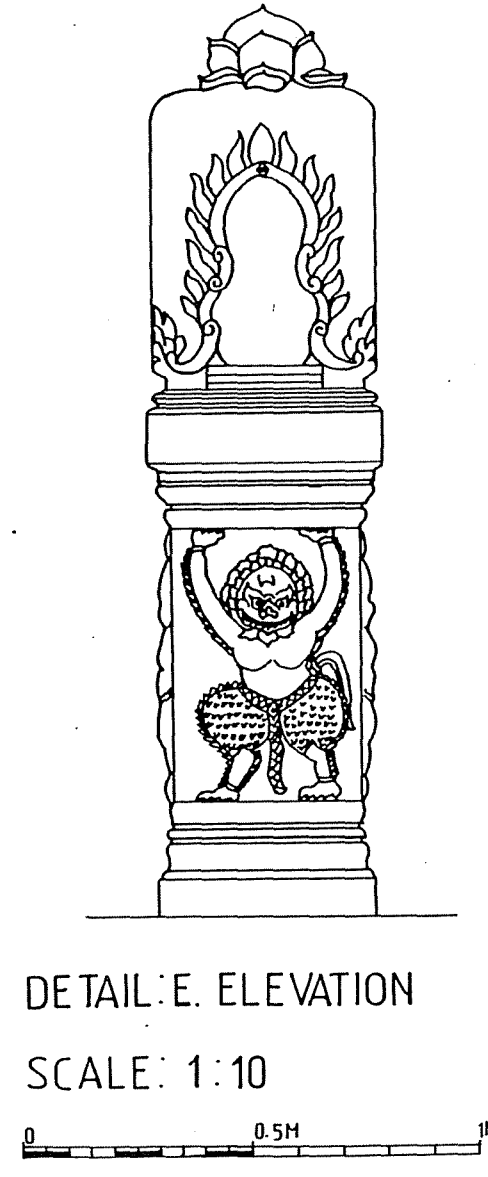
In summary, the field recording process consists of:

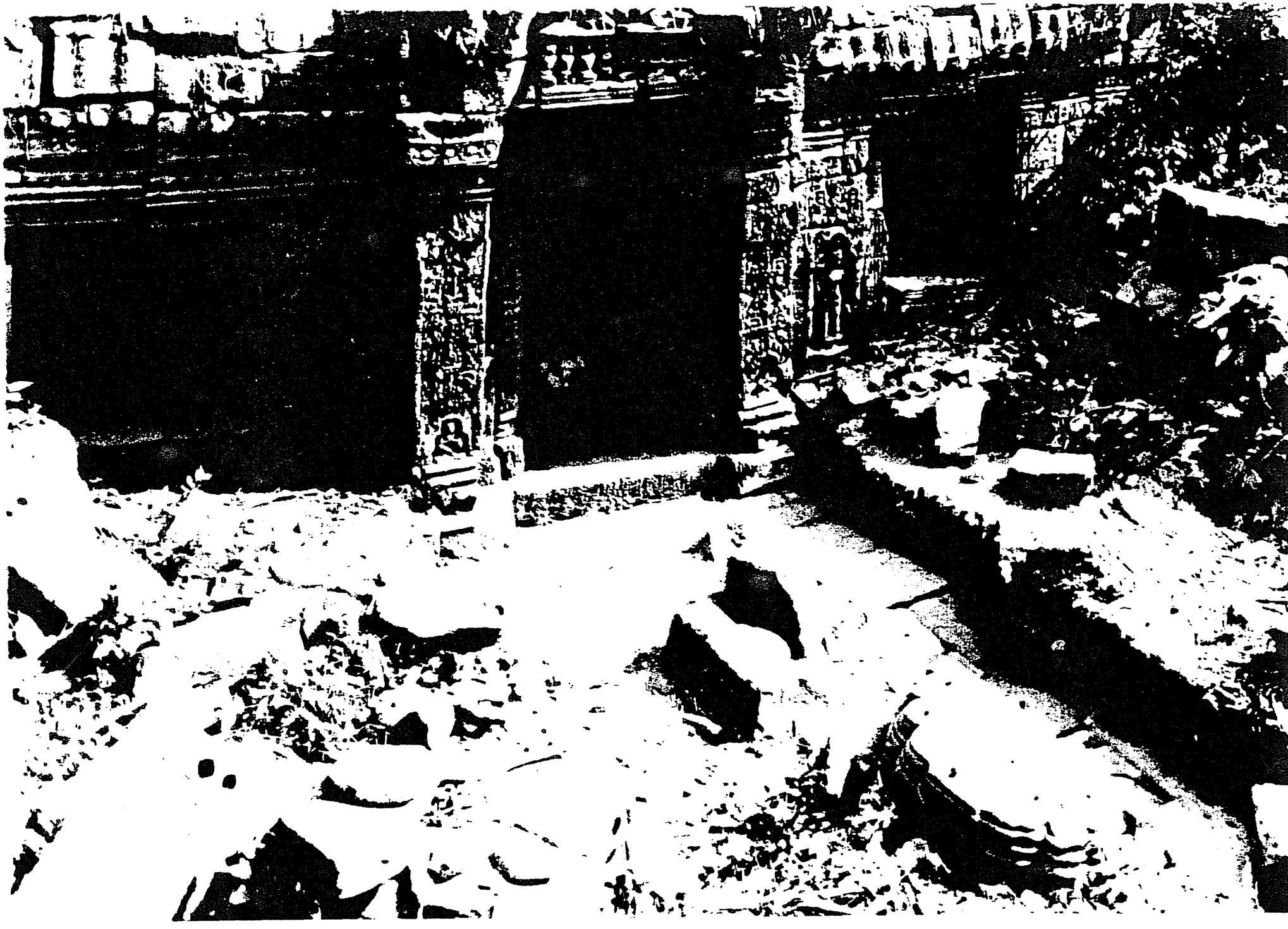
Field documentation
Measured drawings
Survey
Photography
Investigations

Over **150 items** were documented at Preah Khan during the field mission. The information collated for each item includes the materials, decorative features, structural condition, previous conservation work and priority recommendations. Religious associations were identified for areas, with the spatial planning and carvings providing the evidence.

Measured drawings of the primary east-west axis and selected details were constructed by the University of Fine Arts students under the instruction of Cunliffe and Anglin. **Surveys** were carried out to determine the different ground levels of items and a large cross-sectional drawing was developed using this information.

A sample of inventory **photography** was undertaken to demonstrate the methodology. West Gopura 3 was selected as the case study. An annotated photographic glossary of terms was also produced to assist the inventory teams in the identification of sites.





Investigations

The physical investigations divulged new information, material and artefacts. This work consisted of:

* Clearing Overgrowth
* Locating Drainage Systems
* Identifying Archaeological Strata
* Positioning Unrecorded Structures
* Examining Alterations and Failures

The mature forest's clutch on the buildings is striking. Large ficus trees have a gnarled and eternal grasp on many of the sandstone buildings. Few locations are without evidence of vine or root holds. Under the WMF Team supervision, the Khmer workers from the Conservation d'Angkor cleared extensive areas of undergrowth, primarily within Enclosures 1 and 2. This afforded the team access to previously impassable areas.

With no known earlier investigations to verify the ancient drainage systems, the WMF team architects determined sites to be excavated. Under the supervision of Hawixbrock, the archaeologists and workers exposed stone channels and drains which demonstrated techniques of water reticulation from courtyards and through buildings. Levels of soil strata were identified, establishing the extent of topsoil and spoil that has accumulated over the centuries. Embedded in these layers were stone segments from the buildings as well as a remarkable decorative piece, the first of its type known to be associated with Preah Khan.

The investigations afforded the opportunity to find structures not recorded on our archival plans. The team identified several independent secondary buildings of block laterite and Hawixbrock and Bruguier estimated a chronology of the complex development which modified the 1965 work of Philippe Stern, (in *Les monuments khmers du style du Bayon et Jayavarman VII*). Evidence of the various building campaigns are found by analysing:

* the construction technique
* the iconographic relief and sculpture
* the inscriptions
* the layering and imposition of diverse architectural elements

Stabilisation and anastylosis of buildings occurred at Preah Khan under EFEO supervision. These efforts have significantly contributed to the stabilisation of the site. The extent of past conservation work were recorded as observed during the inventory recording process.

During the inventory investigations, it was noted that a common structural problem was the failure of lintels and subsequently the collapse of the vaulted roof structures. The instability of the lintels has been promoted by the removal of metal support ties, likely stolen for the metal value. The missing lintels in Enclosure 1 and 2 were recorded by the team and students.

One archaeological excavation undertaken during the Mission, a courtyard in Enclosure 3, Location: S005-W065.

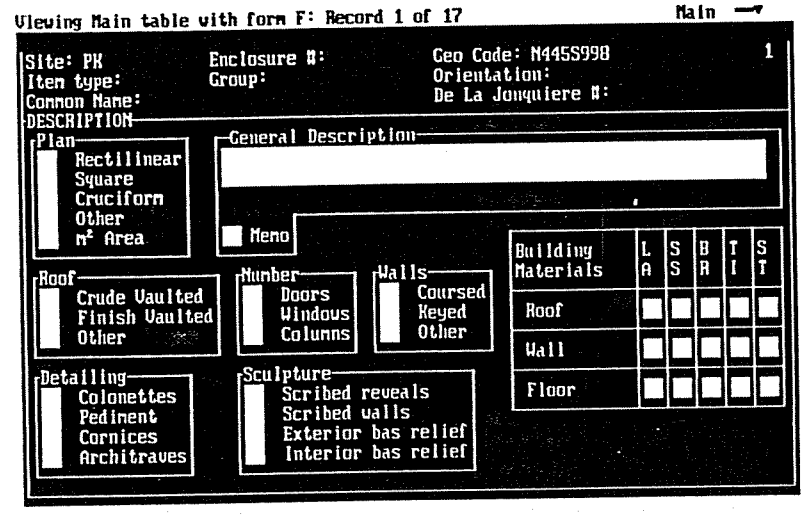
Computerisation

Standardisation and consistency in the recording process were achieved in the first 'pilot' inventory program at Preah Khan. The computerisation of the inventory information will enable easy data storage and retrieval. This is a necessity for effective management of the conservation project.

Using a customised database, information is organised into an appropriate hierarchy, with the basic inventory data constructing the system's foundation. The selected options become more sophisticated as site knowledge increases and conservation management requirements become paramount. Anglin and Cunliffe have designed the framework of a computer program specialised for use in inventory and management projects at the Angkor sites.

In recording Preah Khan, there are many repetitive elements, materials and processes. The method of collecting the information on site and consequently transferring it to the computer is expedited by the use of simple codes. With the stroke of a single key, words, paragraphs or graphics can be introduced or retrieved.

The computer program is PC based, menu driven and capable of linking to other software.



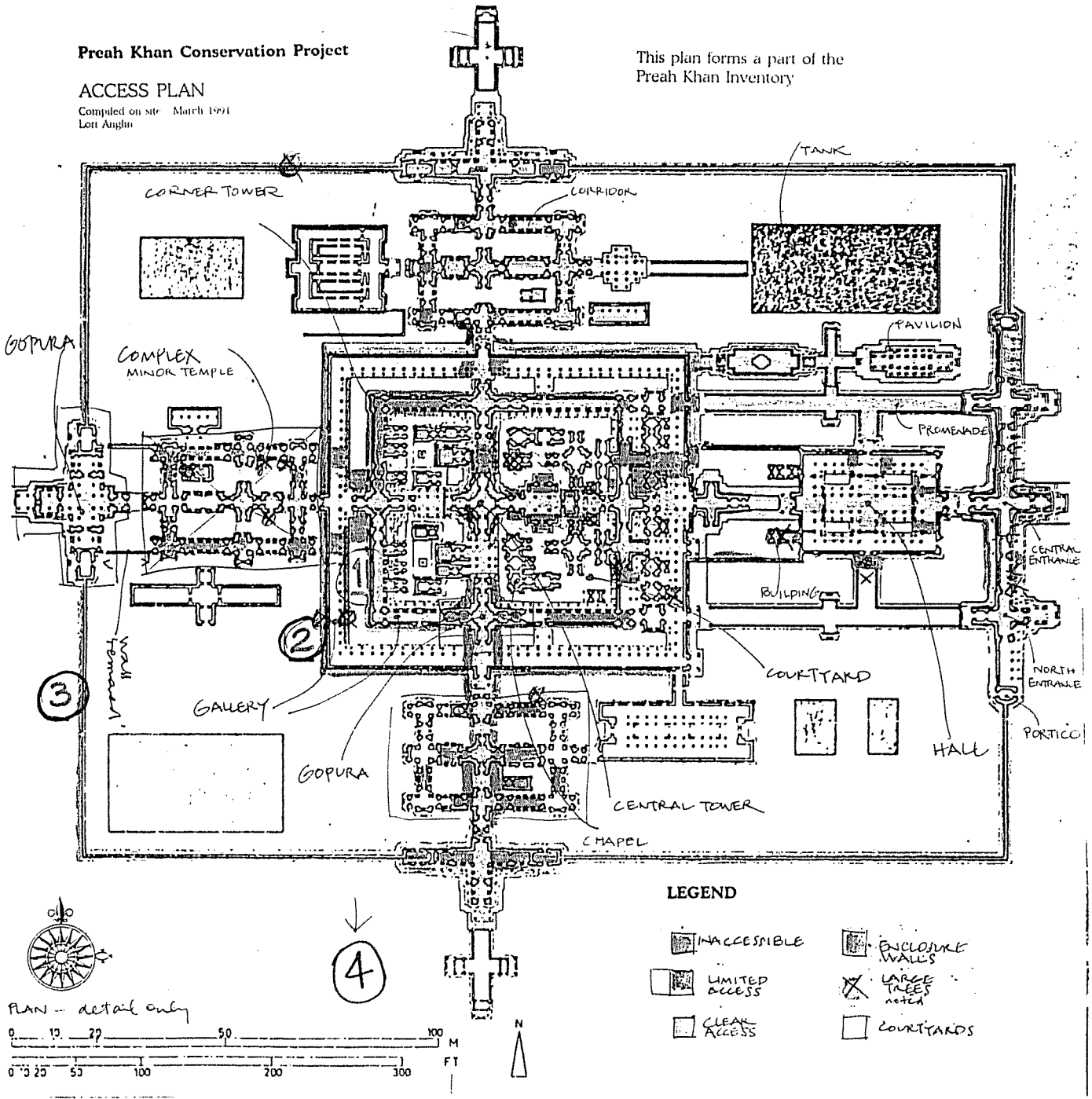
Following page,
Copy of the Access Plan. Compiled on site in March 1991
indicating the areas restricted by collapse and vegetation in Enclosures 1 & 2.

Preah Khan Conservation Project

ACCESS PLAN

Compiled on site March 1991
Lori Angin

This plan forms a part of the
Preah Khan Inventory



Part Three Training Program

Objectives
Strategy
Program
Exhibition
Training Program Participants

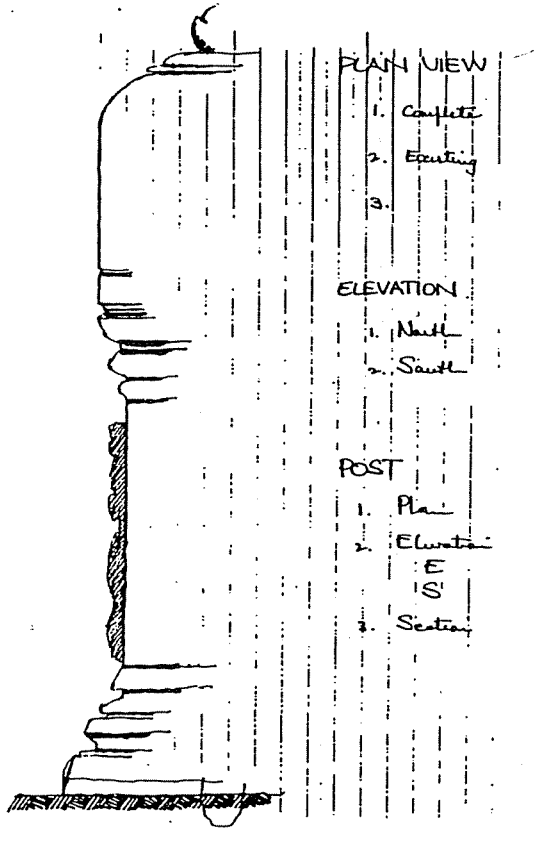
Part Three TRAINING PROGRAM

Background

The Preah Khan Mission was established with a primary intent to train young Khmers in the discipline of architectural conservation, with the view that some of these individuals will assume the role of Angkor guardians in the future.

Lectures, meetings and informal discussions with the group of approximately twenty-five trainees were carried out over a period of fourteen days. The WMF team was responsible for the intensive training of eight people, five architecture and archaeology students and an architectural instructor from the University of Fine Arts, and two employees of the Conservation d'Angkor.

The participants were afforded a period of self-preparation, familiarising themselves with various complexes from different periods of development in the Angkor region. Interpretation and tutelage was provided by University of Fine Arts instructors, Sophia University professors and lecturers and the WMF team led by John Sanday. The training program at Preah Khan was coordinated by Scott Cunliffe.



Site sketch (Cunliffe) of the Processional posts or lingas leading to the West Gopura at Preah Khan.

Objectives

Understanding that there were various competencies amongst the students, a modest program was initiated in which every trainee would increase their skills and learn practical methods applicable to various problems, not exclusive to heritage conservation projects.

The primary **objectives** of the training program were:

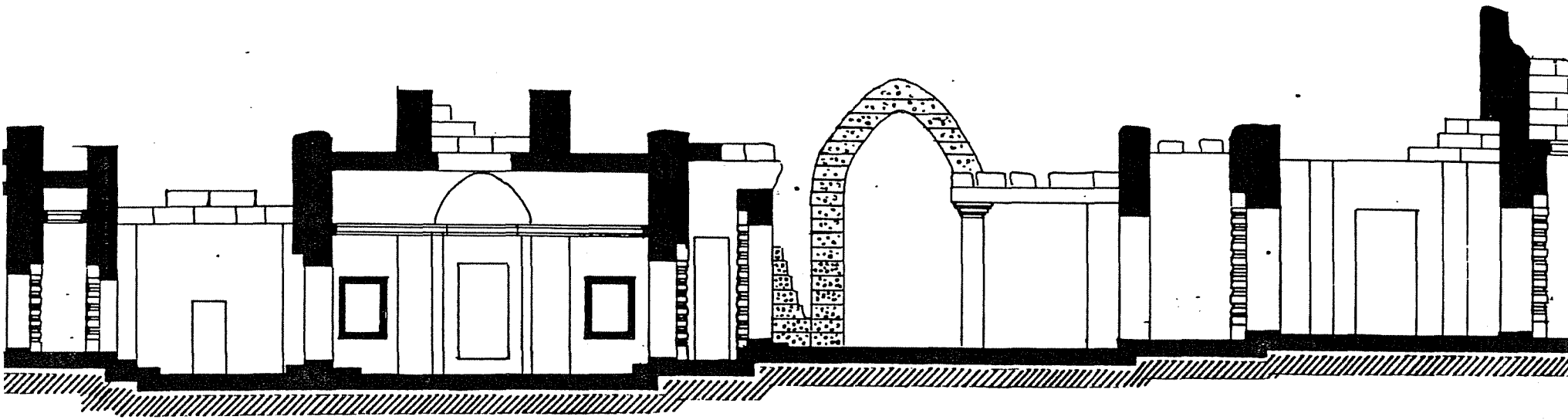
* to introduce university students to the basic principles of conservation for historic sites
* to develop rudimentary skills in recording and documenting historic architecture
* to introduce the multi-disciplinary facets of conservation, including archaeological excavation, photographic recording, site sketches and structural investigation
* to demonstrate the useful conservation 'tools'
* to stimulate awareness of Khmer culture and its architectural manifestation

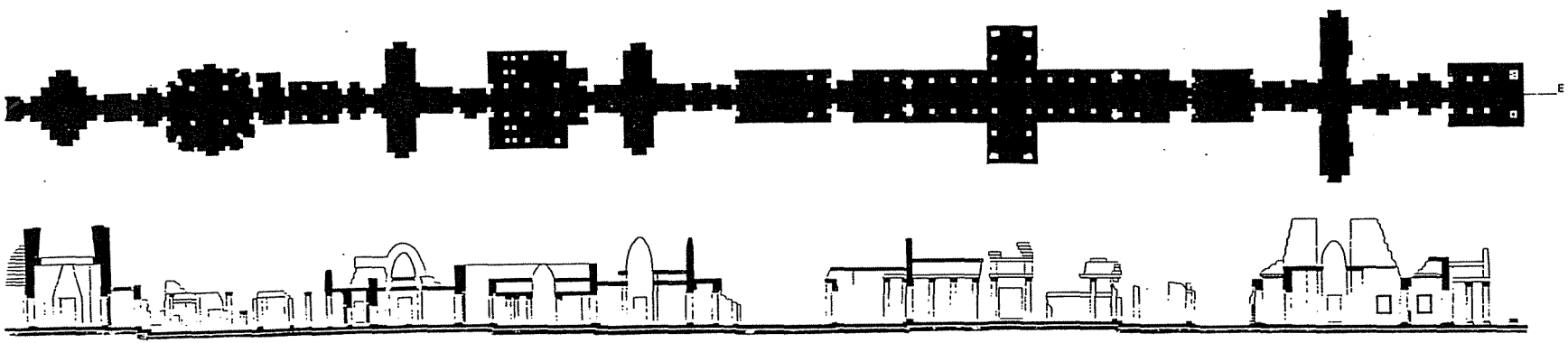
Archaeology student Chhann Chamroen records the sculptural piece uncovered during the investigatory excavations. After it was recorded, the sculpture was removed for storage in the Conservation d'Angkor compound.

As a learning objective, it was determined that by the end of the program, the participants would be able to produce measured drawings of specific areas of the Preah Khan complex. It was also a program intent to keep the participants inspired and enthusiastic with the opportunities offered in conserving Angkor.

For the trainers, it was important to identify those students who demonstrated an affinity to heritage conservation, such that they might be candidates for a successive program.

The aforementioned summarises the requirements of high priority. Once the program began, it was evident that we could accelerate the proposed work schedule and include additional issues such as spatial analysis, construction details, inventory recording and level survey techniques.





PREAH KHAN
CONSERVATION
PROJECT 1991

Strategy

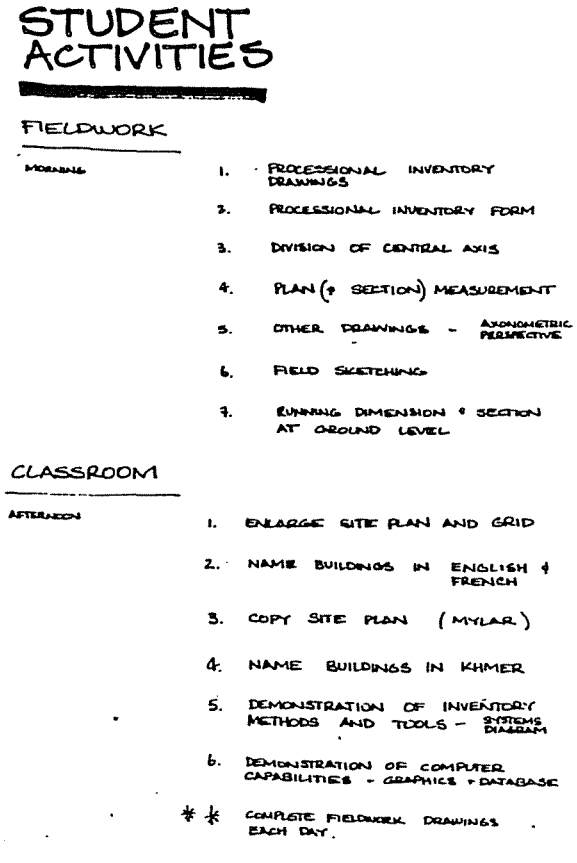
A variety of training activities were scheduled and different means of presenting information were used. Morning and afternoon sessions were typically dissimilar, in both location and content.

The majority of the training was on-site and 'hands on' at Preah Khan. Factors such as the humid and hot weather, the site facilities (or lack thereof), the attention span, the different levels of knowledge and language were important factors in the selection of an approach and schedules.

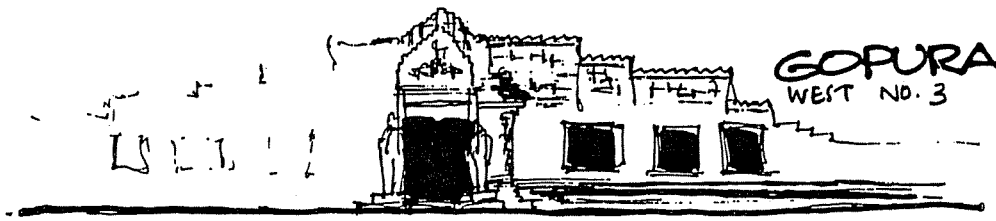
Small groups (2 or 3 trainees) were favoured in the task oriented work. During the intensive stages of the session, a daily routine was introduced. By organising structured activities, less time was spent trying to communicate what would happen 'next', a situation aggravated by the requirement for language translations.

WMF team members each led discussions with the students on-site, covering topics such as roof structures, archaeology, landscape and natural environment, spatial analysis and history.

The development of a spatial plan of the central east-west axis was selected as the primary method for the students to experience the architectural variety and complexity on the site. The tremendous quality of the architectural drawings speak for the success of the exercise.



A selection of the students' drawings are illustrated.

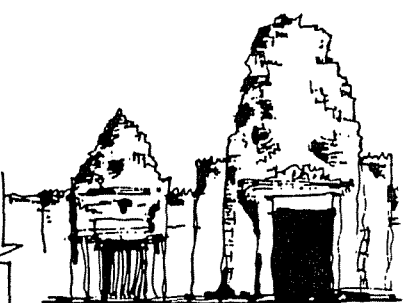


ENCLOSURE 3

GOPURA

GOPURA TERRACE

ENCLOSURE 4



GOPURA
WEST No. 4

NAGA CAUSEWAY

MEETING PLACE

MAIN ENTRANCE PROCESSION

WITH LINGA POSTS

N

PLAN

NOT TO SCALE

Scott Cunliffe Arch'c

Program

It was planned that the most taxing work would be accomplished in the morning, when the weather was typically cooler. The afternoons were often spent in the studio spaces of the Conservation d'Angkor. Studio activities included demonstrations of useful drawing techniques, the use of the computer, assistance in translating field notes and confirming the designs for the proposed exhibition of drawings.

For field work, the small groups were selected by skill and compatibility.

An example schedule of an intensive on-site day (ie: Days 3-8) is summarised:

am	7.30	**Morning Meeting as a Group** Update on progress Questions on past or proposed work Description of work proposed for the day Discussion of issues/new concepts
	~8.30	**Activities in Small Groups** (Periodic Instruction) Measuring architectural spaces One-to-one instruction or alternatively, an information session Informal rests
am	11.30	**Field Summary** Instructor as Facilitator
pm	2.30	**Studio - Individual and Group Work** (Intensive Instruction) Drawing/Design Demonstration Translation of Site Notes Scaled drawings in pen or pencil
	5.00	**Wrap Up** Agree on the plan for the next day

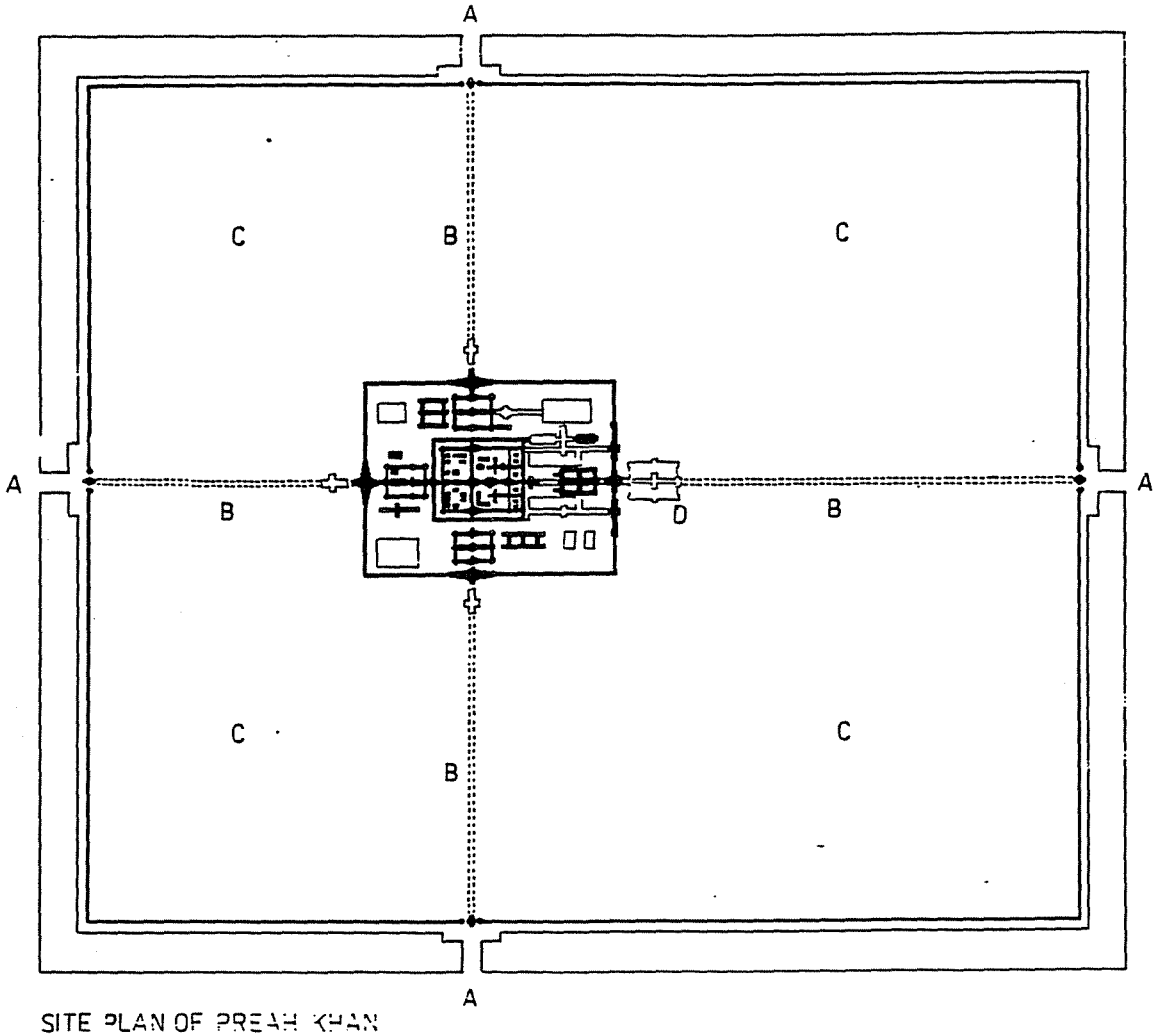
Site sketch (Cunliffe) of the western entrance to Preah Khan used to introduce the students to the value of hand sketching on-site as a recording methodology.

A CHAUSSEES SUR DIGUE FRANCHISSANT LA DOUVE

B CHAUSSEES AXIALES

C QUADRANTS OCCUPES PAR LA CITE

D PLATE-FORME DE DANSE PRECEDANT LE TEMPLE



SITE PLAN OF PREAH KHAN

SCALE 1 : 2000

0 50 100 200 300

N

គំរោងរក្សាទុកប្រាសាទព្រះខ័ន
ឆ្នាំ ១៩៩១

PREAH KHAN CONSERVATION PROJECT 1991

ANGKOR SIEMREAP PROVINCE
STATE OF CAMBODIA

WORLD MONUMENTS FUND
AND
UNIVERSITY OF FINE ARTS
FACULTY OF ARCHITECTURE
AND URBAN PLANNING
PHNOM PENH

TITLE : SITE PLAN

SCALE : 1 : 2000

DRAWN BY : SARETH LEK

DATE : 11.04.1991

DRAWING NUMBER : 02

Exhibition

The participants agreed that they would like to prepare drawings as a part of their training, which would contribute to an exposition of Angkor work in Phnom Penh. It was established that:

* each drawing would have a purpose and be able to stand alone

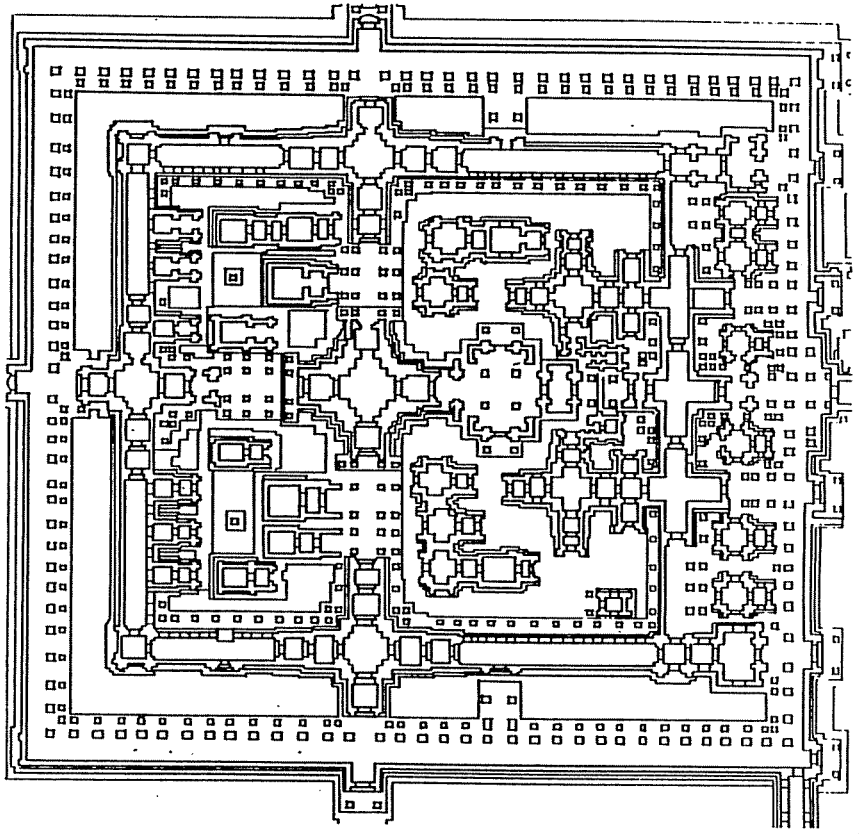
* the work would be drafted in pencil for approval, and completed using ink and mylar film with bold linework

* overall dimensions would be shown, but not excessive detail such that the graphics could be read from a distance

The Drawings and associated material for Presentation are:

Location Plan
Site Plan
Plan of Preah Khan
Spatial Plan: East West Axis
Spatial Section: East West Axis
Processional Plan
Processional Elevations: North and South
Linga Post: Plan, East Elevation and North Elevation
Inventory Field Recording Form - Khmer and English
12 Black and White Photographs (A3 format)

Prepared by the university students in March and April 1991



Training Program Participants

University of Fine Arts

Lek Sareth
Sy Rathmony
Tith Khemara
En Sarin
Chhann Chamroen
Heng Bun Tong (Architectural Instructor)
Hor Lat (Dean of Fine Arts)

Conservation d'Angkor

Uong Saveth
Kong Sam Sera

On-site at Preah Khan, the five students from the Universite de Beaux Arts, Phnom Penh and Anglin and Cunliffe.

LEK SARETH

HENG BUN TONG

TITH KEMARA

HOR LAT

CHHANN CHAMROEN

SCOTT CUNLIFFE

EN SARIN

LORI ANGLIN

SY RATHMONY

UNIVERSITY OF FINE ARTS

PHNOM PENH

FACULTY OF ARCHITECTURE AND URBAN PLANNING

Part Four Recommendations

Part Four RECOMMENDATIONS

The following is a short summary of recommendations arising from the work undertaken at Preah Khan in March 1991.

* It is recommended that the basic Inventory be completed at Preah Khan, using the process established;

* It is recommended that the training program for the team of students from the Preah Khan Mission continue, given their performance and stated significant interest and effort to date;

* It is recommended that regional specialists are included in an expanded multi-disciplinary team, with consultants in hydrology, stone conservation, structural engineering, tropical horticulture and social planning;

* It is recommended that the Inventory records be computerised to facilitate efficient data retrieval and project management;

* It is recommended that promotional material be produced to increase awareness and support for the immense conservation initiative required;

* It is recommended that a list of potential areas for contribution, collaboration and support be composed for organisations interested in assisting with the Preah Khan Conservation Project;

Lastly,

* It is recommended that the Conservation Management Plan be promoted and further developed as outlined herewith.

The World Monuments Fund conservation program has its own focus on Preah Khan, however, it is also recognised that this mission is one element in the larger Angkor Conservation Management Plan. The goals of any project in this region are developed in consideration of the national state of affairs.

There are many opportunities for future conservation programs and each must take into account the wider picture of the country, its poverty, training needs, infrastructure requirements and social fabric.

The 1991 Mission initiated a significant process of cultural management. The future stages of the project should include more collaboration and co-operation amongst the international community.

The recommended 'Table of Contents' (following pages) was developed by Anglin and Cunliffe in order to provide a framework for the needed conservation planning strategy. The outline is applicable to Preah Khan, however with adaptation, it is equally relevant to Angkor as a region.

PREAH KHAN CONSERVATION MANAGEMENT PLAN

Recommended Table of Contents

The following provides a suggested outline of the Conservation Management Plan required prior to conservation and presentation work proceeding at Preah Khan.

1. INTRODUCTION & SUMMARY

2. CONTEXT OF THE PLAN
- * Chronological History
- * Locational Context
  - Geographic
  - Socio-economic
  - Cultural
- * 1930-1990 Conservation Overview
  - Recording Techniques
  - Extent of Intervention

3. SIGNIFICANCE OF PREAH KHAN
- * Aesthetic
- * Social
- * Historic
- * Scientific
- * Archaeological

4. CONSERVATION GUIDELINES
- * Approach and Intention
  - Information Dissemination
- * Regulation
  - Compatible Use
  - Intervention
- * Guidelines
  - Documentation
  - Architectural Conservation
  - Archaeology and Excavation
  - Inventory
  - Interpretation
  - Environment
  - Infrastructure

5. PRELIMINARIES
- * Inventory
  - Recording
  - Computerisation
- * Training
  - Professionals
  - Craftsmen
- * Excavation
- * Cultural Tourism

6. REQUIREMENTS
* Legal
  Planning Legislation
* Owners
* Community
* Visitors and Users

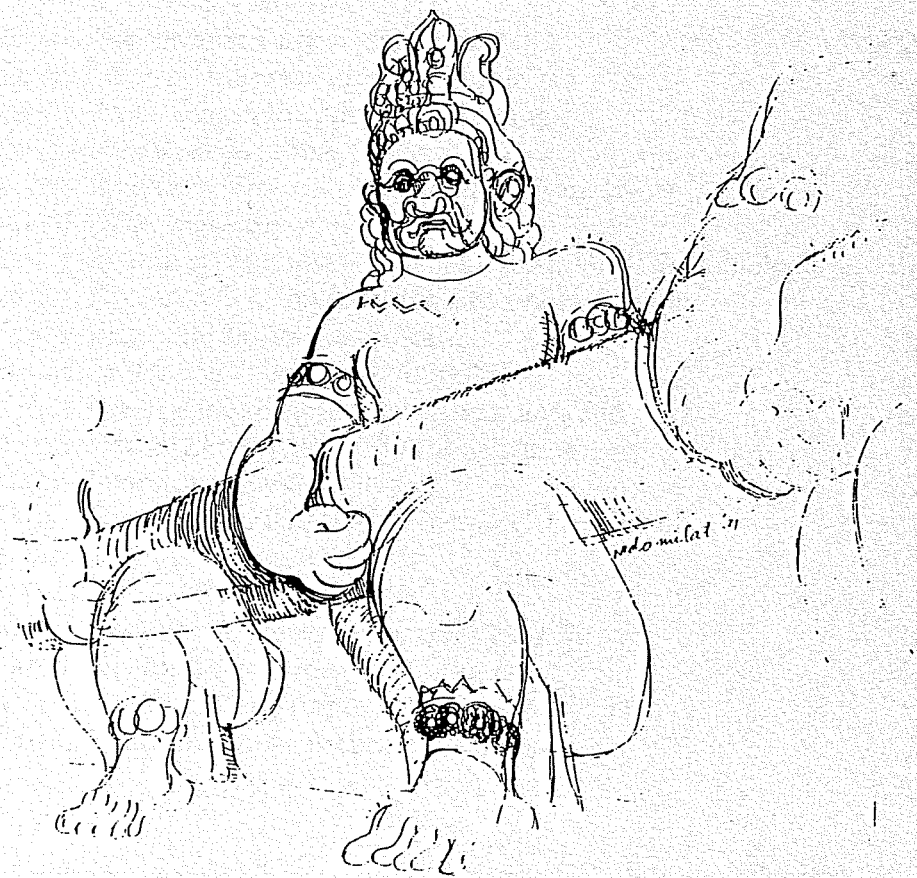
7. ADMINISTRATION & SUPPORT
* Advisory Board
* Project Team
  Multi-disciplinary Skills
* Conservation d'Angkor
* Research Centre
* Collaborative Schemes
* Budget

8. ACTION PLAN 1991
* Site Office
* Conservation Schedule
* Comparative Conservation Planning Symposium
* Professionals and Workforce
* Short Term Uses
* Interpretation and Presentation
* 'Promotion Angkor'
* Budget

9. LONG TERM STRATEGY
* Conservation Program
* Infrastructure Plan
* Cultural Tourism Program
* Planning Framework
  New Development
  Approval Process

10. PLAN REVIEW PROCEDURES
* Interval
* Participants/Representation
* Maintenance Schedule

11. ATTACHMENTS
* Background & Reports



Part Five **Appendixes**

Meetings
Donations
WMF Team
Bibliography

Meetings - Training and Inventory - Anglin and Cunliffe
March 1991

Date	*Place/Issues*	*WMF Team*	*Participants*
	Phnom Penh		
11 March	Silver Pagoda Conservation Program	SC,RC,LA,BB	Polish Conservation Team
13 March	National Archives - Documentary Search	SC,LA,CJ,BB	National Museum Staff
	Siem Reap		
13 March	Conservation and Angkor Wat	JS	Students, Sophia Team
14 March	Student Introduction and Inquiries	JS,RC,SC,LA,CJ,BB	Students
14 March	Joint Teams Introductory Meeting	JS,RC,SC,LA,CJ,BB	Sophia Team
15 March	Database Meeting	SC,LA	Sophia Team
16 March	Inventory Process - Preliminary Framework	JS,SC,LA	Sophia Team
16 March	Draft Field Recording Form	JS,SC,LA	
17 March	Inventory Meeting - Process, Plans, Grid, Terminology	JS,SC,LA	Sophia Team
17 March	Students Site Interpretation Morning Session	JS,SC,LA,RC,CJ,BB	Students
19 March	Final Field Recording Form	LA,SC	Sophia Team
21 March	Inventory Training - Bantay Kdei	LA,SC,JS	Sophia Team
21 March	Preah Khan Survey with Australian Aid Rep	SC	Students, Australian NGO
22 March	Demonstration of Computer Program	SC	Students
24 March	Inventory Review	SC,LA	Sophia Team
25 March	Question and Answer, Closing Ceremonies	ALL	Students, Sophia Team
25 March	Evaluation Meeting	JS,SC,LA	Sophia Team
	Phnom Penh		
26 March	National Archives - Documentary Search	LA,SC	National Museum Staff
27 March	National Archives - Reproduction	LA,SC	National Museum Staff
27 March	Student Workshop - Planning Exhibition	LA,SC	Students
28 March	Presentation to Architecture School	JS,SC,LA,BB,CH,VD	Students

JS-J Sanday, SC-S Cunliffe, RC-R Collins, LA-L Anglin, CJ-C Jeste, BB-B Bruguier, CH-C Hawixbroke, VD-V Dauge

DONATIONS

May 1991

This list summarises the books donated to the University of Fine Arts, Phnom Penh by Anglin Associates as a contribution to the World Monuments Fund Mission to Angkor, Cambodia 1991. All costs associated with the shipment were borne by the Commonwealth of Australia, Ministry of Foreign Affairs, Cultural Division, under the auspices of Mr. Neil Manton.

The students' architectural drawings could not be reproduced in Phnom Penh due to a lack of equipment and these were kindly hand delivered to Cunliffe and Anglin's Sydney offices by the Australian Freedom From Hunger representative, Mr. Peter Robertson. We thank the Australian organisations for their support.

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Total of 60 Issues including:

Architecture Australia. Journal of the Royal Australian Institute of Architects.
The Architecture Bulletin. Journal of the Royal Australian Institute of Architects, NSW Chapter.
The Fifth Column. Canadian Student Journal of Architecture, Royal Architectural Institute of Canada.
AIA Journal. American Institute of Architects.
National Geographic.

The drive for further books is continuing in Sydney and the following promotion was printed with the compliments of President Richard Dinham of the Royal Australian Institute of Architects (NSW Chapter).

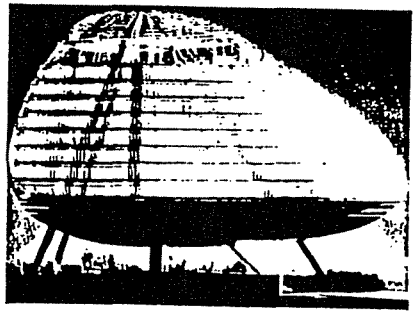
who has not been given work by the
:nt in the last two years;
ects of $100,000 or above, tenders will be
rough public advertisement.
:e of Public Management has requested
/aluation be carried out at the end of each
Every six months, a summary of consul-
)jects will be forwarded to the Office of
anagement. If you have any queries,
all Sue Holiday, Assistant Director of the
)91 2003.

Y ASSURANCE A 'MUST' FOR PWD :TS

/ Public Works Department is to introduce
ssurance as a standard requirement in its
/orks contracts, placing an obligation on
)rs and subcontractors not only to comply
r contractual obligations but to be able to
rate compliance. Minister for Public Works
ray said the new system would encourage
)rs and subcontractors to improve their
es rather than rely on the inspection serv-
'ublic Works. 'They will have to manage
cesses in a way that ensures quality is built
aid. 'Improved management of contracts
ce delays, improve industrial relations, and
the incidence of bankruptcy as well as
the consistency of the quality of Govern-
)jects.'

DONATE YOUR UNWANTED BOOKS TO KAMPUCHEA

Most of the architecture books and other equipment at the Faculty of Architecture, University of Fine Arts, Phnom Penh were destroyed during the 1975-79 Pol Pot administration so the 252 students are without resources. Australian architects can help remedy this situation by sifting through their libraries for architecture books and magazines they no longer need. RAIA President Richard Dinham has offered to store the collection at Tusculum until 15 September when it will be shipped to Kampuchea. For details contact Scott Cunliffe, Cultural Management Consultants, phone 356 2288.



The world's first environmentally friendly building, **THE GREEN BUILDING**, developed by Future

Royal Australian Institute of Architects (RAIA) NSW Chapter — "ARCHITECTURE BULLETIN", July 1991.

World Monuments Fund: Preah Khan Mission

List of Equipment and Supplies Delivered
to the University of Fine Arts, Phnom Penh
March 1991

Coloured Marking Pens	15
Drawing Ink	.5 litre
Rapidograph Technical Pens	24
Rapidograph Nibs	18
50 meter Tape Measures	3
Adjustable Set Squares	10
Lettering Stencils	15
Drafting Tape	10 rolls
Pushpins	2 boxes
Eraser Guides	3
Pencil Leads	12 boxes
French Curves	2 sets
Pencil Sharpeners	3
Dividers	1
Exacto Knives	3
A4 Graph Paper Pads	3
A3 Graph Paper Pads	2
Writing Pens	24
Clutch Pencils	48
Beam Compass Sets	2
Compass	2
Scale Rulers	15
Stencil Templates	10
Flexible Curves	5
1200 mm. Parallel Rulers	10
Tracing Paper	3 rolls
A4 Tracing Film	50 sheets
A3 Tracing Film	50 sheets
Mylar	1 roll
Bond Paper	1 ream
Name Tags	1 box
Small Stapler	1
Staples	1 box
Writing Pens (red & black)	48
Camera Tripod	1
Steel Ruler	1

To Students in Preah Khan Group,

Rotring Sets	5
15 meter Measuring Tape	5
Writing Pens	14
Portable Drawing Boards	5
Scale Rulers	5
Adjustable Set Squares	5

Conservation d'Angkor equipment provided

50 meter Tape	1
Graph Paper Pads	2
15 meter Tape	1
Adjustable Set Squares	2

World Monuments Fund Team

John Sanday	Team Leader & Conservation Architect	United Kingdom
Robertson Collins	Cultural Tourism Consultant	United States
Scott Cunliffe	Architect & Planner	Australia
Corneille Jeste	Consultant	France
Lori Anglin	Conservation Planner	Canada / Australia
Bruno Bruguier	Historian	France
Christine Hawixbrock	Archaeologist	France
Veronique Dauge	UNESCO Representative	France

Also participating in the Mission:

Team from Sophia University in Tokyo, Japan
Team of students and lecturers from the Universite des Beaux Arts in Phnom Penh, Cambodia
Representatives from the Conservation d'Angkor in Siem Reap, Cambodia

Cultural Management

C O N S U L T A N T S

Scott Cunliffe
Architect & Planner

Lori Anglin
Architectural Conservator

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