

ORIGINAL MORPHOLOGY AND SUCCESSIVE MODIFICATIONS OF THE SUOR PRAT TERRACES GIVING ONTO THE ROYAL PLAZA OF ANGKOR THOM

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Introduction

The Japanese Government Team for Safeguarding Angkor (JSA) was established in 1994 to carry out a concrete preservation and restoration project for the Angkor monuments. One of the first monumental ensembles selected for restoration was that of the Prasat Suor Prat Towers and terraces as a key element of Angkor Thom's Royal Plaza — an urban area of ceremonial splendor rarely found in the Southeast Asian world (Figure 1). The project aims to restore the towers of Prasat Suor Prat along with a portion of their terraces. Certain parts of the ensemble are in grave danger of collapse. Once restored, we hope that traditional cultural activities will be revived in this area.

The establishment of a practical restoration plan for terraces disturbed by human activity as well as naturally (rainwater, soil, vegetation, etc.) over the course of time necessitated investigations and archaeological excavations aimed at confirming original terrace shape. The JSA archaeology unit has concentrated on excavations around the Northern Group of Prasat Suor Prat since 1995, for a total of 6 years, with the more specific aim of unraveling the original morphology of features and successive modifications made to them, with an eye to understanding chronological relationships between features. In order to achieve this end, surface soil was removed in vast areas around towers N1, N2 and N3 at the southern part of the Northern group, in view of rendering the final morphology of the features legible; since 1995, deep trenches have also been dug down to probe subsurface structures in specific localities. Within the past six years, the total excavated area measures more than 4000 square meters. Figure 2 provides a practical plan showing detected conditions of features along with specific excavation siting.

Although some issues are yet to be resolved, it has become possible to understand chronological changes in terrace morphology, to determine terrace plan in each remodeling episode, and to envisage a restoration plan of the site based on these extensive and intensive investigations. While further research will allow us to develop more detailed description, we can at this point divide modifications of the terraces and towers into four more or less distinct stages.

This report provides an overview of these modifications, illustrated with three-dimensional graphic models for better understanding. This is a first step towards integrating and consolidating existing interpretations of the features from archaeological points of view.

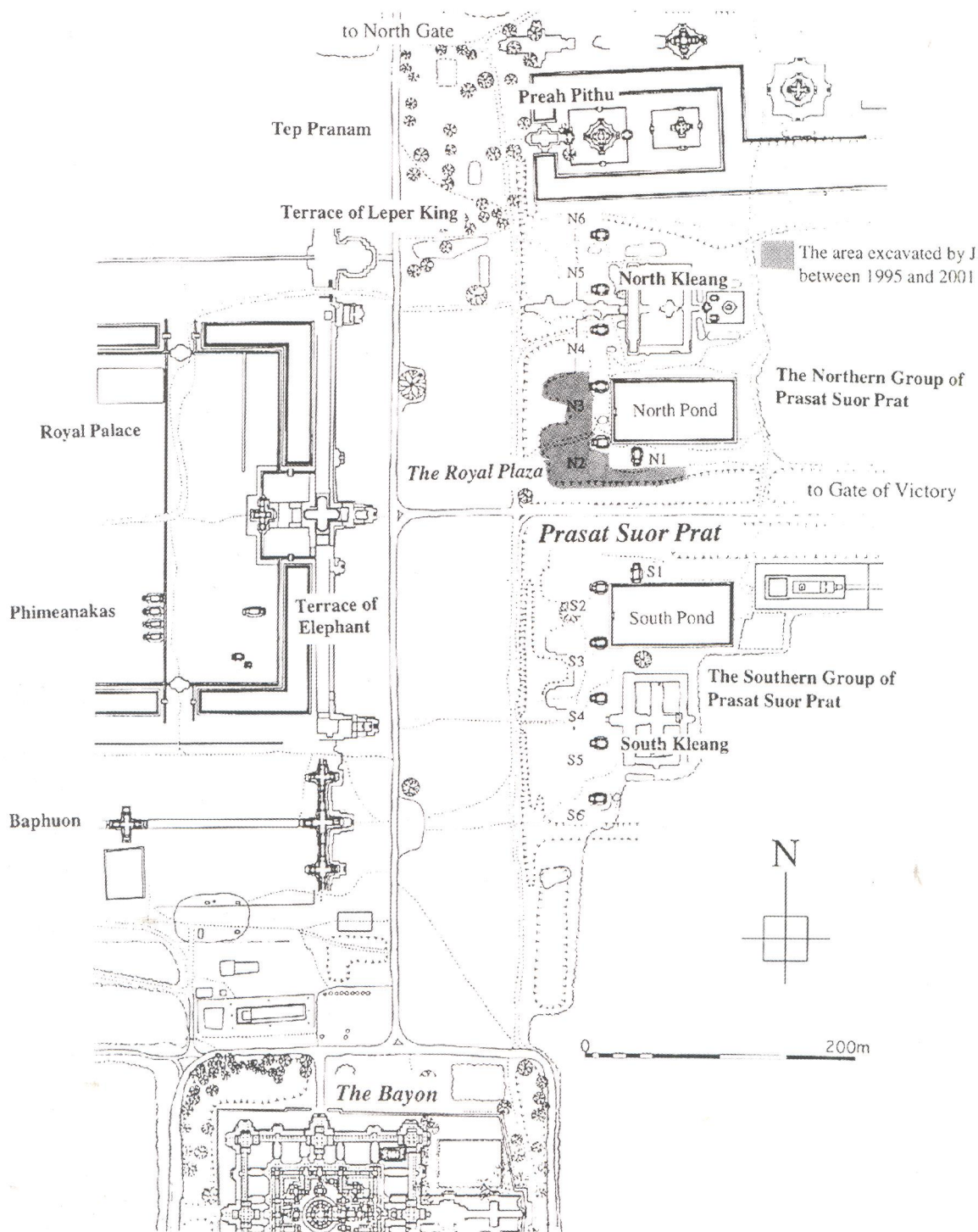


Figure 1. Site plan of Prasat Suor Prat in Angkor Thom.

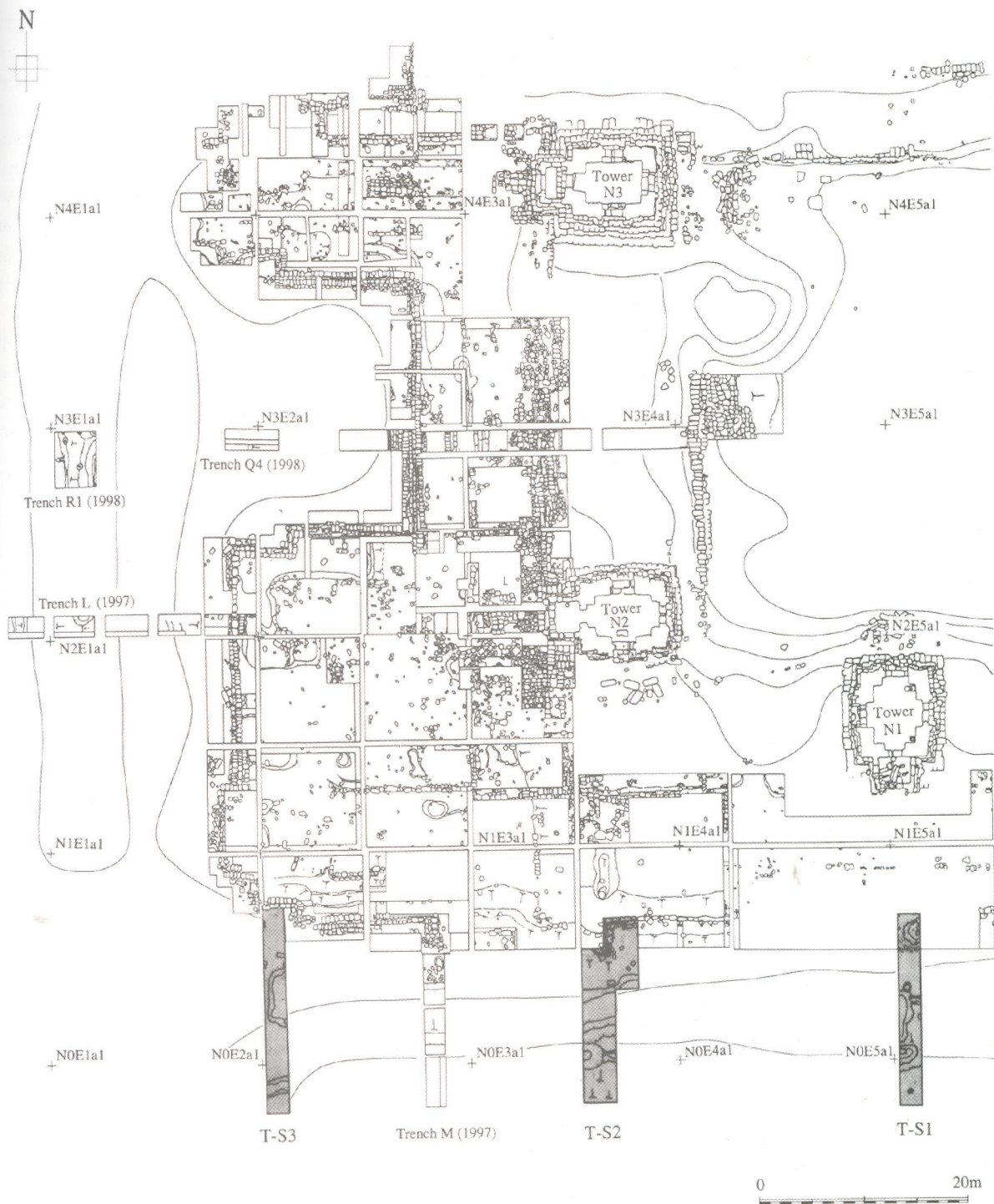


Figure 2. Areas investigated between 1995 and 2001 in the Northern Group of Prasat Suor Prat.

Outline of the modification process

As mentioned above, extensive excavations have been carried out and almost finished over the main parts of the terraces around Towers N1, N2 and N3 (the main terrace which connects the towers with each other and two protruding terraces which extend from the front of Towers N2 and N3 to the west). Excavations and investigations, consisting in detecting conditions of underground features and stratigraphic conditions of thick soil strata piled from the surface of the natural soil layer up to near the present ground surface, demonstrate that the terraces were not completed in one single phase, but were rather rebuilt and extended several times after original construction. While these terrace rebuilding activities or vestiges thereof can be divided into four general stages, the towers were modified, in their appearance, only once. Namely, each antechamber entrance was raised.

In the following section, the modification process will be shown through a presentation of morphology, appearance and structure of the terraces in each stage, beginning with the first and oldest one. All interpretations presented herein are based on findings of successive archaeological excavations and investigations of which more detailed descriptions can be found in JSA's Annual Reports (see references below).

The first stage (Figures 3-1a, 3-1b)

The original morphology of the terraces is quite different from what can be seen at the site today. At this first stage, Towers N1, N2 and N3 were directly connected only by a narrow belt-shaped terrace. The east-west width, from the entrance of the towers to the western end of the terraced area, measured around 6.5 m. Along the western edge of the terrace, a staircase of five or more tiers of large laterite blocks served as a retaining wall for the terrace. The uniform size and quality of the blocks used here are quite distinct from the blocks used for other features built later.

The terraces protruding further west in front of Towers N2 and N3 did not yet exist in this phase. According to recent excavations and investigations of the south-western corner part of the terrace in 2000-2001, this large staircase was of complex design and structure with several small indented corners as shown in the three-dimensional model.

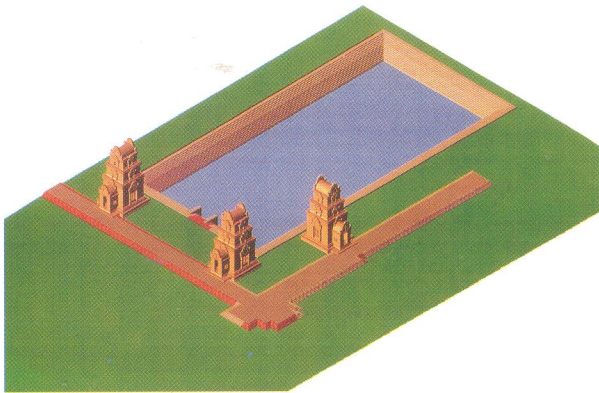


Figure 3-1a. Three-dimensional model of the first modification stage.

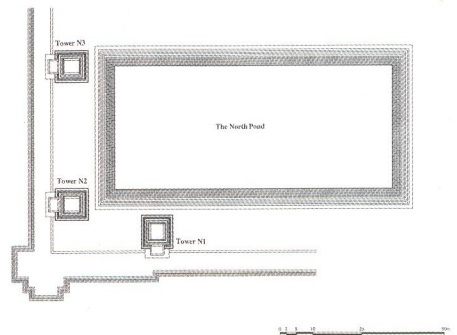


Figure 3-1b. Ground plan of the first modification stage.

The second stage (Figures 3-2a, 3-2b)

At the second stage, small cruciform terraces were adjoined to the western side of the original terrace, that is to the existing laterite staircase of blocks. These new protruding terraces were constructed in two places at the western front of Tower N2 and N3, and had double retaining walls of laterite blocks inside and sandstone blocks outside. We assume that these retaining walls ran the length of the terraces. The laterite blocks used for these cruciform terraces were smaller than the blocks used in the first stage.

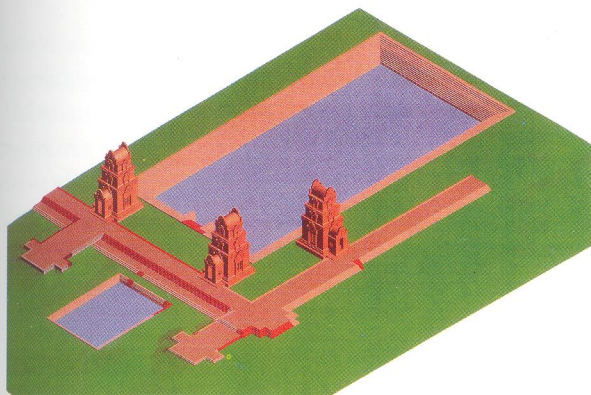


Figure 3-2a. Three-dimensional model of the second stage.

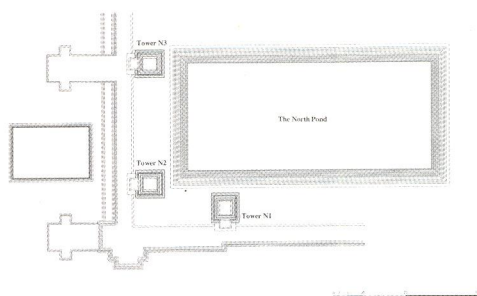


Figure 3-2b. Ground plan of the second stage.

During this second stage, a square or rectangular pool, with a seven-tiered laterite staircase serving as an embankment, were also added at the lower area between the two cruciform protruding terraces. The exact dimensions and shape of the pond have not yet been confirmed, as excavations are on-going.

The third stage (Figures 3-3a, 3-3b)

The western side of the previous terrace at the first and second stage was extended broadly to the west, essentially giving the ground plan the form it takes today. That is, at the front of Tower N3 a protruding terrace measuring around 18 m width south-north and 20 m in length east-west was built, completely covering the earlier cruciform terrace. Another large protruding terrace measuring 36 m in width south-north and 19 m in length east-west was constructed at the front of Tower N2. A new double

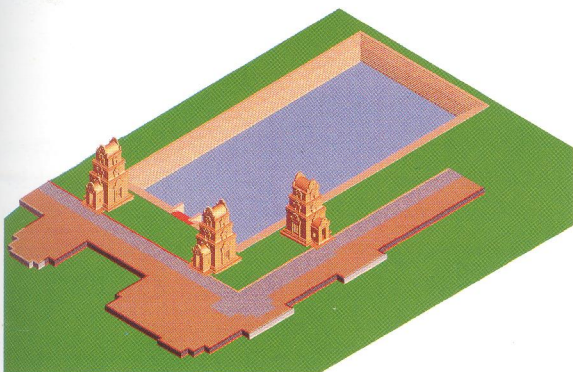


Figure 3-3a. Three-dimensional model of the third stage.

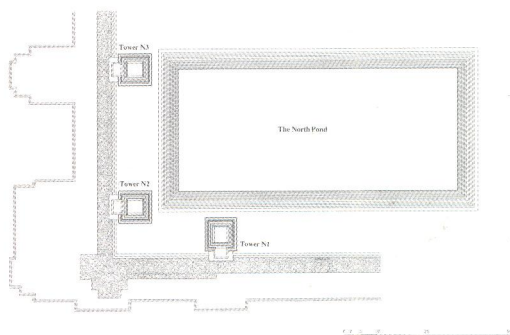


Figure 3-3b. Ground plan of the third stage.

retaining wall of sandstone and laterite was built along the length of the edge of both terraces. Main parts of these stone walls are still existent, though covered by soil.

In conjunction with this modification, the top level of the terraces was raised approximately 1 to 1.5 m higher by ramming earth and piling thick solid silty clay. A pavement of sandstone blocks was also laid on the surface of these raised terraces. On the other hand, the small pool detected in the western lower area at the second stage was artificially filled with soil, thus disappearing at this third stage.

The fourth stage (Figures 3-4a, 3-4b)

The fourth stage is presently considered to be the final phase of the modification process. It was at this time that the entrance and floor level of the antechamber of each tower was raised approximately 1 m. The ground level of the terrace was also raised up further but only in the vicinity of towers N1 and N2. The surface of these raised areas in front of each tower was finally partially covered by a newer pavement of small laterite blocks. In addition, several types of small features of laterite blocks, such as two- to four-tiered stone alignments (walls and staircases in some parts) were detected on the ground surface of the terrace. Precise traditional Khmer architecture technology would seem to have been lost at this final remodeling stage. It is likely that deterioration, collapse and human disturbance began soon after the completion of this stage.

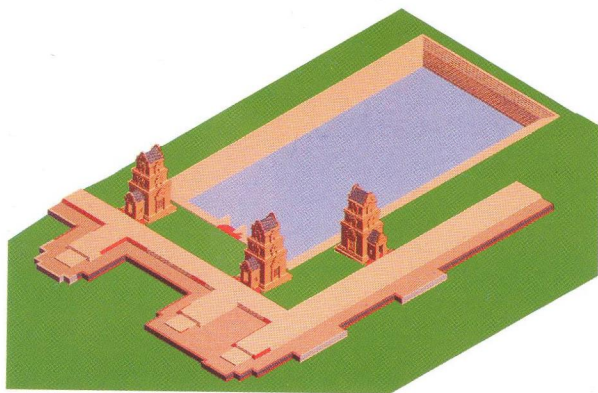


Figure 3-4a. Three-dimensional model of the fourth stage.

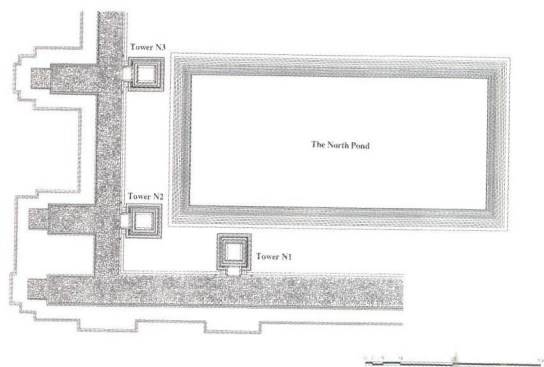


Figure 3-4b. Ground plan of the fourth stage.

Conclusion with issues to be resolved in the near future

As reported above, it has become possible to establish a rough outline of the modification process. However, there remains some uncertainty regarding the detailed morphology of features in each stage. Excavations thus far conducted have provided us with a variety of new information and also have raised a variety of new questions. Among these issues to be resolved, two are of primary importance in establishing a practical plan for the restoration of the terraces and for consolidating existing archaeological interpretations of the features.

The first issue is the period of tower construction: at which stage were the towers built? Were the towers already present in the first stage? General logic would lead us to assume that the towers would have

been built prior to the construction of the attached terraces. However, archaeological interpretation, based especially on the stratigraphic condition of soil rammed and piled for construction of the terraces, shows that the first stage's narrow terrace must have been completed before tower construction began. We must then wonder why, if the towers did not yet exist at the first stage, the first terrace was built. The situation becomes more easily understandable after the second stage as the protruding terraces of the second stage appear to have been built after tower construction: the location of each protruding terrace was clearly chosen in relation to the (therefore pre-existent) position of the towers.

The second issue is the dating of each stage. Analyses of the numerous artifacts recovered in excavations thus far conducted are needed in order to establish precise dating for the construction and modification sequences of features and terraces. Analyses of Chinese trade ceramics - inspection of each sherd and exploration of stratigraphic trends-should be particularly useful and effective in this datation work. As the manufacture date of Chinese trade ceramics is generally determined in correlation with pieces recovered from dated contexts in China, the Korean peninsula, Japan and several historical sites in Southeast Asia (see Naho 2000). Though detailed inspection of all Chinese ceramic specimens recovered has not yet been carried out, two exemplary artifacts unearthed during excavations are described below.

One specimen is a fragment of a Chinese celadon bowl which was unearthed from the top of the artificially-rammed sand strata (the Foundation Trench) for the base under the entrance of the tower N2 antechamber. The fragment is the body of a bowl with clear combed decor, a type of decoration specifically typical of products manufactured in Fujien Province's Dong-an kiln. The manufacture period of this type of bowl can be traced to the latter half of the 12th century. It follows, then, that construction of the foundation as well as the Tower can be dated to or after this age. The second, third and fourth stages of the terrace should of course date to a period after the latter half of the 12th century.

Another specimen is a Chinese celadon dish, which was recovered in the thick soil layer rammed at the south side of the tower N2 main chamber, during the fourth stage of reconstruction. This large dish remains nearly whole and measures 34 cm in diameter at its top rim. It bears shallow incisions representing a simplified lotus petal motif inside the body and a peony flower design on the inside bottom. This decor is characteristic of the mass-production of Longquan kiln in Xuejiang Province, probably dating to the latter period of the Yuan Dynasty (1279-1368), sometime between the second and fourth quarters of the 14th century. From this information, we can assume that construction of the fourth stage of the terrace was undertaken after the above-mentioned period. We can further assume that when Chou Ta-Kuan visited Angkor as part of a Chinese diplomatic mission in 1296, and described the scene of Angkor Thom, including Prasat Suor Prat, (Zhou Daguan [Chou Ta-Kuan] 1993), he would not have seen the terraces or towers at the fourth, final stage. The landscape that he observed would in fact have been quite different from what is seen at the site today.

On-going analyses of detected features and unearthed artifacts should lead to more precise dating of each modification stage as well as a more refined overall chronology of Prasat Suor Prat. I believe that many of the chronological mysteries still surrounding many of the monuments of Angkor will be resolved by further archaeological research.

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Zhou Daguan [Chou Ta-Kuan], 1993 (3rd edition, translated into English from the French version by Paul Pelliot), *Notes on the Customs of Cambodia*, The Siam Society, Bangkok.