

世界遗产·柬埔寨吴哥古迹

World Cultural Heritage: Cambodian Angkor

周萨神庙

Chau Say Tevoda

中国文物研究所 编著



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周萨神庙建筑（维修中）

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序言一

参与吴哥古迹保护工程的几点启示

张廷皓
中国文物研究所所长

为了增进中、柬两国人民的传统友谊，中国政府1997年批准文化部关于参与吴哥古迹保护工程的请示，决定由财政部拨款人民币1000万元，2002年又追加450万元，并派出中国文物保护专家参与柬埔寨吴哥古迹周萨神庙的维修保护工程。中国文物研究所受国家文物局的委派，从1998年开始多次组织文物保护专家赴柬对周萨神庙进行深入的考察、编制维修保护方案，经柬埔寨政府和联合国教科文组织批准，周萨神庙的维修工程于2000年4月正式动工，2007年6月将全部竣工，历时七年。在此期间，外交部和中国驻柬埔寨大使馆都给予了极大的关注和支持。

作为该项目的组织管理单位，通过这几年的工作，我们深切体会到我国政府作出参与文物保护国际交流决定的必要和及时。随着世界经济的一体化和文化多元化的发展，国际社会对世界文化遗产的保护也出现空前的繁荣。由于历史的原因，柬埔寨的吴哥古迹早在20世纪初就由法国远东学院负责清理、开发和抢修，使这组被誉为东方四大奇观之一的文化瑰宝得以延续。柬埔寨内战爆发后，吴哥古迹的维修保护工程中断了20多年。1993年联合国教科文组织在东京举行的声援吴哥古迹保护的国际会议开创了吴哥保护的新局面，参与吴哥研究保护的国家和非政府组织，除原来的法国、印度之外，又增加了日本、印尼、美国、德国、意大利、澳大利亚、中国、瑞士等国，体现了国际社会对人类文化遗产保护的强烈关注。云集在吴哥的一大批专家学者，既有长期研究吴哥资深望重的教授，也有多年从事文物保护经验丰富的工程师。在联合国教科文组织的协调下，各国专家经常就吴哥保护的基本理念和保护原则及各类技术问题交换意见、观摩施工现场，还经常举行各种学术报告，介绍世界著名文物建筑维修保护的经验和七年来，中国专家在为吴哥的保护作出巨大贡献的同时，也拓宽了自己的视野，丰富了文物保护知识，提高了业务水平。吴哥古迹的研究与保护工程是一座国际交往的平台，是各国文物保护专家展示各自文物保护理念和文物保护技术的窗口，希望这座平台逐渐扩大。我国政府决定在周萨神庙维修工程竣工后继续援助柬埔寨维修保护吴哥古迹中另一座建筑——茶胶寺，进一步壮大我国文物保护工作参与国际文物保护的力量，提高我国文物保护的总体水平。

就吴哥的保护而言，中国是后来者，缺乏维修保护吴哥的经验。但是，中国是一个具有五千年历史的文明古国，有许多珍贵的历史文物。中国的文物工作者通过对中国文物的维修保护，积累了丰富的经验，这是我们的长项。而且随着中国改革开放的深入发展，中国文物

Preface One

Several Insights Gained from the Conservation of Angkor Monuments

Zhang Tinghao

Director of China National Institute of Cultural Property

To enhance the traditional friendship between the Chinese and Cambodian peoples, the Chinese Government approved in 1997 the submission by its Cultural Ministry concerning the participation in the conservation project of Angkor monuments and earmarked RMB 10 million as the conservation fund. In 2002, an additional fund of RMB 45 million was allocated and Chinese conservation experts were dispatched to Cambodia to work for the conservation and restoration of Chau Say Tevoda in Angkor. Commissioned by the State Administration of Cultural Heritage of China, China National Institute of Cultural Property has sent several delegations of Chinese conservation experts to Cambodia to conduct in-depth surveys in Chau Say Tevoda and work out restoration plans. Co-approved by the Cambodian Government and UNESCO, the restoration project of Chau Say Tevoda was officially launched in April 2000 and will be completed in June 2007. The Chinese Ministry of Foreign Affairs and the Chinese Embassy in Cambodia have attached great importance and provided much support to the project during its implementation over the past seven years.

As the management organization for this project, China National Institute of Cultural Property has understood, through its working experience in Cambodia, how timely and necessary the Chinese Government's decision is. With growing economic globalization and cultural diversity, endeavors to conserve cultural heritage have been accelerated worldwide in an unprecedented scale. Restoration of Angkor monuments began in early 20th century when EFEO conducted cleaning, excavation and rescue work, which helped sustain this heritage site known as one of the four greatest wonders in East. The Cambodian civil war stopped the restoration work for more than two decades. In 1993 UNESCO organized an international conference in Tokyo, Japan in support of the conservation of Angkor monuments, which ushered in a brand new era. As a result, many other countries, apart from France and India, began to join in the study and conservation of Angkor monuments, including Australia, China, Germany, Indonesia, Italy, Japan, Switzerland and USA, which demonstrated the strong interest of the international community in the conservation of cultural heritage of mankind. Experts and scholars working in Angkor include not only senior professors who have studied the monuments for years but also engineers and architects with rich practical experience in heritage conservation. Coordinated by UNESCO, experts from across the world frequently exchanged views on basic conservation concepts, conservation principles as well as technical problems, visited restoration sites and held academic lectures to share their experience in the conservation and restoration of other world famous monuments. Over the past seven years, while making significant contribution to the conservation of Angkor monuments, Chinese experts have expanded their visions, learned more expertise and improved their professional performances. The project for the research and conservation of Angkor monuments has provided a platform for international exchanges and for experts from across the world to share their conservation concepts and expertise. We sincerely hope that



周萨神庙

保护理念与国际社会也逐渐接轨，例如2000年出台的《中国文物古迹保护准则》对若干重要问题的阐述就是中国文物保护理念与国际通行的文物保护观念、法则接轨的纲领性文件。周萨神庙的维修保护工程既是中国文物保护理念融入国际准则的重要实例，又是让国际文物保护界充分认识中国文物保护理念与实践的重要现场。

既尊重理论、尊重经验，更尊重实际是中国专家指导周萨神庙维修保护的指导思想。国际通行的文物保护准则不能违背，近百年积累起来的保护吴哥古迹的基本经验要尊重，但是具体维修方案还是要根据周萨神庙的具体情况来确定。例如哪些建筑可以解体大修？哪些建筑应该现状加固？哪些建筑可以修复？哪些建筑只能保持现状等问题都要做具体分析，不能生搬硬套某种理论或以往的经验。例如周萨神庙的主要建筑已经倒塌或大部分倒塌，而且在遗址内外保存了4000余件原来的建筑构件。经过考古调查、结构拼对，这些建筑构件中的大部分都能确定原来的位置，这就是周萨神庙的具体情况。抓住这个特点制定的维修保护方案才是最佳的保护方案。维修后的周萨神庙，不但排除了建筑物的险情，而且还把塌落的建筑构件准确无误地归安复位，恢复或部分恢复了建筑的原状。周萨神庙的维修方法理所当然得到国际社会的认可，受到柬埔寨人民的广泛好评。

整体保护，使有限的资金发挥更大的作用，是周萨神庙维修保护工程的又一特点。历时七年，不足200万美元的投入，将一组岌岌可危的建筑群修复得基本完整，整体环境也得到初步的治理，达到可以正常开放的标准，这在吴哥古迹的保护史上不能不说是一个讲究实效的工程。

由姜怀英、刘江、王磊编著的《世界遗产·柬埔寨吴哥古迹——周萨神庙》一书，是他们多年潜心研究吴哥古迹的成果，我衷心祝贺该书的出版，希望有更多的研究报告相继问世，我们将翘首以待。

this platform will grow larger in the future. The Chinese Government has decided to continue to offer assistance to Cambodia by restoring Ta Keo following the completion of the restoration of Chau Say Tevoda. The decision will be sure to help further increase Chinese participation in international efforts to conserve world cultural heritage and improve the overall level of Chinese own heritage conservation practices.

China is a new comer in the conservation of Angkor monuments and thus lack of practical experience in the restoration. Nevertheless, Chinese heritage conservation professionals have enjoyed rich experience in the conservation and restoration of numerous valuable monuments and artifacts left over from the five thousand years of the Chinese civilization. In addition, Chinese conservation concepts have gradually come up with international practices as the country has continued to speed up its opening up and reform endeavors. For example, the Principles for the Conservation of Heritage Sites in China provides guidelines to standardize Chinese conservation concepts and principles in accordance with international practice. In this sense, the project for the conservation of Chau Say Tevoda has served not only as an important example to enable Chinese conservation concepts to come up with international practice, but also as a venue where the international conservation experts can learn about Chinese conservation concepts and practices.

Respecting both theories and practical experience is a guiding principle governing Chinese experts' efforts in the conservation and restoration of Chau Say Tevoda. While internationally recognized principles are abided by and basic experience for the conservation of Angkor monuments gained over the past century are respected, we have worked out our restoration plan based on specific conditions of Chau Say Tevoda. For instance, which buildings can be disassembled and overhauled? Which buildings should be consolidated to maintain their status quo? Which buildings can be restored? Which buildings have to be conserved in its current conditions? Concerning those questions, we conducted detailed analysis instead of mechanically copying some methodology or past experience. For example, major buildings in Chau Say Tevoda had mostly collapsed and some 4000 original components of those buildings were scattered within and around the temple. But original positions of most of those components can be fixed after archeological surveys and structural matching. That was the condition of Chau Say Tevoda and only by highlighting this condition can we work out a best restoration plan. In the restored temple, endangered buildings have been consolidated and fallen components assembled to their original positions. Thus the original appearance of buildings have been restored or partially restored. Techniques used in the restoration of Chau Say Tevoda have been recognized by the international society and won widespread acclaims by Cambodian people.

It is another principle for the restoration of Chau Say Tevoda that an integrated and overall conservation approach was adopted so that the limited fund could play an even bigger role. The project has proved to be successful, as a building complex on the verge of collapse has been basically restored, the overall environment has been initially cleaned to a standard that the temple can be open to public.

Chau Say Tevoda, jointly compiled by Jiang Huaiying, Liu Jiang and Wang Lei, is a result of years of research. I congratulate on its publication and hope that more books on similar subjects will be released in the future.

序言二

中国文物保护理念的弘扬与发展

付清远
中国文物研究所总工程师

历时七年的周萨神庙维修保护工程即将竣工，这是我国文物工作者参与国际文物保护的重要项目。周萨神庙维修工程的成功，是中国文物工作者认真执行国际社会关于文物古迹维修保护的原则和相关法规、尊重柬埔寨人民的情感和审美情趣的结果，也是中国文物保护理念融入国际社会、被国际文物保护界认可的体现。中国专家根据周萨神庙年久失修、损坏情况极其严重和原始构件多数尚存的特点提出的“抢险加固、遗址保护、重点修复”的指导思想，与《中国文物古迹保护准则》要求的“原状修整”和“重点修复”的精神是一致的。原状修整和重点修复的目的都是排除结构的险情，修补损伤的构件，恢复文物原状。所不同的是原状修整是在不扰动整体结构的前提下，把歪闪、坍塌、错乱的构件恢复到原来的状态，而重点修复是可以局部或全部解体，允许增添加固构件，更换残损构件。在周萨神庙的维修工程中既有原状修整的项目如寺庙中央的大塔，也有重点修复的项目如东、南、北楼门和两座藏经殿。从工程的规模、数量来看，采取解体大修的项目多于原状修整的项目，这主要是因为周萨神庙的大部分建筑已经解体，这是客观存在；其次是该庙塌落的构件多数尚存且保存较好，具备了重点修复的条件。根据国际社会对文物古迹保护的有关规定，有条件修复的文物建筑可以进行修复，特别是像周萨神庙这种结构变形、构件松动、坍塌但构件基本尚存的情况更是属于可以修复的古迹。《威尼斯宪章》就明确规定：把现存但已解体的部分重新组合的做法叫重修而不是被禁止的“重建”。

法国专家首创的“原物重建法”是针对吴哥古迹建筑结构特点研制的一种维修方法，对吴哥古迹的有效保护起了很大的作用，时至今日仍是备受各国专家青睐的一种维修方法。周萨神庙的维修方法基本上属于“原物重建法”的范畴，但在某些方面又有所发展。例如周萨神庙的许多建筑已经解体，塌落下来的建筑构件既无位置编号也没有按顺序堆放，能否原物重建主要取决于原构件的保存情况，因此对原构件的清理、拼对就成为制定维修方案的前提。从这个意义上来说周萨神庙采用的原物重建法难度更大，就像法国专家维修的巴方寺一样，构件的拼对成为他们的一只拦路虎，所不同的是巴方寺的困难是由于柬埔寨的战乱造成原始维修资料的被毁，而周萨神庙根本就没有原始资料。

与所谓“新式原物重建法”比较，周萨神庙在基础隐蔽部位的加固措施也有自己的特点，我们没有采用钢筋混凝土结构改造地基

Preface Two

Promotion and Development of Chinese Heritage Conservation Concepts

Fu Qingyuan
Chief Engineer of China National Institute of Cultural Property

After seven years of implementation, the project for the conservation of Chau Say Tevoda will be completed soon. It is an important project witnessing endeavors of Chinese professionals to join in international conservation practices and its success is attributed to strict observation of international principles and regulations concerning the conservation and restoration of monuments and sites, respect for feelings and aesthetic values of the Cambodian people and recognition of Chinese conservation concepts by the international conservation circle.

Chinese experts, based on the condition of Chau Say Tevoda characterized by the lack of repair for years, extremely serious damages but with most original components still retained, put forward the guiding principle featuring "rescuing and consolidating remaining buildings, conserving sites and restoring key monuments". This principle complies with the methods of "restoration of original states" and "priority restoration", as required in the Principles for the Conservation of Heritage Sites in China. Both "restoration of original states" and "priority restoration" aim at removing dangers, repairing damaged components and restoring original fabrics of monuments. But by the method of "restoration of original states", inclined, collapsed or deformed components are restored to their original states on the precondition of keeping the overall structure unchanged. However, by the method of "priority restoration", the structure can be partially or wholly disassembled and it is allowed to add reinforcement components and replace damaged components.

In the restoration project of Chau Say Tevoda, there are both structures restored by the method of "restoration of original states" such as the Central Sanctuary, and ones restored by the method of "priority restoration" such as East, West and North gopuras as well as two library halls. The latter method has been applied to more buildings primarily because most buildings in Chau Say Tevoda have been disintegrated but most collapsed components have been retained with good conditions, which meet requirements of "priority restoration". In accordance with international regulations concerning the conservation of monuments and sites, historic buildings can be restored if conditions allow. The Charter of Venice clearly defines that re-assembling remaining but disintegrated structures is called "restoration" instead of "rebuilding" which is banned today. Chau Say Tevoda featured deformed structures and loosing or collapsed components which still remained in the site. Thus it is a restorable monument.

The method of "restore original structures by using original components", initiated by French experts, is a restoration approach targeting structural characteristics of Angkor monuments. It has helped conserve Angkor monuments effectively and is still favored by conservation experts worldwide today. The restoration of Chau Say Tevoda basically followed this approach but saw some new innovations. For instance, many buildings in Chau Say Tevoda were disintegrated and collapsed components were neither numbered nor piled up in order. As the restoration of original



周萨神庙（维修中）

基础的新建做法，也没有使用大量水泥阻隔地下水，而是在保持原有地基与基础做法的前提下采用增加三合土垫层并适度加大基础的深度和对基础内衬材料接缝部位灌注水泥砂浆的做法。其目的是弥补原有基础薄弱的不足。对此，吴哥保护与发展国际协调委员会专家组也给予充分的肯定。

总之，首次参与吴哥古迹维修保护的中国专家，充分发挥自己经验丰富的优势，虚心向国内外同行学习，根据周萨神庙的实际情况采取的维修方法是成功的，是中国文物保护理念的弘扬与发展。祝周萨神庙维修工程胜利完工，感谢中国专家对人类文化遗产——吴哥古迹维修保护作出的巨大贡献。



周萨神庙（维修后）

structures depends on preservation conditions of original components, sorting out and matching up original components determined how the conservation plan would be worked out. In this sense, it was extremely difficult to adopt the method of "restoring original structures" in the conservation of Chau Say Tevoda. French experts were also faced with this problem when restoring Baphuon. The difference is that original documents for the restoration of Baphuon were destroyed during Cambodian civil wars while Chau Say Tevoda has no original documents at all.

Comparing to the so-called new-type method of restoring original structures, reinforcement measures applied to hidden areas in the base are unique. We didn't transform the foundation with a steel-and-reinforced-concrete structure nor did we use a large quantity of concrete to insulate the foundation from underground water. Instead, by retaining original foundations and bases, we increased the thickness of laterite layers, adequately enhanced depth of foundations, and instilled concrete sandstone into interfaces among inlaid materials in foundations, with the purpose of reinforcing originally weak foundations. This method has gained full recognition of the expert panel of the International Coordination Committee for the Conservation and Development of Angkor.

In a word, Chinese experts have actively drawn expertise from their foreign counterparts while applying their own rich experience to the conservation practice. The restoration approach they have developed and applied in accordance with specific conditions of Chau Say Tevoda has led to the success of the restoration, thus greatly promoting and developing Chinese conservation concepts. I wish a successful completion of the restoration project and express my sincere thanks to Chinese experts for their great contribution to the restoration and conservation of Angkor monuments, the common cultural heritage of the whole mankind.

柬埔寨古称扶南、真腊，是东南亚地区最古老的国家之一。扶南政权的范围位于中南半岛的湄公河下游，政权年代是公元1世纪至6世纪，开国君王是混填，信奉印度教。真腊的政权中心在湄公河盆地的中部，原是扶南的一个属国，政权年代是公元7世纪中叶至9世纪初，开国君王是伊奢那跋摩一世，信奉印度教。公元9世纪初阇耶跋摩二世统一了真腊，建立了统一的高棉帝国，先后在洞里萨湖北面的荔枝山、罗洛士镇及吴哥地区建都，信奉印度教和佛教。公元1431年暹罗国攻占吴哥，1432年国王蓬黑阿·亚特(1432~1467年在位)迁都金边，吴哥王朝结束。16世纪末叶真腊改称柬埔寨，越南从17世纪至18世纪中叶逐步侵占了柬埔寨湄公河三角洲地区，形成了今日的越南南部。公元1864年沦为法属殖民地，1970~1993年是柬政权动荡时期，1993年成立柬埔寨王国(图001)。

吴哥古迹是柬埔寨古代文明发展到一定程度的代表，吴哥宏伟的建筑和精美的浮雕客观反映出柬埔寨的历史和当时的社会面貌，折射出柬埔寨人的宗教观、审美观乃至民族精神。地处印度和中国两大文明圈的柬埔寨，其早期文明是外来文化和本地文化沿湄公河交汇的产物。印度文明首先从海上丝路传入柬埔寨，公元1世纪一个来自印度南部“黄支国”的混填(Kaundinya)用武力慑服了扶南，娶柳叶为妻，建立扶南王国的第一个王朝。这段历史虽然是高棉人从印度传说中衍生出来的故事，但高棉人对山、对龙(蛇)的原始崇拜，确实反映出印度文化对柬埔寨的影响。佛教从印度传入扶南的时间大约是公元2~3世纪，最先传入的是小乘佛教，接踵而来的是大乘佛教和婆罗门教。与此同时，扶南与中国也开始密切的交往。公元3世纪出使东南亚的朱应、康泰撰写的《扶南异国志》和《吴时外国传》两部史书中就比较详细地记述了扶南国的情况。公元6世纪扶南国高僧僧伽婆罗、曼陀罗、真谛等到中国传佛讲经，为两国的文化交流，特别是佛教的传播，建树了功勋。

柬埔寨的统治者主要信奉印度教和大乘佛教，但具体到每个国王，其宗教信仰又各不相同，他们往往按照其宗教爱好来建造寺庙。吴哥王朝强盛期(9~12



图001 柬埔寨都城变迁图
(来源《柬埔寨五月盛放》)