Helen Grant Ross &
Darryl Leon Collins
with preface by HM King Sihamoni

BUILDING CAMBODIA:
'NEW KHMER ARCHITECTURE'
1953 - 1970





Building Cambodia:
'New Khmer Architecture' 1953-1970

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Front cover (left): Chaktomuk Conference Hall, Phnom Penh (Vann Molyvann)
Front cover (right): School of Applied Arts & Engineering, Russei Keo, Phnom Penh (Darryl Collins)
Back cover: Norodom Sihanouk participates in construction work in the sixties (Royal University of Fine Arts)
Inside front flap: Teacher Training College, Phnom Penh (Helen Grant Ross)
Inside back flap: State Palace, Chakmar Mon, Phnom Penh (Darryl Collins)



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1953-1970

Supported by: THE TOYOTA FOUNDATION

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Préface du livre
« Building Cambodia: New Khmer Architecture 1953 - 1970 »
de
Helen Grant Ross & Darryl Collins
par
Sa Majesté le Roi du Cambodge NORODOM SIHAMONI.

Quand on se penche sur l'Histoire de la ville de Phnom Penh, on est saisi d'effroi devant l'ampleur des traumatismes qu'elle a subis au cours de l'époque moderne. Avant 1970, un développement maîtrisé en avait fait une cité laborieuse et tranquille, lovée dans le site unique des Quatre-Bras. Capitale symbolique et administrative du royaume, ville industrieuse et commerçante, elle était pour tous ses visiteurs l'image même d'un pays en plein essor.

Tout changea brusquement avec le Coup d'État. La guerre dont il était la cause isola très vite la capitale du reste du pays. Dans le même temps où elle lui interdisait toute extension, elle lui imposait l'immense afflux des réfugiés qui fuyaient l'insécurité et qui multiplia sa population par deux.

Cinq ans plus tard, elle subissait l'inimaginable. La déportation en quelques jours de la totalité de ses habitants en fit pour de longues années une ville déserte, privée de tout service et de tout entretien, abandonnée aux agressions successives des chaleurs extrêmes et des énormes précipitations qui caractérisent le climat tropical. Après la chute de Pol Pot, ce n'était plus qu'une carcasse vide, que les survivants du génocide, paysans sans terre et dénués de tout, qui avaient oublié jusqu'aux règles de vie de la société urbaine vinrent ramener peu à peu à la vie. Et c'est sans transition, avec la normalisation du pays, qu'elle découvrit ensuite et tout à la fois les avantages du développement moderne et les maux qui l'accompagnent: expansion démographique, augmentation du coût du foncier, densification de la construction, explosion du transport individuels, spéculation immobilière.

T.S.V.P.

Nul ne se serait étonné que tant d'épreuves réservent à Phnom Penh le sort de toutes ces anciennes capitales khmères aujourd'hui disparues ou réduites à l'état de villes mortes. Cela n'a pas été le cas. Il est très surprenant que Phnom Penh ait en définitive si bien absorbé ces déplacements humains considérables, ces modifications profondes des modes de vie, ces formidables coups de boutoir que l'Histoire dramatique du Cambodge lui a imposés. N'est-il pas surprenant malgré tout cela qu'aujourd'hui, tant de ses visiteurs occasionnels et la plupart de ses résidents étrangers se plaisent à en louer la qualité de vie ? Et cela plus fermement encore quand ils la comparent à celle offerte par d'autres métropoles de la région qui ont connu une existence plus paisible.

Je suis sûr que l'ouvrage conçu par Helen Grant Ross et Darryl Leon Collins fourniront des éléments de réponse précis et argumentés à cette question. Je tiens à leur exprimer ma plus vive gratitude pour le travail considérable qu'ils ont accompli. Je les remercie de mettre aujourd'hui à la disposition du plus vaste public un peu du large savoir et de l'extrême compétence dont ils ont déjà fait bénéficier nombre de nos jeunes étudiants. Il n'est pas d'atout plus précieux pour construire son avenir que de bien connaître son passé.

Ma conviction est que c'est à mon Père, le Roi NORODOM SIHANOUK, que l'on doit l'essentiel de cette étonnante faculté d'adaptation que montre la ville de Phnom Penh. C'est en développant la formation d'architectes, d'urbanistes, de paysagistes et d'ingénieurs de haut niveau au sein des universités du Sangkum et en confiant aux meilleurs d'entre eux les grands chantiers nationaux qu'Il lui a donné les moyens de se perpétuer. En leur communiquant Sa vision d'un Cambodge dynamique et ambitieux, se projetant hardiment dans l'avenir en s'appuyant sur ses propres forces, il a permis à cette ville aujourd'hui encore, de pouvoir épouser son temps.

Norodom Sihamony

—*—

Preface

by His Majesty the King of Cambodia, Norodom Sihamoni

Looking back at Phnom Penh's recent history it is quite frightening to measure the scale of trauma that it has suffered over the years. Until 1970, nestling in the unique landscape of the Four Rivers, careful planning had made it lively and tranquil. As all visitors could see, the administrative and symbolic hub of the kingdom was industrious and commercially vital projecting an image of a country that was undergoing rapid expansion.

The coup d'état abruptly changed the situation. Due to the war the capital soon found itself cut off from the rest of the country. At the same time as its physical growth was impeded an enormous influx of refugees fleeing the countryside doubled the population.

Five years later the unthinkable occurred. Within just a few days the whole population was deported and the city was transformed into a desert. It was deprived of any maintenance and subjected to the excessive heat and torrential rain of the tropical climate. Under Pol Pot it became an empty carcass that the survivors of the genocide, landless country folk bereft of any comfort, who knew nothing about the rules of an urbane society, later returned to and gradually brought back to life. Hence, without any transition whatsoever, the country returned to normality. But the advantages of modern development and the ills that go with it: population growth, the increase in the value of property, high density, the explosion of private means of transport and land speculation, became widespread.

Some people would not be surprised for Phnom Penh to have suffered a destiny similar to that of the other ancient Khmer capitals that disappeared or were ruined. This was not to be. It is significant that despite considerable fluctuations in population, radical changes in the way of life, and the incredible shock resulting from Cambodia's dramatic history, Phnom Penh has adapted. Is it not somewhat surprising that, today, despite all this, so many visitors and most of the foreign residents praise its quality of life? They are even more assertive when comparing it with other cities in the region that have a more peaceful history.

I am sure that the book written by Helen Grant Ross and Darryl Leon Collins will offer an explanation to this enigma. I wish to express my deepest gratitude for the considerable amount of work they have accomplished. I thank them for making this information available to the public at large as well as sharing their knowledge and competence with many of our students. There is no better way to build the future than to know about one's past.

It is my personal conviction that it is thanks to my father, H.M. King Norodom Sihanouk, that the city of Phnom Penh has shown such an amazing capacity to adapt. It was by training architects, planners, landscape designers and engineers to the highest standards in the Sangkum's universities, the best of whom were then given the task of undertaking the nation's construction, that he gave it the means to survive. By sharing his vision for a dynamic and ambitious Cambodia that thrust itself into the future drawing entirely on its own resources, he created a sustainable city that today still serves its purpose.

Acknowledgments

Something that began in 1999 as a past time and the shared curiosity of two lecturers at the Royal University of Fine Arts, the authors, has at last become something to share with other people in the form of this book. Nearly seven years have elapsed and the number of people who generously contributed, shared their knowledge, suggestions, opened their archives and memories is considerable and although resumed at the end of the book the list is probably incomplete. We express our sincere thanks to all and request forgiveness to those whose names may have been omitted.

Researching this subject was rather like a detective investigation. As almost all knowledge of it had disappeared along with the tragic destruction of much of recent Cambodian history, we had to identify archives that might be useful and people who remembered something about the construction of Cambodia after independence. There were a few well-known personalities but some of the smallest hints were, early on, found to open up a whole treasure of information. As just one example, this was the case of Lu Ban Hap whose name was identified as that of the architect of the Cambodiana Hotel. Fortunately his telephone number was found in the French telephone directory and several interviews with him confirmed not only the important role he had played in this story but also gave us a number of leads of other people to investigate and so one person led to another.

But first we have to thank the Toyota Foundation for believing in the necessity to research this subject. If it were not for their support this book would never have seen the light of day. The subject was simply too large to be thoroughly researched as a hobby. After our proposal had been flatly rejected by several international cultural organizations, Alan Feinstein, who was then Toyota Foundation Regional Cultural Advisor (2000), encouraged us to make a request for financing. Shiro Honda, the Programme Officer, provided us with the necessary forms and guidelines. Much to our surprise the Toyota Foundation awarded us a research grant from 2000-2001. This allowed us to set up a small office and recruit a research assistant, Hok Sokol, a recently graduated architect from RUFA to whom we are extremely grateful.

During that year an unexpected amount of witnesses, information, documents and photographs were unearthed. So much, in fact, that although our plan was to write a book, we were busy simply digesting all the information we found. It was also a difficult year for the team as Darryl nearly died of a rare disease and Sokol's parents almost drowned in flooding in Kompong Cham. Shiro Honda who continued to follow-up our project and Keisuke Sasaki, Secretary General, took into account these vicissitudes and awarded us a second grant from 2001-2002 to enable us to complete our research and write this book. Problems always go in threes. It was Helen's turn in 2002 to go through a treacherously rocky patch in her life. Fortunately the team survived and have grown to know each other in a way that would not have been possible if they had not shared this labour of love. For the

authors this book will forever be associated with this challenging time in their lives and also with the sympathy and support of Shiro Honda and Keisuke Sasaki. Our warmest thanks to them for believing in this book and committing themselves to it.

This book is about the development of Cambodia after independence but it is also the story of a prince and an architect. We are extremely indebted to His Excellency Vann Molyvann and his dear wife, Trudy, for opening their hearts and their home to us. Like most of the architects of the era Vann Molyvann's professional archives had disappeared but he fortunately still had some magnificent black and white photographs of his works that he generously shared with us at the same time as recounting anecdote after anecdote about Cambodia in the 1960s. We express our deepest gratitude and affection for the way in which they generously and trustingly shared all the documents they could. Their contribution to our book is inestimable and the friendship that has grown out of this exchange extremely precious. It is an honour to have been invited into the confidence of this great artist.

Our sincere thinks are due to so many people; some like Sieng Sang Em who we encountered by chance in Battambang in 2001, was a mine of information. He gave us the names of around twenty architects and engineers of the era who we had never heard of before but that we managed to document as a result.

By the end of 2002, we had filled in much of the picture and written our book but the next problem was to find a publisher. We wanted our book to be both scholarly; so as to share as much of the information uncovered as possible, and attractive. But it was not a commercially enticing venture, Cambodia does not yet have any publishers of international calibre and several hopeful proposals elsewhere led to dead ends. The authors had other professional obligations and time sped past without finding a solution to publish the book. In the meantime we were introduced to a wonderful woman, Chadanuch Wangrungarun, herself an architect, but also the head of The Key Publisher, Bangkok, that specialized in books about architecture. As soon as she saw our book she wanted to publish it but she didn't think The Key Publisher could handle it and did her best to introduce us to other publishers. In the end it was thanks to her astute business acumen that we eventually found a financial solution that met with the approval of the Toyota Foundation who kindly accepted subsidising the production costs and approved a team comprising of an editor, a graphic designer and a proof-reader early in 2005 with Chadanuch as publisher.

We heaved a sigh of relief as we thought the problem was solved. We thought the book was written and it was just a question of some minor editing and printing. Little did we know what lay ahead.

Peter Starr, a highly experienced editor and friend living in Phnom Penh kindly took on the difficult task of sorting out our writing, building descriptions, biographies and diverse material, all for a mediocre fee. We are extremely grateful to him for his expertise and for devoting his time so generously to the unrewarding task of transforming our disorganised ramblings into something readable and presentable. Not only did he chop and reword, correct and shuffle the text, but also contributed to the general concept. The idea of a composite book with text and pictures, building studies and biographies, captions and inserts rose out of the lotus pond surrounding his house near the banks of the Mekong one Sunday afternoon. The authors, who naively thought their work was over, found all their spare time (and more) taken over by the book as everything had to be reworked and checked. This continued for over a year.

Chadanuch introduced us to the kind of creative and enthusiastic graphic designer that we had dreamed of at the same time as she made important recommendations about the format and general concept. Athichoke Pimviriyakul immediately caught on to the idea of a book design that evoked this 1960s experiment and succeeded in clarifying the complex material contained in each chapter. Thank you both, not only for your professionalism but especially for your passion and commitment.

Proof-reading by Allen Meyers was another painful experience, the pill of which we succeeded in swallowing thanks to his friendship.

The book, and the authors, did many return trips between Phnom Penh and Bangkok, during which time Elisabeth Gjemmestad, in Phnom Penh, kindly

offered to do a final proof read and to complete the index. This was an invaluable contribution. She also introduced us to Michel Ghigo, who with Jérome Jaymond, polished up the design and made the final corrections.

Index-writing, colour separation, choice of paper, contracts with distributors, rough book and final corrections before printing; all these phases were painstakingly undertaken.

Writing this book has been full of surprises, most of them happy ones. We did not dare to expect an answer when we took the liberty of writing to H.M. King Norodom Sihamoni to ask him if he would dedicate this book. Not only did he spontaneously and rapidly answer our request to do so, but he wrote a beautifully worded and moving history of Phnom Penh. We express our deepest gratitude and thanks to H.M. the King.

Who would have thought that an idea evoked in 1999 would transform itself into such a long-term enterprise? Who would even have thought that we would still be living in Cambodia? Nearly seven years later here at last is our book. We are still living here and our respect for this country has grown, as has our understanding of its recent history.

Helen Grant Ross & Darryl Leon Collins

Authors' Note



Cambodian students onboard the Athos II from Saigon to Marseilles October 1949. From left to right; Hoc Peng Heang (future engineer of public works), two French soldiers, Son Sen (later a Khmer Rouge leader), So Ley (future doctor), Lu Ban Hap (future architect) and Ok Sakun (later Khmer Rouge Ambassador to France). Another dozen or so students were also onboard. (courtesy Lu Ban Hap)

In October 1949 Lu Ban Hap took the Athos II liner from Saigon to Marseille with the intention of studying at the Applied Arts and Sciences engineering school in Paris. Born in Kompong Cham in 1931, he stood out as one of only a few Cambodians who had succeeded at the difficult baccalaureat examination, hence entitling him to a grant to study in France.

Little did Lu Ban Hap know what fate awaited him and his friends on the boat although he would return to Cambodia and significantly contribute to the architectural development of the country during the Sangkum Reastr Niyum period. The photograph shows him next to Ok Sakun, future Khmer Rouge ambassador to France, Sa Ley, later to be a doctor, and Son Sen, the infamous Khmer Rouge leader of the Pol Pot era. Not even the intrepid fortune tellers of Phnom Penh could have predicted the way these peoples' lives would become entangled in their country's fortunes and tragedies.

In 1998, mutual friends Darryl Collins, art historian and Helen Grant Ross, architect and urbanist, decided that the subject of New Khmer Architecture deserved investigation. Their interest took a significant leap when H.M. King Norodom Sihanouk himself, made a speech on Culture Day (April 3, 1999), in which he specifically mentioned "the development of culture and national edification during the 1960s" by naming three main architects of that era (Sahachivins Ing Kieth, Keat Chhon and Vann Molyvann).

Fortunately the Toyota Foundation, to whom we are indebted for their support, shared our point of

view and provided us with a two year research grant that enabled us to work full time on this venture from November 2000 to November 2002. Our team, composed of Darryl L. Collins, Helen Grant Ross and Hok Sokol, visited sites and interviewed many contributors to this period. The authors' motivations were to expose the hitherto buried memory of this positive part of Cambodian history, by publicising the scale of territorial development undertaken during the Sangkum era and understanding what makes New Khmer Architecture so exceptional.

An interesting cache of hundreds of black and white photographs of buildings of the Sangkum Reastr Niyum period was found in the Royal University of Fine Arts library, some of which were recognisable, while others took several years to identify. HRH Princess Norodom Buppha Devi, former minister of culture, and the rector, Tuy Khoeun, of RUFA kindly authorised us to use these. Vann Molyvann contributed an interesting record of his own works in a private collection of some 200 photographs, plans and documents.

The guidelines to our writing were: to define what phenomena were at work for such exceptional architecture to come about in a small country such as Cambodia; to understand the socio-economic-political conjuncture; to identify the relationship with Khmer traditional art and architecture; to define its intrinsic qualities and to raise awareness and interest with a view to promoting its preservation.

ARK Research succeeded in creating an archive comprising the following material: investigation of most available sources in Cambodia, Australia and France; a bibliography of more than 300 periodicals, monographs and other documents; a database of more than 1,300 identified buildings, urban plans, monuments and infrastructure with bibliographical references and numerous architectural surveys of significant buildings, with redrawing of urban plans and maps. Some 4,000 photographs were viewed in addition to 500 photographs from private collections, with some 200 obtained from other sources. There were interviews with 50 witnesses in Cambodia and France who helped identify political figures, architects, designers and engineers that enabled us to establish numerous biographies. We made field trips within Phnom Penh and all the major provincial towns resulting in 60 in-depth studies of exceptional buildings and an illustrated inventory of 1,300 projects.

Cambodia is renowned for one of the most impressive World Heritage sites; the Angkor complex of 400 square kilometres that illustrates the prowess of ancient Khmer civilisation. What Cambodia also has, and which has been little recognised, is a unique and authentic heritage of modern buildings of an internationally high standard, built after independence in 1953.

The authors were sensitive to the fact that much attention is paid to the study of the Angkorian era and its monuments. Vernacular buildings and the French colonial époque have attracted some attention. At the same time, even among architects, there is a tendency to confuse colonial architecture and the buildings of the Sangkum. This is particularly disappointing when it leads to wrongly identifying constructions as being colonial when in reality they are authentic Cambodian works realised after independence. At present this period of architecture (1953-1970) is little recognised as being worthy of interest. It is too modern to attract those attracted to the picturesque or the Angkorian monuments and is not understood as being an expression of a vital time in Cambodian history. The feats and achievements over this short span of 17 years from independence to the dictatorship of Lon Nol appear to have no parallel in the 20th century in any country. It was necessary to understand what dynamics were behind this gigantic achievement of territorial development, encompassing roads and railways, new towns and large urban projects, equipping the country with the necessary structures for administration, health, education, housing and all aspects of everyday life.

Not only is the period 1953 to 1970 easily identifiable politically, but it corresponds to a Khmer renaissance of the arts and to the commitment of Norodom Sihanouk to promote a high standard of architecture. During several visits to Cambodia in the 1960s, Lee Kuan Yew was impressed by the beauty and new architecture of Phnom Penh and expressed the desire for Singapore to be developed along similar lines.

In reconstructing the past we have created an archive based on recollections going back 50 years or

more. Human memory is not infallible and to be as objective as possible we decided to retain only facts that were supported by documentary evidence. Despite best intentions, it has sometimes been a difficult task to discern the truth and we apologise for any unintentional inaccuracies.

Sometimes buildings of merit were completely destroyed, as is the case for example of the two universities designed by Lu Ban Hap at Kampot and Kompong Cham. On the other hand, when an exceptional building such as the Angkor Hotel was totally wiped off the map, but important documentary evidence found for it and the architect Claude Bach still alive to witness, we included it without hesitation.

Identifying the architects was one important factor. The achievements of the Sangkum, which until recently were considered to be the exclusive work of one or two architects, proved on the contrary to be the work of numerous architects and engineers.

To demonstrate the effort made in developing the whole country in a concerted policy of decentralization, not only works in Phnom Penh but also those in the provinces were studied. Much of this architecture is part of long-term urban planning and territorial development.

From the start it was intended to study buildings that fall into families such as cinemas, hotels, community centres, state factories, but in view of the enormous amount of data collected this is another research subject for the future. It is hoped that this book will open up a whole field for future research.

As HM King Sihamoni mentions in his foreword, Phnom Penh from 1975 to 1979 suffered surprisingly little damage, and we were able to locate most of the buildings for which we had found documentary evidence. The systematic sifting of information enabled us not only to improve our knowledge of some well-known landmarks in Phnom Penh, but also to gain a picture of the large scale development of the whole country under the Sangkum and the way important architects such as Vann Molyvann, Henri Chatel, Lu Ban Hap or Ung Krapum Phka put their talent not only to the prestigious public works of the capital, but also to modest housing developments, landscape improvement projects and other works, sparing no province nor town and forgetting no aspect of society.

The success of the Sangkum was one of the subjects touched on during the now-famous address to the nation by President Charles de Gaulle on the occasion of his state visit to Cambodia at the National Sports Complex, Phnom Penh on September 1, 1966:

"We are witnessing domestic development under the very dynamic impetus of Your Royal Highness, the vigour and scope of which are testified to year after year by hundreds of schools, hospitals, dispensaries, thousands of small and large businesses, thousands of miles of roads and rail, tens of thousands of acres of plantations - all built by Cambodian engineers, experts and workers.

The motto "Cambodia helps itself" that your government has incorporated into its public works, is, for the Khmer people, a theme to be justly proud of and, for others, an exemplary incentive."

Phnom Penh
December 18, 2005

'to the future builders of Cambodia'

Works:

Chaktomuk Conference Hall
Bassac River Front
- Municipal Apartments
- Olympic Village Apartments
- National Bank Apartments
- Sangkum Reastr Niyum Exhibition Hall
- Preah Suramarit National Theatre

Athletes' Village
Chenla State Cinema
Anlong Romiet Prototype Village

Biographies:

Henri Chatel
Roger Colne
Lu Ban Hap
Seng Suntheng
Chhim Sun Fong



Chapter 1

A Nation in the Making

In late 1953, Cambodia freed itself from 90 years of colonialism. French rule had been interrupted 13 years earlier when the Vichy government of France agreed to let Japanese troops enter Indochina after September 1940. At the height of the dry season in 1941, H.M. King Norodom Sihanouk ascended the throne following the death of his grandfather H.M. King Sisowath Monivong, who had been escaping the heat in Bokor. Over the next four years, Indochina became an autonomous province of the Japanese empire and was finally annexed by Japan in early 1945. Although the young Cambodian monarch declared an end to the French protectorate on March 12, 1945, Japan's subsequent defeat and the arrival of allied forces in Indochina in October led to a return of French colonial rule. With the help of a "royal crusade" orchestrated by King Norodom Sihanouk, it took another eight years for Cambodia to gain full independence on November 9, 1953.



1. Aerial view of the Independence Monument and landscaped gardens in the mid-sixties



2. Sihanouk ascends the throne at the age of 18 in 1941

But within barely a year of independence, Norodom Sihanouk abdicated in favour of his father, H.M. King Norodom Suramarit, on March 2, 1955. No longer a reigning monarch, he was now free to take part in the formation of a new political party known as the *Sangkum Reastr Niyum* (see Chapter 2, page 50). The statutes of the party were promulgated three weeks later, paving the way for the creation of a "People's Socialist Community" with Norodom Sihanouk, as he was now known, at the helm. King Suramarit bestowed on his son the order of *Samdech* with the title *Upayuvareach* of Cambodia.

Against this domestic political backdrop, Cambodia was starting to emerge on the international scene even before independence. As early as 1951, Cambodia had joined the Paris-based United Nations Educational, Scientific and Cultural Organization (UNESCO) and immediately set up a national commission (the Phnom Penh office later emerged as a centre for Southeast Asian studies). Cambodia subsequently joined the United Nations in 1955 and, within three years, Norodom Sihanouk was addressing the General Assembly in New York.

It was during this early Cold War period that Cambodia started to identify with other newly independent countries that would later form the Non-Aligned Movement. The emergence of a third world not militarily aligned to the superpowers in Washington or Moscow had its roots in a conference in the Indonesian city of Bandung in 1955. Sponsored by Burma (Myanmar), Ceylon (Sri Lanka) and the Philippines as well as Indonesia, the Bandung conference from April 18 to 25 brought together leaders from 29 nations in Asia and Africa. It was here that Norodom Sihanouk met many of the world leaders who would later play important roles in Cambodia's development. Among them were Chinese Premier Zhou Enlai, Egyptian President Gamel Abdel Nasser, Indian Prime Minister Jawaharlal Nehru and Vietnamese Foreign Minister Pham Van Dong.

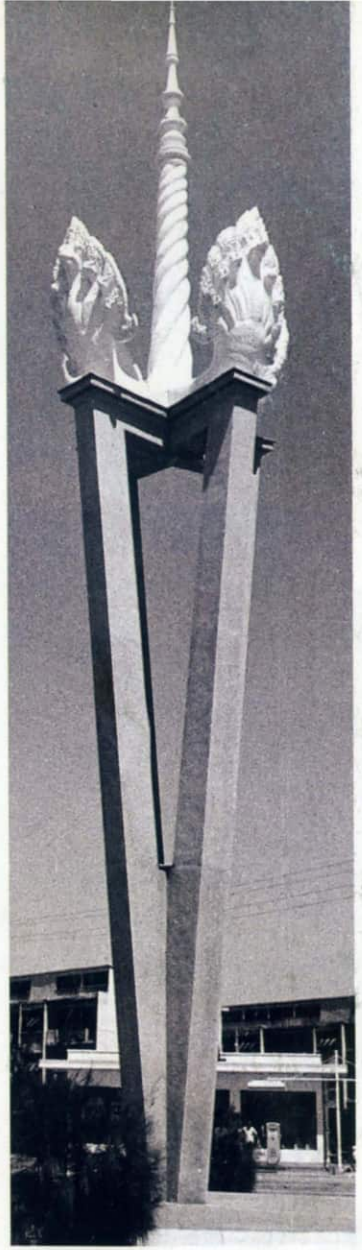
In these exciting and formative years, Norodom Sihanouk began to build his vision of the new nation. One immediate result of independence was the opening to contemporary ideas, international exchanges, sporting competitions, conferences and exhibitions. Cambodia was interacting not just with the French-speaking world, but with its Southeast Asian neighbours and the world at large. For Cambodia, emergence from the French colonial past was marked by innovative architecture, urban planning and Khmer monuments.

By the swinging sixties, Phnom Penh was not only hip - it was the city that most other Southeast Asian nations wished to emulate. The city's new look was widely reported at the time and a new phrase was coined - New Khmer Architecture - to describe public buildings that blended modern techniques with Cambodian tradition. According to the 1962 government publication *Cambodge*, the country experienced an "extraordinary blossoming of construction after independence." During the first phase, modern Western style was simply transplanted to Cambodia. "But today, young people trained as architects in Europe seek to create an original style, a true synthesis between modern functional architecture and the great artistic tradition of the past," the authors wrote. The same year, the Independence Monument was inaugurated. It was the third Khmer monument in Phnom Penh since independence, the others being the Buddhist stupa in front of the railway station (1956) and the Naga monument on the Monivong Bridge roundabout (1958).



Cambodia showcased the capital to the outside world by hosting exhibitions, festivals and other events. Towards the end of 1955, Phnom Penh hosted the International Exhibition at a site next to Wat Phnom. Seng Suntheng and Roger Colne (see pages 39 & 35) were responsible for exhibits housing Cambodia's achievements alongside exhibits from Britain, France, India, Japan, Laos, Thailand and Vietnam. Although it was marred by a financial scandal involving the French organiser, recently brought to light by American researcher Ingrid Muan, the exhibition put Cambodia on the world map. Before that, Cambodia's role in such events had largely been confined to fairs in Saigon, Hué and Hanoi or as part of the Indochinese exhibits at colonial exhibitions in Paris. In a further sign of its break with the colonial past, Cambodia hosted an American Festival along the avenues leading





3 | 5
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3. Norodom Sihanouk (front left) and other world leaders depicted in a mural at Wat Intrisomvara in Kompong Thom. Behind Norodom Sihanouk is Chairman Mao Zedong of China. To the right of Norodom Sihanouk is Indonesian President Sukarno, Soviet leader Nikita Kruschev, Indian Prime Minister Jawaharlal Nehru and John F. Kennedy. Sihanouk's wife Monineath is second row to the right. The mural was probably painted in the early sixties. Photographed in 2004, it has since been painted over.
4. Norodom Sihanouk portrayed on a six-cent 1943 stamp
5. Preah Monivong Naga Monument in the sixties



6. Striking a pose in front of the Naga Fountain in 1965 with the Independence Monument in the background

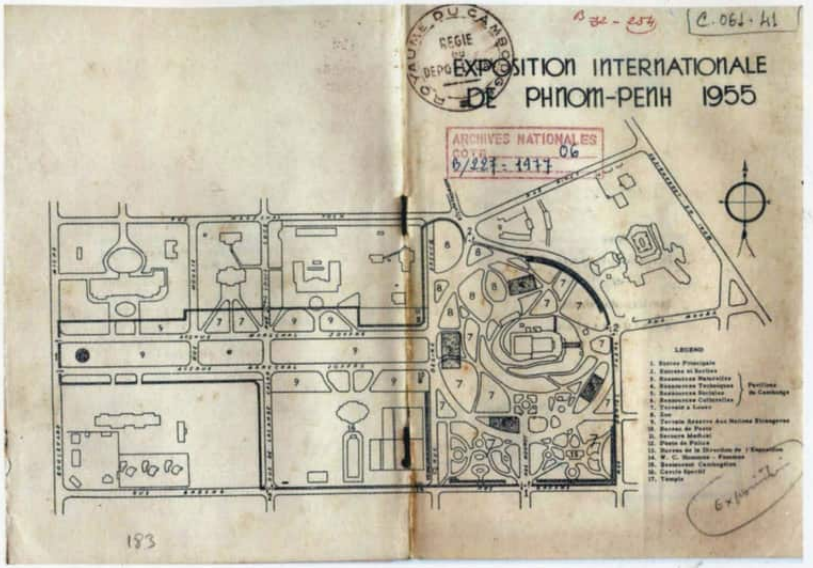
to Wat Phnom between late 1956 and early 1957. Portraying the American way of life, it set the stage for exhibitions by the United States Information Service and the American Library in Phnom Penh in 1958. These featured a number of topics including US architecture.

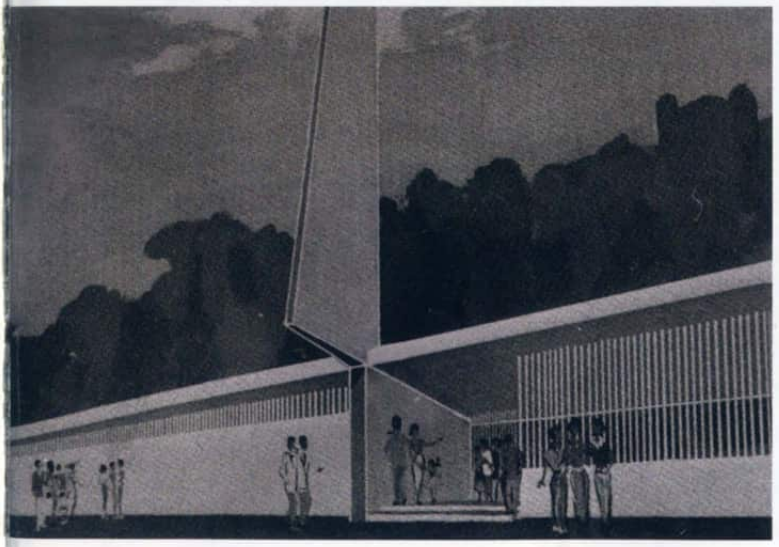
The post-war baby boom was not the only cause for celebration. In 1957, Cambodia commemorated the 2,500th anniversary of Buddha's birth by building open-air pavilions in the gardens in front of the railway station. These were early commissions for a young architect by the name of Vann Molyvann, who had recently returned from France. Roger Colne, who worked alongside Seng Suntheng two years earlier, designed an exhibition of Buddhist sculpture featuring works from the National Museum. With the addition of decorative light towers using printed textiles to suggest stalks of rice, the pavilions designed by Vann Molyvann were used again towards the end of the year for an exhibition of agricultural, industrial and artisan products. Almost half a century later, Vann Molyvann said that the inspiration for the illuminated towers came from a poster designed in Paris a few years before he returned to Phnom Penh.

Josette Chatel, the wife of French architect Henri Chatel (see page 34) recalled that Phnom Penh was "enchanting" at the time. In an interview with ARK Research in Paris in 2001, she said that people were "living outdoors with lots of sports in a beautiful location." She herself worked for three years as the American Embassy's cultural attaché.

Many writers of the day were struck by the physical beauty of the city. Tree-lined streets, flower-bedecked boulevards and shady riverside parks attracted





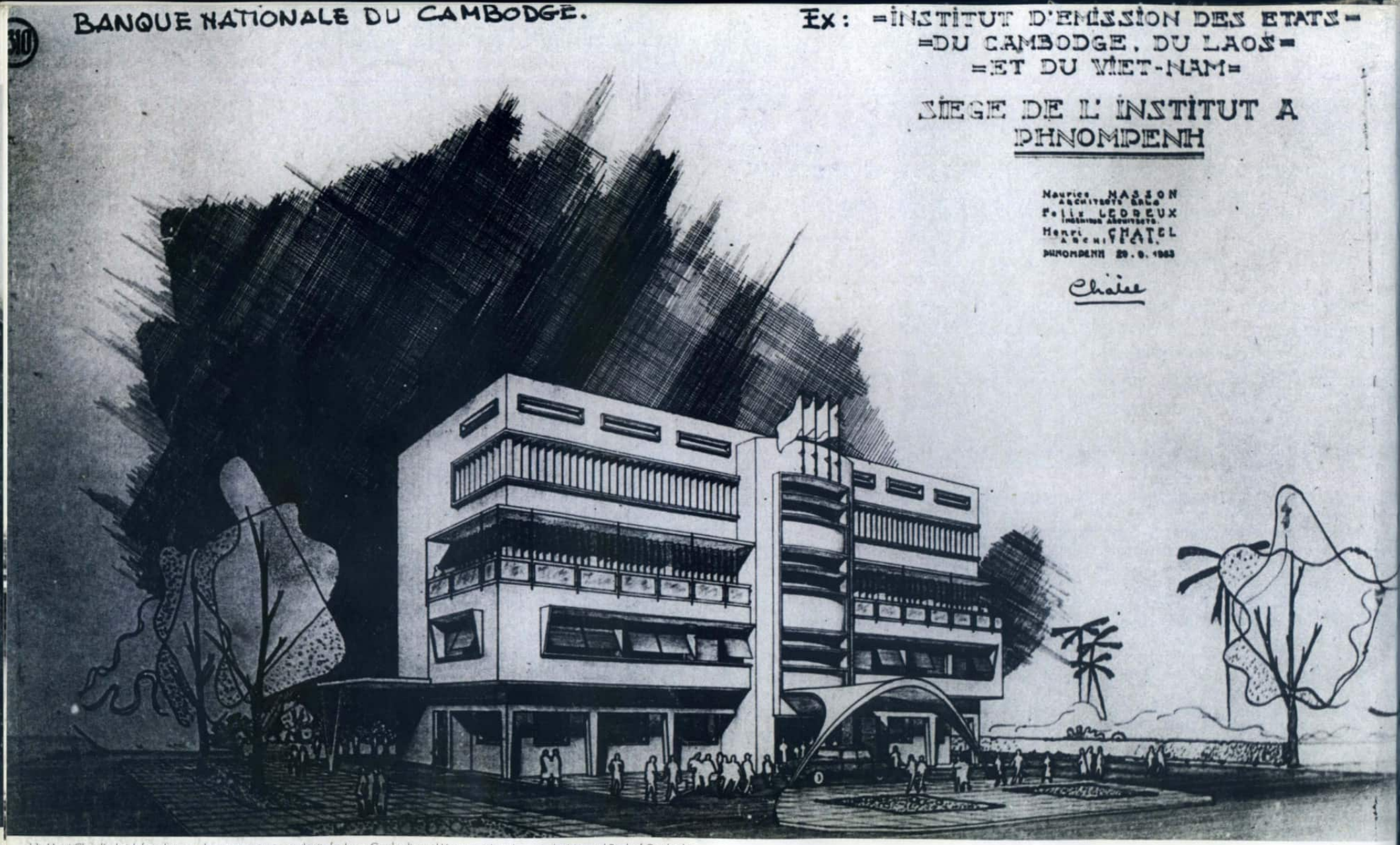


the attention of locals and visitors alike. The stress on botanical surroundings, a legacy of French colonial streetscapes, extended to incorporating suitable plantings into new urban developments. The importance placed on horticulture probably reflected the influence of Madame Dy Phon Pauline, a doctor of biology who had a profound effect on the study and research of botanical species during Norodom Sihanouk's rule. In a botanical guide to Phnom Penh published many years later, she and Marie-Alexandrine Martin highlighted the "harmonious placing of plants and vibrant colours" that travellers could admire from the shade of the foliage. "This vegetation that suits the city well certainly contributes to the idea that Phnom Penh is the most beautiful city of Southeast Asia."



7 | 9
8 | 10

7. Lighting and mobile partitions designed by Seng Suntheng for the 1955 exhibition
8. Seng Suntheng's design for the Cultural Resources Pavilion for the International Exhibition at Wat Phnom in 1955.
9. Site plan for the International Exhibition by Seng Suntheng
10. Henri Chatel with his wife Josette in 1954



11. Henri Chatel's sketch for what was the currency issuing authority for Laos, Cambodia and Vietnam. It later became the National Bank of Cambodia.

Cambodia didn't just host exhibitions at home. With accelerating momentum, it took part in the International Commercial Fair in Osaka in April 1958, with Vann Molyvann travelling to Japan to oversee the installation. The architect also designed Cambodian stands in 1961 at the International Fair and Exhibition in the Yugoslav city of Zagreb (now capital of independent Croatia).

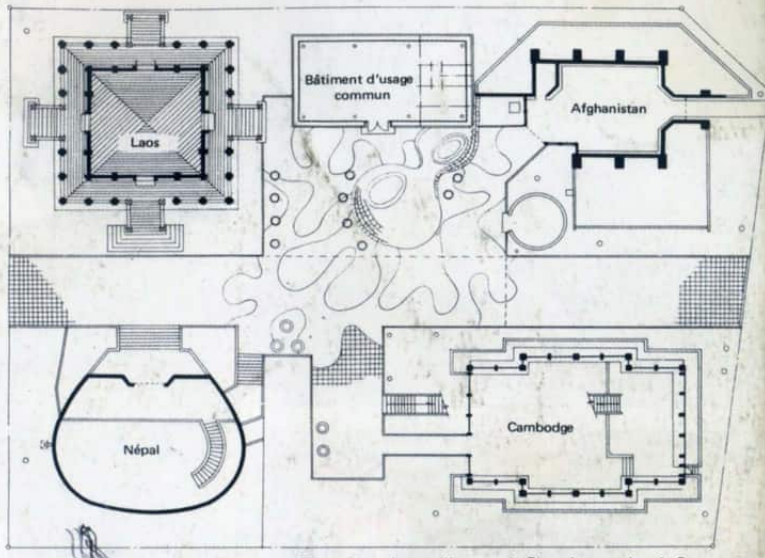
In November 1961, Phnom Penh hosted the Sixth World Congress of Buddhists. A total of 101 delegates from 28 countries took part in the conference at the newly completed Chaktomuk Conference Hall, designed by Vann Molyvann and funded by the United States. In an inaugural address, Norodom Sihanouk asserted that "all the efforts of the Khmer people since liberty was restored to their country have been directed towards establishing a modern society imbued with the Buddha's Dharma." Cambodian socialism was "first and foremost an application of Buddhism" in the struggle against social ills, injustices and inequalities. "It extols the spirit of fraternity and mutual aid, the will to sacrifice and the transcendence of the individual in order to help the community," he said. "This Buddhist socialism which inspires our national effort is a straight and true path."

Coinciding with the World Congress of Buddhists was the opening of the Bassac Exhibition Halls, also designed Vann Molyvann. These were an integral part of the Bassac Development (see page 16) and featured displays of the "permanent achievements" of the ruling party and a forum for constant exhibitions throughout the sixties. Dignitaries visiting Cambodia made an almost obligatory stop at these exhibitions (see Chapter 2, page 40). The halls were a shrine to national pride, showing the strides

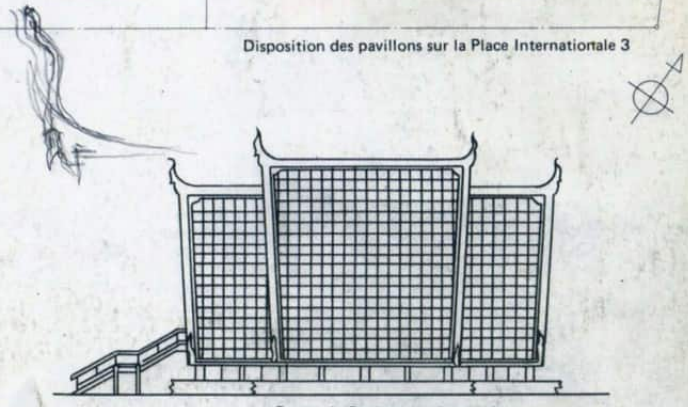


the young, independent Cambodia was making in trade, development and infrastructure. In his memoirs published in 1971, former adviser to Norodom Sihanouk, Charles Meyer, described the exhibits as "extremely well presented and illustrated." But the Frenchman noted that "it was better not to analyse the statistics." Trade and industry also featured in two exhibitions from "friendly" central European countries in 1962, the first by Czechoslovakia and the second by Yugoslavia.

By 1965, the newly arrived American journalist Bernard Krisher wrote that it was a "pleasure" to drive through Phnom Penh. "It is like a park, a well-kept suburban town with landscaped islands of grass separating the lanes of its broad boulevards, but with a dirty, noisy, jammed Chinese section appended to it," the future publisher of the *Cambodia Daily* wrote. The jaded Meyer was more down to earth. Phnom



Disposition des pavillons sur la Place Internationale 3



Coupe du Pavillon du Cambodge

12. Cambodian pavilion at Expo-70 in Osaka
13. Roof design and the Cambodian pavilion's location next to the Afghan, Laotian and Nepalese pavilions at the Osaka exhibition





14
15

14. President Tito and his wife visiting the Cambodian stand. Vann Molyvann is furthest to the left.
15. Cambodia's installation for the Zagreb Exhibition in Yugoslavia in 1961. Vann Molyvann designed the Modernistic syncopated roofs and traditional nagas.

Penh appeared to be an exemplary Asian city, living in quiet nonchalance, indifferent to the outside world," he wrote. "Even the pleasures of life were behind those of Bangkok, Manila or Singapore. Gone were the opium dens, the nightclubs, the brothels and the 'massage parlours'. Night people only had the choice between around forty illegal dens held by princes, mandarins and rich Chinese, or an extremely boring state 'dancing' frequented by civil servants and a few 'girly bars' reserved for the spoiled youth. Compared to Southeast Asia as a whole, it was almost a desert."

One highlight of the period was the opening of the extraordinarily well-designed National Sports Complex in 1964. Built originally to house the Southeast Asian Games that never materialised, it was inaugurated in November 1964 and hosted a largely non-aligned regional sporting extravaganza known as the Asian GANEFO in 1966. Indonesia had hosted the first world "games for the new emerging forces" in Jakarta in 1963. Three years later, Cambodia hosted an Asian version under the slogan "Onward! No retreat!" China donated an Olympic Village near the complex to house the estimated 1,000 participants. Other countries taking part included Ceylon (Sri Lanka), Indonesia, Iraq, Japan, North Korea, Laos, Libya, Nepal, Pakistan, Palestine, Singapore, Syria, Vietnam and Yemen.

The National Sports Complex was also used for theatrical events and populist political meetings as well as massive welcomes for visiting leaders, notably France's President Charles de Gaulle in 1966. The temples of Angkor were reserved for other spectacular events – on one occasion, a theatrical recreation of past glories with elephants, hundreds of costumed performers and the incomparable Angkor Wat temple illuminated for the evening. Between 1958 and 1966, Vann Molyvann was responsible for organising light and sound performances for state visitors to Siem Reap.

At the beginning of 1968, the National Sports Complex was the venue for Cambodian games (confusingly known in French as the *GANEFO du Cambodge*). By the end of the year, it was being used to stage *The Khmer Nation Will Never Die*, an elaborate theatrical event marking 15 years of independence. Orchestrated by Vann Molyvann in his role as National Education and Fine Arts Minister, it included a cast of thousands. The Bassac Exhibition Halls were meanwhile being used to showcase five-year plans and exhibitions that also toured the provinces, often in purpose-built halls. Such exhibitions focused on arts and crafts, culture and tourism and also toured other Asian countries as well as Europe.

Among other public buildings was the National Theatre Preah Suramarit, also designed by Vann Molyvann. It was used to stage the First Phnom Penh International Film Festival in late 1968 and the gala opening of a second film festival towards the end of 1969. By that time, however, the actual venue for the festival was the newly inaugurated Chenla State Cinema designed by Lu Ban Hap and Chhim Sun Fong [see pages 36 & 39].

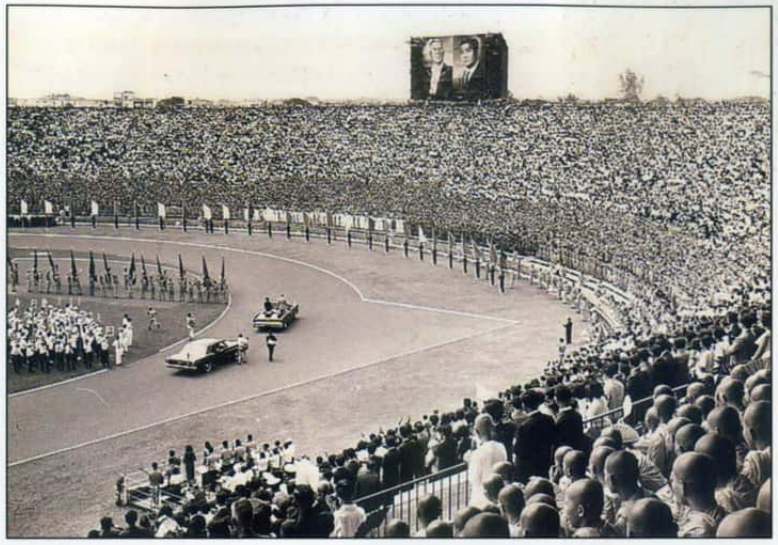
The Phnom Penh focus of these events reflected the growing urban population. By 1967, an estimated 23.5 percent of Cambodians were living in cities, up sharply from 10.5 percent in 1962. But as journalist Robert Garry wrote in *Le Sangkum* in 1967, "agriculture is the most important activity of the Cambodian people and farm products are the main source of income." Under the "guidance"

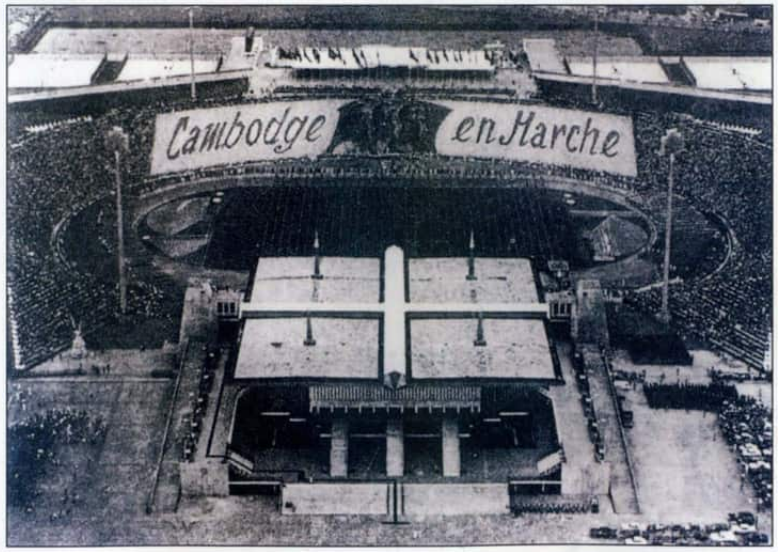
of Norodom Sihanouk, the government gave top priority to agriculture. "Various steps have been taken to improve its productivity, to increase the standard of living of the farmers in view of keeping the youngsters on the land and putting a brake on the rural exodus to the cities."

Among the steps cited were crop diversification, the use of modern equipment, expanded raising of livestock, the revival of rural handicrafts and peasant groups associated with the Royal Office of Cooperation set up in 1956.

Nationwide plans formulated in the early years of Norodom Sihanouk's rule included agriculture, culture, education, health, industry, tourism and urbanism and infrastructure. In 1961, for example, a prototype of community buildings for Anlong Romiet in Kandal province was launched as a model for 1,177 rural centres across the country. Photographs show that these buildings were functional and beautiful. Such projects required the direct involvement of architects along with civic and urban planners. Their work changed the face of the country and, in many cases, can still be seen today, often fulfilling the function of their original designs.

The point here is that while New Khmer Architecture between 1953 and 1970 focussed on Phnom Penh, the provinces were not forgotten. By 1967, five regional centres were well established in Battambang and Takhmau with populations of 40,000 each, Kompong Cham (30,000), Pursat (14,000) and Kampot (12,500). Additionally, Sihanoukville (14,000), Kep (7,545), Kirirom (more than 3,000) and Bokor (463) were given the status of "functional" tourist towns.

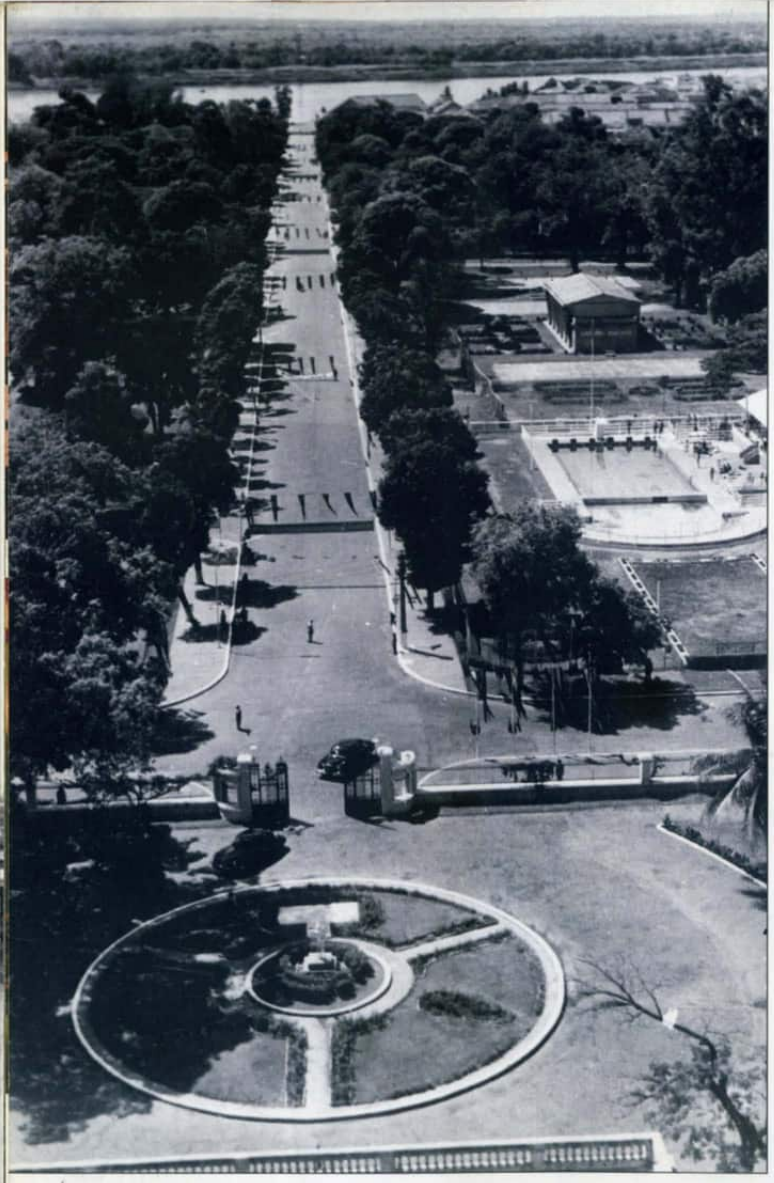






16 | 18
17

16. Norodom Sihanouk and Charles de Gaulle circumnavigate the packed stadium
17. Cambodian on the move. An undated aerial view of a huge public event at the National Sports Stadium
18. French President Charles de Gaulle addresses the crowd at the National Sports Stadium during his state visit in 1966



19 20

19. Aerial view of the public swimming pool and park in Kompong Cham in the sixties, with the Mekong River in the background
20. Norodom Sihanouk looks on as Jackie Kennedy inaugurates JF Kennedy Avenue in Sihanoukville

Tourism prompted the development of hotels and motels, notably the Independence Hotel at Sihanoukville, which opened in 1968. It was abandoned and vandalised during the civil war. Another ill-fated example was the beautifully designed Angkor Hotel in Siem Reap financed by Air France and designed by French architect Claude Bach. Started in 1968 and completed in 1973 with the country sliding into chaos, it never catered to the expected influx of guests.

The Ministry of Public Works had even drawn up plans for a "New Siem Reap", creating an extension to the old town that had as its north/south axis Phnom Bakheng accessed by a new road parallel to the axis of Angkor Thom. This was to be a modern hotel and commercial sector including sports facilities, theatres, cinemas, bars, cabarets and conference centres. Developed by the Ministry of Public Works, the plan is dated March 9, 1970 - nine days before Norodom Sihanouk was deposed in a US-backed military coup.

With suggestions sought from UNESCO, tourism development was also envisaged for associated sites at Phnom Kulen, Beng Mealea, Preah Khan (at Kompong Svay), Koh Ker and Sambor Prei Kuk. Recreating the "Royal Route to Angkor" was another plan.

Internationalism characterised the first 17 years of independence - when Cambodia was not taking part in international events, it was hosting foreign visitors. Independence threw open a door that had been locked for a lifetime. Once opened, it revealed an exciting new world of new vistas and seemingly unlimited opportunities that had largely bypassed the country during the colonial era. No one imagined the door could just as easily be slammed shut.







21 | 22

21. Map of Phnom Penh in 1958
22. Map of Phnom Penh in 1963





Chaktomuk Conference Hall

Initial function: Public conference hall and theatre
Present use: Private conference hall
Location: Sisowath Quay, Phnom Penh
Inauguration: November 12, 1961
Architect: Vann Molyvann

23 | 24

23. View from the garden 1960s
24. 1960s street view with Deux Chevaux Citroën





This is one of Vann Molyvann's masterpieces, both functional and lyrical. It is one of the most illustrious examples of New Khmer Architecture and is particularly beautiful when viewed from the river. It is also one of the architect's three favourite works (the others being the National Sports Stadium and Preah Suramarit National Theatre).

Built when Vann Molyvann was head of the Urban Planning and Housing Department of the Ministry of Public Works, it draws on identifiable elements of Khmer architecture, such as the pointed roof and the free space under the building. But also reinterprets them in a completely new way. This is achieved by an ingenious triangulated concrete structure suspended from beams which radiate from a central point in a fan shape. This device raises the structure off the ground and gives the impression of it being suspended in space, whereas it is an imposing auditorium for 850 people. The result is a design which relates to tradition but at the same time expresses the innovative character of the period in its unique structure. It could be said that the structure makes the architecture. Vann Molyvann was very careful about the acoustics. Legend has it that this characteristic design was inspired by the fan-shaped palm leaf. The concrete structure was originally a natural white colour with decorative panels in the triangular roof gable of blue and gold leaf. The roof was of gold anodised aluminium, as were the window and door frames.

This building cost 20 million riel ($1.5 million in 1969) and was financed by American aid. As it was built on reclaimed land, constructing the foundations was difficult and expensive. "The Americans were very strict," Vann Molyvann recalled. "For example, the American inspectors who controlled the construction criticised the fact that Korean cement was being used. The Americans wouldn't accept this." His wife Trudy added: "We couldn't even drink tea as the sugar came from Cuba and the tea from India."

The hall was used for the Sixth Conference of the World Fellowship of Buddhists in 1961. At the opening speech for the conference, Norodom Sihanouk lamented the materialism, greed and injustice of the day and showed how Buddhism was compatible with modern society. Khmer socialism, he said, followed Buddhist dharma. The hall was also used for the trial in absentia of Pol Pot in 1979. In more recent times, it was used for a signing ceremony for the 2003 agreement with the United Nations to set up the Khmer Rouge tribunal. It has also witnessed events as diverse as pop concerts and university graduations. In 2000, it was privatised and refurbished, costing some $3.5 million, with the seating reduced to accommodate 596 people. On the whole, the private operator managed the refurbishment well, especially in consolidating the roofing and structure although the choice of pink paint on the walls and "orientalist" balustrades are of questionable taste. Fortunately, Vann Molyvann was present to keep an eye on the quality of the work.

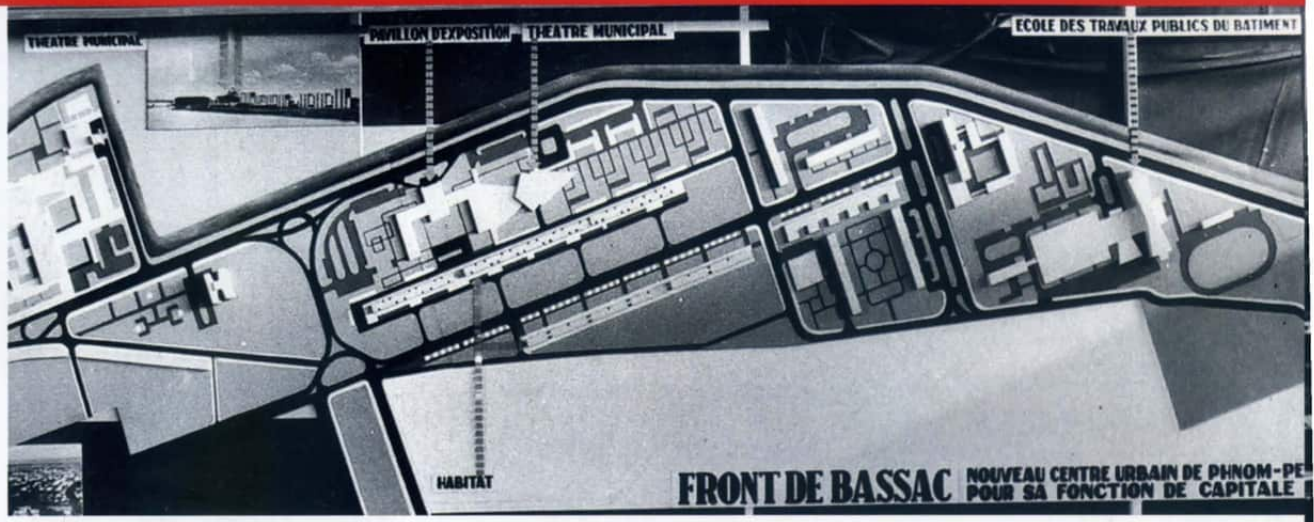


Sources: Sangkum Reastr Niyum Photo Albums; Années 60; Cambodge d'Aujourd'hui, November-December 1961, Nos. 56-57, 1963; Etudes Cambodgiennes, No. 15; Cambodian Commentary, October 1961 and January 1962; Photos souvenirs de mon Cambodge; Royal University of Fine Arts; interviews with Vann Molyvann in 2001; Cambodia Daily, October 29, 2000

25 | 26 | 27

25. Night view from the 1960s
26. Ingenious three dimensional concrete structure 2000
27. Aerial view from the river





Bassac River Front

Initial function: Urban development
Present use: Housing and redevelopment
Location: Off Sothearos Boulevard, Phnom Penh
Inauguration: c.1961
Architects: Gérald Hanning with Vladimir Bodiansky, Robert Hansberger, Lu Ban Hap and Vann Molyvann



28 | 29
30

28. Location plan
29. Model of the 'new capital centre of Phnom Penh' showing the location of the three housing developments, the exhibition hall and the national theatre. The school for public works was never built. According to Cambodge d'Aujourd'hui May 1961 other buildings that were planned were a Museum for the Royal Crusade of Independence, a School of Art, Music and Classical Dance, a Tourist office, an Art Gallery and an International Hotel
30. Dredge excavating silt to fill in the land 1958

This project was part of an ambitious scheme for a new Phnom Penh which included plans to develop 24 hectares of reclaimed land along the Bassac River with low-cost housing and public buildings that completed the perspective up to the Independence Monument. Unfortunately, a slaughterhouse at Psah Kap Ko was in the way. In June 1961, Norodom Sihanouk told Phnom Penh Governor Tep Phan that relocating the slaughterhouse was an "urgent" matter, and that the construction of a national theatre and parliament building should start without delay. "Finally, our capital must deal with the problem of the urban population," Norodom Sihanouk said. "I do not think it necessary to remind you of the social and hygiene problems, the fire risk and the infrastructure and transport problems associated with unplanned development on the periphery of the town. We must begin the construction of low-cost apartment buildings that can be rented or sold to average and small-income families. This will no doubt take some time and requires progressive planning and investment."

Under the aegis of Vladimir Bodiansky, an international team of town planners led by Gérald Hanning was brought in to assist Lu Ban Hap, director of the Municipal Town Planning and Housing Department, and Vann Molyvann, who headed the Urban Planning and Housing Department of the Ministry of Public Works. One of the first parts of the project to be completed was the Exhibition Hall, inaugurated towards the end of 1961. By 1963, the municipality



had built 468 apartments which were in addition to separate apartments for staff of the National Bank of Cambodia. More apartments were built for the Southeast Asian Games in 1964, which never took place. The river front development continued with the National Theatre inaugurated in 1968. All of these buildings have suffered damage over the years. The water sports complex was demolished, the apartments have deteriorated and the theatre has been badly damaged by fire, although the exhibition hall is still usable. Among buildings planned but never built were the parliament, a museum devoted to Norodom Sihanouk's royal crusade for independence, an art, music and dance school, a government tourism office and an art gallery.

Sources: Sangkum Reastr Niyum Photos Albums 1995; Années 60; Cambodge d'Aujourd'hui, May-June 1961; Cambodge d'Aujourd'hui May-June, 1963; Etudes Cambodgiennes No. 15, 1968; Le Sangkum, October 1968; Gérald Hanning; Photos Albums de mon Cambodge; RUFA; Bodiansky archives; New Phnom Penh Urban Office; interviews with Vann Molyvann in Phnom Penh and Lu Ban Hap in Paris in 2001

31. Aerial view of the Bassac river front development in the early 1960's



Bassac River Front: Municipal Apartments

Initial function: Apartments for private lease
Present use: Occupied
Location: Sothearos Boulevard, Phnom Penh
Inauguration: c.1963
Architects: Lu Ban Hap with Vladimir Bodiansky



LIBRARY
PANNASASTRA UNIVERSITY OF CAMBODIA

This low-cost housing consisted initially of 468 apartments that appear to have been inspired by an Algerian housing project designed by Vladimir Bodiansky's engineering company AT.BAT. More than three hundred metres long, the apartments comprise six distinct blocks that are joined and yet separated by open staircases. People could therefore walk through the building and enjoy easy access to the landscaped park. Initially the main access was on the east side. The plans were designed with the tropical climate in mind, with kitchens and bathrooms accessible from terraces that could also serve as external kitchens. All the apartments from one to three rooms were cross ventilated.

The apartments are in stark contrast to most of the city development that took place in the sixties, which was based on the Chinese "shop house" model. Vann Molyvann had misgivings about this kind of development from the start. It did not correspond to the traditional way of life of the typical Cambodian family, nor to the Chinese model of providing a shop or workshop under the living area.

The buildings have weathered badly and have been transformed by squatters. The reinforced concrete, flat roofs and rough brick wall infill have been adversely affected by high humidity and a lack of maintenance. The initial orientation eastwards towards the garden has been inverted towards Sothearos Boulevard, where the public park is now being developed.

The apartments were financed on the basis of a 10 year credit from the municipality and were initially much sought after by the lower middle classes seeking to become owner occupiers. Today's impoverished occupants have no means and the general state of the buildings is so bad that it seems inconceivable that they could one day be renovated.

Sources: Report by Tep Phan, January 1962; meetings with Lu Ban Hap on Paris in 2001



32. New life style 1960s apartments overlook manicured gardens

33. View in 2003 after the Municipality landscaped the public space
34. Deteriorated state of buildings in 2002

Bassac River Front: Olympic Village Apartments

Initial function: Olympic Village, then private occupants
Present use: Commercial premises
Location: Sothearos Boulevard, Phnom Penh
Inauguration: c.1963
Architect: Vann Molyvann





In anticipation of hosting the Southeast Asian Games in 1963, Cambodia built these 164 apartments as an "Olympic village" in addition to the National Sports Complex. The games never took place, however, so one of the blocks was sold off to civil servants and the other sold to the Ministry of Education as teacher accommodation. Among those who lived here were Madeleine Giteau, the curator of the National Museum. Vann Molyvann said he did not want a "wall" along the river so he indented the buildings and designed split-level apartments with all of them facing east towards the river. A landscaped garden was built between these buildings and the other apartments designed by Lu Ban Hap.

This was one of many experiments in social housing. The architecture was a statement in reinforced concrete with small window openings on the sunny side of the buildings, and ventilation from the terraces of each apartment. Unlike other Vann Molyvann buildings, the roofs were uncompromisingly flat.

Occupied by squatters after 1979, the buildings were sold in 1996 to a Malaysian developer which promised to transform them into a high-class hotel. Instead, the balconies were walled in to gain internal space and the hotel idea was abandoned. The resulting eyesore is now used for commercial purposes.

Sources: ISTED; Vladmir Bodiansky archives; report by Tep Phan, January, 1963; site meeting reports dated January and March 1963; Le Nouveau Phnom Penh, December 1963; conference with Vann Molyvann and Claude Prélorenzo at French Cultural Centre, Phnom Penh, in 1999; interviews with Vann Molyvann in 2001

35. View from the gardens in the 1960s



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36. The apartments in the 1960s with an unidentified building
37. Buildings for rent after being encased in concrete 2001

Bassac River Front: National Bank Apartments

Initial function: National Bank of Cambodia staff accommodation
Present use: Russian Embassy staff accommodation
Location: Sothearos Boulevard, Chamkar Mon district, Phnom Penh
Inauguration: c.1963
Architects: Henri Chatel and Jamshed Petigura

This was one of many housing experiments funded by the National Bank of Cambodia.

The National Bank itself, designed by Henri Chatel several years earlier, had a suspended roof like an additional structure. With this later work, however, the reinforced concrete roof with its assertive ribbed structure is an integral part of the design. Henri Chatel said he always strived to find solutions that suited the Cambodian climate and that the suspended VV-shaped roof provided extra protection from the heat and heavy rain while providing an area for washing to be dried and for recreational activities. Henri Chatel raised most of his buildings off the ground which provided a shady place, either for cars or people. The design of these buildings seems to have left a strong impression on the architecture scene of Cambodia. This is the first time that such a double roof appears so assertively in New Khmer Architecture.



38. View of the completed buildings in the 1960s



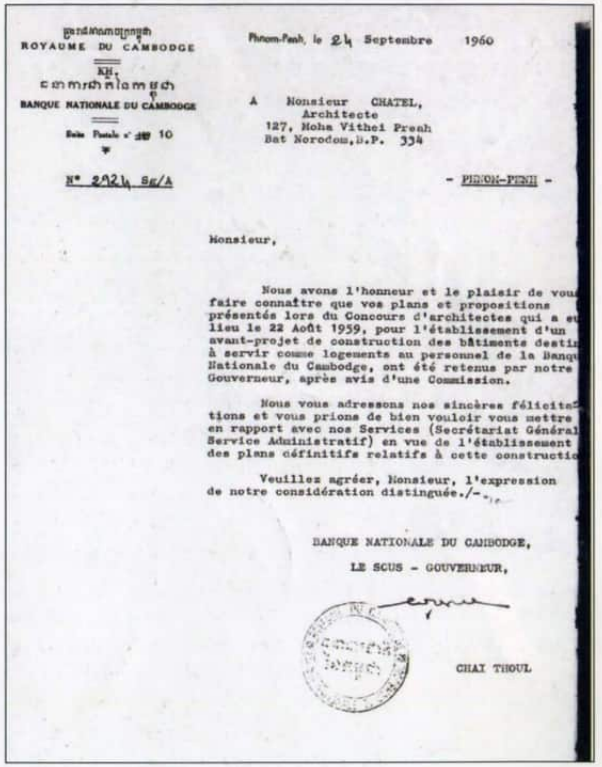


The roof would become almost a leitmotif of Cambodian modern architecture to be taken to its full expression in such buildings as the State Palace (1966) but also in numerous porches, villas, and other structures.

As for reinforced concrete, this seemed to be a French colonial heritage. Henri Chatel said he partly regretted using concrete - as a good conductor of heat, it is not well adapted to the tropical climate. He also regretted that brick was not readily available during his time in Cambodia. Although Henri Chatel won the competition for the design in 1959, he had to return to Europe for personal reasons. He handed over the plans to another architect named Jamshed Petigura who completed the buildings and claimed them as his own design. Henri Chatel said Jamshed Petigura never wrote to acknowledge that the buildings had been completed or to share some of the fees.

If these buildings have escaped the turmoil of history practically intact, it is thanks to the land being handed over to the Soviet Union in 1979 in exchange for the Cambodian Embassy in Moscow. The Soviet Embassy spent more than $4 million on renovating the buildings during the eighties when it had hundreds of staff in Cambodia.

Sources: National Bank of Cambodia in September 1960; Henri Chatel; ISTED 1963; interviews with Henri Chatel and Lu Ban Hap in Paris and Russian Ambassador Victor Samoilenko in Phnom Penh in 2001.



ROYAUME DU CAMBODGE

BANQUE NATIONALE DU CAMBODGE

Phnom-Penh, le 24 Septembre 1960

A Monsieur CHATEL,
Architecte
127, Mohn Vithei Preah
Bat Norodom, B.P. 334

N° 2824 SG/A

- PHNOM-PENH -

Monsieur,

Nous avons l'honneur et le plaisir de vous faire connaître que vos plans et propositions présentés lors du Concours d'architectes qui a eu lieu le 22 Août 1959, pour l'établissement d'un avant-projet de construction des bâtiments destinés à servir comme logements au personnel de la Banque Nationale du Cambodge, ont été retenus par notre Gouverneur, après avis d'une Commission.

Nous vous adressons nos sincères félicitations et vous prions de bien vouloir vous mettre en rapport avec nos Services (Secrétariat Général Service Administratif) en vue de l'établissement des plans définitifs relatifs à cette construction.

Veuillez agréer, Monsieur, l'expression de notre considération distinguée./-

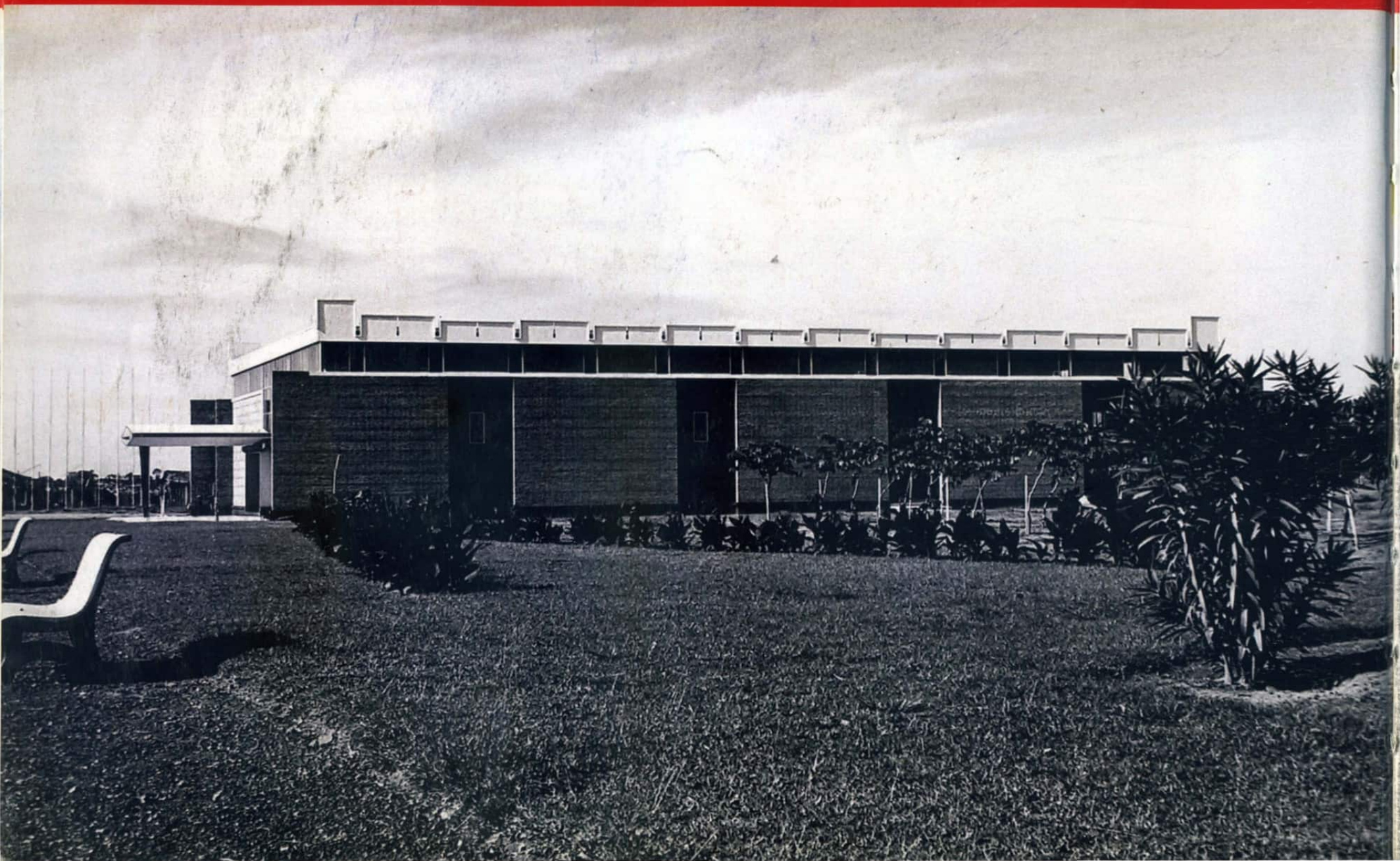
BANQUE NATIONALE DU CAMBODGE,

LE SOUS - GOUVERNEUR,

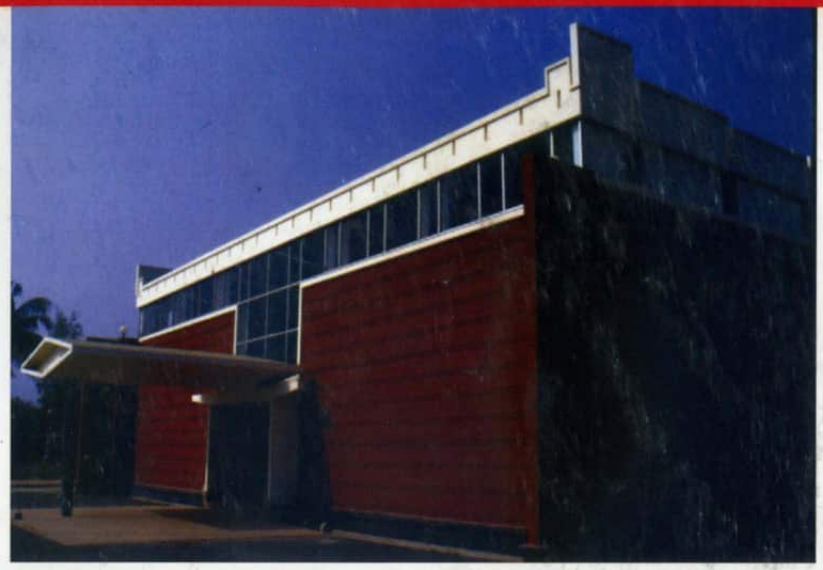
CHAI THOUL

39 | 40

39. Henri Chatel's prize winning design
40. Chai Thoul, Sub-Governor of the National Bank of Cambodia congratulates Henri Chatel on his award-winning design in a letter dated September 24, 1960







Bassac River Front: Sangkum Reastr Niyum Exhibition Hall

Initial function: Exhibitions of Sangkum Reastr Niyum achievements
Present use: National Cultural Centre
Location: Off Sothearos Boulevard, Chamkar Mon district, Phnom Penh
Inauguration: November 22, 1961
Architect: Vann Molyvann

This was the first building completed as part of the Bassac River Front project. Lu Ban Hap, Roger Colne and Seng Suntheng designed other buildings to house exhibitions across Cambodia. Together with Vann Molyvann, these architects also set up exhibits which covered a wide range of themes from urban developments and industrial production to arts and crafts. Many were also taken abroad where Cambodia participated in international exhibitions. Over the years, the building has been extended, transformed and refurbished but is no longer extensively used.



Sources: Sangkum Reastr Niyum Photos Albums, 1995; Cambodge d'Aujourd'hui, November-December 1961; Etudes Cambodgiennes No. 15, 1968; Photos Souvenirs de mon Cambodge; RUFA; interview with Vann Molyvann

41. The Sangkum Reastr Niyum Exhibition Hall in the 1960s

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42. Main entrance with rhythmic pattern of roof and portico in 2002
43. The renovated building in 2002
44. Sangkum Reastr Niyum 1960s exhibit



This building is a work of maturity and self-confidence. At a time when Western countries were experimenting with more flexible theatre designs, Cambodia was not content with the 850-seat Chaktomuk Conference Hall nor the larger university auditorium. The National Sports Stadium was used for outdoor gatherings up to 100,000, and the National Theatre aimed to conciliate this tradition. The idea was for a well-ventilated space that lent itself to indoor and outdoor scenic arrangements, especially with the mobile backstage drop. The original seating arrangements for 1,200 were an alternative to the tradition of seats facing the stage. The spatial arrangement is superb, offering a theatre within a theatre for audiences to view the split-level foyer in the sharpest point of the triangle, which offered magnificent views. The theatre is evocative of a ship steaming down the river.

Bassac River Front: Preah Suramarit National Theatre

Initial function: National Theatre, home to National Conservatory of Performing Arts
Present use: Storage, rehearsals and accommodation
Location: Off Sothearos Boulevard, Phnom Penh
Inauguration: November 12, 1968
Architect: Vann Molyvann

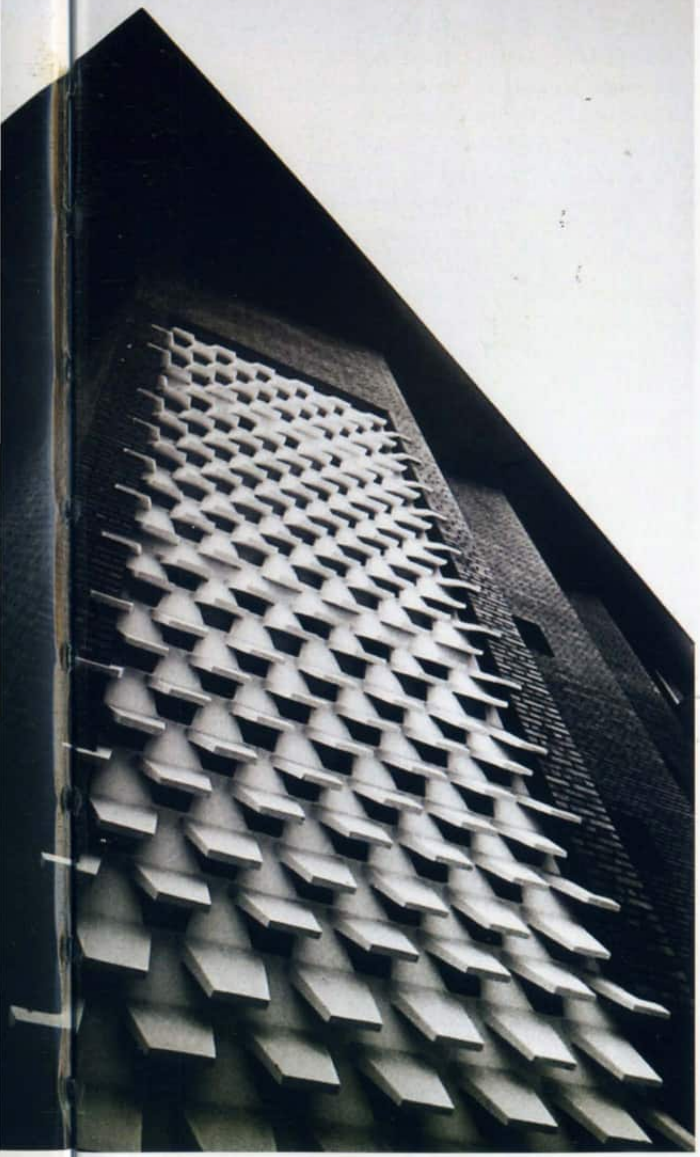




Vann Molyvann said the plans were based on a triangular module inspired by Frank Lloyd Wright, with an organic design that explodes in the pyramid form of the roof. Somehow, it succeeds in looking Khmer. He prefers the theatre to all of his other works including the Chaktomuk Conference Hall and the National Sports Complex. All three were designed using Le Corbusier's Modulor to determine proportions.

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45. The finished theatre in the 1960s with the Bassac River in the background
46. View of the foyer's patterned roof panels that repeat the triangular motif 2001
47. View inside the mezzanine level 2001

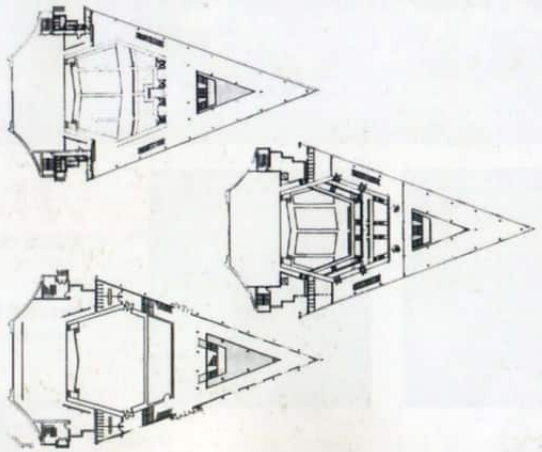


Lu Ban Hop recalls working on an initial design with Vann Molyvann and two French architects in Paris in the late fifties, and nearly 10 years elapsed before the inauguration in 1968. *Kambuja* reported in 1966 that the theatre was estimated to cost 64 million riel, but by completion the budget had escalated. In terms of materials, the reinforced post and beam concrete structure was completed with a metal roof structure. Ventilated walls resembling fish scales were made of specially designed wall cladding, which provided filtered light and ventilation. Other walls were of red brick.

The theatre housed the National Conservatory of the Performing Arts with about 400 artists. Although it survived years of war and chaos, the theatre was all but destroyed in a fire in 1994 when a worker left a blowtorch unattended during a lunch break. Unfortunately, neither the agency funding the renovation work nor the contractor was insured. The inferno left little more than a burnt-out shell which seems to be beyond repair. Following this disaster, the Ministry of Culture has studied the renovation of the theatre or the construction of a new theatre on the site. Recent developments indicate investor interest in the riverside property.

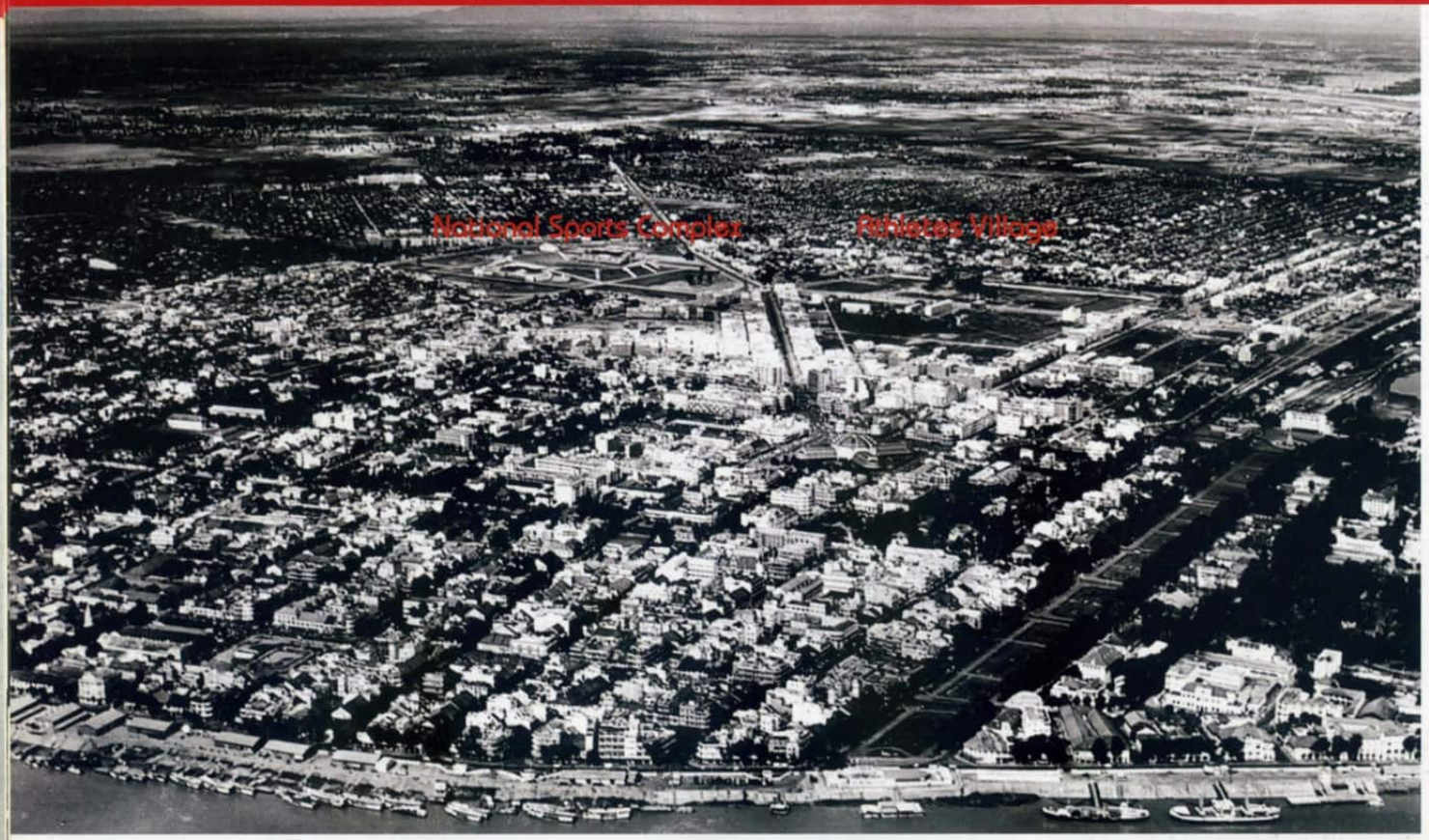
Sources: Norodom Sihanouk; SRN Photos Albums, 1995; Années 60; Kambuja, April 1966; Etudes Cambodgiennes Nos. 15 and 16; Le Sangkum, October 1968; Vong Chon; HH Prince Sisowath Kulachad; Photos Souvenirs de mon Cambodge; interviews with Vann Molyvann in Phnom Penh and Lu Ban Hap in Paris in 2001





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48. Claustra wall for filtered light and ventilation
49. View of the external stage still under scaffolding late 1960s
50. Floor plans 2000







51. Aerial view of Phnom Penh showing location of the National Sports Complex and the 1966 Athletes' Village
52. GANEFO 1966 gold medal with the caption 'no retreat'
53. GANEFO 1966 silver medal with the caption 'no retreat'

Athletes' Village

Initial function: Accommodation for the First Asian Games of the New Emerging Forces (GANEFO)

Present use: Occupied by various tenants

Location: Boulevard Tchécoslovaquie (between Streets 134 & 182), Phnom Penh

Inauguration: November 6, 1966

Architect: Unidentified Chinese

This complex of buildings surrounded by moats housed athletes competing in the first regional Games of the New Emerging Forces (GANEFO) in Phnom Penh held at the National Sports Complex between November 25 and December 6 in 1966. Indonesia had hosted the first international GANEFO in 1963. After the regional games in 1966, GANEFO was discontinued, although Cambodia hosted a domestic version in 1968. The approach to the complex was once lined with flagpoles flying the colours of the participants. Today, the site is almost completely unrecognisable with squatters occupying the eight accommodation buildings and the once pristine rectangular pools clogged with weeds and refuse.

Built in the space of only a few months, this ensemble cost 70 million riel and was financed, designed and built by China. The complex comprises a gymnasium with seating for 1,000 spectators, an administration building with a lounge, offices and rooms for conferences, eight three-storey buildings capable of lodging 1,000 athletes and two restaurants with modern equipment. With the exception of the administrative building, the complex was equipped and furnished by the Chinese. Today, the gymnasium is used by TV-5 as a television studio and the administration building is used by the Ministry of Women's Affairs. The rest is occupied by squatters.







The main structure is reinforced concrete, raised from the ground to allow the circulation of air, with their neatly appended service buildings connected by covered walkways. Water ponds provided drainage and added to the aesthetics of the site.

Sources: Sangkum Reastr Niyum Photos Albums; Le Sangkum, October 1968; Kambuja, November 1966; Sangkum Reastr Niyum: Le Développement Général du Cambodge (Années 1960); Charles Meyer's Derrière le Sourire Khmer; conference with Vann Molyvann and Claude Prélorenzo, French Cultural Centre, May 1999; interviews with Vann Molyvann in Phnom Penh and with Lu Ban Hap in Paris in 2001; National Archives of Cambodia; Royal University of Fine Arts

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54. 1960s View of the entrance gate and the round cafeteria
55. 1960s View from Czechoslovakia Boulevard with the village separated from the road by a moat
56. Gymnasium 2002



Chenla State Cinema

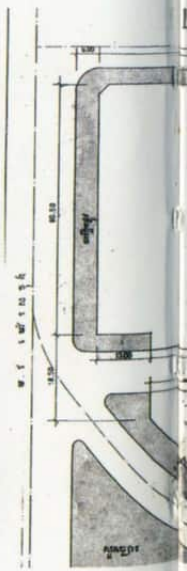
Initial function: Cinema for the Phnom Penh 2nd International Film Festival
Present use: Receptions
Location: Monireath Boulevard, Phnom Penh
Inauguration: November 14, 1969
Architects: Lu Ban Hap assisted by Chhim Sun Fong

In designing this impressive building, Lu Ban Hap, chief architect of the Municipality of Phnom Penh, was assisted by Chhim Sun Fong, who had just completed his architecture degree at the University of Adelaide in Australia. The concept was very similar to Lu Ban Hap's diploma project in Paris, which was for a dance academy. The Chenla State Cinema, however, had only a small stage because it was designed for film projections and not for theatrical productions. The distinctive design has two massive buttresses at the side on which the two roofs are suspended. The result is an architectural statement that seems to defy gravity. The structure is of reinforced concrete and the roof appears to be metal cladding.

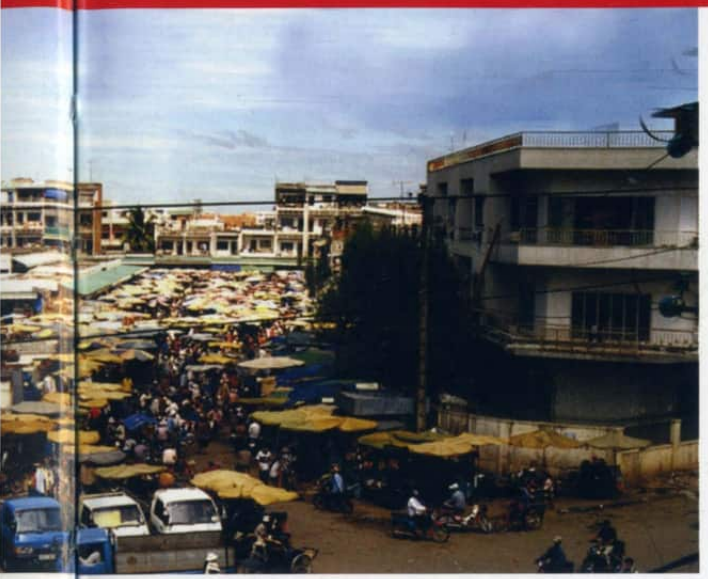
Lu Ban Hap said he was asked to design a small cinema on land provided by Phnom Penh Governor Tep Phan. The original sketch by Norodom Sihanouk was for a cinema that could seat about 20 people. Lu Ban Hap said he took the Sihanouk's sketch and made a new drawing without any scale for "about fifty" people. The next time he showed Norodom Sihanouk his drawings, Lu Ban Hap said the cinema would seat a hundred. The cinema eventually ended up accommodating 800 people, and cost four million instead of 400,000 riel.

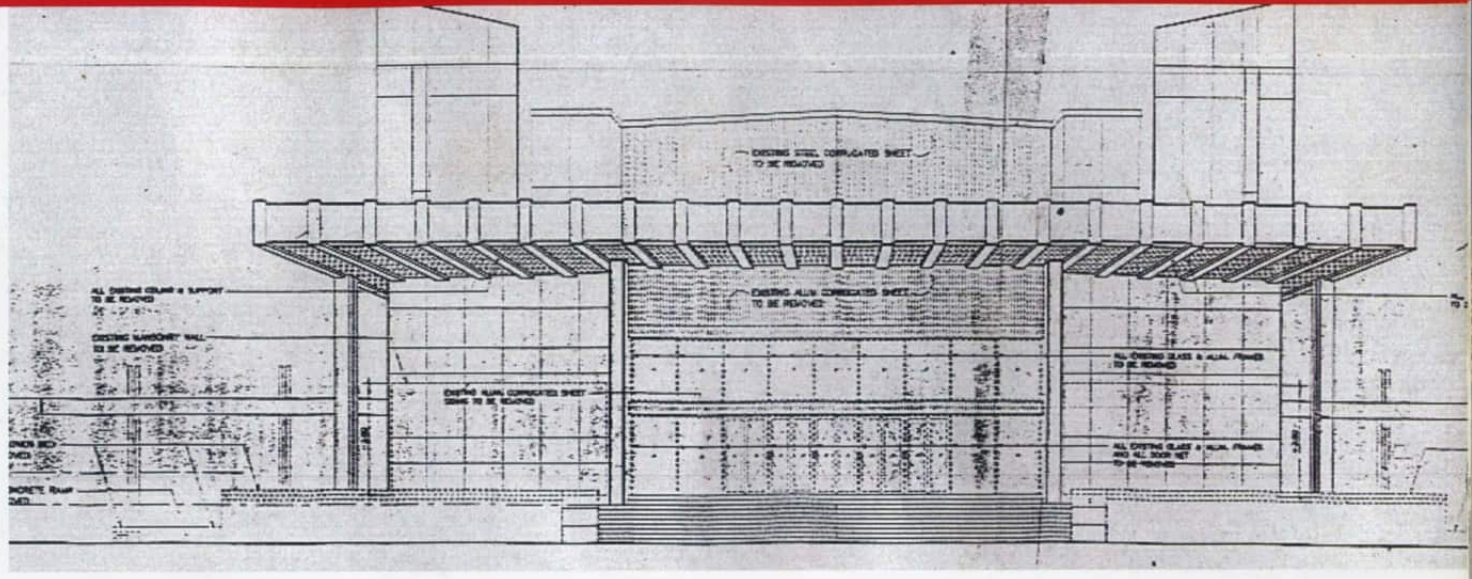
Named after a pre-Angkorian kingdom, the cinema was inaugurated with the Second Phnom Penh International Film Festival, presided over by Vann Molyvann in November 1969.

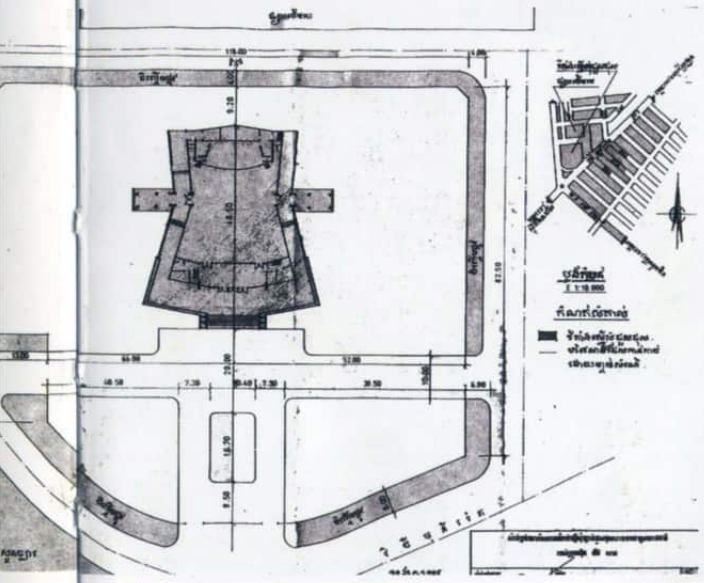




57. Panoramic view later in 2001
58. Rules of the Second International Film Festival of Phnom Penh held 1969







The cinema was abandoned for 30 years and renovated in 2002 by Canadia Bank, which added a building to the site. As a result, one of Phnom Penh's few public spaces has been fenced in.

Sources: Sangkum Reastr Niyum Photos Albums; Le Sangkum, February and December, 1969; Cambodia Daily, August 17, 2001; interviews with Sieng Sang Em in Battambang in 2000 and Lu Ban Hap in Paris in 2001



59. Drawing for renovation
60. Site plan
61. During renovation work in 2002





Anlong Romiet Proto

Initial function: Community development project
Present use: Destroyed
Location: Anlong Romiet village, Kandal Stung district, Kandal province
Inauguration: May 3, 1961
Architect: Vann Molyvann

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62. Health Centre
63. Cooperative and sales space

Prototype Village



In 1961, Norodom Sihanouk launched a national campaign for community development with the opening of the Anlong Romiet prototype village. Anlong Romiet was a commune of 1,500 people in Kandal province, about 25 kilometres south of Phnom Penh and easily accessible by road. As an initial step, community development sought to improve rural hygiene by digging new wells or consolidating old ones and by building toilets, either individually or in groups. The next priority was to build a community centre including a meeting room, a consultation room, an information hall and a cooperative store. In some cases, a community centre would also include a barn and a handicraft workshop. To improve living standards, community development encouraged family rearing of chickens and pigs, vegetables and diverse handicrafts.

At the time, studies showed that the only problem with the traditional Cambodian habitat built on wooden stilts was durability. To avoid imposing costly imported building materials on rural communities, local clay was used to make bricks for the pillars of the community centre in Anlong Romiet. In the true tradition of Vann Molyvann, materials are used and functions of the buildings expressed in a straightforward manner. The tapered brick pillars, the simple use of wooden horizontal cladding and the clear-cut geometry of the roofs transform traditional design into something contemporary.

In his inauguration speech, Norodom Sihanouk stressed that community development could be achieved only by civil servants, technicians and local people working together to improve living conditions, housing, sanitation and roads. "Wells and meeting rooms are important but irrigation of paddy fields, earthworks and stables are too," he said. He also paid tribute to French technicians who had been working in Anlong Romiet for several months to boost sugar palm production. "This benefits the population directly. I hope this example will be followed in other regions where the soil is not very fertile as it is indispensable to help farmers find secondary sources of income to improve their livelihoods."

Sources: Cahiers du Sangkum, No. 12; Cambodge d'Aujourd'hui, May-August, 1961; Etudes Cambodgiennes, No. 15, 1968; Vladimir Bodiansky archives, Georges Pompidou Centre, Paris; Vladimir Bodiansky private archive; ARK Research field trip, 2001

64. Interior view of the cooperative

Henri Chatel



Born in Sfax, Tunisia, in 1923, Henri Chatel trained as an apprentice with several architects before becoming an associate of Maurice Masson in Saigon in 1949. Henri Chatel spent 12 years in Cambodia, and his work can be divided into two distinct phases.

During the first phase, from 1949 to 1955, he was Masson's representative in Phnom Penh. During this period, he worked on the Institut National des Emissions (which later became the National Bank of Cambodia). He also worked on an apartment building in Street 240 as well as the Khmer Sports Club (a colonial building dating back to 1929, which would later become the Youth Club and ultimately the site of the new US embassy in Phnom Penh). While Maurice Masson was the architect for the cathedral of Phnom Penh, Henri Chatel did the site work with the building contractor, Société Industrielle d'Etude et de Construction (SIDEC) between 1952 and 1955. Fifty years later, he told ARK Research that he thought the cathedral was a "hideous" building and was not sorry to learn that the Khmer Rouge had destroyed it. Henri Chatel worked on the Khemara Cinema Theatre, which was built for Tan Pa, the owner of Banque Franco-Chinoise. The cinema was later transformed into a casino. "During the work, the film projections never stopped," Henri Chatel recalled.

The second phase of his career in Cambodia followed a meeting with Defence Minister Sam Sary in 1954, when he was appointed architect for the Ministry of Defence. Maurice Masson died in 1955. Within five years, Henri Chatel had won first prize in a competition for National Bank housing (now inside the Russian embassy compound). He also designed the Ministry of Defence building shortly before leaving Cambodia. He never knew if it was built or not. The parts of the facade which jut out are cupboards for archives inserted in the wall of each office. It was built exactly to his design.

In the intervening period, Henri Chatel also worked on the defence minister's residence as well as extensions and improvements to the Hotel Le Royal (30 studios separate from the main building, a restaurant, a swimming pool and terrace, a new entrance hall and furnishings). He also did work on the Grand Hotel d'Angkor in Siem Reap, where he added on an air conditioned glazed dining room. Henri Chatel also worked as operations architect for the French embassy designed by Pierre Dufau. Among other projects were apartments for army officers in Phnom Penh and Kompong Chhnang, the Preah Monivong Military Hospital in Phnom Penh and a military base in Lovek that included large storage facilities for tanks and military equipment. A planned military academy opposite the Bayon temple in Siem Reap was never built.

All work done by Henri Chatel after his separation from Maurice Masson denotes a clean-cut design which is distinct from colonial-style architecture. He was continually searching for solutions to the tropical climate, raising buildings off the ground and creating ventilated roofs. He appears to have instigated the floating VV roof which appeared on the National Bank apartment buildings in Phnom Penh. A similar apartment later appeared in Sihanoukville, where the bank commissioned Vann Molyvann to build housing. But Chatel's designs never developed into something so unique and Khmer as Vann Molyvann's.

After leaving Cambodia in 1961, Henri Chatel moved to France and had a successful career in Europe and the Middle East. Of particular note is his work in Saudi Arabia, where he designed a 30,000 square metre palace in Taif and a 100,000 square metre palace in Riyadh.

Sources: Interviews with ARK Research in Paris (2001); photographs and documents from the Henri Chatel collection; photographs of the Cathedral of Phnom Penh from the Mission Française Etrangère, Paris; various journals in Cambodia

ARK Research references:
KG1: Apartment building for military staff **KG9:** Housing for military staff, Romeas **KG4:** Hangars & administrative building for Ministry of Defence, Lovek **KP20:** Villa for Sam Sary **KP22:** Villa for Sirik Matak **PP9:** Apartment building **PP12:** Apartment building, 57 rue de France **PP13:** Apartment building for military staff Chak Angre **PP15:** Apartment building with 120 dwellings for military personnel, Chamkar Chem **PP18:** Apartment buildings for National Bank of Cambodia, Bassac **PP19:** Banque Nationale du Commerce International, Norodom Boulevard **PP40:** Centre National d'Assurance du Cambodge, Monivong Bldvd **PP50:** Cinema Khemara, St 217 **PP52:** Cinema Le Casino, **PP78:** French Embassy competition, Monivong Blvd, **PP116:** Hotel Le Royal extension **PP127:** Model house, Tuol Kok, **PP135:** Residence for Minister of Defence, **PP169:** Preah Monivong Military Hospital **PP174:** Ministry of Defence, Kim Il Sung Blvd **PP175:** Ministry of Defence, USSR Blvd **PP188:** National Bank of Cambodia, Norodom Blvd, **PP248:** Sports Club, Club Sportif Khmer **SR16:** Grand Hotel d'Angkor extension, **SR24:** Military Academy for the Ministry of Defence, Bayon Temple, Siem Reap

65. Henri Chatel after being named defence ministry architect in 1957

Roger Colne

Roger Colne was born in Paris in 1921. After studying at the Ecole des Arts et Métiers and the Ecole Nationale Supérieure des Arts Décoratifs, he went to Saigon in 1947. Between 1952 and 1955, he worked for Atelier d'Arts Français at 65 rue Catinat, a company specialising in interior design and artisan production (furnishings, carpets, ceramics and forged iron).

In 1955, Roger Colne moved to Phnom Penh (159 Vithei Pasteur). He was recognised as an architect and designer under a royal decree dated October 25, 1956, and worked as a manager at Arts et Décorations at 6 Vithei Neayouk-Souk. The company specialised in interior design, decoration, furnishings and forged iron.

He was commissioned as municipal architect for Kep, Kampot, Kep, Kirirom, Kompong Cham, Siem Reap and Sihanoukville. Other clients included the Société des Auberges Royales (Sokor), the Ministry of Information, the National Tourist Office and the Department of Urbanism at the Ministry of Public Works.

In 1963, Roger Colne wrote to Vladimir Bodiansky (see page 95) seeking employment with an international organisation. By 1964, he was apparently working as an expert for the UN. According to a letter to Vladimir Bodiansky from engineer Mean Kim Ly, he was working on the Royal Military Academy in 1966. Roger Colne is believed to have died in the late sixties while working as a war photographer.



Sources: Vladimir Bodiansky archives, Georges Pompidou Centre, Paris; Roger Colne portfolio

ARK Research references:
K8: Exhibition hall & bar **K12:** Hotel Auberge aux Lacs **K13:** Information hall for Sangkum **K39:** Swimming pool **KP1:** Administrative centre **KP5:** Government villa **KP7:** Market **KP12:** Restaurant/ café "Bar Rotunda" **KC45:** Swimming pool **PP51:** Cinema Khemarak **PP53:** Cinema Lux **PP54:** Cinema Majestic **PP66:** Comptoirs Généraux **PP79:** Embassy - French - competition **PP83:** Exhibition - International - France, Vietnam and Thailand pavilions (with Seng Suntheng?) **PP85:** Exhibition 2500 years of Buddha's birth **PP86:** Exhibition Centre **PP92:** French Economic Cooperation experimental housing **PP112:** Hotel Mondial **PP113:** Hotel Monorom **PP117:** Hotel Sukhalay **PP138:** House for United Arab Republic **PP168:** Royal Military Academy **PP178:** Ministry of Foreign Affairs **PP212:** Restaurant/bar, Phnom Penh **PP309:** Villa for Italian consul (692 USSR Boulevard) **SV12:** Chamber of Commerce **SV14:** Commercial building **SV15:** Commercial development

66. Kampot exhibition hall designed by Roger Colne

Lu Ban Hap

Born in Kompong Cham in 1931, Lu Ban Hap went to Paris in 1949 to study public works at the Ecole Nationale des Arts et Métiers. But he failed the entrance exams and went to the the Ecole d'Eyrolles instead. Vann Molyvann, who had arrived in Paris some time earlier, convinced him to switch to architecture, so he moved to the Ecole Spéciale d'Architecture. As a result, Lu Ban Hap found his own apartment and moved out of the Maison du Cambodge, where future Khmer Rouge cadres were spending their nights talking politics. If he was going to succeed in his studies, the architect said 50 years later, he knew he had to keep his distance from this group. Lu Ban Hap married Armelle Rouard in 1955, graduating in 1959 after completing a design for a dance academy that later become the inspiration of the Chenla State Cinema.

After graduating, he worked with Vann Molyvann and two French architects on the top floor of the Cambodian Embassy in Paris, where they designed the Phnom Penh Sports Complex and the Chaktomuk Conference Hall. During this period, he also designed a grandstand as part of the renovation of the colonial-era Lambert Stadium (later known as the Old or Olympic Stadium). During this period, he met Norodom at an embassy reception and told Norodom Sihanouk that his dream was to work on Brasilia, the new capital city being built in Brazil. Anxious not to lose the young Cambodian architect, Norodom Sihanouk forced Lu Ban Hap and his three-year-old son Philippe (who would later become an architect himself) to accompany him on a four-week tour that took in Damascus, Karachi, New Delhi and Rangoon. Lu Ban Hap recalled Princess Monique treating Philippe like a prince throughout the journey, frequently bouncing him on her knees. His fate was sealed, at least for the next 12 years.

On their return to Phnom Penh, Governor Tep Phan appointed Lu Ban Hap to set up the new Town Planning and Housing Department for the municipality. It was responsible for everything from urban development and public spaces to waste disposal and city cleaning as well as rules and approvals. The department provided similar services to provincial towns that did not have their own urban and habitat department. One of his first jobs was to conduct a census on the population and buildings of Phnom Penh in 1962. During the sixties, the municipal Town Planning and Housing Department employed three French-trained architects (whom Lu Ban Hap sent for two years additional training in urbanism) as well as the Australian-trained architect Chhim Sun Fong (see page 39). Other staff comprised a civil engineer, several clerks of works and a team of about 10 draughtsmen.

Lu Ban Hap is best remembered for buildings like the Chenla State Cinema and the Cambodiana Hotel. But his less visible contribution was his remarkable expertise in overseeing the planned development of a city



67. Norodom Sihanouk awards Lu Ban Hap for his design of the Chenla State Cinema

whose population exploded from 150,000 in 1953 to one million in 1970. His work covered the whole spectrum of urban planning, from housing, water supply and drainage systems to paved streets and public facilities such as schools and hospitals.

As well as designing the O'Russei Market and the Olympic Market, he was responsible for drawing up plans for these two parts of town. He also designed a wholesale market for fruit and vegetables near the Monivong Bridge as well as gardens and markets in Svay Rieng and Prey Veng. In other provinces, he designed seaside boulevards in Sihanoukville, a conference centre and motel in Siem Reap, a bank in Battambang and buildings for Kompong Cham University and an institution specialising in agricultural research which was then headed by Keat Chhon. Regarding the ill-fated Takeo-Kampot University he designed in Veal Renh, Lu Ban Hap said that he recommended a site in Kampot towns but Norodom Sihanouk insisted that it should be half way between the two provincial capitals to avoid any argument between the two governors.

Lu Ban Hap said Norodom Sihanouk did the original basic design for the Chenla State Cinema, which was originally supposed to be a small theatre for 20 people costing 400,000 riel. As he worked on the design with Chhim Sun Fong, the project got bigger and bigger. By the time it was inaugurated in November 1968, the new four million riel cinema could accommodate 800 people. Among other works in Phnom Penh, he designed a fountain opposite Wat Botum and two houses for the US ambassador. He also designed the second phase of the Royal Police Academy in Tuol Kok, including the "bomb" guardhouses (Vann Molyvann designed the first phase).

Lu Ban Hap said the commission to build the Cambodiana Hotel initially came from the Phnom Penh governor and that the design dated back to either 1967 or 1966. It was originally budgeted at 100 million riel but eventually cost 160 million. The north wing was finished in 1970, the same year that Norodom Sihanouk was deposed in a coup. Each room had a balcony providing shade to the balcony below. Lon Nol, the coup leader, transformed the hotel into a military barracks and walled in the balconies as Phnom Penh came under fire.

After settling in France in 1971 with his wife and three children, Lu Ban Hap regularly returned to Cambodia and arrived on the last flight to Phnom Penh before the city fell to the Khmer Rouge in 1975. To Lu Ban Hap's knowledge, all of his staff at the Urban and Habitat Department died under Pol Pot except for two draughtsmen. The architect himself managed to escape with a niece on foot to Saigon, which was also in turmoil with the US defeat. With the help of an old Vietnamese friend from Paris, they managed to fly to Vientiane and eventually France.

Lu Ban Hap said he could not work for a year as he was so traumatised by the events in Cambodia (which included helping a young female member of the royal family give birth on a Phnom Penh street). He later did some design work for the French laundromat chain Lavorama and also designed several houses, including his own in the suburbs of Paris. By 2001, he was working as a volunteer for Médecins du Monde with occasional trips to bring medical supplies and equipment to Cambodia.

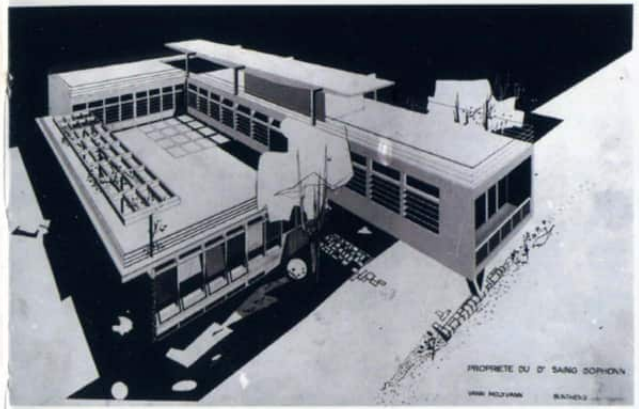
Sources:
ARK Research interviews in Paris, 2001;

ARK Research References:
BB3: Bank Khmer **I3:** Exhibition in Geneva, Switzerland **I5:** Exhibition in Brno, Czechoslovakia **K40:** University, Veal Renh **KC48:** University **KD11:** Exhibition hall **KD20:** Low-cost housing **KD33:** Public park with naga sculpture, Tonle Bassac **KD36:** Town Hall **KP23:** Villas **PP16:** Apartment buildings **PP24:** Boulevard de l'Independence garden design **PP70:** Dispensary Ang Duong **PP72:** Dispensary Meas Saem **PP106:** Hotel Cambodiana **PP131:** House **PP134:** House for Lu Ban Hap **PP144:** Houses for US ambassador **PP158:** Landfill **PP160:** Landfill **PP161:** Landfill **PP164:** Chhbar Ampov market **PP165:** O'Russei market **PP222:** Royal Palace: Silver Pagoda courtyard - roof to protect murals **PP233:** Lycée Bak Touk **PP238:** Lycée du Sangkum **PP239:** Lycée Indra Devi) **PP240:** Lycée Neak Puon **PP247:** Sewage pipes **PP249:** Lambert Stadium (Old Stadium) improvement **PP250:** Chenla State Cinema **PP251:** State Palace Chamkar Mon - "White Villa" **PP253:** State Palace Chamkar Mon cinema **PP256:** State Palace Chamkar Mon - Prince's Villa **PP257:** State Palace Chamkar Mon - Princess Buppha Devi's Villa **PP258:** State Palace Chamkar Mon - Princess Monineath's Villa **PP288:** Urban development plan for Phnom Penh **PP290:** Urban estate **PP294:** Urban plan (Monivong) **PP295:** Urban plan (Olympic) **PP296:** Urban plan (O'Russei) PP291: Urban Plan (Chamkar Mon) **PV19:** Market and garden **SR6:** Conference Centre **SR9:** Dispensary **SR8:** Hotel Royal Auberge des Temples (and SOKHAR Motel) **SV:** Boulevard at Victory Beach **SV10:** Boulevard of Independence **SV11:** Boulevard Peuple Français **SV44:** Road and drainage, O Chheuteal Beach **SG12:** Market **SG14:** Public park

Seng Suntheng

While his date of birth is not clear, Seng Suntheng is reputed to have trained at the Ecole Nationale des Arts Décoratifs in Paris before returning to Cambodia in the early fifties. He designed four pavilions for the International Exhibition in Phnom Penh in 1955 and may have been the site planner as well.

Seng Suntheng is remembered by some for designing the Independence Monument. Lu Ban Hap said Seng Suntheng was the designer and that Vann Molyvann supervised construction (the sculpture was the work of Tan Veut from Battambang). Kong Som Ol said the delay in building the monument (inaugurated nine years after independence) was due to underground water. Seng Suntheng is also reputed to have designed the monument at the Monivong Bridge roundabout.



In addition to the court house in Siem Reap (1958), Seng Suntheng designed four experimental low-cost houses in a competition. Mam Sophana said he designed many buildings in Phnom Penh, especially beautiful houses, which can be recognised by their characteristic style. According to U Sam El, he also taught interior design and art. He remembers him as a "very good designer" and a "good teacher."

Seng Suntheng died around 1964 in a car crash near the railway crossing on the road to Kampot. He apparently had a brother called Seng Sunthay who was a high-ranking officer in the Cambodian army.

Sources: ARK Research interviews with Lu Ban Hap in Paris (2001); U Sam El, Kong Som Ol and Mam Sophana in Phnom Penh (2001); Album des Principales Réalisations des Gouvernements SRN (1960/61); Lisa Ros; Ingrid Muan (2001); National Archives

ARK Research references: PP83: 1955 Exhibition - International - France, Vietnam and Thailand pavilions seemingly with Roger Colne. Four Cambodian pavilions designed by Seng Suntheng, Phnom Penh **PP122:** House - model, Phnom Penh **PP123:** House - model, Phnom Penh **PP126:** House - model, Phnom Penh **PP182:** Monument (Independence) with Vann Molyvann and Tan Veut, Phnom Penh **PP183:** Monument (Naga) Preah Monivong, Phnom Penh with Vann Molyvann? **SR8** Court Building, Siem Reap

Chhim Sun Fong



Chhim Sun Fong was born in Cambodia in 1941. Under the Colombo Plan programme for tertiary education of Asian students, he studied at the School of Architecture at the University of Adelaide between 1963 and 1967. After completing a building science research project on "Climatology in Cambodia and its Architectural Applications" in his final year, he obtained his bachelor of architecture degree in 1968. Chhim Sun Fong worked with Lu Ban Hap on the Chenla State Cinema the same year. According to fellow architect Uk Sameth, he also built a residence for Lon Nol's brother Lon Non. Apart from Lu Ban Hap, Chhim Sun Fong worked with three French-trained architects at the municipal town planning department in Phnom Penh. In 1971, he was listed as a staff member of the Architecture and Town Planning Faculty of the Royal University of Fine Arts. Lu Ban Hap believes he died during the Pol Pot regime.

Sources: Derrick Kendrick, Honorary Archivist, School of Architecture, University of Adelaide, South Australia; Le Sangkum; ARK Research interviews with Lu Ban Hap, Sieng Sang Em and Uk Sameth.

ARK Research references: PP120: House for Lon Non PP250: Chenla State Cinema

68. Design for a house on Norodom Boulevard signed by Vann Molyvann and Seng Suntheng when they were partners in the late fifties. The house, commissioned by a doctor known as Saing Sophonn, was later used by the Department of Civil Aviation
69. Chhim Sun Fong as a student in 1963



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APUR; 21, 22

ARK Research; 28

Canadia Bank; 59, 60

Chatel, Henri; 10, 11, 39, 40, 65, 70

Collins, Darryl; 3, 26, 34, 42, 43, 46, 47, 56

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Hok, Sokol; 33, 37, 61

Im, Kimsuor; 2

ISTED; 38

Le Sangkum; 58

Lu, Ban Hap; 67

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RUFA; 6, 19, 29, 36, 44, 51

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70. The newly completed National Bank of Cambodia in 1953

Works:

Cambodiana Hotel
Independence Hotel
Chamkarmon Compound
- State Palace
- Reception
- Cinema
- Norodom Sihanouk's House
- The White House
- Norodom Buppha Devi's House
- Norodom Monineath's House



Norodom Sihanouk was born on October 31, 1922 (see page 44). His father, Prince Norodom Suramarit, was a grandson of King Norodom who reigned from pre-colonial times to 1904. His mother, Princess Sisowath Kossomak, was a grand daughter of the reigning monarch, King Sisowath. According to Julio Jeldres, the chief astrologer of the court stated that the newly born prince would not enjoy a long life if he stayed with his parents. So Princess Kossomak asked her maternal grandmother, Lady Pat, to adopt and take care of her son. Lady Pat designated a commoner called Samley as the young prince's nanny, and she was apparently influential in fostering the "special rapport" between the future king and the common citizens of Cambodia.

The Artist and Patron

Chapter 2

The young prince was only 18 when he ascended the throne in 1941 following the death of his maternal grandfather, King Sisowath Monivong. In early 1945, Japan annexed Cambodia and the 22-year-old king declared independence from France. By the end of the year, however, French forces were back. It would take another eight years to emerge from the French colonial period that began in 1863. Independence came at the end of 1953, but it was not until a year later that Cambodia gained economic and monetary independence from France. By the beginning of 1955, H.M. King Norodom Sihanouk had been on the throne for almost 14 years and was 32. On March 3, he surrendered

1. A day at the races – Charles de Gaulle and the French first lady join the Cambodian royal couple at the Water Festival in 1966

the throne to his father and moved to set up a political party. Within weeks, Norodom Sihanouk was in Indonesia attending the historic Bandung Conference of Asian and African leaders that gave birth to the Non-Aligned Movement. Over the following year, he visited Japan and China, signing friendship treaties with both countries.

Builder & Publisher

Many writers have focussed on the political foibles, intricacies and manoeuvres that kept Norodom Sihanouk in power. This book is not aimed at reviewing this body of work as it is well documented and tends to ignore socio-economic developments that made Cambodia a model for Southeast Asian nations that had just gained independence. This book is therefore devoted to illustrating how architecture, culture and infrastructure were developed on a grand scale to the highest standards to serve Cambodia's socio-economic goals.

A biography published in 1959 noted that Norodom Sihanouk had "instigated and stimulated campaigns for the renaissance and the modernisation of Cambodia." These campaigns aimed to develop education, preserve forests and give a new dignity to manual labour. "He leads a very simple life," the biography said. "His popularity is immense, principally with the common people in the towns and villages. He was an accomplished horseman, but today only gives his rare moments of leisure to modern music, of which he is a recognized composer."

In addition to being a builder, Norodom Sihanouk was a prolific writer. In the late fifties and early





Norodom Sihanouk
1922 Born to Prince Norodom Suramarit and Princess Sisowath Kossamak
1941 Ascends throne following death of grandfather King Sisowath Monivong
1945 Declares independence from France following annexation by Japan
1947 Grants constitution ending millennium of absolute monarchy
1949 Signs treaty with France abrogating earlier treaties and conventions
1952 Begins crusade to get France to transfer remaining powers
1953 Achieves independence with French troops leaving Cambodia
1955 Abdicates in favour of father Nordom Suramarit, becomes prime minister
1960 Named head of state following father's death. Mother, Queen Kossamak, becomes Protector of the Throne, position held until death in Beijing in 1975
1970 Deposed in coup while abroad, condemned to death by military tribunal
1973 Pays clandestine visit to Siem Reap from exile in Beijing
1975 Returns to Phnom Penh with family including son and future king Prince Sihamoni
1976 Resigns as head of state, stays in palace as virtual prisoner of Khmer Rouge
1979 Evacuated by Chinese aircraft to Beijing
1991 Returns to Cambodia as neutral head of new State of Cambodia
1993 Re-installed as king after UN-supervised elections, promulgates new constitution for Kingdom of Cambodia with king who "reigns but does not govern"
2004 Abdicates in favour of his son, Prince Sihamoni

2 | 3

2. A 60s artist's rendering of Norodom Sihanouk at Wat Andet, Kompong Thom
3. This 1960s oil painting depicts members of the royal family

sixties, he embarked on a series of publications that regularly informed readers of progress made by the ruling party. Many were compiled, edited and released by the Ministry of Information. In due course, the ministry's new colour offset presses were churning out tens of thousands of copies of illustrated magazines in both French and English as well as Khmer. These were aimed at embassies as well as visitors to the country and diplomatic posts abroad.

The publications were often mundane lists of provincial achievements and texts of speeches. But in 1965, Norodom Sihanouk decided to found two monthly magazines. Former adviser Charles Meyer recalled that the first, known as *Kambuja*, was a news magazine published in English and French. "The beginning was promising but it foundered in mediocrity. In 1969, this magazine was nothing more than a series of photographs of receptions and inaugurations, of articles from all over the place about Cambodia, or even of musical compositions," he wrote. The other magazine, *Le Sangkum*, was "more political, serving Norodom Sihanouk as a tool for expressing his own ideas and revealing a few secrets about ambassadors, ministers, confidential memos ..."

Norodom Sihanouk himself worked on these publications from a special office in the Chamkar Mon State Palace (see page 62). He answered questions and addressed comments made by foreign journalists, members of the public and even tourists on anything from banal questions about the progress of Cambodia to foreign policy issues of the day. These publications were required reading. On one occasion in late 1969, for example, he reprinted without comment in *Le Sangkum* a list of CIA operatives in Cambodia with short biographical notes attached.

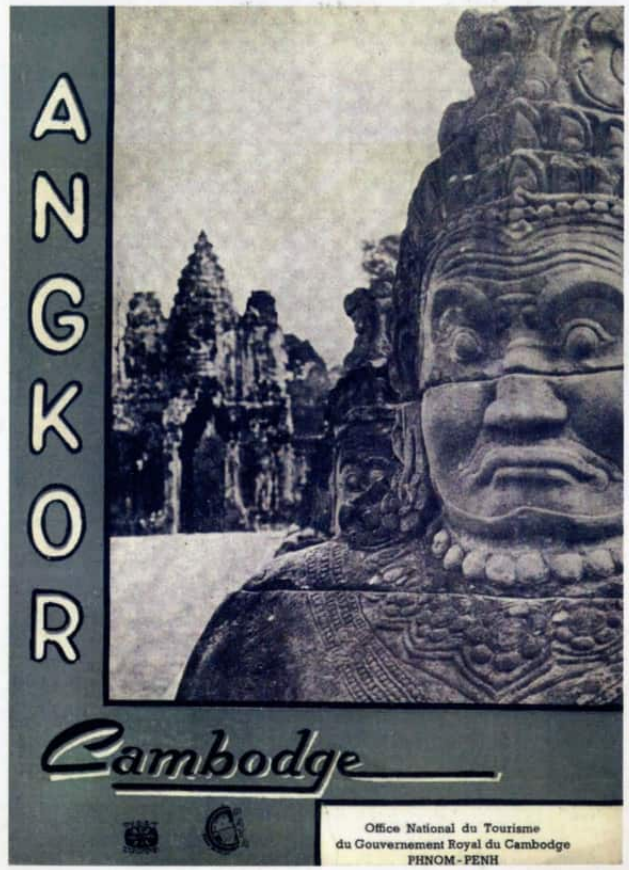
Despite their shortcomings, these publications proved to be a wealth of reliable information about development projects, infrastructure and new buildings that enabled the authors, to identify many surviving structures.

For Meyer, the former adviser, Norodom Sihanouk was a "born actor, jumping from modest to concentrated to playful to persuasive to indignant, changing from the vocabulary of protocol to an improvised one playing naive and then totally confident. He wishes to surprise and seduce all in one go ... Norodom Sihanouk fascinates or irritates but doesn't leave one indifferent."

Bernard Krisher learnt that first hand as a Newsweek correspondent in 1965. After quoting "rumours" about Norodom Sihanouk's mother that he later acknowledged were a "serious mistake," the future publisher of the *Cambodia Daily* became the target of anti-US protests in Phnom Penh. Norodom Sihanouk severed relations with the United States in 1965 and Krisher was barred from returning to Cambodia. After a reconciliation many years later in New York, Norodom Sihanouk reportedly told Krisher that he rejected the view that he was a "tightrope acrobat" constantly shifting to keep from falling. "I have never considered my actions to embody any particular technique. Survival might or might not be an art, but it is most certainly not a science," he said. For Krisher, however, "Cambodia was like a glass house, since the prince simply had to tell everybody what was happening."

Showcasing the Capital

By 1958, Cambodia had diplomatic relations with 54 foreign countries. In 1962, the government publication Cambodge was able to list some 30



4. A National Tourist Office 1965 publication to promote Angkor

countries that had either legations or embassies in Phnom Penh. Within four years, the list had grown to more than 40 nations (see Diplomacy, below). Norodom Sihanouk paid attention to aid and support from donor countries. Gifts were often of an architectural or urbanist nature and included factories, hospitals and educational facilities that were often staffed and fully equipped.

According to Charles Meyer, Chinese aid from 1956 resulted from three agreements totalling £13.6 million, although this did not include military assistance. "China was the only country whose free assistance to Cambodia directly contributed to improving production," he wrote. "This aid contributed to the construction of six big factories, which represented the backbone of the Cambodian economy. Norodom Sihanouk, to avoid corruption, asked countries providing aid to provide the technical assistance as well as the building 'because construction is the only thing that mandarins cannot eat!' China also built the new radio station, the Athletes' Village in Phnom Penh and an international airport in Siem Reap." Soviet aid contributed to a monumental hospital of Khmer Soviet Friendship with 500 beds and a technical institute for more than a thousand students. This cost an estimated 500 million riel.

Between 1953 and 1970, Norodom Sihanouk visited many nations and invited other leaders to come to Cambodia and see for themselves the changes taking place (see page 47). Guests often inaugurated buildings or new boulevards and sometimes addressed welcoming crowds at the National Sports Complex. They were also likely to be treated to a cultural performance, usually by members of the Royal University of Fine Arts inaugurated in 1965 and often with Norodom Sihanouk's daughter Princess Norodom Buppha Devi playing the leading role in the "White Apsara" dance. Between 1957 and 1969, the princess also performed abroad - in Southeast Asia and Western Europe as well as China, Czechoslovakia, India, North Korea, the Soviet Union and the United States.

State visits were an opportunity to showcase the kingdom's newest, most striking architecture alongside a few structures from the colonial period. The compactness of the capital made these architectural masterpieces all the more accessible. New Khmer Architecture was on display as soon as the plane landed at Pochentong International Airport (built by French architects and engineers), with the guests ushered to the VIP Reception Area. The original, designed by Vann Molyvann, was a

Diplomacy

By 1966, Cambodia had diplomatic or consular relations with Argentina, Australia, Austria, Belgium, Britain, Bulgaria, Burma (Myanmar), Ceylon (Sri Lanka), China, Cuba, Czechoslovakia, Denmark, France, East Germany, West Germany, Hong Kong, Hungary, India, Indonesia, Israel, Italy, Japan, North Korea, South Korea, Laos, Lebanon, Monaco, Mongolia, the Netherlands, Pakistan, the Philippines, Poland, Romania, Singapore, the Soviet Union, Spain, Sweden, Switzerland, Turkey, the United Arab States (Egypt and Syria), Yugoslavia and North Vietnam.
Source: Guide to Cambodia, 1966





5. The temporary VIP stand designed by Vann Molyvann at Pochentong Airport experiments with regulated lightweight tent structures
6. Cambodia Shell Guide in 1966





Foreign Visitors

Publications by Norodom Sihanouk and other documents show that foreign visitors to Cambodia included Indian Prime Minister Jawaharlal Nehru (1954), US Secretary of State John Foster Dulles (1955), Chinese Premier Zhou Enlai (1956 and 1960), Indonesian President Sukarno and Indian President Rajendra Prasad (1959), French President Charles de Gaulle (1966), Singapore Prime Minister Lee Kuan Yew, Mauritanian President Moktar Ould Daddah and the late US President John F. Kennedy's widow Jackie (1967), Indonesian President Suharto, Yugoslav President Josip Broz Tito and Ethiopian Emperor Haile Selassie (1968), Nigerian President Hamani Diori, Britain's Princess Margaret and Lord Snowdon (1969) and US Vice President Spiro Agnew (1970).

7 | 8

7. High-tech aviation at Pochentong Airport in the mid 1960s
8. Air hostesses chat at Pochentong Airport with the control tower in the background

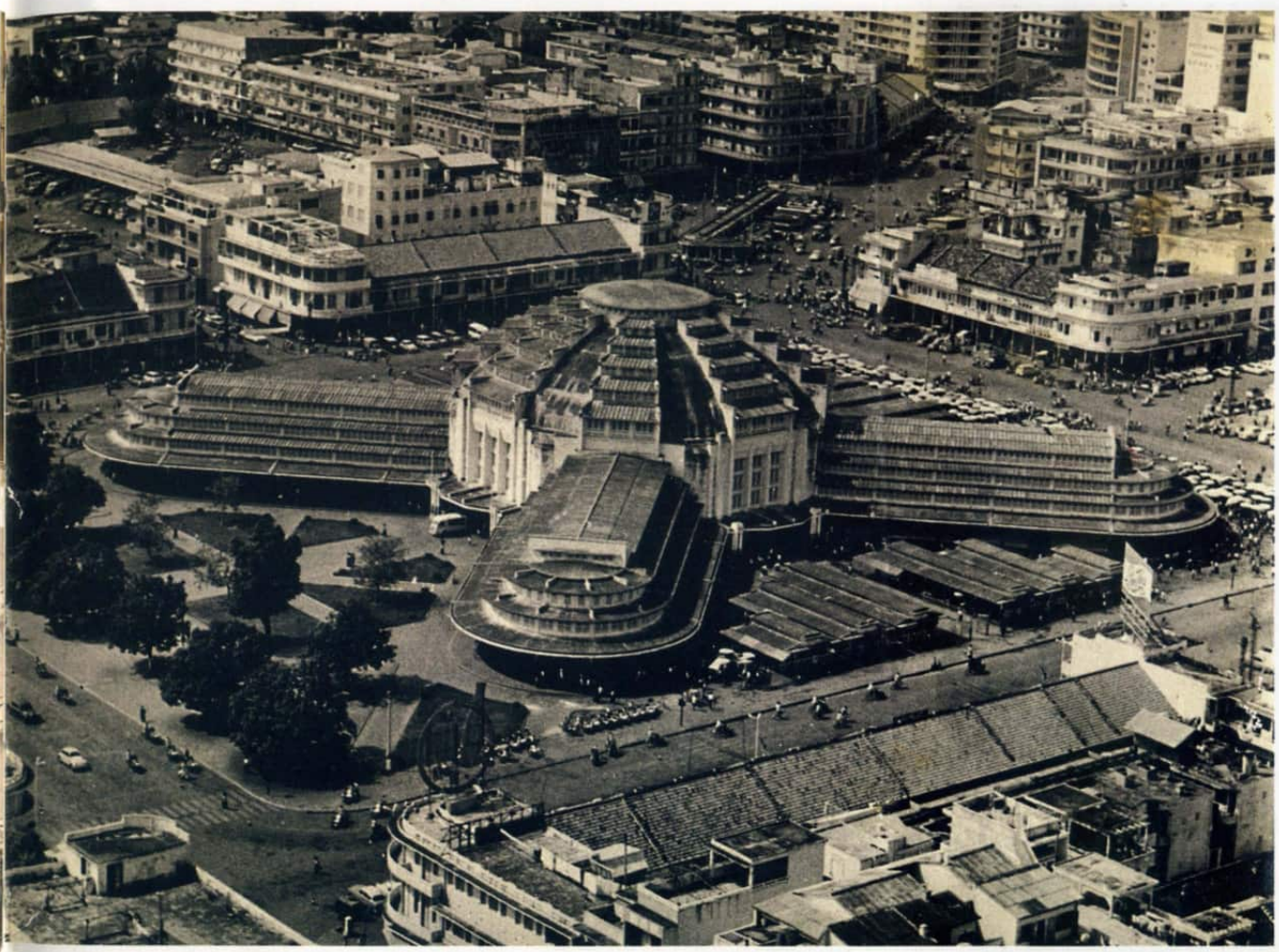






9 | 10
11

9. A group of officials including Norodom Sihanouk on the right with Vann Molyvann next to him, examine a model of the National Sports Complex
10. A motorcade drives past the Central Market in the 1960s
11. The convoy heads north along Monivong Boulevard



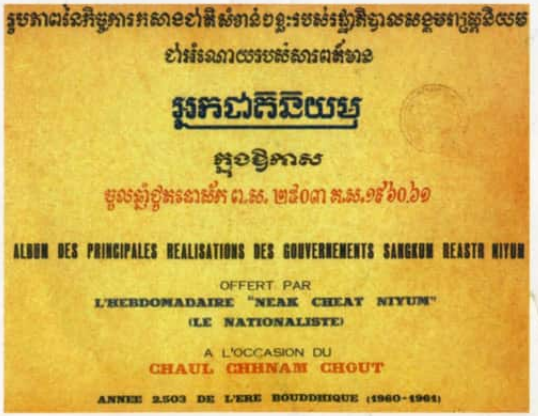
tensile metal-framed structure covered with brightly-coloured textiles. It was replaced by a ferro-concrete building by French engineer Guy Lemarchands which incorporated a concertina roof and is still standing today.

From USSR Boulevard, the motorcade might take in Wat Phnom and the Central Market before heading south along Monivong or Norodom Boulevards to reach the Royal Palace (for state functions and formal audiences) or the Chamkar Mon State Palace (for receptions). Motorcades would almost certainly pass the Independence Monument. Guests might visit the colonial National Museum (designed by Frenchman George Groslier, with modifications by Vann Molyvann). Cultural performances were typically at the Chaktomuk Conference Hall and speeches attended by tens of thousands of people were often held at the National Sports Complex, built by a team of international architects and engineers.

After visiting the Angkor temples, guests would fly back from Siem Reap. The original VIP airport built in 1963, with jutting glazed walls inspired by Frank Lloyd Wright, is now used by military aircraft (see page 251). The second airport, built by Chinese architects as a gift to Cambodia in 1968, was demolished in 2002. Upon returning to Phnom Penh, the visiting dignitary would inevitably be taken to the Exhibition Halls beside the Bassac River, where Cambodia's achievements since independence were displayed.

12. Art Deco style, ferro-concrete 'Psah Thmei' or New Market (1937) by Jean Desbois (design), Louis Chauchon (architect) and Wladimir Kandaouroff (engineer) in the mid 1960s





13
14

13. The VIP reception building designed by Guy Lemarchands in 1966 to welcome visiting French President Charles de Gaulle
14. 'Neak Cheat Niyum' – the Nationalist - one of the Sangkum's numerous publications promoting the Sangkum's achievements in 1960-1961

On more than one occasion, visiting leaders expressed delight and surprise at such high standards. Decades later, Vann Molyvann recalled that Singapore's Prime Minister Lee Kuan Yew was so impressed that he asked Norodom Sihanouk if Cambodia's state architects could work in the city state. The request, Vann Molyvann said, was politely refused.

Inaugurations

Norodom Sihanouk undertook a complex program of provincial tours. While some may quibble with the viability and remoteness of some projects, the approach to development in Phnom Penh and the provinces was balanced. Districts, communes, towns and cities received their share of a wide variety of amenities ranging from agricultural, educational, health and sports facilities to infrastructure and industrial development including tourism. Auspicious dates for inaugurations included March 24 (anniversary of the founding of the Sangkum Reastr Niyum), October 30 to November 1 (the Norodom Sihanouk's birthday celebrations) and November 9 (Independence Day).

In the space of a few short days, he sometimes inaugurated a whole series of buildings. Speeches from a 1968 trip to the northwest, for example, listed inaugurations for a community centre and separate youth centre on March 3 followed by a hospital on March 4 and a college building on March 7. Norodom Sihanouk also inaugurated facilities donated by foreign governments. Between 1965 and 1968, these included a Chinese cotton mill, a Japanese agricultural centre, a Chinese textile factory and a French jute mill.

Norodom Sihanouk would typically arrive by helicopter or some other form of military transport. As Marie-Alexandrine Martin wrote two decades later, "the peasants saw their sovereign descending down to their village, sent from the sky." Norodom Sihanouk, she noted, understood that the traditional Cambodian belief in a god king was failing in the towns "but was still much alive in the countryside." Indeed, people quoted by the *Cambodia Daily* have recalled Norodom Sihanouk "tossing bolts of cloth to the ground as gifts for villagers to pick up."

Lost in Translation

Sangkum Reastr Niyum is often translated as "People's Socialist Community", although the monthly pictorial *Cambodge d'Aujourdhui* defined the term a little differently in 1960. It discussed the Sanskrit and Khmer origins, stressing that Sangkum Reastr Niyum was not the party but the movement that "groups most Cambodians aware of the mission they have in their country."

Sangkum is derived from sangama (association, movement) while niyum comes from the Sanskrit term ni-yama (determination, agreement). The Khmer combination of these terms corresponds to "socialism" in the western sense. Reastr (nation, subjects of the king) is derived from the same root as raj, although using ras instead of the more widely-accepted praja-jan gives the "popular socialist community" connotation. Despite being concise, this translation is somewhat nationalistic and "does not allow the intended traditional order to emerge at the same time as a progressive order that is immediately evoked thanks to this clever Indo-Khmer linguistic combination."

The monthly also discussed the term sahachivin (male companion) and sahachivini (female companion), a term used at the time to refer to all citizens who had rallied to the sangkum. The word is built from Sanskrit terms saha (together) and jivin (alive).

Socialist Youth

The Royal Khmer Socialist Youth, more commonly known by its French acronym JSRK, had its roots in the Cambodian boy scout movement and the Youth Hostel Association (Yuvasala) founded in the thirties. Set up in 1957, the JSRK blossomed into an enormous support group. It was present at almost every inauguration and staged rallies at the National Sports Complex.

Three years after its foundation, Cambodian Commentary described JSRK as a "movement which embraces Cambodians of both sexes, urban and country dwellers, officials, businessmen, workers, farmers and students from the age of eight onward." Members benefited from an improved lifestyle, educational opportunities and prospects for the future in an economy that seemed to grow stronger with every school, university, factory and development project inaugurated.

Norodom Sihanouk was quoted as saying that members "practise the principles proclaimed by the boy scout movements and do at least one good deed every day. They are well behaved, helpful to other people and modest in character." Young Cambodians, he said, were "eager for a better share in the exciting possibilities of the contemporary world. And they have that precious gift of optimism and faith in the future without which a nation's plans, however well laid, can come to nought."





15. The sports club of Battambang in its heyday with buildings designed by Leroy and Mondet and swimming pool by Lu Ban Hap
16. The public swimming pool in Kompong Cham was still standing in 2001



Writing in *Kambuja* in 1965, Norodom Sihanouk commented on the commissioning of religious structures and sports facilities in relation to young people. "Our socialism," he said, "is a Buddhist ideal and is therefore humanitarian. We practise it simply because we believe it is right to do so, but not because we have adhered to any ideology or a regime of any kind. Our "ethics" consists of giving our countrymen the greatest possible assistance on the governmental, parliamentary, juridical, financial, economic and even personal levels so that they may enjoy a little more happiness, comfort and dignity."

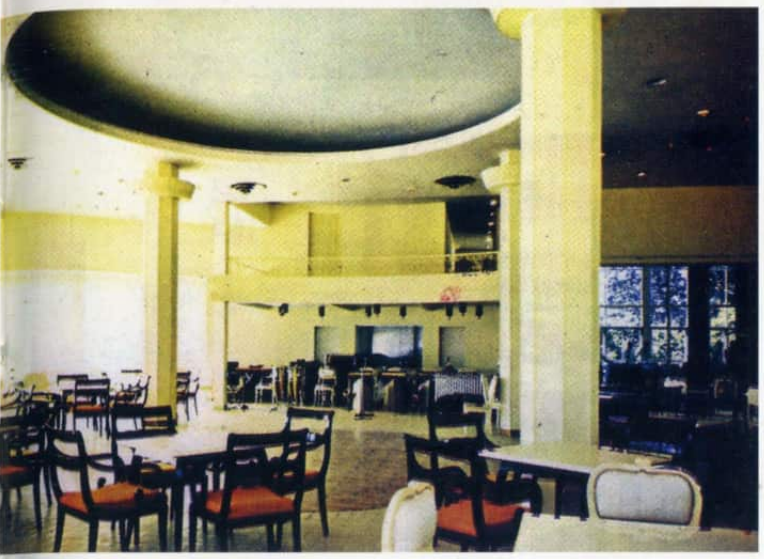
Norodom Sihanouk noted that the principle of "healthy body, healthy mind" had also been adopted. "Cambodia, it must be admitted, is behind in the development of sport on a national scale. Our young people are only now being given the opportunity to embark upon conscientious training which will carry them towards success in international sporting competitions. The JSRK has its part to play in this too."

He appeared to be aware of moves to discredit the youth movement. "As to the question of whether our movement serves the princes or the people, I leave my young compatriots free to judge me in all objectivity," he reportedly said. But any judgment should be "according to what they have seen of our activities, achievement and sacrifices from the launching of our young movement up to now."

Designer, Decorator & Director

Norodom Sihanouk was also a designer and decorator. As designer, he personally oversaw the renovation of the Bokor Palace Hotel (1962), the interior of Chamkar Mon State Palace (1966), the

17. After a face-lift, the renovated Bokor Hotel and Casino grace the cliff-top

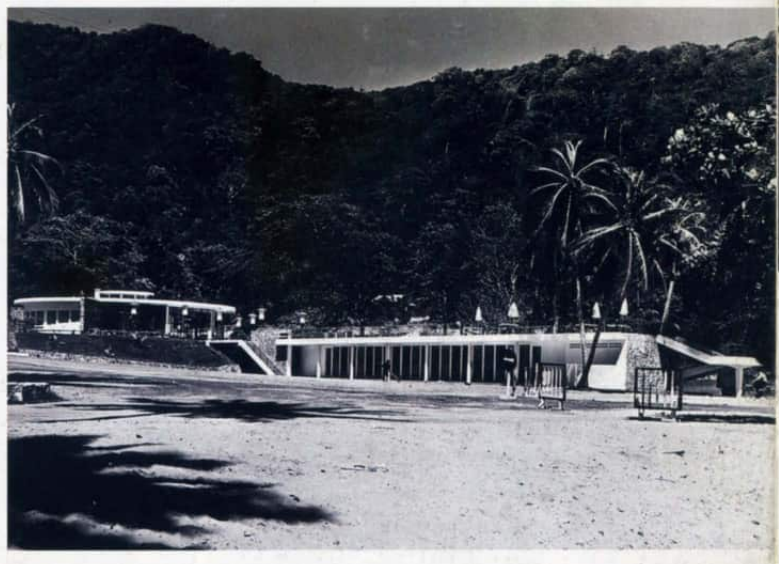




Independence Hotel in Sihanoukville (1968) and the Cambodiana Hotel (1970). A 1967 edition of *Kambuja* describes Norodom Sihanouk as "decorator" of the State Palace with Vann Molyvann designing it "according to Samdech's instructions." Other documents, photographs and interviews indicate that architects often presented draft sketches or models to him before construction began. Indeed, Norodom Sihanouk was often photographed pointer in hand, explaining site plans or displaying models to guests. According to Krisher, "he had extremely good taste."

He presided over conferences related to urban planning, and supervised or commissioned the designs for urban development and the extension of Phnom Penh. Other examples of his plans include the Promenade des Anglais at Independence Beach in Sihanoukville in 1960, the redevelopment of Bokor in 1962 and the development of Kirirom in 1963.

Within the Royal Palace complex, he commissioned traditional builder Tan Veut to build stupas for his daughter Princess Kantha Bopha and father King Norodom Suramarit (1962) to which the ashes of his mother Queen Sisowath Kossomak were added after she died in Beijing in 1975. He also commissioned the Kantha Bopha state guest house (1956) designed by Ung Krapum Phka and the Preah Sihanouk Museum (1964).

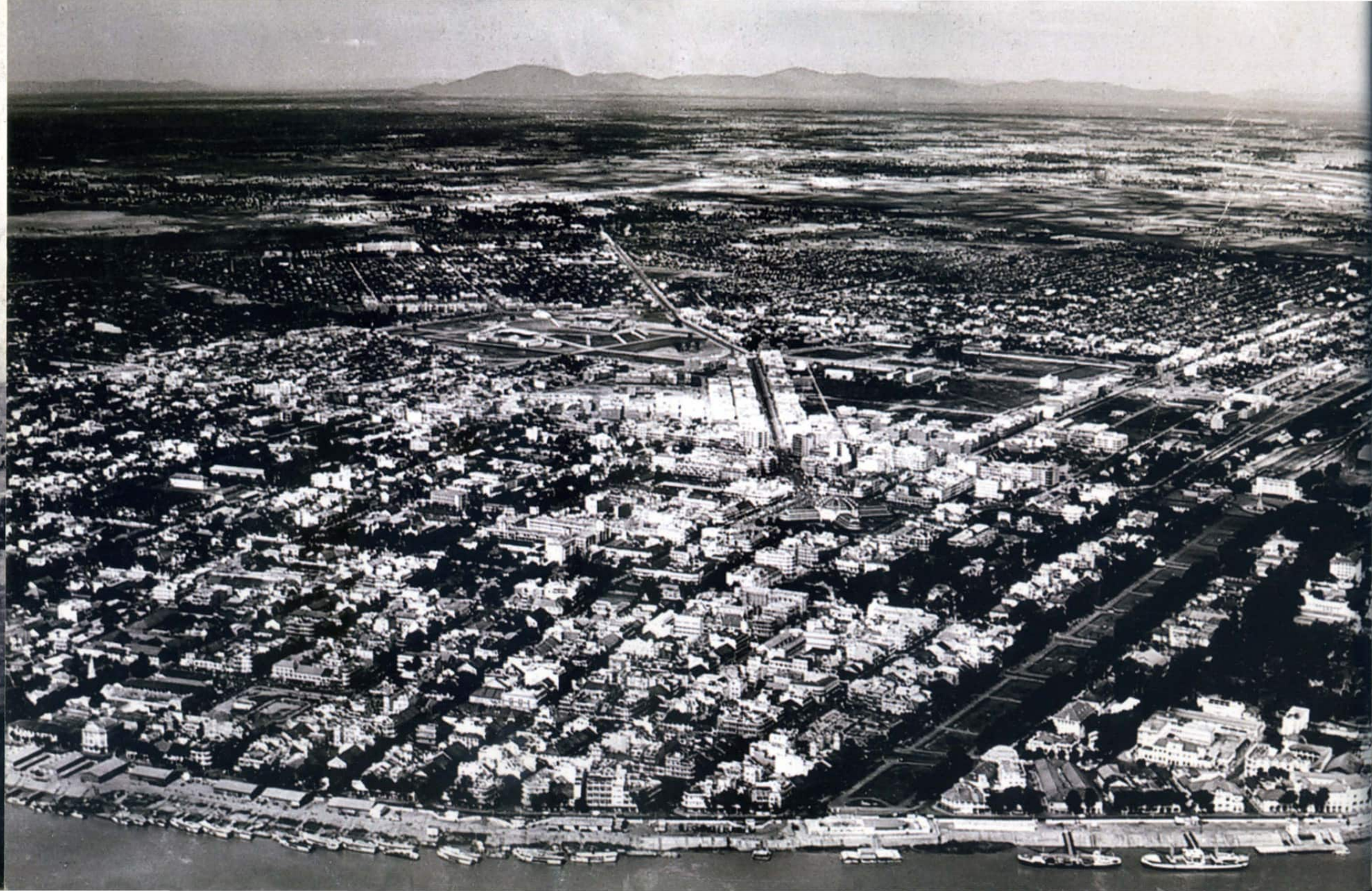


Power Centre

Charles Meyer described Chamkar Mon as "the centre of power" in Cambodia. In addition to housing the residence of Norodom Sihanouk , it comprised "a few simple villas, a state palace for receptions, a cinema, and some offices" he said. "All around this, snobbish mandarins and social dignitaries had built luxurious houses thus creating the chic quarter, which counter-balanced the old colonial quarter in some kind of affirmation of independence. Two hundred metres from there lies a miserable assortment of straw huts in the middle of a marsh."

18 | 19 | 20

18. Norodom Sihanouk 's idea of a dining room for the Independence Hotel
19. Another view of the his interior design for the Sihanoukville hotel
20. The Rotunda restaurant, café and bar in Kep designed by Roger Colne







The extensive number of films produced by Norodom Sihanouk often featured New Khmer Architecture as well as the more familiar Angkorian settings. In a 1967 review of "Shadow of Angkor", for example, *Kambuja* noted the inclusion of Sihanoukville's avenues and gardens along with "splendid views of Phnom Penh taken from a helicopter." Such films were used to advertise Cambodia to the outside world. Indeed, Cambodia was the place to be seen in the sixties and tourism was increasingly recognised as an important source of foreign income. At the same time, foreign stars made their way to Cambodia to shoot on location. In 1962, novelist Albert Camus filmed "L'oiseau de paradis" at Angkor Wat and Tonle Bati. In 1964, "Lord Jim" starring Peter O'Toole was filmed in and around Siem Reap.

The renaissance spirit extended to education. In 1965, the Royal University of Fine Arts was launched under the patronage of Norodom Sihanouk along with several other tertiary institutions in the provinces. In addition to fine arts, the university included faculties of traditional dance, music and archaeology as well as architecture and urbanism which still exist today. Vann Molyvann was the first rector from 1965 to 1967. Norodom Sihanouk's mother, Queen Kossomak, who had been rebuilding the Royal Ballet for many years, paved the way for tertiary training for classical dancers outside the confines of the Royal Palace.

A balance was struck between tradition and modernism. Writers spoke of a resurgence in the Khmer arts, particularly those related to performance, crafts, design and decoration. Numerous articles in *Kambuja* referred to classic Angkorian traditions or conceptual models formulated under French colonial rule, reminding Cambodians of their own cultural heritage. A paper by Robert Garry, presented to the 16th International Congress of Orientalists in New Delhi in 1964, encapsulated it all - the cult of the great Angkorian monument builder King Jayavarman VII had returned.

21. The new Charles de Gaulle Boulevard heading west towards the completed National Sports Complex and the site of the future Athletes Village

22. Founding rector Vann Molyvann in front of the Royal University of Fine Arts
23. 'I am not a sandwich man'. Education Minister Vann Molyvann tells students


CAMBODIANA
WATER SPORTS CLUB/CASINO



Cambodiana Hotel

Initial function: Hotel and motel
Present use: Hotel
Location: Sisowath Quay, Phnom Penh
Inauguation: c.1969
Architect: Lu Ban Hap
Interior Designer: Norodom Sihanouk

Norodom Sihanouk initially asked Lu Ban Hap to design a motel comprising 10 bungalows on reclaimed land next to the Water Sports Complex, which had been in decline for several years. When Lu Ban Hap suggested that only a "proper hotel" would be commercially viable, Norodom Sihanouk replied: "But I don't have any money. How can we do that?" Lu Ban Hap said he managed to convince Tourism Minister Ang Kim Khoan to go ahead with the project and that Norodom Sihanouk then agreed for plans to be drawn up. In late 1967, Ung Mung, secretary of state at the Ministry of Tourism, declared that the hotel would have to have at least 100 rooms to be profitable. To finance the construction, it was decided to transform the state-owned company SOROTEL into a joint venture capitalised at 120 million riel. It appears that the National Bank of Cambodia was the biggest shareholder, with Norodom Sihanouk and a consortium of banks each holding a slightly smaller share. Lu Ban Hap failed in his attempt to get Air France's hotel subsidiary involved but spent three weeks inspecting Meridien hotels in Paris and Nice.

Although Public Works Minister Ung Krapum Phka drew up a competing design with a tower, it was Lu Ban Hap's design that was selected. Initially, the hotel was erected on columns which left the view of the river open. There were also two pavilions in front of the entrance and each room had a balcony. The ground floor has since been filled in and the pavilions have been removed. The balconies were walled in by Lon Nol's troops, who used the hotel as a barracks after overthrowing Norodom Sihanouk in 1970. According to Lu Ban Hap, the final cost was 160 million riel.

The reclaimed land also housed the Water Sports Complex, where a casino started operating from early 1969. In addition to raising cash for the financially strapped government, the State Casino was also aimed at promoting tourism, clamping down on illegal gambling and reviving the Water Sports Complex, which had been in decline for several years. Within a week of the casino's opening on February 1, thousands of visitors were thronging to the site. Norodom Sihanouk 's decision to establish a casino at the junction of four branches of the Mekong did not go unnoticed. Within weeks, rumours circulated of an ancient prophecy which foretold of "towers of silver and gold" being built at the junction. According to the prophecy, "the river will run with blood, a prince will go into exile and the kingdom will be plunged into distress." A few months later, royal astrologers predicted that Norodom Sihanouk 's rule would end in 1969 "unless he removes himself from the bad influence of his in-laws".

Sources: Sangkum Reastr Niyum Photos Albums; Années 60; Le Sangkum, No. 29; Réalités Cambodgiennes, December 1967 and November 1968; Cambodge Nouveau, June 1970; *Kambuja*, March 1969; Charles Meyer's Derrière le Sourire Khmer; interview with Lu Ban Hap in Paris in 2001

24. Aerial view showing the Cambodiana Hotel and the Water Sports Club/Casino built on reclaimed land

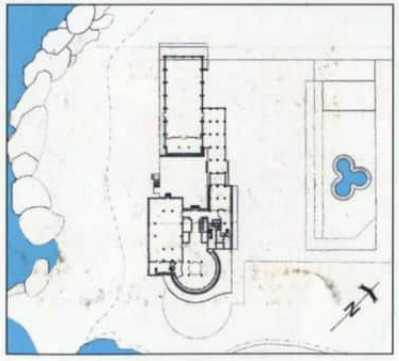
25. The Cambodiana Hotel seen from the river in 2002





Independence Hotel

Initial function: Hotel
Present use: Under refurbishment
Location: Independence Beach, Sihanoukville
Inauguation: November 13, 1968
Architect: M. Mondet
Interior Designer: Norodom Sihanouk





26 | 27
28 | 29

26. Landscape design at Independence Beach
27. The rocky promontory on which the hotel dramatically juts out
28. Site plan in view of renovation work in 2002
29. The hotel seen from the Gulf of Thailand in 2000

This hotel was designed by French architect M. Mondet of the partnership Leroy & Mondet. These architects were responsible for several important buildings in Phnom Penh and the provinces during the fifties and sixties. Locals still refer to the "7 storey hotel" - an obvious reference to this prominent landmark that sits like a beacon amid tropical vegetation on a rocky headland. One hallmark of modernist architecture is the use of a site to add prominence to the architect's intentions. In this particular case, the marriage works well with the hotel positioned to command views of coastline and the rolling hills of Sihanoukville in every direction.

Built at a cost of 30 million riel, the hotel was constructed to complement the burgeoning tourist influx in Sihanoukville. In 1963, the state tourism authority built economy-class beachfront Krung Preah Sihanouk motels. With the construction of the new port and villas that mushroomed along O Chheuteal Beach, Sihanoukville was soon vying with Kep for the custom of beachgoers.

The reinforced concrete building rises 6 floors above a generously high-ceilinged foyer, entrance lobby, restaurant and dance floor. As the building was designed to be air conditioned, there are considerable areas of aluminium-framed glazed windows. The hotel had 32 air conditioned and 13 tourist-class rooms. At the time of inauguration, however, Norodom Sihanouk felt the need to consider the addition of another 50 tourist-class rooms in the form of bungalows.

Norodom Sihanouk's interior design included the use of wall-to-wall carpeting, decorative metalwork screens, fabric-covered wooden lounges and chairs and imported Bohemian crystal chandeliers. Norodom Sihanouk also designed the Promenade des Anglais - a garden and walkway at the base of the rocky outcrop that skirts Independence Beach. The lounge and the dining room were furnished Directoire style. The royal suite had three lounges, two dining rooms and two bedrooms and bathrooms. Photographs from the period show colour schemes of ochres, oranges, red and black, mint green, reds and chartreuse adding to the vivacity of interior design in keeping with a destination for holiday travellers. The hotel was managed by the state-owned authority MAGETAT headed by Khek Vandy. The hotel was closed during the mid-seventies and abandoned to squatters. A contract to refurbish the hotel was recently awarded to Canadia Bank.

Sources: Sangkum Reastr Niyum Photos Albums; Années 60; Photo Souvenirs de mon Cambodge; Cambodge d'Aujourd'hui, Nos. 56-57; Le Sangkum, No. 42; Etudes Cambodgiennes, Nos. 15-16, 1968; Le Sangkum, October 1968 and January,







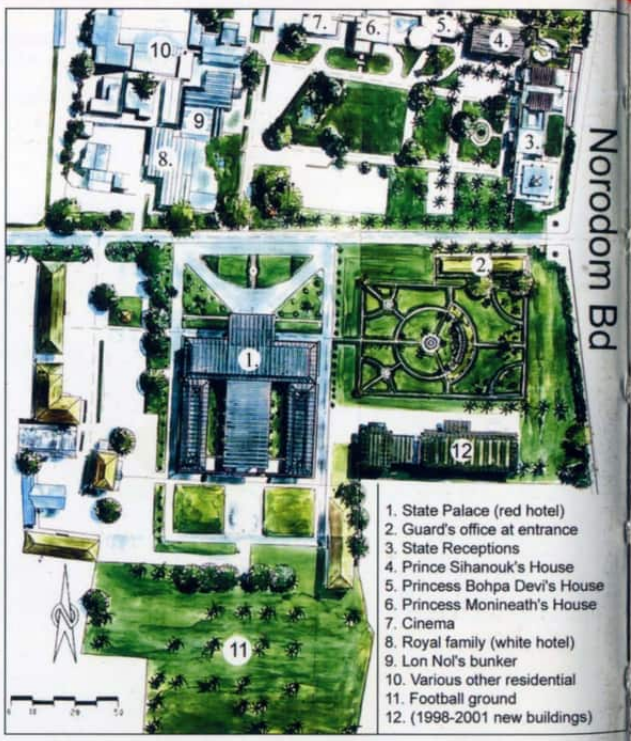
30. The Independence Hotel still dominates the landscape in 2001
31. 1960s style furnishings in one of the suites
32. View of the derelict building in 2001

Chamkar Mon Compound

Initial function: State buildings, residences for Norodom Sihanouk and family
Present use: Senate, Constitutional Council, Supreme Council of Magistracy
Location: Norodom Boulevard, Phnom Penh
Inauguration: 1950s/1960s
Architect: Lu Ban Hap (general lay-out, offices and residences), Vann Molyvann (State Palace, offices & State guest house), unidentified architects

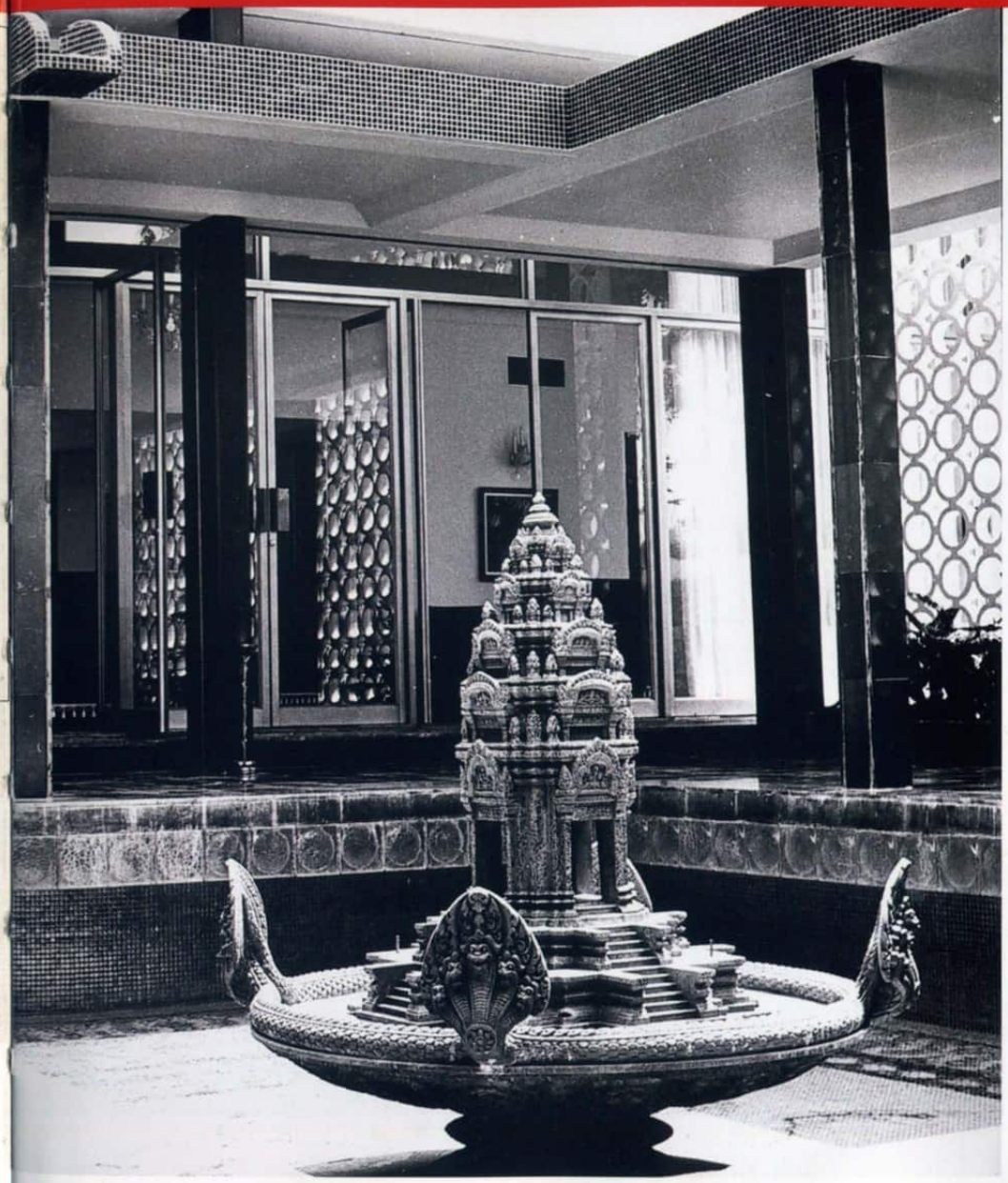
As Norodom Sihanouk distanced himself from the Royal Palace after abdicating in 1955, the Chamkar Mon compound became the new centre of power. In addition to the State Palace (see page 62), the compound included a reception hall, offices, a guest house, a cinema and residences for Norodom Sihanouk , his wife Norodom Monineath and his daughter Norodom Buppha Devi. This is where official receptions and all-night parties took place. It was also where many foreign visitors stayed. The buildings are relatively modest (apart from the state palace) and the gardens are gracious but simple.





Under Lu Ban Hap, the Municipal Town Planning and Housing Department developed the site about five kilometres from the centre of town when Norodom Boulevard was extended south in the early sixties. Until then, the area was a marshy wetland with a few traditional houses. The department probably designed the gardens around which different buildings emerged over a period of about ten years. The initial landscaping has not survived but one can still appreciate the way the buildings were articulated with walkways, gardens, swimming pools, fountains and

33. Aerial perspective drawing of the Chamkar Mon site
34. Site plan of Chamkar Mon



courtyards. The building materials were not luxurious and ranged from roughly-cut stone for the walls, glass blocks, bricks and crazy paving. Despite the diversity of the buildings designed by different architects, a unity exists as they are sited along the edge of the internal garden perimeter, creating a kind of square.

After overthrowing Norodom Sihanouk in 1970, Lon Nol took up residence in the compound (designed by Vann Molyvann) and built an air-raid shelter in 1971. A bomb or rocket damaged Monineath's residence (Lu Ban Hap) during the seventies, and a royal crest on the spire of the reception hall (Vann Molyvann) was destroyed, reputedly by the Khmer Rouge. But the complex has survived almost intact. With the establishment of a Senate, renovations began in 1998 with $3.7 million in assistance from China and $1 million from Japan. Malaysia also donated an orchid garden.

Today, the guest house, designed by Vann Molyvann, is used as a meeting room by the president of the Senate, who serves as acting head of state when the king is out of the country. Integrating Khmer sculpture and a mosaic pond, it also has an impressive roof with a high-peaked steeple and beautiful proportions. Decorations show apsaras and the churning of the sea of milk, a mythological scene depicted in many ancient Khmer temples.

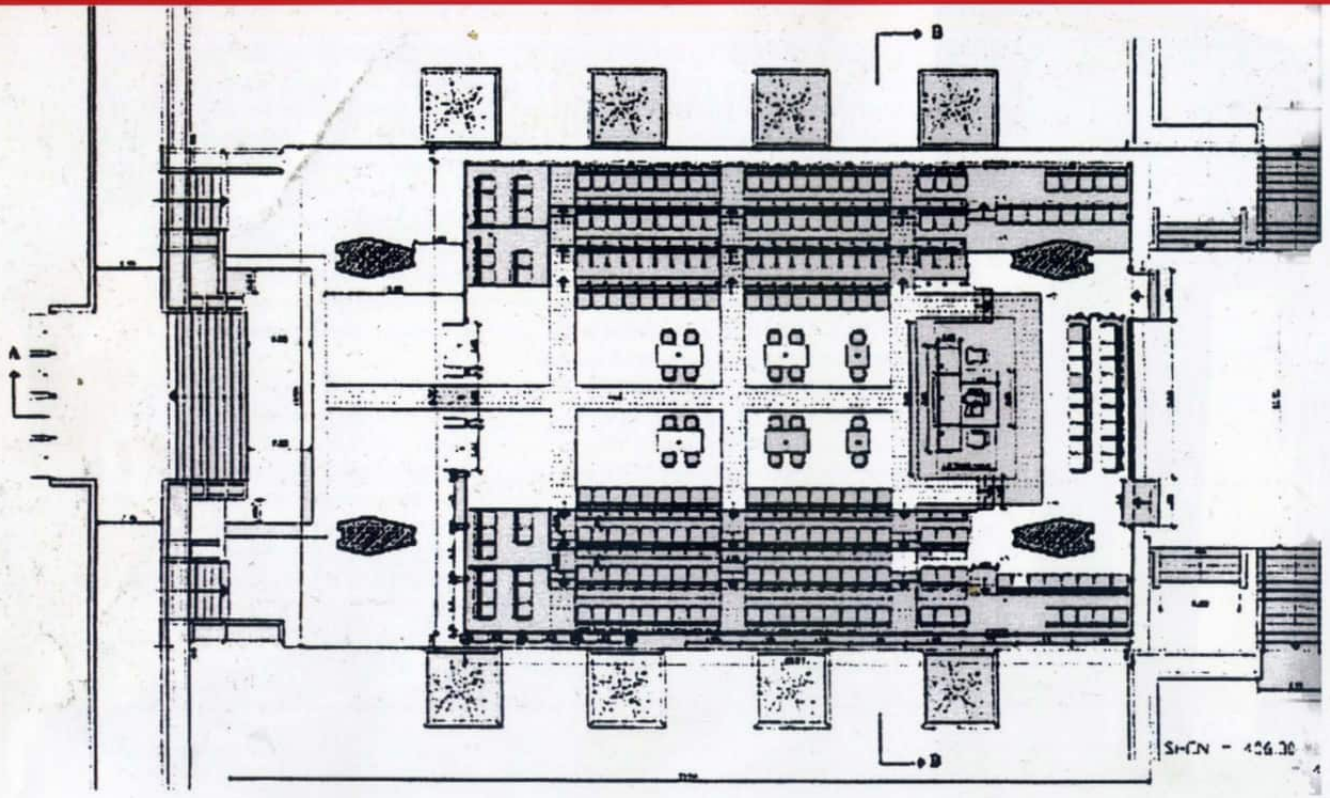
The "White Hotel" is now used by the Senate commissions and the Constitutional Council, and a courtyard has been integrated into the building. The reception hall is now a somewhat cramped Senate chamber. Monineath's residence is used by the Supreme Council of Magistracy. As for the football field where Norodom Sihanouk's team used to play foreign diplomats, it is now a golf practice range.

Sources: Sangkum Reastr Niyum Photos Albums; Années 60; Le Sangkum, October 1968; Norodom Sihanouk & Bernard Krisher; Charles Meyer; interviews with Vann Molyvann, Lu Ban Hap and Senate Secretary-General Oum Sarith in 2001

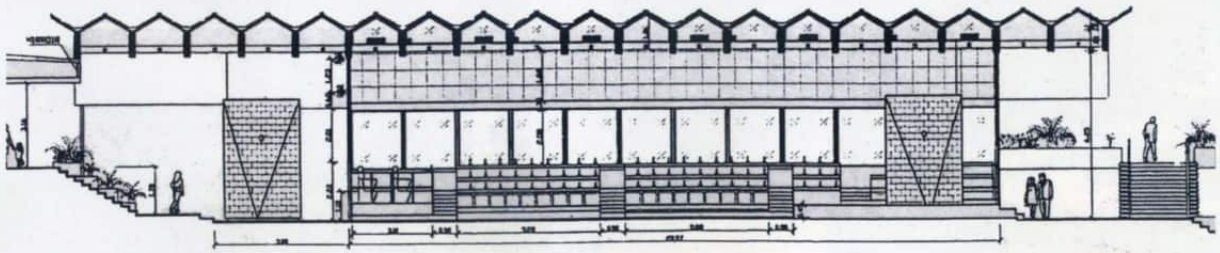


35 36

35. Courtyard of the State Reception rooms, Chamkar Mon in the 1960s
36. External view of the Dining and Reception Hall, Chamkar Mon, 2001



Chamkar Mon Compound: State Palace





Initial function: State Palace, government and Head of State's offices
Present use: Official receptions, Senate
Address: Norodom Boulevard, Phnom Penh
Inauguration: September (de Gaulle)1966
Architect: Vann Molyvann

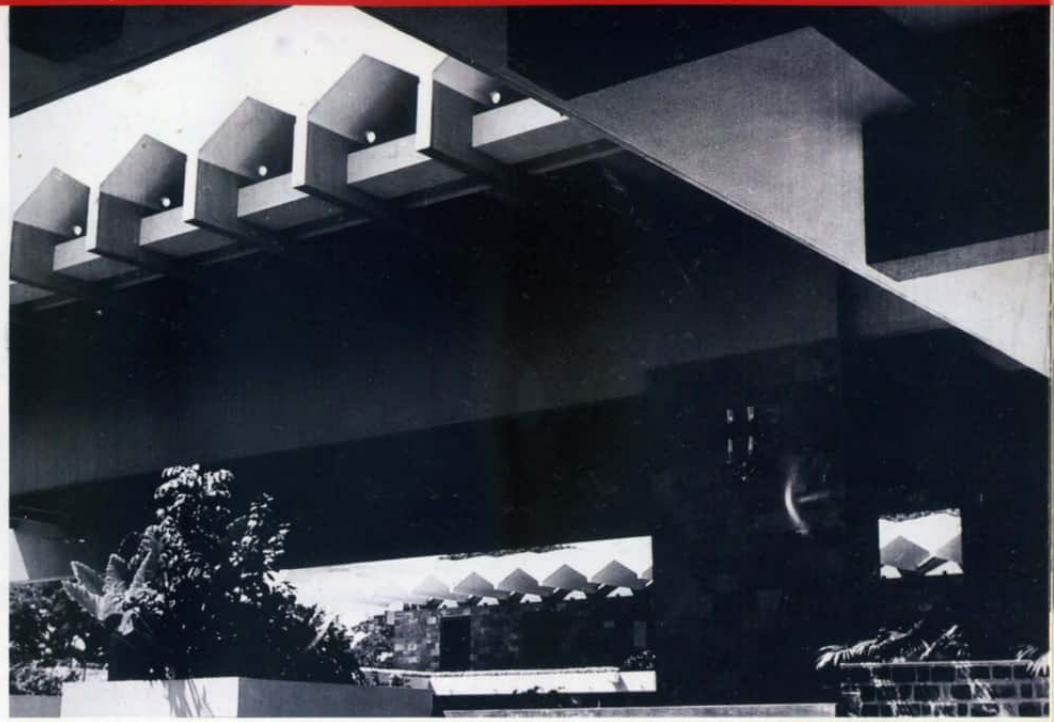
French President Charles de Gaulle inaugurated this building during his state visit of 1966. According to Vann Molyvann, economic difficulties required construction costs to be minimised. This was achieved by using local materials including red sandstone from Kompong Cham, hence the name "Red Hotel" by which the palace came to be known.

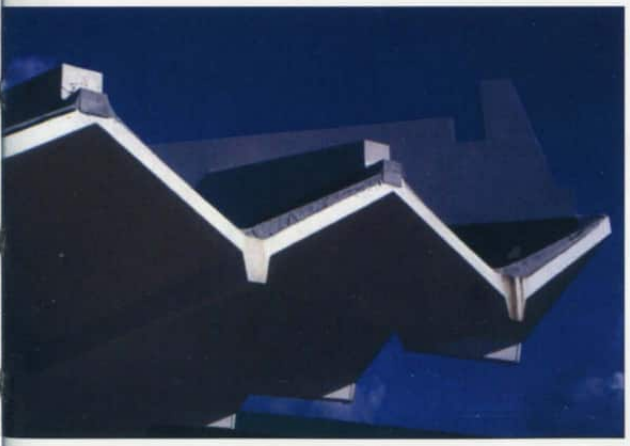
The building was mainly used for official functions and housing guests, although the east wing was used as Norodom Sihanouk 's offices. With its dynamic architecture, wide roof sweep and majestic internal gardens, it is impressive but also modest as it is set low into the site. The entrance is both monumental and demure. The raised ground floor initially opened on to the site (it has since been walled in) and the design featured cross ventilation and high ceilings. The main structure is reinforced concrete with a characteristic VV self-bearing roof. In addition to the natural stone, there are gold-coloured anodised aluminium doors,

37 | 39
38

37. Ground floor plan made in 2000 at the time of Chinese financed renovation work cross
38. Section made in 2000 at the time of Chinese financed renovation work
39. General view of a State Palace wing of the renovated building in 2001









black marble floors and yellow tiles. As seen from the floor plan, a whole section of roof spanning about 80 metres is carried by only four pillars. The central reception area was initially open on all sides so that it interacted with the gardens.

Tong Ly Cheng, who graduated from the Royal University of Fine Arts in 1972, was responsible for renovations started in 1998 with aid from China ($3.7 million) and Japan ($1 million). What used to be Norodom Sihanouk 's office is now used by Chinese technical advisers. As the central reception area has been walled in, air conditioning is now required.

Sources: Sangkum Reastr Niyum Photos Albums; Années 60; Le Sangkum, October 1968; Norodom Sihanouk World Leaders; Charles Meyer; Photos Souvenirs de mon Cambodge; meetings with Vann Molyvann and Lu Ban Hap in 2001, Royal University of Fine Arts

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42 | 43

40. Courtyard view of the State Palace with black marble floor in the 1960s (before walling in)
41. Gardens integrated with State Palace structure in the sixties
42. Detail of State Palace roof section, 2001
43. Detail of a rough hewn stone wall with key-stone motif, State Palace in 2001





44
45

44. View of the newly completed State Palace entrance in 1966
45. The "roofs fly"









Chamkar Mon Compound: State Reception



46 | 47 | 48
49 | 50

46. External view of the roof of the Reception Hall, 2001
47. Courtyard view with Angkorian monument sculpture, Dining and Reception Hall in 2001
48. Ceiling of the Reception Hall incorporating ventilation (now the Senate Meeting Hall) in 2001
49. Passageway with play of light and shade from the screen wall, 2001
50. External view of the Dining and Reception Hall from the courtyard in 2001





Chamkar Mon

Cinema

Norodom Sihanouk 's House

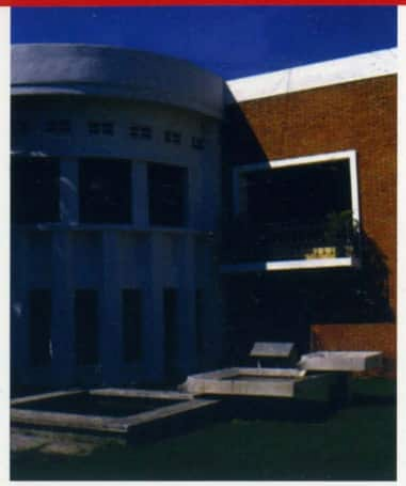




51 | 52
53 | 54

51. Interior view of the cinema at Chamkar Mon, 2001
52. Prince Norodom Sihanouk's former private cinema at Chamkar Mon
53. Interior view of Norodom Sihanouk's somewhat eccentric house at Chamkar Mon
54. Norodom Sihanouk's modest house, Chamkar Mon in 2001

Compound



The White House



Norodom Monineath's House

Norodom Buppha Devi's House





55 | 56
57 | 58

55. View of the 'White House' (today the Supreme Court offices) in 2001
56. General view of Norodom Monineath's house with its rough hewn red stone feature wall, 2001
57. Norodom Buppha Devi's house in 2001
58. Bathroom in sixties mode for Norodom Buppha Devi, 2001



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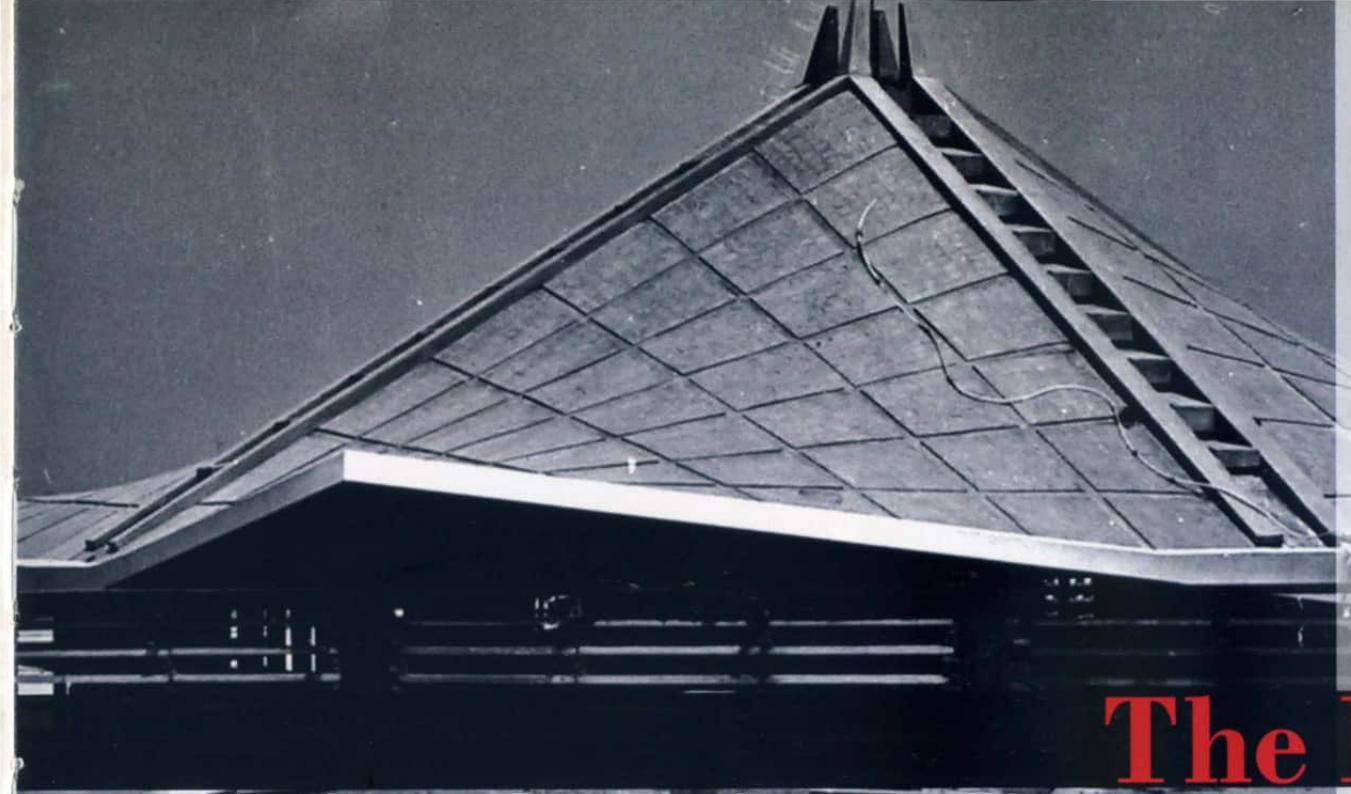
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59. Apsara dancers entertain state guests at Chamkar Mon in the sixties

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Provincial Churches
Church in Sihanoukville
Vann Molyvann's House
Battambang University
School of Applied Arts and Engineering
Independence Monument
Angkor Hotel

Biographies:
Leroy & Mondet
Claude Bach
Father Ahadobery
Gérald Hanning
Vladimir Bodiansky
Mam Sophana
Ung Krapum Phka
Tan Veut



Asked about architects from the sixties, young Cambodian architects generally mention one name only. The name that readily springs to mind is Vann Molyvann (see page 201) who stands out not only as the most prolific architect of the time but also as the most innovative and brilliant. Lu Ban Hap or the Leroy & Mondet partnership are known in certain circles but there were dozens of others. In researching this book, information was found on about 50 architects and other builders from the golden age of New Khmer Architecture between independence in 1953 and the coup in 1970 (see page 44). Notwithstanding their age and the turmoil through which Cambodia has passed, many were interviewed in Cambodia, Australia and France.

The Builders

Chapter 3



Readers may be surprised to see Norodom Sihanouk's name on the list. Although not a qualified architect, he personally reviewed all the major public building plans that were being designed throughout the kingdom, and also contributed as a designer in several cases. This is particularly the case with the Independence Hotel in Sihanoukville, designed by Mondet, and the Cambodiana in Phnom Penh, which was designed by Lu Ban Hap. In these hotels, Norodom Sihanouk personally did the interior design work, chose the furnishings, finishes and colour schemes. In any case he deserves to be ranked alongside the professionals thanks to his commitment to maintaining a high

1. Completed parabolic roof being lifted into place

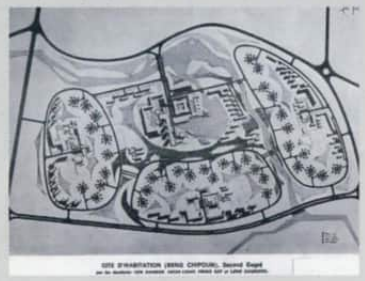


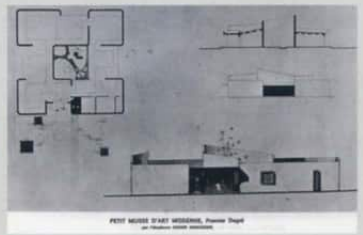
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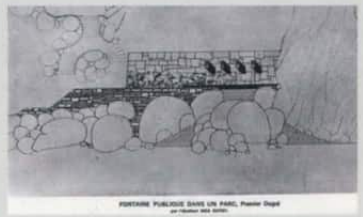
2. Chedi for H.R.H. Princess Kantha Bopha constructed in the Royal Palace, 1962
3. Organic housing development for Boeung Chipoun by students Ven Sambok, Huor Lonh, Pring Key and Leng Samroth (1971 Faculty of Architecture & Town Planning)
4. Project work featuring a small modern art museum with interior courtyard garden design by architecture student Nginn Mokhonn (1971 Faculty of Architecture & Town Planning)
5. Final year student Mea Outey's design for a park fountain incorporating Cambodian animal motifs in a freestone construction integrated into a boulder-strewn landscape with projecting Angkorian waterspouts (1971 Faculty of Architecture & Town Planning)

Who they were

According to ARK Research documents, the most important architects, engineers and other builders between 1953 and 1970 were: Vladimir Bodiansky (3 works), Henri Chatel (33), Roger Colne (35) Gérald Hanning (6), Ing Kieth (3) Leroy & Mondet (12), Lu Ban Hap (54), Mam Sophana (17), Seng Suntheng (10), Tan Veut (4), Ung Krapum Phka (26) and Vann Molyvann (80).







Others included: Ach Tham Sam (2 works), Father Ahadobery (2), Claude Bach (1), Boum Silong (1), Chhean Vam (1), Chhim Sun Fong (3), Michel Courtier (1), Claude Duchemin and Jean Morin (2), Pierre Dufau (3), Lynn Emerson (1), Gordienko & Erchov (1), Grimeret (3), André Gutton (2), Walter Hamberg (2), Robert Hansberger (1), Hem Yim Eng (1), Ho Kim Han (1), Ing Marc (1),Wladimir Kandaouroff (1), Kei Fan Chan (1), Georges Kondracki (3), Kry Beng Hong (1), Ky Heng (1), Father Lecouteur (2), Guy Lemarchands (4), Father Leroux (1), Michel Marec (2), Maurice Masson (2), Mondet (1), Jamshed Petigura (5), Guy Nafilyan (2), Guy Ragot (1), Oung Sadam (6), R Scheou (1), Sieng Sang Em (2), Norodom Sihanouk (4), Tan Hy (1), Tan Thanh (1), Tim Dong (19), Ty Yao (1), Um Samuth (1), Uk Someth (2), Father Robert Venet (1), Vo Toan (1), Michel Weill (1), and Yieng (4).

Students from the Faculty of Architecture and Town Planning who have been identified by their works include: Boum Silong, Chek Mau, Chhean Vam, Chou Leang, Ho Kim Han, Hor Lat, Huor Long, Keam Theth, Ky Heng, Leng Samroth, Meas Outey, Narem Heng, Nginn Mokhonn, Nhem Sophan, Or Kim Song, Oum Sokanh, Oung Sadam, Pring Key, Ros Borath, Sieu Eng Keat, Sok Samuth, Thong Ly Chheng, Tim Varavudh, Ty Yao, Um Samuth, Ung Chau Nam and Ven Sambok.

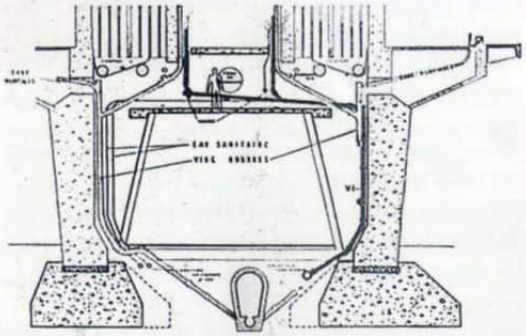


standard of architecture throughout Cambodia, from small provincial primary schools to large industrial complexes or universities.

For major public works, Norodom Sihanouk summoned his "architects" to present their designs and reviewed them thoroughly before giving the green light. Claude Bach remembered being called to Chamkar Mon to present his model of the Angkor Hotel. When Norodom Sihanouk arrived, aides raised the model so that he could look at it easily. The head of Air France, the project developer, told Bach to explain the design. "I began by saying that I collected butterflies and planned to put butterflies in all the bedrooms," he recalled. "The airline executive looked as though he was going to die but Norodom Sihanouk thought it was an excellent idea. We have so many beautiful butterflies here in Cambodia," he was quoted as saying. "I have fun catching them myself." Bach said Norodom Sihanouk liked the design very much.

A large number of architects in the kingdom at the time were Khmer, working with nationals of diverse origins and many works had their origins in Cambodia. But the variety of people involved in designing buildings is striking. Ahadobery, for example, was a Catholic priest who designed a magnificent church in Sihanoukville. Another two priests, Robert Venet and Lecouteur, created inventive churches in Kalmek and Kompong Kor. Although destroyed - one by US bombs, the other by the Khmer Rouge - the documentary evidence is sufficient to form an opinion about their innovative and sensitive designs.

Similarly, Tan Veut was a designer and master builder in the Angkorian tradition whose role





6 | 7
8

6. Stupa dedicated to King Norodom Suramarit and later Queen Sisowath Kossomak Nearireath. Built in the grounds of the Royal Palace in 1962.
7. Structure drawing for the Unité d'Habitation, Marseilles designed by Le Corbusier, engineered by Vladimir Bodiansky
8. Under-storey of the Royal University of Phnom Penh by architects Leroy & Mondet showing structural affinities with Le Corbusier's Unité d'Habitation masterpiece

was fundamental in designing and building the Independence Monument and stupas in the Royal Palace compound. The Khmer tradition of stupa building requires such close collaboration between architect, sculptor and builder that they are inseparable.

When Henri Chatel first came to Cambodia, he did not have his architect's diploma but was certified to practise due to the high standard of his work. The quality of his designs leaves no doubt about his capacity. Gérald Hanning, a UN expert who worked intensely in Cambodia for five years in the early sixties, studied architecture under Le Corbusier at the Ecole Nationale Supérieure des Beaux-Arts in Paris but he called himself an "urbanist" and was not a qualified architect. Neither was Seng Suntheng, who studied decorative arts in Paris. However, this did not prevent him from making beautiful plans for several public buildings and private houses.

Vladimir Bodiansky, a UN expert who played an important role in the National Sports Complex, is particularly interesting. This innovative engineer had designed such unusual structures as aircraft in the twenties and a polar habitat in the fifties. He also did all the engineering for Le Corbusier's post-war Unité d'Habitation, a radical new concept in housing in Marseilles. This seems to have been the inspiration for the Royal University of Phnom Penh structure, although Vladimir Bodiansky does not appear to have been involved in its design, his influence is obvious.

Cambodia's first qualified architect was Vann Molyvann, who returned from the Ecole Nationale Supérieure des Beaux-Arts in Paris in 1956.

9. Keat Chhon addressing a packed National Sports Stadium at the GANEFO Games ('Onward! No Retreat!') in Phnom Penh, 1966

Long-serving Companions



Aside from Vann Molyvann, there were two political figures in Norodom Sihanouk's entourage who particularly stand out - Keat Chhon and Ing Kieth, two engineers who served as ministers in the sixties. By the late nineties, both were still in government, Keat Chhon serving as economics and finance minister and Ing Kieth as ambassador to Japan. At that time, Vann Molyvann was head of the Apsara Authority. In 1999, H.M. King Norodom Sihanouk paid tribute to all three men for making a "very valuable contribution to the development of culture and national edification during the sixties." Speaking at the National Museum, he noted that his three former "companions" from the period" still had the strength to serve brilliantly" in the government of the nineties.

Born in 1926, Ing Kieth studied mathematics in Paris and attended the Ecole Spéciale des Travaux Publics des Bâtiments where he qualified as an engineer. After returning to Cambodia in 1954, he served as director of the School of Public Works and Mines before going back to Paris where he obtained the highest grade of engineer in France at the prestigious Ecole Nationale des Ponts et Chaussées. He was then appointed director-general of the Office of Mechanics. After serving as secretary of state for commerce and public works, he became minister of public works, telecommunications and territorial development in 1964. Between 1966 and 1969 he worked as a technical adviser on border issues under General Nhiek Tioulong, the head of the armed forces and Norodom Sihanouk's right-hand man. In addition to various urban projects, Ing Kieth was responsible for the highway between Phnom Penh and Sihanoukville as well as road building projects in Mondulkiri and the Cardamom Mountains. Condemned to death by Lon Nol, he escaped to Canada in 1974.

Keat Chhon was born in Kratie in 1934. He studied maritime engineering at the Ecole Nationale Supérieure de Génie Maritime in Paris and also in Saclay, where he qualified as a nuclear engineer. After returning to Cambodia, he was appointed director general of the Office of Mechanics, the post previously held by Ing Kieth. In 1965, Keat Chhon became rector of the University of Kompong Cham, designed by Lu Ban Hap. He was later appointed secretary of state with responsibility for industry and ultimately minister of industry and commerce between 1967 and 1969. After following Norodom Sihanouk into exile in Beijing and working for the United Nations in New York, Vienna and Zaire for many years, he returned to Cambodia and was appointed economic adviser to Prime Minister Hun Sen in 1992. He was still serving as economics and finance minister in 2005.

Sources: Speech by Norodom Sihanouk at the National Museum of Cambodia, April 1999; interviews with Ing Kieth and Vann Molyvann; Raoul Jennar

Although Seng Suntheng went to France in 1947 and returned a few years before Vann Molyvann, he was more of an interior designer as he studied at the Ecole Nationale des Arts Décoratifs. At about the same time, Ing Kieth returned as a civil engineer in 1955. He went on to the highest possible level of study by qualifying as a prestigious ingénieur des Ponts et Chaussées in Paris.

Other Cambodians who played an important role in building the country included Lu Ban Hap (see page 36), who studied at the Ecole Spéciale d'Architecture in Paris and returned in 1959, and Mam Sophana, who qualified at Miami University and returned in 1966.

As the country's first architect, Vann Molyvann said he was lucky - he was immediately given responsibility for enormous projects when he returned from France. This could have worked to his disadvantage if he had not quickly shown his talent and capacity to see his designs scrupulously built. As Vladimir Bodiansky told him when he was considering the audacious structure of the Sports Palace in the National Sports Complex, "If you make a remarkable design everyone will congratulate you, but if you do something ordinary you will ruin your whole career."

Vann Molyvann, who was director of the Urban Planning and Housing Department of the Ministry of Public Works, and Lu Ban Hap, director of the Municipal Town Planning and Housing Department, had low salaries as civil servants. It was only when they were given private or foreign commissions that they earned fees. This put a strain on personal finances. Vann Molyvann, for instance, was able to build his own house on Mao Tsé Toung Boulevard only after being awarded the private commission to build the SKD Brewery in Sihanoukville.

Norodom Sihanouk took great care to nurture these highly qualified Cambodians. He personally made sure that their talents were not wasted, and that they were given the most appropriate work. They were also asked to show their allegiance by joining the Sangkum Reastr Niyum, the ruling party founded by Norodom Sihanouk but also an elitist association which all citizens who had an important role to play in society were expected to join.

Although it takes more than six years to train an architect or an engineer, Cambodia had a large group of professionals by the middle of the sixties. It had also developed its own building industry with companies such as Khaou Chuly and many other smaller firms. When necessary, Cambodia did not hesitate to use the services of talented technicians from all over the world. This contributed to exchanges of ideas, crossing of cultures and the sort of stimulating intellectual environment that is indispensable for creative people to prosper.

Vladimir Bodiansky and Gérald Hanning, the two UN experts, seem to have played a particularly important role because of their technical expertise. Vladimir Bodiansky was one of the most ingenious engineers of his time. Without his contribution, it is unlikely that Le Corbusier could have built the Unité d'Habitation. Gérald Hanning is especially remembered for his urban planning and played an important part in the New Phnom Penh development plan of the early sixties (see page 94). Perhaps most important was the influence these two professionals had on young Cambodian architects. Vann Molyvann went so far as to say, "Vladimir Bodiansky and Gérald Hanning were my masters."

Dr Lynn Emerson, an American, seems to have designed the little known but compelling Ecole des Arts & Métiers. When foreign countries donated buildings to Cambodia such as the Khmer-Soviet Friendship Hospital designed by Gordienko & Erchov or the six important factories donated by China, Norodom Sihanouk specifically requested them to take the responsibility for all the design and building so as to avoid, as much as possible, extortion of public funds.

Lu Ban Hap, head of Public Works for the municipality, designed buildings, town plans and urban projects not only in Phnom Penh but throughout

Phnom Penh chic

Kambuja magazine described Phnom Penh in 1965 as a "cosmopolitan melting-pot" of Cambodians, Chinese, Vietnamese, Indians, Europeans and Burmese. "From early morning, an uninterrupted flow of people chokes the thoroughfares of the city," the contributor wrote. "From the distant suburbs, to the heart of the city, from the modern districts of the Bassac River Front to the business section, pedestrians and cyclist operators of bicycle-cabs and drivers of automobiles stream past in a long, strange meandering file." And the nightlife? "In semi-darkness, the couples circle in a dream-like dance, to the tango or waltz, twist or ramvong; young women in pink or blue bodices, in sampots or long sarongs, the young and the not so young diplomats, business-men and journalists. The whole of Phnom Penh is there."

the provinces in towns that did not have their own public works department and contributed to the successful development of the country as a whole. He played an important role in enabling Phnom Penh to grow from a sleepy town on the banks of the Mekong to a vibrant hub (see page 75).

The population of Phnom Penh grew from 600,000 in 1967 to as many as two million by 1975, escalating with the influx of refugees from the countryside. To absorb this sharp increase, the city was extended west of Monivong Boulevard. By using the financing of Chinese shopkeepers, Lu Ban Hap developed the city along the roads now known as Charles de Gaulle, Kampuchea Krom and Mao Tsé Toung Boulevards. Despite severe overcrowding in the buildings themselves, the city was able to cope with this number of people thanks to its well-planned drainage and water supply.

Towards the end of the sixties, Lu Ban Hap was commissioned to design the Cambodiana Hotel as a private contract and the Chenla State Cinema for the government. Many of his works in the provinces were destroyed, in particular the two provincial universities in Kampot and Kompong Cham. Periodicals and Norodom Sihanouk's photo albums indicate that these buildings were designed more along the lines of "traditional inspired" architecture than in the "brutalist" style of Chenla State Cinema in Phnom Penh which has survived.

Many architects and engineers were called to play a role in the government. Vann Molyvann became minister of education in 1967 and Ing Kieth was minister of public works from 1964. Between 1966 and 1969, he served as a colonel and adviser on border issues under General Nhiek Tioulong (the head of the army and Norodom Sihanouk's right-hand man). In rural areas, an effort was made to improve access by building over a thousand kilometres of secondary roads. Under the General, Ing Kieth said he was sent to disrupt the Ho Chi Minh Trail by bringing in teams of workmen for roadworks and development projects, especially in Mondulkiri province. In 1966, a road to the Cardamom Mountains was built. According to Norodom Sihanouk's former adviser Charles Meyer, the army chief was nicknamed "General Tractor"

General Tractor



Nhiek Tioulong held numerous positions as minister of finance, education and information in various post-war governments under French administration. At the time of independence in 1953, he was minister for public works and telecommunications. He served as foreign minister and defence minister in 1954. Within five years, he was deputy chairman of the Council of Ministers with responsibility for the ministries of interior, justice, information and planning. Over the next few years, he held additional portfolios including tourism, production, foreign affairs and public works.

In the early sixties, Nhiek Tioulong was closely associated with the military construction of roads to the newly renovated hill station of Bokor. He was also intimately involved with the development of a new resort town in Kirirom which started in 1963, the same year he was appointed to the throne council. For his role as "premier artisan" behind Kirirom's development, the town was renamed Tioulongville in 1967. By that stage, the hillside resort had 136 private villas and Nhiek Tioulong the rank of lieutenant general. As Norodom Sihanouk's right-hand man, the general also worked on new road construction in the remote province of Mondulkiri, a militarily sensitive area near the border with South Vietnam. Norodom Sihanouk was reportedly so pleased with his excavation work during this period that, according to Charles Meyer, he came to be known as "General Tractor."

When he returned to Cambodia in the early nineties, Nhiek Tioulong was promoted to the rank of five-star general and became an adviser to the newly-formed Royal Cambodian Armed Forces (RCAF). He died in 1996.

Sources: Raoul Jennar, Norodom Sihanouk.

10. Nhiek Tioulong speaking as governor of Kirirom at the inauguration of the new city, 1963

and it appears that he was involved in many infrastructure projects and urban developments. The mountain resort of Tioulongville (Kirirom) seems to have been mainly financed by him.

By the late sixties, Cambodia was a financial wreck and domestic politics were turning against Norodom Sihanouk. In desperation, he decided to transform Vann Molyvann's Water Sports Complex into a casino. Norodom Sihanouk said the aim of the casino was to help offset a "disturbing" budget deficit, stimulate the tourist industry and crack down on the numerous illicit gambling dens in Phnom Penh. It would also provide a few hundred jobs.

The move caused a stir. In 1969, rumours spread of an ancient prophecy recounting that "towers of silver and gold will be built at the four rivers," referring to the Chaktomuk junction where the Tonle Sap and Mekong rivers meet before splitting again into two. Charles Meyer relates that, according to the prophecy, "the river will run with blood, a prince will go into exile and the kingdom will be plunged into distress". A year after the casino opened, Norodom Sihanouk was deposed by a coup and went into exile in Beijing.

Not a trace of the water sports complex remains but in the last few years a new casino has risen out of the four rivers site with the highest towers in Phnom Penh.


KIRIROM

LE 17 juillet, en présence du Gouvernement royal, du Corps diplomatique et des hautes personnalités nationales et étrangères, le Prince Norodom Sihanouk Sihanouk a posé la première pierre de la cité du Kirirom.

La création de cette nouvelle cité répond à la nécessité pour le Cambodge de disposer d'une station d'altitude proche de la capitale et pouvant être aisément aménagée.



Samdech Penn Nouth

Born in Phnom Penh on April 15, 1906, Penn Nouth was educated at the Franco-Khmer School and the Cambodian School of Administration. He spent a year as a trainee at the Ministry of the Colonies in Paris (from 1938 to 1939) and served in Cambodian administrations both before and after independence. Penn Nouth was a close adviser to Norodom Sihanouk and served as prime minister several times between 1948 and 1969. He also served as Dean of the Privy Council, Minister of the Royal Palace, Minister of Finance, Minister of Fine Arts and Governor of Phnom Penh as well as Ambassador to France. After Norodom Sihanouk was overthrown by Lon Nol, he was appointed prime minister of the government in exile in Beijing in May 1970. He died on May 18, 1985.

Sources: Norodom Sihanouk and Julio Jeldres

11. General Nhiek Tioulong (white suit, centre left) with Norodom Sihanouk at the laying of the foundation stone of Kirirom, 1963
12. Relief portrait medallion on a recently erected monument in memory of Penn Nouth located on a traffic island in Hun Sen Park

Provincial Churches

Initial functional: Catholic churches
Present use: Destroyed
Locations: Kompong Kor and Kalmek, Kompong Thom
Inauguration: c.1965
Architects: Father Robert Venet & Father Le Couteur

These two little churches are a welcome contrast to the ponderous cathedral in Phnom Penh. Young priests who came to Cambodia after independence were more progressive than the missionaries of the colonial era. They were sensitive to local realities and tried to design churches that looked Khmer.

The structures seem to be inspired by vernacular wooden buildings. The way the church at Kompong Kor is raised off the paddy fields on stilts succeeds in creating a jewel of modern architecture with an internal space full of light and shade. The church at Kalmek takes its form more directly from traditional Christian ideas. Father Yves Ramousse, who later became bishop of Phnom Penh, recommended the vaulted roof. This was apparently a big mistake as it transformed the nave into an oven that was unbearably hot.

Kompong Kor was the parish of Father Robert Venet. This beautiful little church was attached to a community of previously enslaved people who were allowed to deforest this part of the wetland between Kompong Thom and the Tonle Sap. Venet worked here for 30 years, growing "floating rice" which adapts to the depth of water and may be as long as five metres. To protect this area from severe flooding, they built a seven kilometre dyke with a lock to control the water level. It functioned like a cooperative with a shared barn and tractor. The church was built by the people themselves.

The design of the church was done by an artistic young priest from Normandy called Le Couteur. He set up a school of sculpture in Cambodia and later did the same in Bali, where he was very successful. He is still alive in France. The church was bombed and destroyed by the Americans.

Father Venet built the church of Kalmek on high ground in Srok Leu. It replaced a wooden structure and was built for a Vietnamese fishing community. The Viet Minh captured Father Venet in 1973. He was interrogated and released only to be evacuated after the arrival of the Khmer Rouge, which destroyed the church.

These elegant structures use reinforced concrete in a dynamic way. At both Kompong Kor and Kalmek, rough stone was used in contrast with the white concrete, and indirect sources of light were created in the roof. At Kalmek, claustras were abundant, creating an interesting play of shade and light.

These two modest churches are refreshing designs that illustrate New Khmer Architecture well. The way the structure is used to express the architecture itself at Kompong Kor is close to the way Vann Molyvann uses concrete beams at Chaktomuk Conference Hall (see page 14).

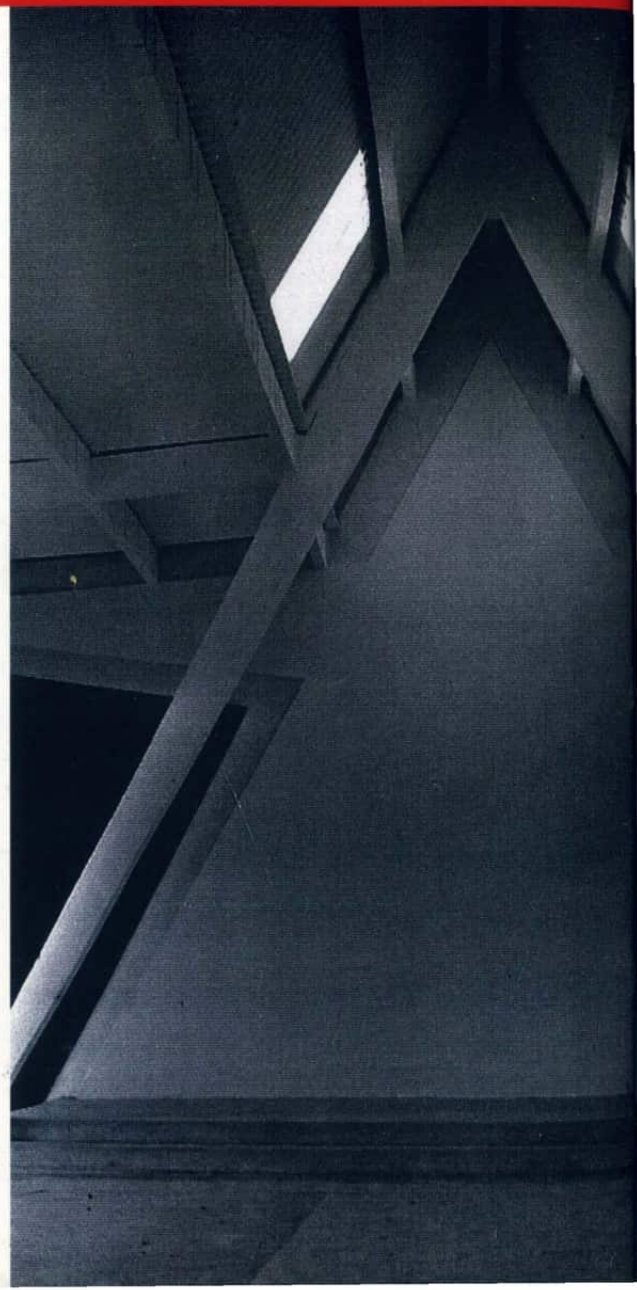
Churches usually seem to draw on a pastiche of Byzantine, Romanesque or Gothic architecture – as is indeed the case with Maurice Masson's Phnom Penh Cathedral, (see page 114). But these two churches invent a new vocabulary, drawing on both Cambodian and Western influences. According to Father François Ponchaud, "new churches were built following the laws of 'Neo-Khmer' art inspired by the architects Vann Molyvann and Lu Ban Hap who tried to adapt the construction lines of Angkor in modern buildings."

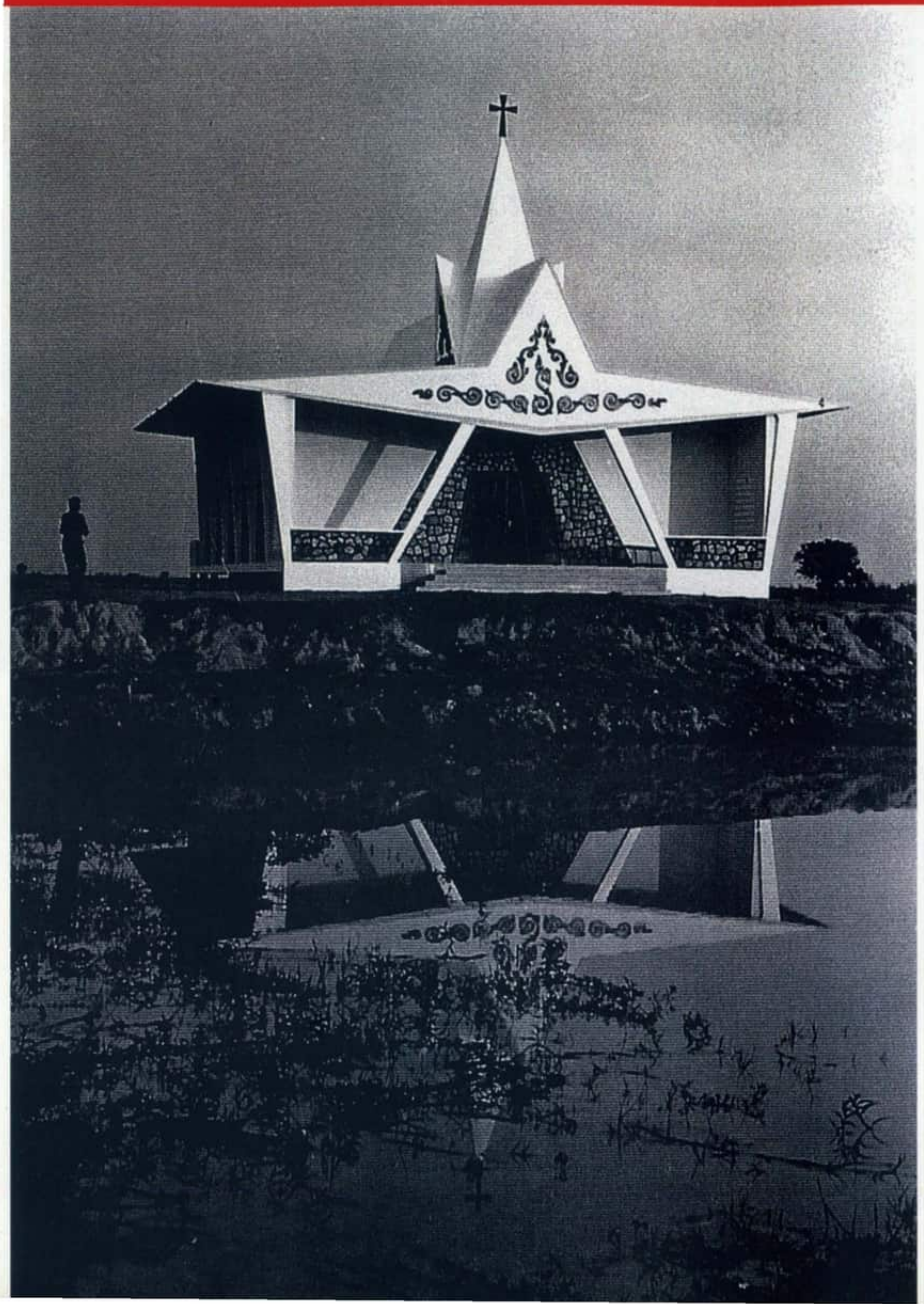
Sources: Mission Française à l'Etranger, 1965; interviews with Father Robert Venet in Sihanoukville in 2000 and Archbishop Yves Ramousse in Phnom Penh in 2001; Father François Ponchaud





13. Building the church for the French Mission at Kompong Kor
14. Interior detail of the Kalmek church







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15. Interior detail at Kalmek
16. Khmer decoration on facade and freestone detailing
17. Screen wall detailing at Kompong Kor





Church in Sihanoukville

Initial function: Church
Present use: Church
Location: Borei Kamakor district, Sihanoukville
Inauguration: c.1962
Architect: Father Ahadobery with Vann Molyvann as adviser



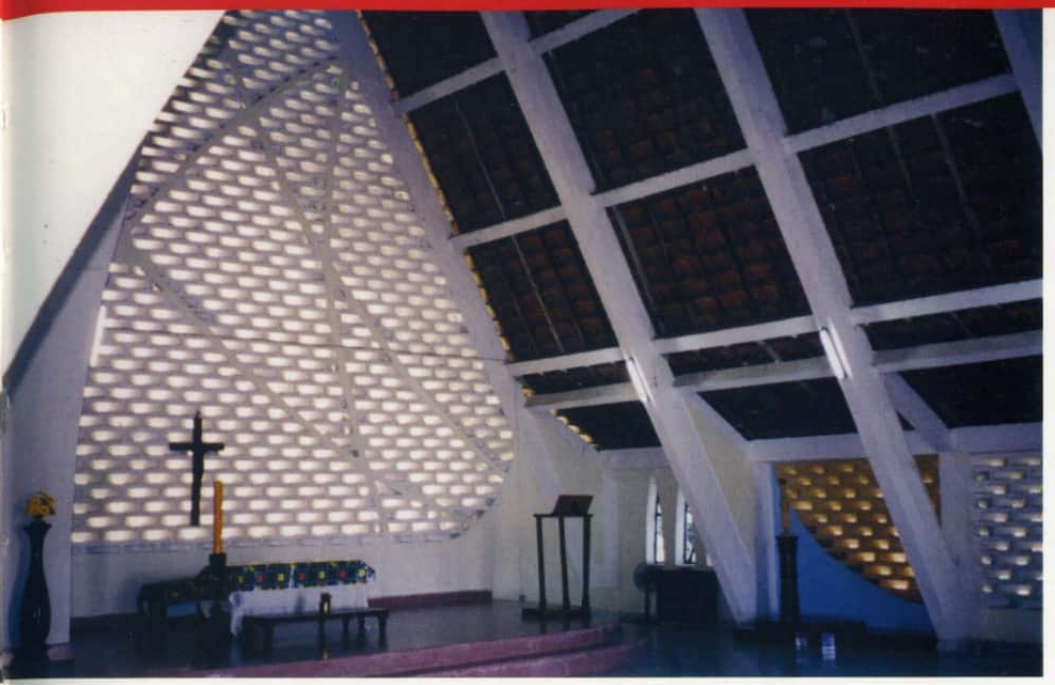
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18. Church of St Michel shortly after completion in the early 1960s
19. Church viewed from the back with entrance facing the sea and the port
20. Altar and rear screen wall alluding to boat sails

In the sixties, several French Catholic priests designed churches in the style of New Khmer Architecture (see page 101). Among them was Father Ahadobery, a Basque born in 1931. A French missionary, he was reputed for his artistic talents, which he used to set up various art workshops. However good he was at painting and embossing copper plate, it took a big leap to design the Saint Michel Church. In doing so, he created the sort of graceful atmosphere that the pompous Phnom Penh Cathedral totally lacks (see page 114).

Norodom Sihanouk is said to have donated the land to the church when the new town was being built, and Vann Molyvann seems to have been involved in the design.

Named after the patron saint of sailors, the church is oriented east-west on a hill overlooking the port and is relatively simple. Two slopes of a steep red-tiled wooden roof rest on reinforced concrete walls partly made of interlaced brickwork. The structure resembles a boat and creates an interesting light inside. A simple bell hangs from a porch facing the sea with a double-skin apparently symbolising hands in prayer or sails of a boat. The choir faces east and small glazed windows are reminiscent of traditional stained glass. Yves Ramousse, who arrived in Cambodia in 1957 and was later bishop of Phnom Penh, recalls Ahadobery sketching the design and having it built by a clever Vietnamese builder.

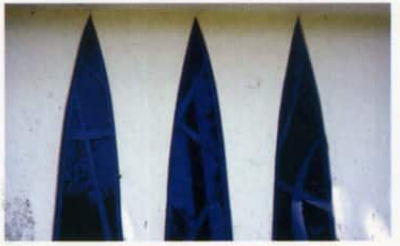




The Khmer Rouge systematically destroyed all but two of the 73 churches that existed in Cambodia in 1975 – the Saint Michel Church and a Carmelite chapel on the Chruoy Changvar peninsula in Phnom Penh. The Sihanoukville church was used as a barn, but for some reason was never demolished. Nobody seems to know why, although it is said that its Khmer flavour may have saved it from the wrath of the Khmer Rouge.

The church does not appear to have been consecrated officially. Today it is used by the small Vietnamese Catholic community of Sihanoukville. Father Ahadobery himself died in 1996.







Sources: Interviews with Father Robert Venet, Bishop Yves Ramousse and Vann Molyvann in Sihanoukville and Phnom Penh in 2000 and 2001; François Ponchaud

	21	22
23	24	25

21. Altar, sparse furnishings and screen walls that admit a subdued light into the interior
22. Side screen walls shaped like the prow of a boat
23. View of the front entrance of the church
24. Three narrow dark windows punctuate a white wall to the front
25. View from the interior through sharply pointed windows

Vann Molyvann's House

Initial function: Private residence & office
Present use: same
Location: Mao Tsé Toung Boulevard, Phnom Penh
Inauguration: c.1966
Architect: Vann Molyvann with Walter Hamberg, Engineer





Like most architects, Vann Molyvann wanted to design his own house. But he only managed to do so a decade after returning from his studies in France. The distinguishing feature of this unique design is the shell structure of the roof, which is an exercise in hyperbolic parabolic curves that required calculation from his brother-in-law, who was an engineer. The volume is almost cubic and divided into three levels - the open-plan living area on the second floor within the roof, the bedrooms on the first floor and an office on the ground floor.

The main structure is reinforced concrete, with brick facing. The double-roof concrete shell is a regulated structure, water-proofed and covered with flat terracotta tiles on the outside and wood on the inside. The walls are finished with red facing brick. The interior is dominated by the sweep of the roof, which seems to float above the living room thanks to a horizontal band of glass around the perimeter. Vann Molyvann's wife Trudy says the double roof is wide enough to walk between the two layers. As in many of Vann Molyvann's buildings, Le Corbusier's Modulor was used as a design tool. A 1.13 metre grid was used for the floor plans, the height of the balustrade is 83 centimetres (instead of the standard 100), and the height of the windows in the living room 226 centimetres. The roof inspired the Battambang Public Works Office designed in the late eighties by Sieng Sang Em, who was Vann Molyvann's draughtsman in the sixties.

When Vann Molyvann built the house on what used to be a bigger plot, this part of Phnom Penh was countryside. With the construction of the Chinese embassy, the municipal government built Mao Tse Toung Boulevard as a gesture of goodwill to China. By the seventies, the population exploded and most of street was built up. Due to a lack of maintenance of the drainage system, the boulevard is now often flooded and recent work has been done to protect the entrance and ground floor.

After Vann Molyvann left Cambodia in 1971, the house was rented to building contractor Comin Khmère which then sublet it to a Danish man. During the Pol Pot era, it was abandoned. The Department of Urban Planning and Construction of the municipality later used the building. By the time the couple returned to Cambodia in 1993, the furniture had gone but Trudy's water skis were still there.

Sources: interviews with Vann Molyvann and visits in 2001-2006



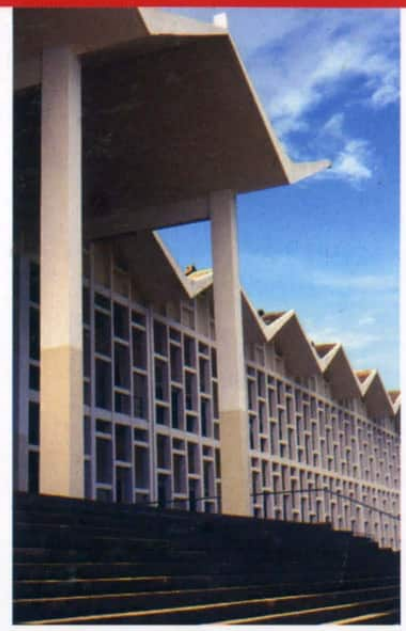
29. Completed house in the early 1960s

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26. Roof under construction at Vann Molyvann house
27. Hyperbolic parabolic roof completed
28. Living quarters, upper floor

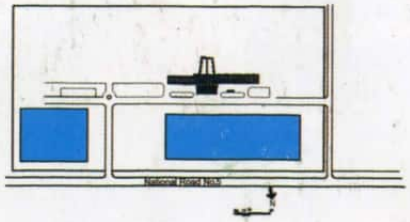


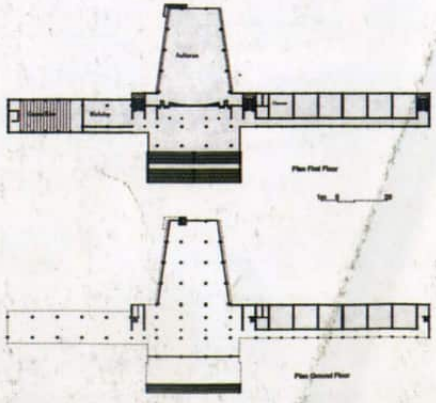




Battambang University

Initial function: Agricultural & Mining Technical University
Present use: National Institute of Management
Location: Airport Road, Battambang
Inauguration: October 31, 1968
Architect: Ung Krapum Phka





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30. University in 2001 with the asymmetric interplay of roof motifs (left building), balancing roof structure (right building) and entrance stairway
31. Detail of entrance steps and portico with screen wall and roof outline
32. Site plan with large pools of water to cool and beautify the site
33. Plan showing ground and first floors

This is the most impressive work of Ung Krapum Phka, a public works engineer. He had previously been director of the University of Technology, which seems to have influenced some aspects of the design.

In 1964, Norodom Sihanouk decided to create nine specialised universities across the country, with Battambang specialising in agricultural, geological and nutritional studies. The building illustrated here was the teaching facility for the university, which had German-financed research laboratories and other buildings on the other side of the road.

Following its refurbishment, it today serves as annexe to the National Institute of Management in Phnom Penh. The open area under the east wing has unfortunately been filled, depriving people of a pleasant meeting place. The building survived a lack of maintenance surprisingly well and has no serious structural problems. Located on the left side of the road from the airport, the original site of 14 hectares was part of an urban plan to develop the east bank of the river. Three hectares have been recently sold for private development.

The main structure is of post and beam reinforced concrete with a concrete self-bearing roof. The walls and claustras are also concrete. The large window openings in the auditoriums had no glazing but are equipped with wooden pivoting panels. The base of the monumental staircase is faced with colourful strongly fired brick. The floor space is about 2,300 square metres excluding the open space of the

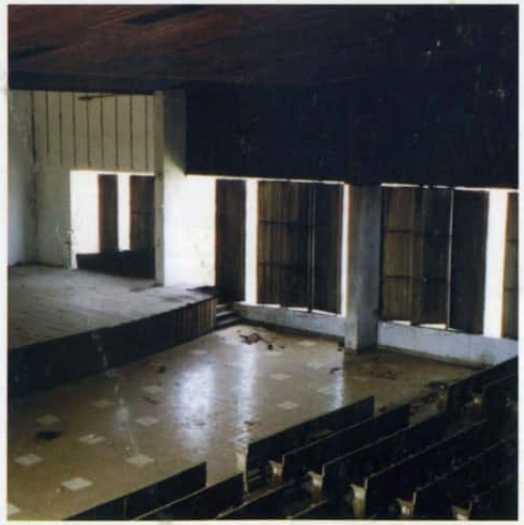
ground floor, which would have served for meetings. The site plan shows how the main elevation is oriented north and how the land has large moats for drainage covering two hectares.

The university has all the characteristics of New Khmer Architecture, notably a WWW detached roof that provides a cool meeting place for the evening and protects the rest of the building from direct heat. It also has a double facade, expressed through a rhythmic claustra made of reinforced concrete. The building reveals a mastery of reinforced concrete both in the span of the structure and also in the way it is used to create architectural effect. The orientation of the building avoids direct sunlight, especially from the west. All the large high-ceilinged rooms have natural cross ventilation with corridors outside protecting the rooms from direct sunlight. The wooden shutters fill up the whole wall - an efficient way of blotting out sunlight when necessary but also providing ample ventilation for a packed meeting room.

Several clues lead us to believe that Ung Krapum Phka was partly inspired by the Institute of Technology in Phnom Penh. In particular, the claustra facade is reminiscent of the institute, as is the design of the small auditorium (see page 185). The main auditorium has a seating capacity of about 500. It was equipped with a projection room and was accessible from the main entrance, making it useful for extra curricular activities as well.





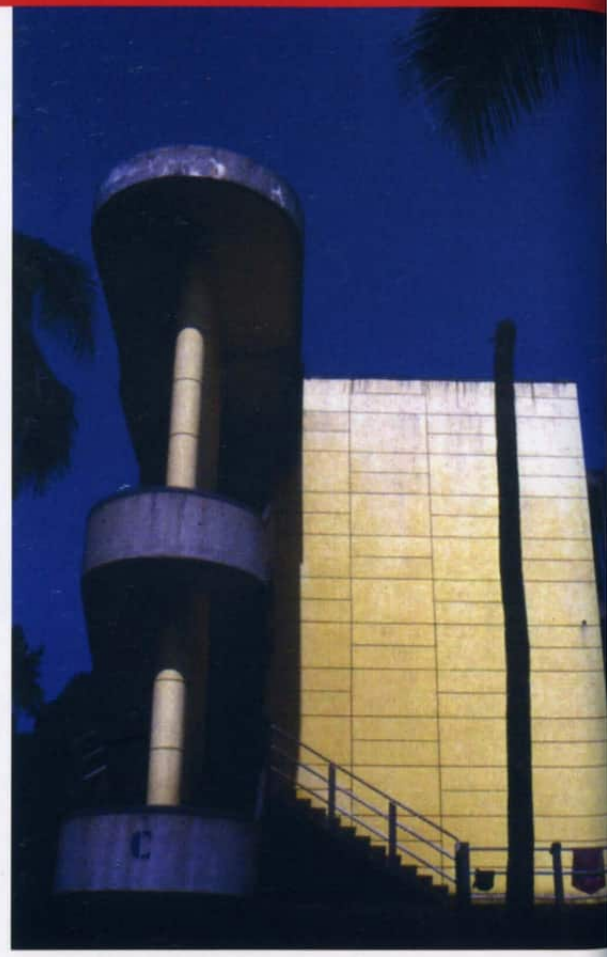




Sources: Norodom Sihanouk; SRN Photos Albums, 1995; Années 60; Etudes Cambodgiennes Nos. 15 and 16, 1968; Le Sangkum, October 1968; Photos Souvenirs de mon Cambodge; interview with Sieng Sang Em; interview with National Institute of Management Annex director Hing Soun in Battambang in 2000

34. Panorama from banks of pool clogged with vegetation in 2001
35. Roof protected by a second suspended 'WWW' structure that provides insulation from heat and serves as an integral part of the design
36. External corridor offering access to indirectly lit classrooms shielded by the screen wall
37. Interior of Battambang University auditorium with light-control pivoting shutters still in place. The space was little used when visited in 2001.





School of Applied Arts & Engineering

Initial function: Faculty of Royal Technical University (Arts et Metiers)
Present use: Military officer training facility
Location: Russei Keo district, Phnom Penh
Inauguration: c.1965
Architect: Dr Lynn Emerson

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38. Aerial view of School of Applied Arts & Engineering (lower centre) under construction at Russei Keo in the mid-1960s
39. Detail in 2001

In 1961, Cambodia and the United States signed an agreement to build, equip and train the staff of a technological institute destined for engineers and high-level technicians. At the time, *Cambodge d'Aujourd'hui* reported that the budget was estimated at $1.4 million including $1.0 million in construction costs. The project seems to have been designed by Dr Lynn

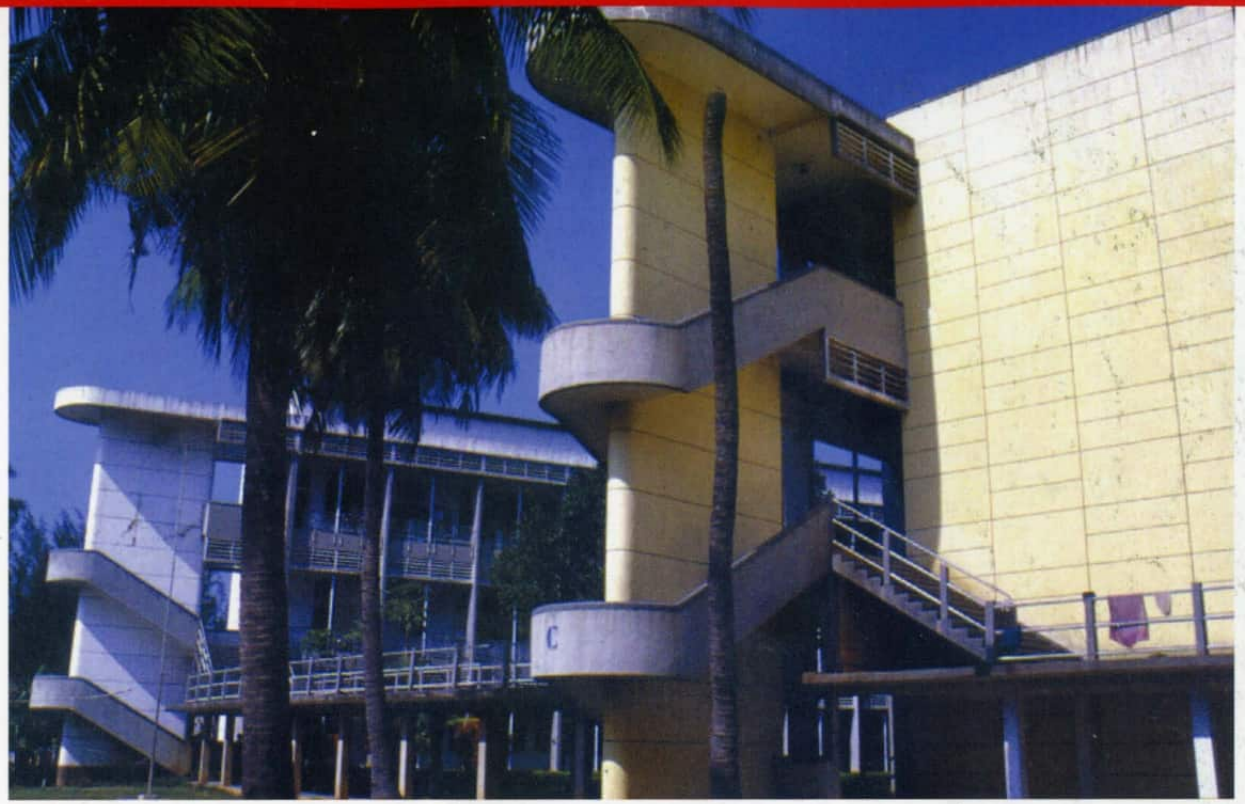
Emerson, a former dean of the Technical School at Cornell University in New York, in collaboration with Cambodian technicians. The report said the institute would have three schools with curricula inspired by similar institutes in the United States.

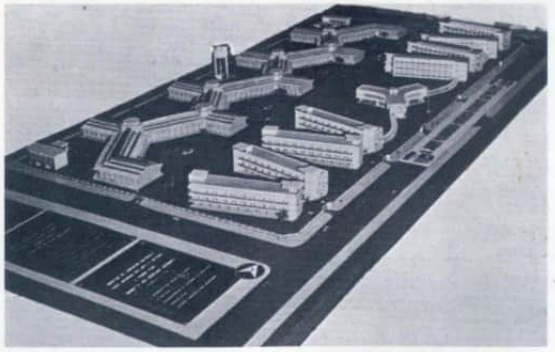
Four buildings were completed and still stand in a surprisingly good state. While using modern techniques, the designers adapted their design to the local context by using elements such as columns to raise the buildings off the ground, double roofs, external corridors and cross ventilation of rooms. The staircases located at the end of the buildings are used as a dynamic element in the composition. This is reinforced by the way the buildings are set at unusual angles to each other - "like a W for Washington," quipped Ith Praing, secretary of state at the Ministry of Industry, Mines and Energy.

In May 1965, Cambodia severed diplomatic ties with the United States. As a result, the complex of buildings was never completed and technical backing never provided. About half of the facility was built, however, and the Royal Cambodian Armed Forces today use part of it for officer training.

The buildings completed with reinforced concrete and coloured ceramic tiles were built on reclaimed land at Russei Keo, seen as a good location for students coming from Kompong Cham. Funding and technical supervision were American.

Sources: SRN Photos Albums 1995; interviews with Sieng Sang Em in Battambang in 2001 and Ith Praing in Phnom Penh in 2000; *Kambuja*, April 1966; Cambodge d'Aujourd'hui, May-August, 1961





40. The rounded external staircases linking levels
41. Model of the School of Applied Arts & Engineering, 'a joint Cambodian-American economic aid project', published in 1961



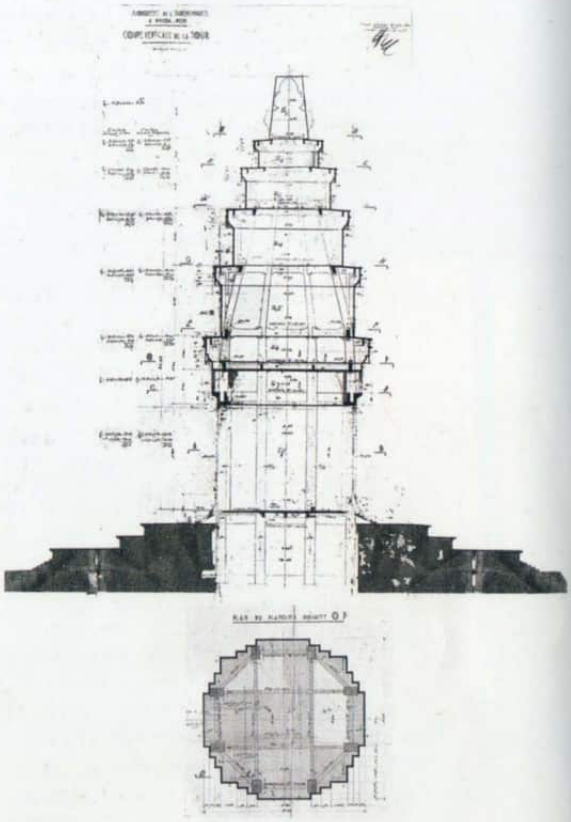
Independence Monument

Initial function: Monument
Present use: Monument
Location: Crossroads of Norodom and Sihanouk Boulevards, Phnom Penh
Inauguration: November 9, 1962
Architect: Vann Molyvann
Engineer: Ing Kieth

The structural blueprints found in the National Archives show the engineer as Du Ngoc Anh from Saigon. One is signed by government engineer Ing Kieth and dated January 17, 1957. But the monument we know today may not have been built exactly according to these plans.

Shortly after returning from France, Vann Molyvann said Prime Minister Penn Nouth took him to the Royal Palace early one morning to meet Norodom Sihanouk for the first time. He asked him to build an independence monument and Vann Molyvann even took a sample of marble that he proposed using. Traditional Khmer architecture requires the close collaboration of the architect, engineer, sculptor and builder. Vann Molyvann, who was in charge of public monuments, was responsible for completing maybe the most significant symbol of the young Cambodian nation according to his drawings dated March 1957.

The area between Norodom Boulevard and the river is all reclaimed land that used to be a *prek* of the Bassac. Because the land was so soft, the monument had to be built on a network of piles. Instead of following the architect's instructions, however, the first contractor began to build a system of piles with a cross-shaped section. These were impossible to drive into the soil, and after two years of wasting time, his contract was cancelled. He was succeeded by Tan Veut, a mason and stone carver from Battambang who created a network of piles to anchor a reinforced concrete platform that was to support the monument itself. Tan Veut also contributed to the art work, along with another sculptor known as Chieng Suon.



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42. Three colour night lighting in 2002
43. Vertical cross-section and plan of tower by Vietnamese engineer Du Ngoc Anh dated March 21, 1957

Lu Ban Hap and Phnom Penh municipality designed and built the Sihanouk Boulevard layout. The monument, the Naga fountain and the lotus ponds were all inaugurated in 1962. The monument itself is on the axis of Norodom Boulevard, which is not on a due north-south axis. As a result, three sides are visible from the east-west axis of Sihanouk Boulevard. This probably reinforces its beauty, in a similar way to the Grande Arche de la Défense in Paris, which is not perfectly on the axis of the Champs Elysées.

The concrete structure was "clad" with the external decorative panels and nagas that hide the initial structure. Originally, the monument had a "granite" finish made of crushed red marble. Today, it has been painted over. Vann Molyvann used grey Chinese marble for the steps and precinct and had the "flame" ordered from the best French goldsmith.

The monument is a magnificent reinterpretation of ancient Khmer architecture. This is no pastiche copy of another building, although the inspiration comes from Banteay Srei as Norodom Sihanouk requested. Although it was built with modern construction techniques, it integrates the complex proportions and decorative elements which are inherent to Khmer tradition into a completely new creation. This is why it still speaks out as an authentic work of art.

The red colour, also inspired from the sandstone of Banteay Srei, makes it stand out in the townscape. The nagas and sculpted friezes were added to the cornices and are as beautifully proportioned as the seven tiers of the monument itself. Sieng Sang Em recalled that the monument made Vann Molyvann famous and influenced the design of many other monuments that cropped up all over the country.

But why was it inaugurated as late as 1962, nine years after independence? The blueprints in the National Archives, dated 1956 and 1957 and signed by engineers Du Ngoc Anh and Ing Kieth, seem to fit the design. Drawings by Ing Kieth and Vann Molyvann are dated from January to March 1957. But why did it take another five years to inauguration? Who was responsible for the initial design? One reason seems to be that the piles hit a bridge called Spean Khon Kat (Half-Breed Bridge) that used to cross the waterway and was now buried deep under the reclaimed land. Some suggest Seng Suntheng was involved in the project. He trained at the Ecole des Arts Décoratifs in Paris, realised many works in Phnom Penh and died in a car accident in 1964. However, there is no trace of his name on any of the documents found.

It appears that the monument was indeed completed before 1962, but why the inauguration was postponed for so long remains a mystery. Perhaps 1962 was auspicious and chosen for its significance. After years of questioning by ARK Research, the Independence Monument stands with its secret hidden within. As one source close to the palace maintained in 2001, "the enigma can only be revealed by King Norodom Sihanouk himself".

Sources: Interviews with Sieng Sang Em in Battambang in 2000, with Vann Molyvann in Phnom Penh in 2001 and 2002, with Lu Ban Hap in Paris in 2001, and with Kong Sam Ol and U Sam El in Phnom Penh in 2001; *Kambuja* Suriya, December 1962; Sangkum Reastr Niyum Photos albums; Le Sangkum, October 1968; Kambuja No. 13; Cambodia Today No. 4, 1959; Neak Cheat Niyum, 1961; National Archives; Vann Molyvann blueprints, 1959; Photos Souvenirs de mon Cambodge; French Catholic Mission; Cambodge Nouveau, December 1970; Royal University of Fine Arts, Ingrid Muan

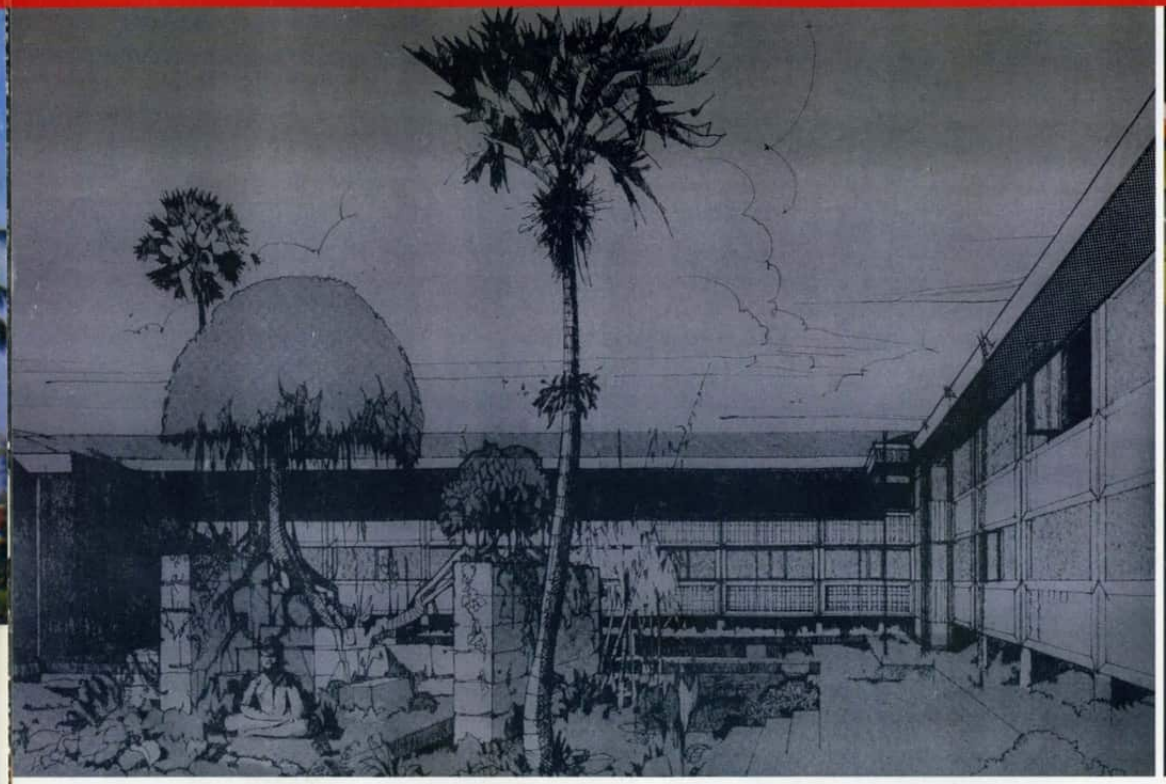




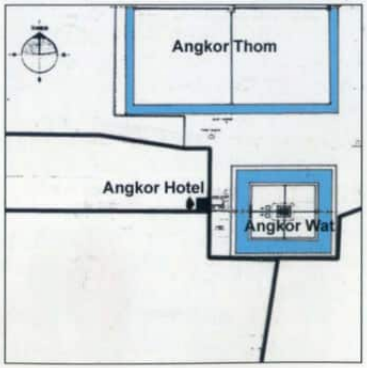




44. Naga and lotus fountains with the Independence Monument in the background still a focus in the recently renovated public gardens
45. The monument under construction published in the 1960s
46. Crowds throng around the monument during a military parade (undated 1960s photograph)
47. Postage stamps with the portrait of Norodom Sihanouk and the Independence Monument released on November 9, 1961





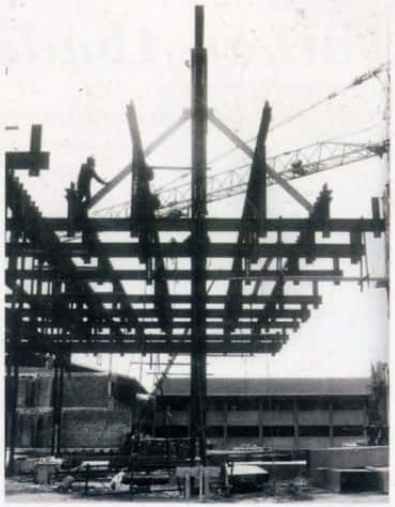


Angkor Hotel

Initial function: Hotel
Present use: Destroyed
Location: In front of Angkor Wat, Siem Reap
Inauguration: November 10, 1968
Architect: Claude Bach assisted by L. Bouat, J.P. Gatineau & J. Massip
Adviser: Vann Molyvann

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48. Architect's rendering of guestrooms facing an interior courtyard garden as proposed for the Angkor Hotel
49. Model of the Angkor Hotel featuring low, two-storied accommodation wings linked with covered corridors
50. Site plan of the Angkor Hotel along the road in front of Angkor Wat that leads to the Siem Reap Airport showing the associated proposed road system



Air France and its Meridien hotel subsidiary commissioned Claude Bach to design this 200-room hotel opposite Angkor Wat in 1967. The design was approved by Norodom Sihanouk himself and the project was financed by Société Hôtelière du Cambodge, a joint venture between the Cambodian government and the French partners capitalised at eight million francs (84 million riel). The contractor was Société Française de Dragages et de Travaux Publics, a French company. The site faced the Naga Bridge leading to Angkor Wat and had direct access to the airport without going into Siem Reap. According to one witness, Cambodian architect Um Samuth considered it a sacrilege to put a hotel in such close proximity to the temple and openly criticised the choice of site. As a result, he was banished from Norodom Sihanouk's entourage but continued to lecture at the Royal University of Fine Arts.

The hotel itself comprised 205 rooms, five suites, a restaurant, a bar, a nightclub and a swimming pool. An extension of 100 rooms was envisaged. Claude Bach was particularly sensitive to ecological issues and sought to minimise the environmental impact with independent power and water supplies as well as sewage treatment facilities. Water was pumped from a nearby pond and filtered so that it was clean enough to obtain a certificate from the Pasteur Institute. Solar panels were used for hot water and sewage was purified by a system of basins and waterfalls which recycled water to the pond. While the rooms had individual air conditioners, the vast lobby and reception area did not require air conditioning and were so well ventilated that some of the wall openings had to be filled in to reduce the draught.

The spatial arrangement was inspired by Angkorian architecture, with several courtyards articulated on cardinal directions around the main entrance hall or created by the bedrooms. The Southeast Asian-inspired architecture is noticeable in the large roof span of the lobby, and the many local building materials incorporated into the structure such as laterite, brick and roof tiles. The prefabricated metal structure was imported from France and then shipped up the Tonle Sap to Siem Reap. The walls were made of a brick that was sculpted, making the mortar invisible and leaving the wall looking like traditional Khmer temple brickwork. In the nightclub, the brick was used as the finished material, but as it was not a bearing wall, the brick was used with the large side visible creating an ornamental effect. "Brick is an immensely noble material," Claude Bach said. Some walls were prefabricated reinforced concrete faced with laterite. This was a unique and interesting use of laterite, one of the traditional building materials of Southeast Asia.

In addition to a car park, the hotel had parking for cyclos and elephants. Claude Bach was also a butterfly collector and planned to decorate the rooms with specimens.

Although officially inaugurated as part of the 15 years of independence celebrations in 1968, the Angkor Hotel was not completed until 1973 because of logistics and economic difficulties. By this time, severe fighting was taking place in Siem Reap and Claude Bach's assistant had to be evacuated from the site. The hotel never opened to the public. After suffering war damage, what was left was dismantled by local people seeking building materials for their own houses. Today, a few traces of the foundations are visible. Vann Molyvann was familiar with Claude Bach's subsequent work in Bali (see page 92), which seems to have contributed to the Apsara Authority's idea of developing a hotel zone in Siem Reap.

Sources: Sangkum Reastr Niyum Albums; Années 60; Le Sangkum No. 29; Réalités Cambodgiennes, December 15, 1967; Architecture Française, March-April 1972; Photos Souvenirs de mon Cambodge; interviews with Claude Bach in Paris in 2001



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51. Outlines of metal framework for the roof structure of the Angkor Hotel
52. Detail of bricks used for their colour variation and natural beauty in walls reminiscent of early brickwork in Angkorian temples

Leroy & Mondet

Although they designed some remarkable buildings in the fifties and sixties, very little is known about these two colonial architects who stayed on in Cambodia after the French withdrew. André Leroy was born in the early 20th century and trained at the Ecole Nationale Supérieure des Beaux-Arts in Paris. He is believed to have died in 1965, before the completion of the Royal University of Phnom Penh, which was jointly designed with Mondet. Even less is known about this Frenchman (including his first name) apart from his training at the Ecole Spéciale d'Architecture - and his reputation for forcing builders to pay him commissions in addition to his architect fees.

Leroy & Mondet usually worked as partners, although Leroy designed a school and two medical facilities on his own while Mondet was behind the Hotel Independence in Sihanoukville.

According to Henri Chatel (see page 34), Leroy studied with Maurice Masson (see page 124), a colonial architect based in Saigon.

Sources: Interviews with Sieng Sang Em, Henri Chatel and Vann Molyvann; Nouvelles Constructions Nouveaux Styles, Cambodge d'Aujourd'hu, Album des Principales Réalisations du Sangkum Reastr Niyum, *Kambuja*, Architecture d'Aujourd'hui, Etudes Cambodgiennes, Le Sangkum

ARK Research references: BB63: Sports Centre **K17:** State Villa **K18:** Restaurant **PP125:** model house **PP128:** model house **PP268** Centre Universitaire du Sangkum Reastr Niyum, initially designed as **PP266:** Lycée du Sangkum, **PP278:** University Sports Hall **PP282** Université Royale des Sciences Agronomiques model **Leroy**: **PP104:** Royal Medical School hostel **PP237** Lycée Descartes Secondary School **PP275:** University; **Mondet**: **SV22** Hotel Independence

Claude Bach

Born in Metz in 1929, Claude Bach attended the Ecole Nationale Supérieure des Beaux-Arts (ENSBA) in Paris, where he graduated in 1956. He won many awards and had a brilliant career, building impressive hotels in French Polynesia and Senegal as well as Cambodia. He also designed the Gauguin Museum in Tahiti and the Parc des Floralies in Vincennes near Paris.

In 1967, Air France and Hotel Meridien commissioned Bach to design the Angkor Hotel in Siem Reap. Fighting around the town forced him to recall his on-site assistant to France before it was completed in 1973. The hotel was never inaugurated. It survived the Khmer Rouge period but was later pillaged.

Bach was interested in landscape architecture and taught at the Paris School of Horticulture. As a World Bank consultant on tourism development in Bali in the eighties, he recommended the construction of the Nusa Dua hotel zone to protect the Indonesian island from becoming overdeveloped. A similar zone was planned for Siem Reap when Vann Molyvann headed the Apsara Authority in the nineties.

Sources: Interviews with Claude Bach and Vann Molyvann; ENSBA; Architecture Française; various Cambodian journals

ARK Research reference: SR3 Angkor Hotel

Father Ahadobery

Father Ahadobery was a Basque priest born September 26, 1931, who lived in Cambodia most of his life. He founded a school of art, teaching sculpture and painting at Chhbar Ampil on the outskirts of Phnom Penh. On the fatal arrival of the Khmer Rouge in Phnom Penh, he tried to avoid being evacuated with the French community and had to be forced to leave by his friends. He never recovered from the sorrow. He is reputed to have designed the only church to have survived the Khmer Rouge, that still stands overlooking the sea and the port of Sihanoukville. Ahadobery died August 13, 1996.

Sources: Interviews with Father Robert Venet, Sihanoukville 2001; interview with Archbishop Yves Ramousse, Phnom Penh 2001; Mission Française à l'Etranger, Paris; meetings with Vann Molyvann, Phnom Penh 2001

ARK Research references: BB83: Church Mongkolborei, Battambang **SV13:** Church of St Michel, Sihanoukville



Ung Krapum Phka

Born in 1924, Ung Krapum Pkha was a public works engineer who served as minister under Norodom Sihanouk in the sixties. He started working for the colonial administration in 1947 and was appointed architect to the crown three years later. After being put in charge of town planning in 1955, he became an under-secretary of state - first at the Council of Ministers and then at the Ministry of Posts and Telecommunications. By 1961, he was the minister in charge of both public works and telecommunications. Ung Krapum Phka became rector of the Institute of Technology of Cambodia in 1966 and administrator at the Faculty of Architecture and Town Planning at the University of Fine Arts in 1971. No further mention of him has been found after this date.

Sources: Interviews with Sieng Sang Em, Hing Soun and Michel Marec; Norodom Sihanouk; Cambodge d'Aujourd'hui; Royal University of Fine Arts

ARK Research references: BB36: Motel **BB69**: University **K22**: Railway station **PP225**: Villa Kantha Bopha

Tan Veut

Tan Veut was an exceptionally talented sculptor and builder, who played a significant role in designing and building the Independence Monument and several stupas in the royal palace. Born in Battambang, he worked as a stone mason and sculptor with a prosperous local construction company. He is known to have painted murals in the main hall of Battambang's Wat Sdei in 1951, before coming to Phnom Penh to work on the Independence Monument from the late fifties. His stupas in the royal palace were inaugurated in 1962. Tan Veut designed Wat Slaket in Battambang, which was built in the late sixties and early seventies, and was also the contractor for the Battambang Provincial Museum, which opened in 1968. It is not clear when he died but his grandson continues to run the family business in Battambang as a sculptor and building contractor.

Sources: Interviews with family, Sieng Sang Em, Vann Molyvann and U Sam El

ARK Research references: PP182: Independence Monument **PP223:** Stupa for Princess Kantha Bopha **PP224:** Stupa for King Norodom Suramarit and Queen Kossomak

53. Ung Krapum Phka in January, 1961

Gérald Hanning



Born in Madagascar in 1919, Gérald Hanning was the son of a Scotsman from Mauritius, who died in a motorcycle accident when he was very young. His maternal grandfather and grandmother came from the French islands of La Martinique and La Réunion, respectively. Gérald Hanning studied at the Ecole Nationale Supérieure des Beaux-Arts (ENSBA) and served in the French army during World War II. He was held prisoner for a month before seeking refuge with his mother and father-in-law in the Alps.

In 1943, Gérald Hanning returned to Paris and teamed up with Le Corbusier to establish a think tank known as Ascoral for research into proportion. In 1945, Le Corbusier sent Gérald Hanning and Vladimir Bodiansky (see page 95) to the United States for research. In a dramatic letter to Le Corbusier in 1947, he resigned from Ascoral and spent the rest of the decade working on schools and health centres in the Ivory Coast. He also worked in Brussels and served as a city developer on La Réunion. After working with Vladimir Bodiansky on mass housing projects in the early fifties, he was appointed chief town planner in Algiers in 1953. Over the next six years, he expressed his theories on integrating geography into urban development and also invented an equation to determine floor load-bearing capacity in relation to a building's area. The formula was later adopted in urban regulations in France. He also worked as the head of city planning in Paris during this period.

Gérald Hanning was in Cambodia as a technical adviser to the United Nations between 1959 and 1965. As well as working on the National Sports Complex with Vladimir Bodiansky and Vann Molyvann, he worked with Robert Hansberger on town planning, including a plan for a new Phnom Penh and designed the original plan for the new town of Sihanoukville. Unfortunately, it was not followed. "Gérald Hanning's idea was to use seven hills as landmarks for Buddhist wats, with housing spread in a crescent at the base of these hills some distance from the sea with the whole of the coastline left free for leisure activities and natural scenery. A separate industrial zone was planned for the port and railway station", recalled Vann Molyvann, who described Gérald Hanning and Vladimir Bodiansky as his two main influences. Gérald Hanning is credited with introducing Vann Molyvann to Le Corbusier's evolutionary new system of proportion, known as *Le Modulor.* Vann Molyvann used the system but adapted it for Cambodian designs.

Landmarks were a recurring theme for Gérald Hanning. "He who ploughs a field needs a landmark to make sure he is going straight, to know which direction to take," Gérald Hanning was quoted as saying by the architect Yann Lecouanet. It could be a tree, a church or something on the horizon. "Landmarks are necessary in urban planning so that people can find their way easily around the city." Indeed, Gérald Hanning's theories took a very personal direction after he broke with Le Corbusier. His urban works reflect a thorough understanding of geography, topography and landscape.

After leaving Cambodia, he worked as a technical adviser in East Pakistan (Bangladesh) before returning to France to design a ski resort in 1967. He went back to his birthplace in Madagascar for a UN housing project in the early seventies. In 1973, he was appointed technical adviser to the Institut d'Aménagement et d'Urbanisme de la Région d'Ile de France (IAURIF). Over the next few years, he worked on rebuilding the Moroccan city of Agadir and worked on various projects in Paris including La Défense and Les Halles. He died in 1980.

Sources: Interviews with Roger Aujame, Hervé Blumenwald, Vladimir Bodiansky (son), Henri Chatel, Vann Molyvann, Yann Lecouanet; Fondation Le Corbusier; ENSBA; IAURIF Library; Loup and Hania Hanning archives; Vladimir Bodiansky archives; Gérald Hanning's final report to the United Nations in 1965; Revue Cahiers du Centre Scientifique et Technique du Bâtiment ; Revue Rassegna dei lavori pubblici; Architecture d'Aujourd'hui; Techniques et Architecture; Cambodge d'Aujourd'hui; Institut Français des Architectes

ARK Research references: PP192: National Sports Complex **PP289:** Greater Phnom Penh development plan **PP292:** Chruoy Changvar plan **PP293:** Plan du Bassac **SK56:** Sihanoukville design

54. Gérald Hanning in a 1935 self portrait

Vladimir Bodiansky

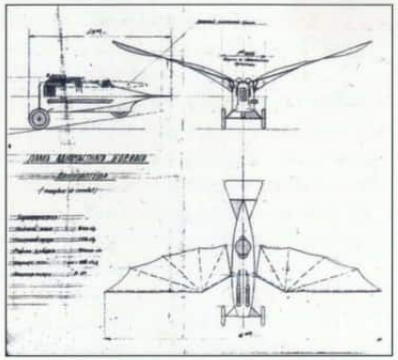




Cette sphère de matière plastique, constituée de « quartiers » qui seront ensuite assemblés et cerclés, est due à l'architecte Bodiansky, animateur de l'ABAT (Ateliers des Bâtisseurs).

Born in Russia in 1894, Vladimir Bodiansky served as a pilot in the French Foreign Legion during World War I. He later worked as an engineer in the aeronautical and railway industries in France as well as Britain, Belgium, Germany and Italy. Vladimir Bodiansky designed and built his own aeroplanes and did extensive research into aeroplane structures and welding. He also worked on railway systems, new towns, coal mines, navigation and in the Belgian Congo. During the thirties, he worked on major housing projects in France and Britain. In 1945, Le Corbusier sent Vladimir Bodiansky and Gérald Hanning on an exploratory trip to the United States. Le Corbusier later recalled him to work as the structural and mechanical engineer for the *Unité d'Habitation* project in Marseilles. During the fifties, he taught at the Ecole Nationale Supérieure des Beaux-Arts (ENSBA) in Paris and also designed the polar stations for Paul-Emile Victor's expeditions in Greenland and Antarctica.

It is not clear when Vladimir Bodiansky first arrived in Cambodia but he was working as a construction expert at the Ministry of Public Works in 1961. He is also known to have designed the *Bassins des Sirénes* fountain for Norodom Sihanouk's office at the State Palace in 1963. But he is best remembered for his work as the engineer for the National Sports Complex between 1962 and 1964. Vann Molyvann, the architect, said Vladimir Bodiansky made sure that his radical structural design was feasible.



"My idea was to build a grandstand with a roof like a table standing on four legs. But I thought this was not possible because the span was so great and would require intermediary columns," he recalled. "When I asked Vladimir Bodiansky, he came up with a structural solution with only four columns supporting the canopy. I was still sceptical. Vladimir Bodiansky said to me: 'This project will make or break you. If you achieve great architecture, everybody will congratulate you. But if you do something ordinary, it will be the end.' He gave me the strength of conviction and technical prowess to see the project through as I had initially designed it."

Vladimir Bodiansky also worked on the port of Sihanoukville and the first concept for a teacher training college that was later redesigned by Vann Molyvann. He seems to have been behind the Chruoy Changvar project and to have contributed to the "Grand Phnom Penh" urban design. He supported French students on a Volkswagen journey from Paris to Phnom Penh and helped three Cambodian students (Chea Sok Vann, Mol Phourik and Keo Chhun) during their studies in France. He pushed construction techniques to their limit to satisfy spatial design, but also promoted ecological ideas about building in developing countries and designed low-cost housing in the African nation of Guinea. He lived and worked in many countries in Europe, Africa and Asia, including China and Japan as well as Cambodia. At the time of his death in 1966, he was the European vice-president of the International Congress of Modern Architecture (CIAM).

Sources: Vladimir Bodiansky archives at the Centre Georges Pompidou, Paris; Fondation Le Corbusier; ENSBA; interviews with son Vladimir Bodiansky and architects Roger Aujame, Henri Chatel, Jean-Louis Veret and Vann Molyvann; Institut Français des Architectes; Revue Cahiers du Centre Scientifique et Technique du Bâtiment; Revue Rassegna dei lavori pubblici and Architecture d'Aujourd'hui; Centre Georges Pompidou exhibitions "Ingénieurs Architectes" (1998) and "Art de l'Ingénieur, constructeur, entrepreneur, inventeur" (1999)

ARK Research references: PP16: Apartment buildings **PP193:** National Sports Complex **PP168:** Military Academy **PP 270:** University Teacher Training College

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56

55. Vladimir Bodiansky discussing plans
56. Plastic sphere design by Vladimir Bodiansky for Paul-Emile Victor's expeditions in Greenland and Antarctica (1954-1959)
57. Early futurist Russian aircraft design by Vladimir Bodiansky

Mam Sophana



Born in Cambodia in 1936, Mam Sophana designed one of Phnom Penh's better known landmarks, the "Round House" on Norodom Boulevard (used by a lighting fixtures company for much of the nineties and, since, occupied by a dental clinic). He is also distinguished as the only Cambodian architect to have worked on Changi Airport in Singapore, where he lived from 1975 to 1992.

After winning a scholarship, Mam Sophana went to the United States in 1958 and studied at Miami University, Ohio. After earning his degree in 1963, he practised for two years in Cincinnati. Between 1965 and 1975, he worked in a private practice in Phnom Penh. During this period, Mam Sophana designed as many as 50 small private houses, many of which are still standing. His most important work, however, was a training college for Electricité du Cambodge (EDC) inaugurated in 1969. This is a free-style design with majestic columns for which Norodom Sihanouk awarded him a gold medal. Mam Sophana sought to avoid air conditioning by designing broad roofs and using cross ventilation, high ceilings, louvres and structures raised off the ground.

In the United States, Mam Sophana learnt that design had to "come from the self and be attractive and useful." His greatest influence was Frank Lloyd Wright because of the American's interest in geometry, proportion and nature. Mam Sophana believed that proportion was an essential part of architecture, an art in itself. Although it cannot be taught, he said, it can be learnt by working and observing. In Singapore, Mam Sophana worked on numerous buildings and was highly commended for helping to design Changi Airport.

Since returning to Cambodia, he has worked with Descon Architects and designed several important buildings, notably the Hun Sen Library at the Royal University of Phnom Penh. He has served as under-secretary of state in the Ministry of Land Management, Urban Planning and Construction, and also chaired the committee overseeing the rebuilding of Pochentong airport. Since 1993, he has been adviser to Prime Minister Hun Sen in charge of construction and town planning. He has also been chairman of the Cambodian Basketball Federation.

Sources: Interviews with Mam Sophana; Etudes Cambodgiennes; Le Sangkum

ARK Research references: PP81: Vietnamese embassy **PP91:** Former Son Sann residence **PP121:** House **PP200:** Pediatric Clinic **PP246:** Sentinel box prototype for Council of Ministers **PP267:** University **PP300:** House **PP304:** Round House **PP306:** House for banker **PP307:** House for customs official **PP311:** House of Son Sen **SV8:** Bank Khmer subsidiary **SV25:** Khaou Chuly Resort **SV30:** Oil company hostel for workers **SV48:** Semi-detached house **SV57:** House **SV58:** House for Chau Seng Kosal

58. Mam Sophana (left) with friend in front of his training college for Electricité du Cambodge (EDC) in 2000

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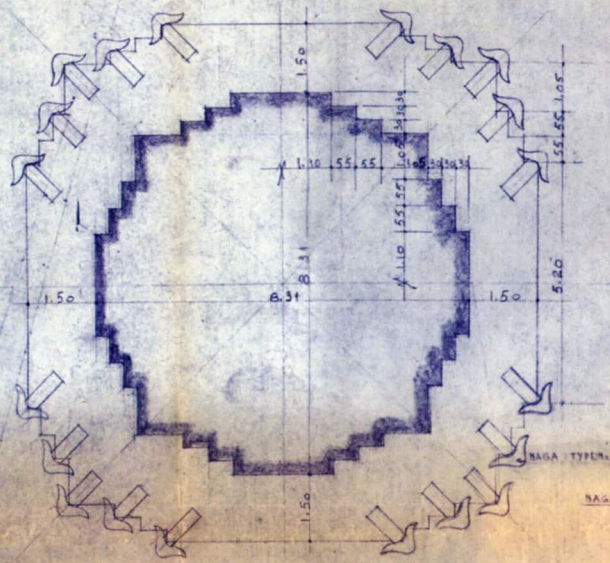
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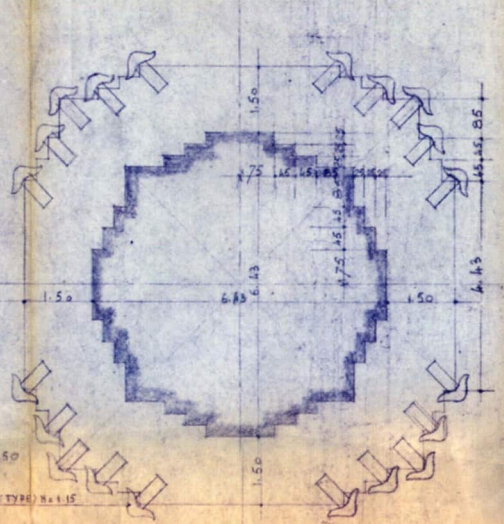
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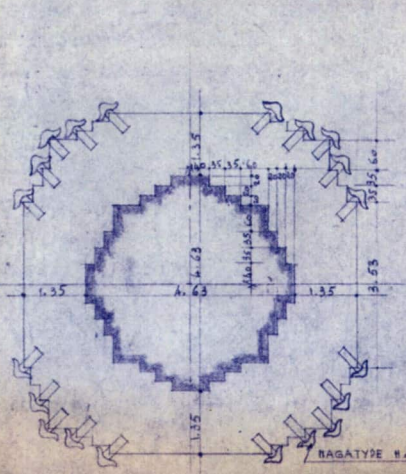
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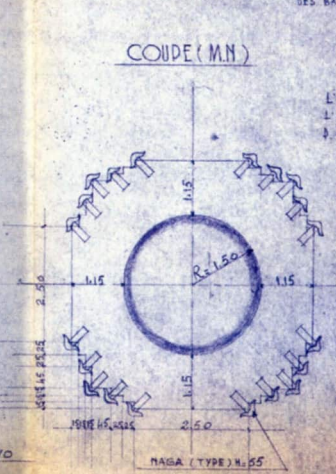
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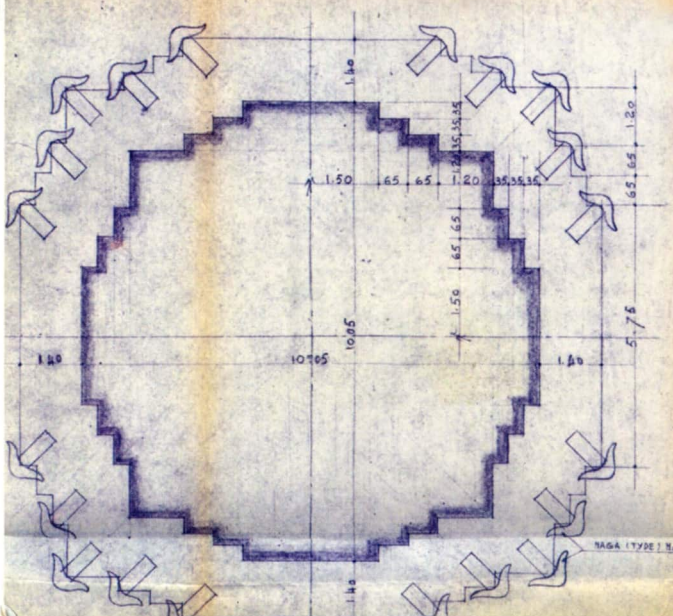
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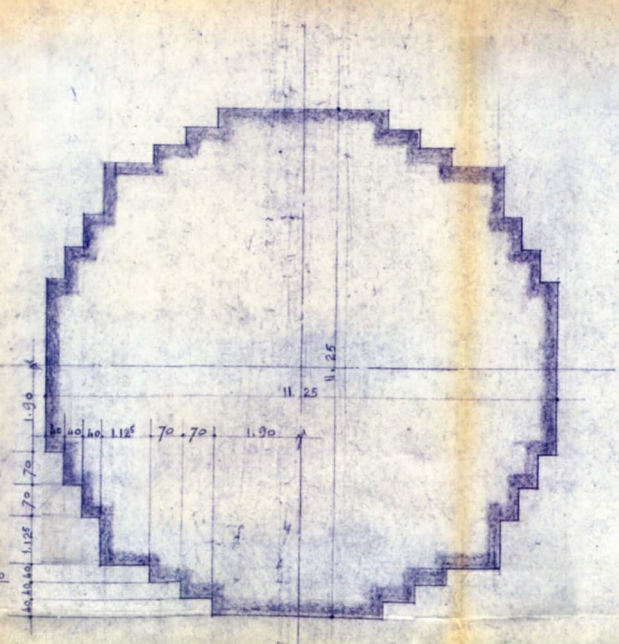
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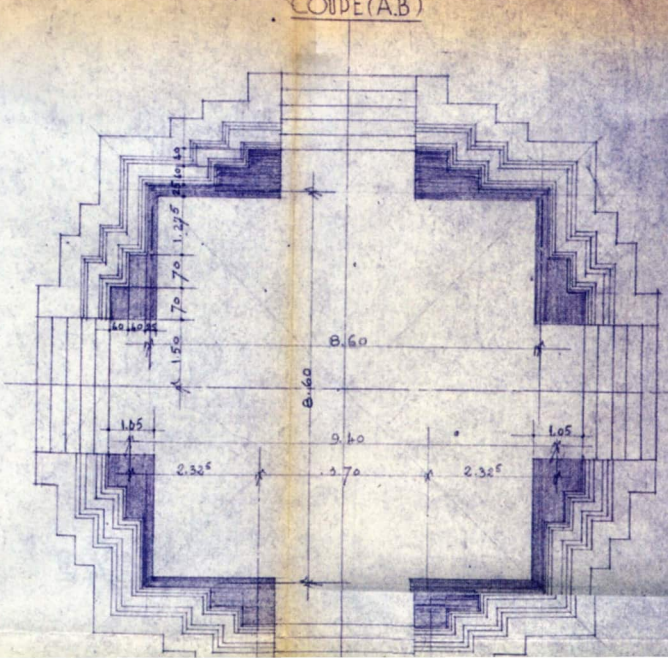


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59. Working drawings for the Independence Monument by Vann Molyvann dated March 1957

Works:

Phnom Penh Cathedral
Government Compound
- Council of Ministers
- International Aid Agencies
- Ministry of Defence
- Ministry of Finance

Biographies:

Jamshed Phirozsha Petigura
Maurice Masson



What was so unique about New Khmer Architecture? What justified its identification as a new artistic movement? At first glance, the influence of the Modern Movement founded by Le Corbusier and others seems to be obvious in the use of reinforced concrete and assertive structures. But there is also something distinctively Khmer about the architecture of the fifties and sixties.

Modern Traditional

Chapter 4



Angkor Tradition

There is no greater motor for architecture than religious fervour. Ancient examples include the Inca, Aztec and Egyptian civilisations. In more recent times, Christianity gave rise to the Gothic and Romanesque architecture of the European middle ages and Islam produced the wonders of the Ottoman Empire. In Cambodia, the fervour for New Khmer Architecture came from an elite group of modern Cambodians who strived to develop their country with a quasi-religious belief in their national vocation. Such pride had long been dormant and was aroused by French colonial interest in Angkor followed by the struggle for independence. With

1. Aerial view of Ministry of Finance soon after completion in the late 1960s



the inauguration of the National Sports Complex in 1964, Norodom Sihanouk was able to point to a new source of national pride. "You have enabled our country to link up with the grandeur of the Angkorian era," he declared. "You have become a great people again."

In this sense, New Khmer Architecture is comparable to other architectural movements or artistic schools. The school of thinking that fuelled creative building was similar to the forces behind ancient religious architecture. In the case of Cambodia, however, the fervour came from the ethics of Buddhism and the socialist quest for an egalitarian society.

The architecture of Angkor is monumental and extremely varied. There are no two temples alike as the ancient Khmers strived for perfection and each king innovated with a new design. Like most great architecture throughout the world, the temples of Angkor arose from the belief that humanity could attain a higher level of spiritual accomplishment by constructing temples to celebrate the divine. Like the Thais, Vietnamese and Burmese, the Khmer people devoted all their energy into building temples to celebrate their gods or religious principles. Unlike people in colder climates, the Khmers devoted little attention to buildings like houses. These were ingeniously built with a minimum of effort and building materials. This is true throughout Southeast Asia, notably Sukhothai, Bagan, Prambanan and Anuradhapura, where thousands of years of religious buildings dominate the landscape with practically no trace of where people lived. In Vietnam, families traditionally lived in shacks next to elaborate temples to commemorate ancestors.

Angkor is one of the most remarkable sites of religious architecture in the world, with 400 square kilometres of temples dedicated to the Buddhist and Hindu faith. Built with unfailing energy from the ninth to the 15th centuries, these brick and stone wonders incarnate all the knowledge of people at the time. Establishing cardinal directions was not a fastidious scientific exercise to find the exact north but related the building to a cosmic order. In the same way, numerology is incorporated into the architectural design, not as some recipe for aesthetic beauty but as a way of communicating with a higher level of thinking. The overall image is inspired by the sacred Mount Meru and the four cardinal directions, symbolising and incarnating the religious belief itself.

Built of brick and stone, the temples were made to last and handed down from generation to generation. What these master builders also excelled at was building infrastructure such as irrigation systems that required sophisticated knowledge of hydrology. These feats of engineering are at least as remarkable as the temples themselves and are important to note in drawing a parallel with influences on New Khmer Architecture.

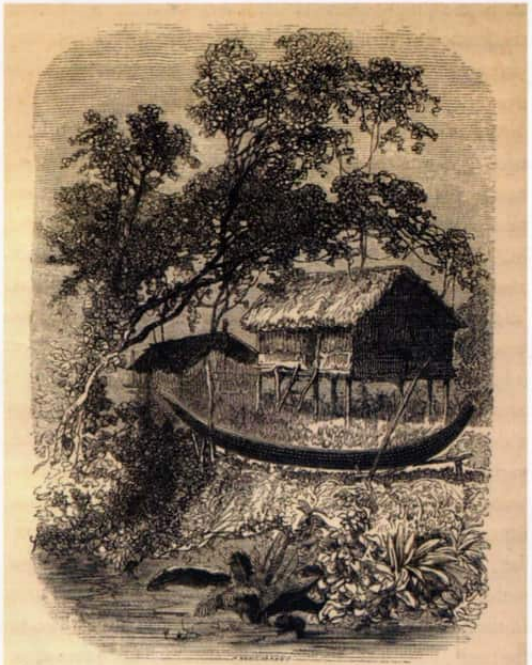
Vernacular

Cambodia has no traces of any large human settlements comparable to Pompeii or Ephesus. Vann Molyvann refers to the villages that people seemed to have built as protection from invaders but circular mounds are all that remain. Archaeologists are still researching how and where the estimated one million inhabitants of Angkor lived. The vernacular architecture in a tropical country usually consists of light-weight structures built with materials that deteriorate quickly such as wood, bamboo and

2. Wat Slaket in 2002

3. Floating village on the Tonle Sap lake underscores the affinity between Cambodian water-based communities and their environment





Drawn by M. Sabatier, from a Sketch by M. Mouhot.

CAMBODIAN HOUSE.

straw. In Southeast Asia, property ownership was practically non-existent. Houses could be dismantled and reassembled easily, and replaced cheaply without too much effort when they wore out. Carpentry work for a traditional house can be set up in a matter of days. Matting for the walls, thatch or tiles for the roof and bamboo or planks for the floors can be laid in a short time.

Cambodia also has a vernacular tradition of building compounds for wats with prayer halls, meeting rooms, stupas and housing for monks and nuns. Like traditional houses although somewhat bigger and more carefully built, these buildings would have been wooden structures with a tiled or thatched roof, wooden doors and shutters with no glazing. Decorations would have included wood or stone carvings, murals and stencil paintings.

Unlike the ancient Greeks and Romans, the Moguls and post-war Europeans, the people of Southeast Asia have no strong tradition of town planning. Towns and cities were built either on or close to water which was drunk and used for transport and which carried away the detritus of society.



Masonry Versus Carpentry

Colonial architecture introduced the idea of solid, durable buildings that could be bought, sold and inherited. This was a radical cultural change. Such buildings were "grounded" by a system of walls requiring foundations rather than the traditional post and beam structure made of wood and raised off the ground. The Southeast Asian tradition of carpentry uses ingenious structures that are stable with a minimum of material. Carpentry for construction derives from three-dimensional thinking from boat building, basket weaving and even kite building. While the traditional wooden house was built on stilts with matting used to enclose the raised living area, the colonial house had thick walls in which window openings could be cut out. With colonial architecture, the wall and the mason are predominant. With traditional architecture, wooden post and beam and the carpenter come into their own.

4 | 5

4. Thatched riverbank dwelling sketched by naturalist Henri Mouhot in the late 1850s (Travels in the central parts of Indo-China (Siam), Cambodia, and Laos)
5. Development plan of Battambang in 1907 focusing on the governor's residence and the wats (redrawn by ARK Research in 2002)

6. Battambang colonial plan (from French surve
1918, redrawn by ARK Research in 2002)
7. Battambang 1926 (from Saigon to Battam
railway plan, redrawn by ARK Research in
8. Battambang in 1990, highlighting develo
during the 1960s (from city plan redrawn
ARK Research in 2002)



While the "city of the gods" at Angkor was built for eternity, the "city of the people" was temporary. In Battambang in the early 20th century, for example, 100,000 people are estimated to have lived along the Sangker River without any planning or infrastructure. Among the 58 wats and numerous trees were houses for rich families, poor families, monks and shopkeepers that were nearly all built on the same model. Even in the palace where the Thai lord governor lived with more than a hundred wives, wooden meeting rooms raised off the ground were not much different from those along the river. The main difference from regular houses was a protective wall.

Colonial

When the French arrived in Cambodia in the middle of the 19th century, Phnom Penh was a village of thatched cottages on the banks of the Tonle Sap. Nothing remains. The initial colonial development plan in 1914 was extended by the architect Ernest Hébrard in 1925. This remarkable plan is still legible in the city fabric today, and provides Phnom Penh with a pleasant network of roads, public places and squares that put some order into the somewhat chaotic buildings surrounding them. In Indochina, French architects found a laboratory for town planning that did not exist in France itself. Considering the reduced French interest in Cambodia before World War II and the lead-up to independence, the colonial input into architecture lasted barely 30 years. But the changes were revolutionary. Under French influence, the traditional use of the river and waterways was banished in favour of a city with a system of protective dykes and a network of roads, drains and water supplies.

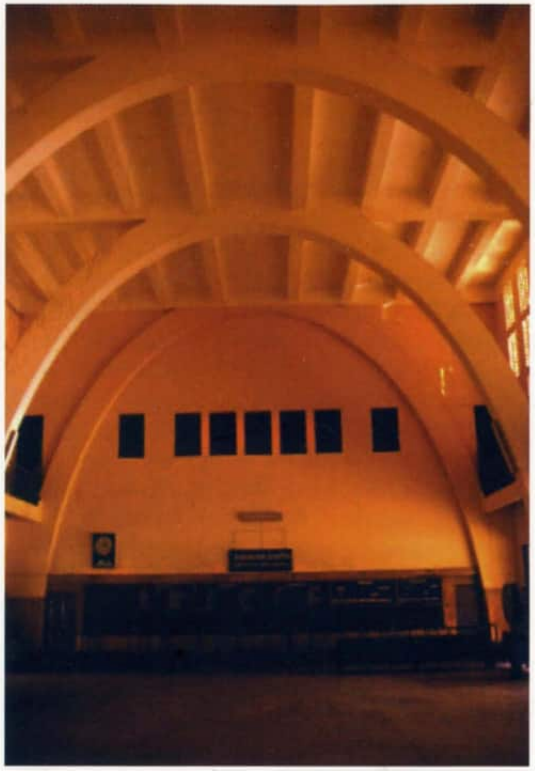
Although much of the population continued to live in traditional wooden houses, the French introduced buildings of solid masonry which the Chinese enthusiastically adopted for shop houses. Although the idea of the "villa" was introduced for French colonial families, it was also used for public buildings, schools and government offices. The inspiration, which seems to have come from an image of what would be suitably exotic for Southeast Asia, draws on almost every European style. Reinterpretations of Palladian, Florentine, Classical and even Loire Valley castle architecture





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11

9. National Assembly (formerly a compound incorporating the School of Administration or Krommakar School and the Higher School of Pali) exhibiting a mix of colonial French and Cambodian architectural motifs
10. This Sino-Khmer residence next to the Royal Palace typifies the eclectic French colonial designs of the early 20th century. It is now used by UNESCO.
11. Formal classical lines of the National Library near Wat Phnom echo European traditions relating to Greek and Roman prototypes





are manifest in symmetrical arcades and colonnaded facades such as those still found today on the building that houses the UNESCO office on Sothearos Boulevard. The Medici palace style can be seen in the Central Post Office and the neo-classical Greek temple style can be found in the National Library. An outstanding example of the turreted Gothic style near the Central Market was, however, demolished in 2003. Chinese architecture was sometimes incorporated into the finishes and decoration of gabled roofs. Groups of Chinese shop houses would even build monumental facades to resemble villas or palaces.

What can superficially be thought of as a homogeneous colonial style is, in fact, a patchwork of different influences. This colonial architecture made no attempt to express function through form. Also, as anyone using the buildings can attest, they are generally not well adapted to the climate despite their loggias and aesthetic appearances. The inside plans tend to be boxy, reducing the possibility of cross ventilation. Unfortunately, attention was not always paid to siting these buildings away from direct sunlight, so they are often uncomfortably hot. Moreover, ceilings are not always high enough or windows large enough to ventilate the rooms well.

The Central Market and the Phnom Penh Railway Station stand out as important landmarks of a later colonial style that is more innovative than the earlier buildings. Constructed during the thirties, they made good use of reinforced concrete to span large distances with vaulted structures. In particular, the Central Market makes no attempt to camouflage its structure behind some pastiche Italianate facade. The internal space of both these buildings is a dynamic expression of the potential offered by reinforced concrete used in an imaginative way. They are spacious with high ceilings, no direct sunlight and numerous sources of indirect light and ventilation through the abundant use of claustras that also play a decorative role. Part of the heritage that France would leave to Cambodia was a building industry and workers who knew how to use reinforced concrete. Such skills would play an important role in post-independence developments.

Colonial Trad

Another kind of colonial building is represented by some of the most important landmarks in Phnom Penh. The most outstanding example of what most people would call Khmer style is the Royal Palace. It was built by the French for King Norodom (1834 - 1904) towards the end of the 19th century and is directly inspired by the Royal Palace in Bangkok and possibly the Thai lord governor's palace in Battambang as well. Although the spectacular garden is hidden from the chaotic city outside, the palace gratifies the passer-by with fascinating spires and stupas emerging from behind the crenulated walls.

Other examples of traditional architecture interpreted by the French include the National Museum, the Higher School of Buddhism and Pali (now the National Assembly) and the Krommakar School. They make an important and exotic contribution to the landscape of Phnom Penh. With their imposing red-tiled roofs, nagas, decorative wall panels and gilded chedi, these buildings may resemble traditional Khmer architecture. And indeed, they have been adopted by many as Cambodian. But there is nothing traditional about taking a roof from a religious building and putting it onto a museum or school. The idea of using religious styles of architecture for secular buildings is a typically European idea used by architects without much imagination in the 19th century. Some well-known examples in London are the Gothic revival Houses of Parliament and the Romanesque revival facade of the St Pancras Railway Station (the station itself is an awe-inspiring steel structure epitomising the genius of 19th century engineering). Similarly, the onion-topped Brighton Pavilion is an exotic folly inspired by the maharajahs' palaces of India.

12. Entrance and ticket hall of the Phnom Penh railway station (1932) with rib-like ferro-concrete spans
13. Decorative concrete wall insert at Buddhist school in Wat Po Veal, Battambang





The National Museum in particular is a successful design in the way it transcends certain elements of Cambodian or Thai religious architecture into a fresh innovative composition. The majestic portico with its colonnade, high ceiling and monumental doors opening onto an inside courtyard has no parallel in traditional architecture. Yet it serves the purpose of a museum extremely well. The large expanse of roofs layered on top of each other is directly inspired by the traditional prayer hall but attains a grander scale and proportion. The way it is set into the urban plan reflects the *grand perspective* element of French town planning that evolved from the 17th century onwards, finding its apotheosis with Haussmann's new design for Paris towards the end of the 19th century.

Both French and British colonial architecture consistently incorporated one element of Asian architecture into their design - the veranda, a Persian-Sanskrit word for the buffer zone between the searing heat outside and the actual rooms of a building. The veranda was universally adopted as a place to lounge in the evening to the sound of the cicadas. In the National Museum, the external gallery is a grandiose veranda.

14. National Museum of Cambodia (formerly Musée Albert Sarraut) designed by George Groslier (inaugurated 1920) next to the Royal Palace
15. Entrance to the National Museum with overhanging eaves and corridor walkway around the perimeter of the main building. George Groslier acknowledged debts to Cambodian architectural models as depicted in Angkorian temple bas-reliefs and traditional wat architecture (central section renovated by Vann Molyvann in the late 1960s)

A New Creative Atmosphere

When independence came in 1953, Phnom Penh was a town of around 350,000 people. There was not a single Cambodian architect in the kingdom although some of the colonial architects such as Maurice Masson, the Leroy & Mondet partnership and the younger Henri Chatel stayed on. Only a handful of buildings of any significance were built after France returned to Indochina following Japan's defeat in 1945. Two years into independence, the Faculty of Medicine and Pharmacy was inaugurated on Monivong Boulevard. The design by Leroy & Mondet is neo-classical, academic and stuffy. The Phnom Penh Cathedral, also inaugurated in 1955, was designed by Maurice Masson and was even more pompous in its redundant use of neo-Gothic, neo-Roman and somewhat neo-Art Nouveau styles.

On the other hand, the National Bank of Cambodia, designed by Maurice Masson with Henri Chatel, is noteworthy. Inaugurated in 1953, it was blown up by the Khmer Rouge in 1975 and restored to its original state with Soviet assistance during the eighties. Despite its history, Chatel's sketch (see page 8) from the early fifties is easily recognisable as the building that stands today. Although it bears many of the characteristics of heavy colonial earth-based masonry, a few details give it a special character. All window openings are provided with blinds, shutters or vertical sun screens, and most windows have a surround providing shade. Ventilation ducts are part of the composition and the main entrance is protected by a parabolic porch of reinforced concrete

that survived the Khmer Rouge attack. On the side entrance can be seen another porch, less original in design but incorporating the inverted VV-shaped structure that would become the signature of New Khmer Architecture.

In 1954, Prime Minister Sam Sary commissioned Henri Chatel as architect for the Ministry of Defence. In this role, he built some important buildings not only in Phnom Penh but also in Kompong Chhnang and Takeo. One of his earlier works was the clean-cut design of 120 apartments for army personnel inaugurated in Chamkar Chen in 1957. This was an extremely innovative building for Phnom Penh at the time, and does not use the dusty lexicon of colonial architecture. The buildings are inspired by housing experiments in post-war Europe that were influenced by the modern movement and rejected the academic approach of the older generation of architects. The design incorporated double roofs, wall panels to protect the facade from direct sunlight, loggias for shade and a place outside. Another striking design is a small apartment building in Avenue de France with 24 apartments for army officers built in 1958. As can be seen in Chatel's original sketch, this design incorporates VV-shaped columns to raise the building so that there are no apartments on the ground floor. Deep recesses provide each apartment with a loggia and protect the facade from direct sunlight. The staircases are part of the facade and have a rugged, dark-brown granite finish. The balconies have opaque panels alternating with simple vertical bars, and the claustra wall of the staircase gives a sensitive feel to an otherwise bold structure. As the cross-section reveals, the roof is not flat but made of two shallow ventilated slopes, protecting the last floor from direct heat. This is an animated and refreshing design that



16. Franco-Khmer colonial structures within the Royal Palace compound: Ho Samret Pimean (centre) and the Throne Hall (rear)

draws on modern rather than colonial influences. It also integrates many intelligent responses to the tropical climate.

In 1959, Henri Chatel designed the winning entry in a competition organised by the National Bank for staff apartment buildings. The holding of a public competition reflected the challenging creative environment at the time, and the splendid design contains many elements that would influence other architects in Cambodia. Compared to the earlier design for officers' apartments, there is no attempt to make a gabled ventilated roof. Instead, the roof literally takes to the air with a separate light-weight WW-shaped structure raised off the main terraced roof, creating a place for people to congregate in cool evenings. The design uses pivoting shutters like those of the National Bank, deep recesses for the verandahs, cross ventilation, crazy paving for some of the ground-floor wall surfaces and reinforced concrete geometrical frames to raise the building off the ground. The actual construction in the early sixties was supervised by the architect known as Jamshed Petigura after Henri Chatel left the country. They are now part of the Russian embassy compound in Phnom Penh, although there is one in Sihanoukville as well.

Turning the Page

Henri Chatel's designs turned the page on colonial architecture. Although he came to Phnom Penh to work with Maurice Masson, the established architect who built the pompous cathedral, he read a lot of international architectural magazines. He was seeking solutions adapted to the country, where economy had to go hand in hand with the tropical climate. He was influenced by the Modern Movement but he also studied the Egyptian architect Hassan Fathy who was interested in low-cost housing that did not require imported materials. Henri Chatel liked to raise buildings off the ground to create a place for people in the shade, or to park cars. While reinforced concrete was widely used and Vietnamese construction companies were competent, he expressed regret in 2001 that Cambodia did not experiment more with brick and wood that were readily available and better adapted to the climate and budget.

The influence that the more mature Henri Chatel seems to have had on other architects, including Vann Molyvann and Lu Ban Hap, can be seen in his 1960 design for the Ministry of Defence. More than 100 metres long, the four-storey offices are raised off the ground on columns in a similar fashion to the National Bank apartments. They serve as a backdrop for a smaller building housing offices and an auditorium with the minister's office on the axis of symmetry. This is raised off the ground too but on sculptural WW-shaped reinforced concrete supports. The roof is another experiment in a double roof, but with a double slope towards a central gutter.

When Vann Molyvann designed the Ministry of Finance, inaugurated in 1966, he emulated several of Henri Chatel elements, including the basic composition of a low building set off by a larger one in the background. By this time, Vann Molyvann was no longer the young shy architect he was in 1960, when he designed the Council of Ministers which is politically correct and elegant but not very daring. By contrast, the Ministry of Finance (now the army headquarters) is a magnificent example of New Khmer Architecture where roofs float, buildings are in the air and facades are decomposed and detached from the structure. The building reveals a



17. Henri Chatel's apartment building for military personnel near Wat Phnom

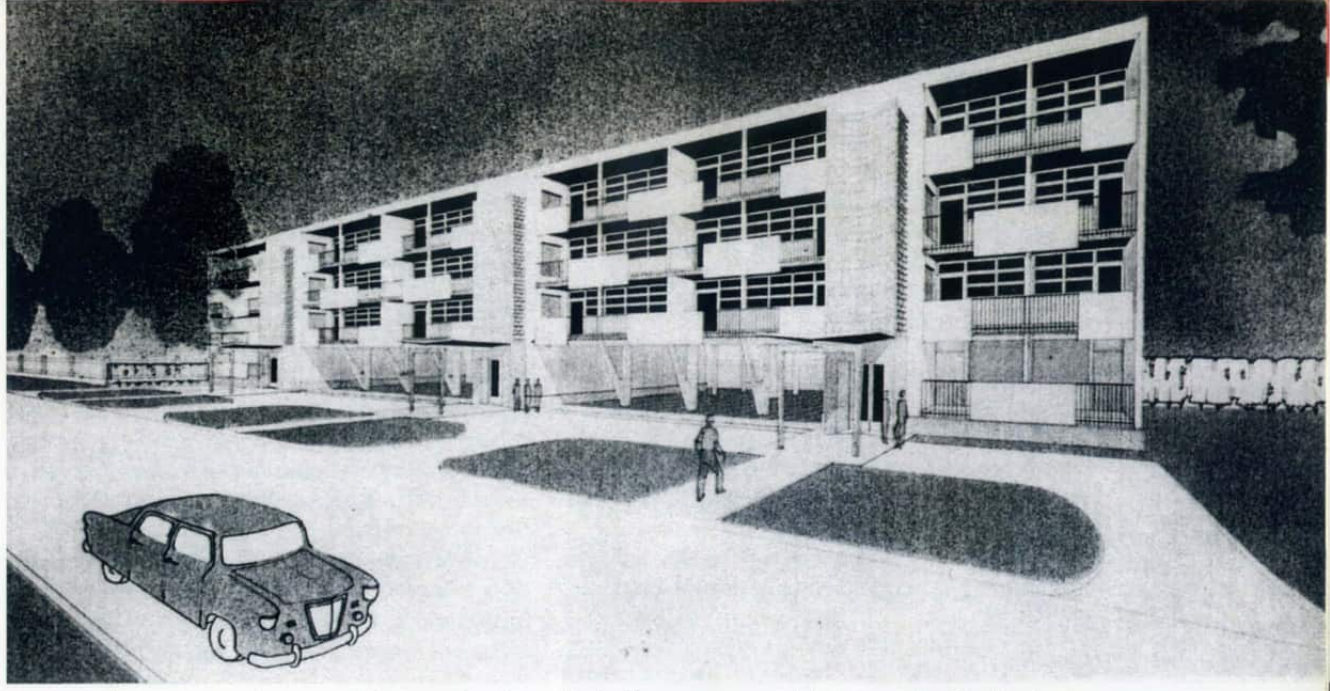
self-confident and mature architect taking his ideas as far as he can.

When Norodom Sihanouk instigated the International Exhibition of 1955, the only Cambodian able to design such an event was the young Seng Suntheng. He had just returned from France as a designer with a degree from the Ecole des Arts Decoratifs. The exhibition was organised on the road between Monivong Boulevard and Wat Phnom with pavilions housing exhibits from many countries. The site plan and some of the buildings were Seng Suntheng's work. Roger Colne, another designer from the Ecole des Arts Décoratifs, also contributed. Although these buildings were temporary, photographs indicate their design was a breath of fresh air for the Phnom Penh building scene. Another experiment that may have left a mark on young professionals was an intriguing group of four buildings designed for French aid staff in 1955 and 1956. They can still be seen standing behind Calmette Hospital. Here, the ingenious use of reinforced concrete raises the whole building off the ground with a central core structure.
When Vann Molyvann returned as Cambodia's first architect in the mid-fifties, he was asked to design an exhibition for the international celebration marking 2,500 years since Buddha's birth in 1957. Although wary of such a heavy responsibility with

so little experience, he succeeded in designing something that drew on traditional structures raised off the ground. These included open meeting rooms made of wood and calico where 2,500 monks were sitting one April afternoon in 1957. At around 2 p.m., Vann Molyvann recalled, lightning struck the pavilion, splitting the wooden pediment and fusing the electrical system (which had fortunately been earthed). Nobody was injured, and the Venerable Chuon Nath interpreted what could have been a bad omen as a propitious one.

Chaktomuk

Vann Molyvann's first remarkable building is the Chaktomuk Conference Hall (see page 14). Built shortly after the Council of Ministers, it shows a revolution in his thinking. The conference centre is one of Vann Molyvann's masterpieces, both functional and lyrical, and one of the most illustrious examples of New Khmer Architecture. Particularly beautiful when viewed from the river, it is one of the architect's three favourite works, along with the National Sports Complex and the National Theatre. It draws on identifiable elements of Khmer architecture, such as the pointed roof or the free space under the building, but reinterprets them in a new way. He even succeeds in incorporating traditional Khmer elements without making it look like a pastiche of temple architecture. The strong geometry of the fan-shaped roof sets off the pointed golden spire as an integral part. But a close look shows that they are completely different parts. This is achieved by an ingenious triangulated concrete structure suspended from beams which radiate from a central point in the shape of a fan. This device raises the structure off the ground and gives the impression of an imposing auditorium for nearly 1,000 people being suspended in space. The result is a design which relates to tradition but expresses the innovative character of the period with its unique structure.



Competitions & Experiments

When competitions are organised transparently, they set off an architectural debate that is stimulating for the public and professionals alike. Norodom Sihanouk's quest for enlightened territorial development continued in this vein. Competitions were held for low-cost housing, and many of the original designs can be found with the names of architects such as Henri Chatel, Seng Suntheng, Leroy & Mondet, and another architect identified only as Scheou. These illustrate the search for an honest solution to the needs of a growing population that could be not only economical and adapted to the Cambodian way of life but beautiful as well.

One example of experimental low-cost housing is the 111 wooden houses in the Tuol Kok district of Phnom Penh. These are inspired by vernacular Cambodian architecture but they are planned, equipped with modern conveniences and built from readily available local materials. The colonial villa style nevertheless persisted in buildings such as the addition to the Buddhist University in Phnom Penh and school buildings of Battambang. Despite the symmetrical design and masonry, they have some pleasing touches such as the extensive use of claustras.

New Khmer Architecture Takes Hold

By the time the University of Battambang was inaugurated in 1968, New Khmer Architecture had taken over from any latent colonial style. Architect Ung Krapum Phka had caught the disease - flying roofs, reinforced concrete post and beam structures with no walls, unusual shutters to enclose or open the large teaching rooms and auditorium and an open ground floor that could serve as an informal

18. Perspective design for Henri Chatel's 'Caserne Beylier' apartments for military personnel

meeting place. The siting is carefully studied so the main facade is oriented to the north to avoid direct sunlight. A large moat surrounds the building to provide drainage and coolness.

Everything is light, airy, white and open. Despite its modern appearance, there are elements of traditional Cambodian architecture in the roof and structure. The Modern Movement, for example, saw the flat roof as the absolute and only acceptable roof. But the university has two - a flat terraced roof and a VV-shaped canopy providing protection from the sun and a place for gathering in the evening. The big roof is an element of vernacular architecture and a necessity in a tropical climate with monsoon rain. In addition, the post and beam concrete structure emulates traditional wooden structures, freeing the walls of heavy masonry. Instead, mobile wooden shutters, claustras, screen walls and other well-ventilated devices are used. Other traditional elements can be found in the use of stilts and a moat. The way the building is raised off the ground on posts is typical of Southeast Asian buildings. The reasons for using stilts include avoiding floods, cooling the floor from underneath and creating an open space for social events and meetings. The inclusion of a moat reflects the traditional Angkorian and vernacular style of making abundant use of earthworks to drain away excess water and provide fish and lotus ponds as well as a store of cool water.

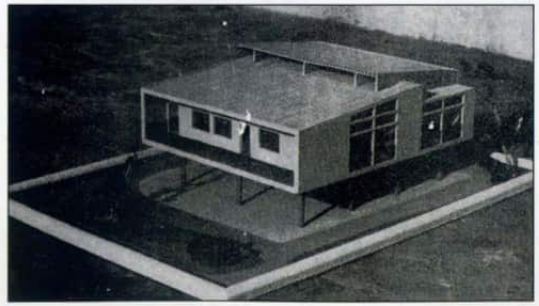
Dynamics

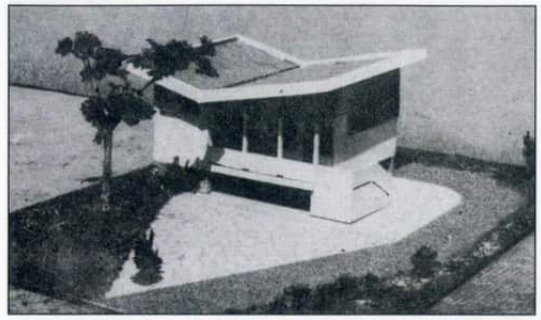
No innovative movement of the arts arises from a clean slate. With New Khmer Architecture, the political and social context after independence was new, and the enthusiasm displayed by Norodom Sihanouk and other Cambodians set the country on an enlightened path of territorial development. An enormous quantity of work was promoted across the kingdom, a surprising achievement for a small country like Cambodia. Moreover, quantity did not belie quality. The quest for high attainment covered not only architecture but also sculpture, painting, music, dance, cinema and decorative arts.

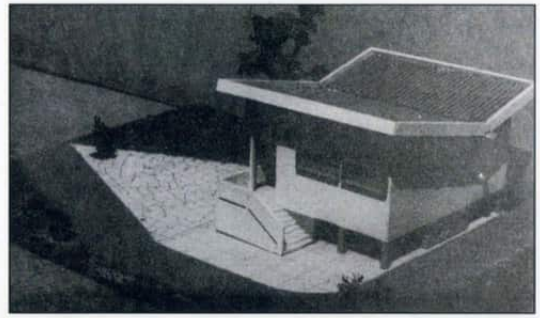
Norodom Sihanouk instigated this artistic achievement. He also knew how to bring together the diverse players among the talented Cambodians and international experts who were appointed for many years to advise on urban planning. These experts had a strong influence on the thinking of architects such as Vann Molyvann and Lu Ban Hap. The opinionated personalities of Vladimir Bodiansky and Gérald Hanning not only contributed to buildings getting off the drawing board but also to making sure they were built to the highest standards. Gérald Hanning was responsible for the Greater Phnom Penh urban plan and the Sihanoukville new town. Other foreign experts included Michel Marec, Guy Lemarchands and Guy Nafilyan.

At the same time, many countries donated buildings and technical assistance, bringing in highly qualified architects and engineers from distant places ranging from China, Czechoslovakia and France to Japan, the Soviet Union and the United States (see page 160).

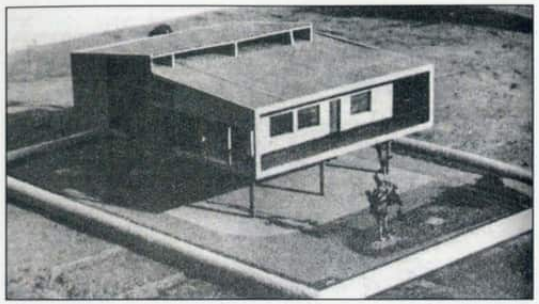


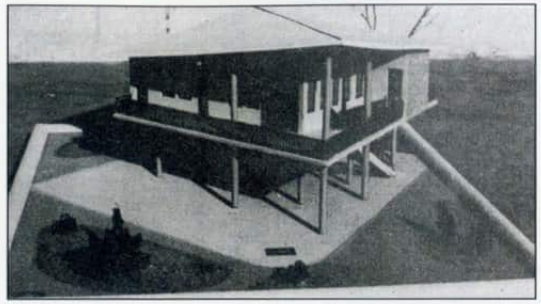






19. Front view, model of low-cost house by architect Henri Chatel in 1961
20. Back view of Chatel's house as published in 1961
21. Bold roof treatment in this model house by architect Seng Suntheng, 1961
22. A second design by Seng Suntheng featuring roof vents and inset box-like facade, 1961





This cosmopolitan mixture of talent created a stimulating environment which is widely documented in the press of the period. Builders looked at each other's contributions with interest and shared ideas. New Khmer Architecture was not the work of two or three people but a whole school of artistic achievement comparable to other schools that crop up from time to time. People like Seng Suntheng, Vann Molyvann and Lu Ban Hap were also influenced by the intellectual life of post-war Paris, where they learned the importance of thinking for themselves. Despite pressure to follow the French approach to architecture, they searched for their own roots and style once back in Cambodia and each found it in his own way.

Embracing the Elements

The roots of New Khmer Architecture include the modern movement, both vernacular and ancient Khmer styles and the colonial heritage from Europe. What made it so unique was not so much the aesthetics but its spirit drawn from Cambodian culture and everyday life.

In temperate climates, towns and buildings are designed to protect residents from a climate that can kill from exposure, cold and damp. Temperatures in northern Europe can easily vary by as much as 60 degrees Celsius between the hottest and the coldest months of the year. Buildings have traditionally had to stand up against the cold, resist snow and retain body heat. Thick walls and small windows were designed to resist the elements and reduce draughts. In more recent times, modern technology has been harnessed to heat buildings in the winter and cool them in the summer.

When Europeans colonised countries, they brought the idea of fighting the elements with them. A typical attitude derived from this fighting culture is found in relation to water. Rather than following Southeast Asian traditions by building a city on water, colonial towns were built by filling in wetlands, waterways and lakes and constructing dykes for earth-bound vehicles and heavy buildings.

In tropical climates, temperatures don't vary much more than 20 degrees Celsius between the hottest and coldest months, and the average temperature is close to body heat throughout much of the year. To protect the body from excess heat, shade and ventilation are all that is necessary. Water and air are in abundance, and instead of fighting against the elements there is a mentality of embracing the climate and making use of the elements. Such differences in the traditional mentalities toward building in Europe and Southeast Asia are illustrated in Cambodia by the introduction of land management rules by the colonial authorities. Before the French arrived, the Khmer tradition was that people were allowed to build on water but nowhere on land without the permission of the king. After the establishment of the French colony, the rules were reversed.



23 | 24 | 25

23. Alternate view of house model by Seng Suntheng (see 22.)
24. Front view of house model by Seng Suntheng (see 21.)
25. Students at Neth Yang College in Battambang in the 1960s. Of particular note are the decorative screen walls.

Phnom Penh Cathedral

Initial function: Catholic church
Present use: Destroyed, site now used for Bayon Telecommunications Station
Location: Monivong Boulevard, Phnom Penh
Dedication: June 15, 1955
Architects: Maurice Masson, Henri Chatel

Maurice Masson was a well-established architect in French Indochina, with his main office in Saigon and another in Phnom Penh run by Henri Chatel. He was a contemporary of other French architects like Leroy and Mondet who continued working in the region after independence. His post-independence career was short lived, however, and he died on January 1, 1955.

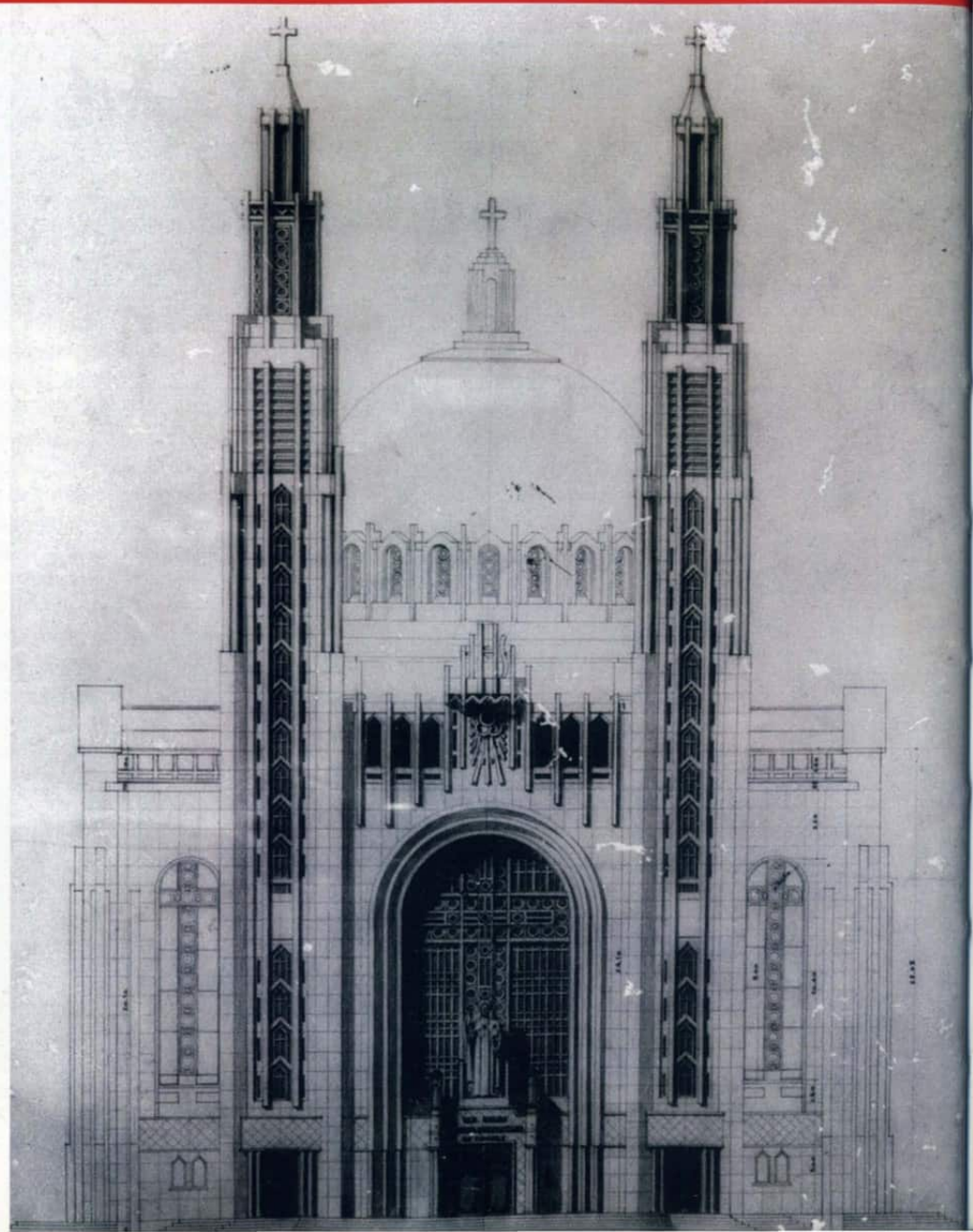


Henri Chatel did the site work with the building contractor, Société Industrielle d'Etude et de Construction (SIDEC). "It was a hideous building and I was not sorry to learn that the Khmer Rouge destroyed it," he said.

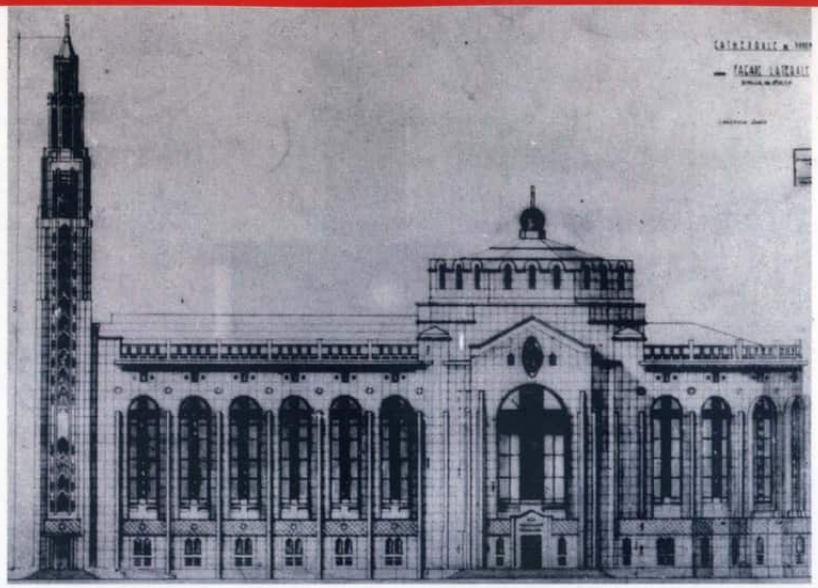
The somewhat Art Nouveau design is a pastiche of academic and Gothic styles. There is no attempt to innovate or adapt to the local context, and its pretentious and imposing style denotes a lack of modesty. The chevron detailing of the steeples is reminiscent of other colonial buildings such as Phnom Penh Station and the Central Market that date back to the thirties. It was a massive reinforced concrete building, and one might say that it demonstrates the capacity to build gigantic structures in Cambodia after independence and not much else.

Although churches are traditionally orientated with the choir to the east, the Cathedral was orientated back to front, with the main door facing east. Maybe the architect's main concern was with creating a powerful perspective on the axis of Wat Phnom.

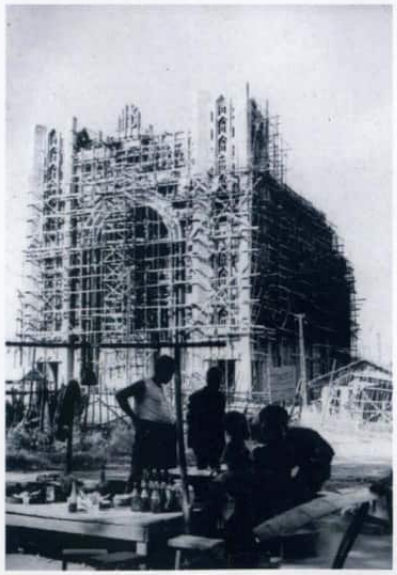
Before independence, the Catholic community of Phnom Penh celebrated mass in the old church at Russei Kéo to the north of the city. In 1952, Maurice Masson was commissioned to build this ambitious



26. Nave and altar in the 1960s
27. Front elevation showing the never-completed twin towers and a higher dome with the main entrance facing east







edifice that was intended to replace the previous church. The two steeples were never finished ("fortunately" according to the Bishop of Phnom Penh, Yves Ramousse), and the section for the choir was not completed until 1957.

It seems that few tears were shed over its destruction by the Khmer Rouge in 1976. Demonstrating the pains they took to eradicate all trace of this building from the face of the earth, the Khmer Rouge went as far as unearthing and demolishing the foundations.

The cathedral illustrated the last stale breath of colonial pompousness and it was never really adopted by the Catholic community. The first local bishop, Joseph Sala, was ordained on April 14, 1975, but not here. He chose the simple church of Russei Keo for the ceremony and never had time to hold a mass of his own. He was one of the many Cambodian Catholics taken by the Khmer Rouge to Tain Kok near Kompong Thom, where they all died.

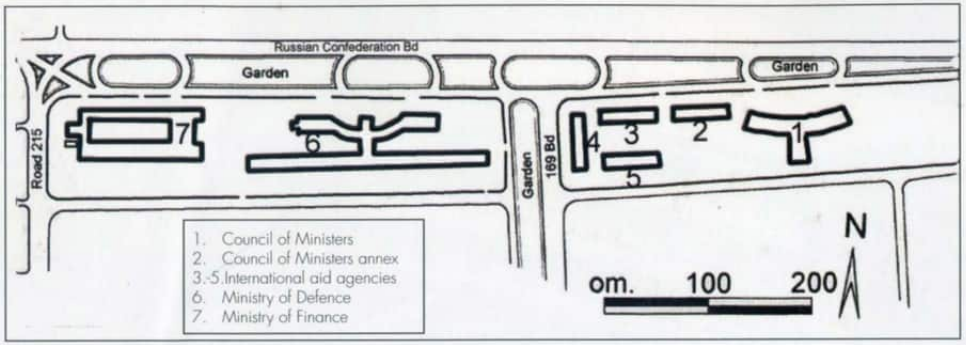
According to Ramousse, Cambodia had 73 churches when Pol Pot took power. Except for a Carmelite chapel on Chruoy Changvar and the church at Sihanoukville, all were systematically destroyed.

Sources: Mission Française à l'Etranger; interviews with Henri Chatel in Paris and Archbishop Yves Ramousse in Phnom Penh in 2001

28 | 29 | 30

28. Side elevation of Phnom Penh Cathedral designed on European models
29. Congregation and priests entering the cathedral in the 1960s
30. Under construction in the early 1950s





Government Compound

Initial function: Council of Ministers, Ministry of Defence, Ministry of Finance and international aid agencies

Present function: Council of Ministers, Ministry of National Defence, Army Headquarters, Ministry of Rural Development, Municipal Cadastral Department

Location: Union of Soviet Socialist Republics/Russian Federation Boulevard, Phnom Penh

Inaugurations: Late fifties to late sixties

Planners: Municipality of Phnom Penh



The boulevard connecting Phnom Penh with Pochentong Airport was part of the first major urban development project after independence. It seems that this government quarter was a French-Cambodian development built on reclaimed municipal land. It also included offices for United Nations agencies, the United States Overseas Mission and France's Economic and Technical Mission to Cambodia.

Inaugurated on April 23, 1965, USSR Boulevard was the first to be named after a foreign country or leader. In the months that followed, no fewer than seven boulevards were dedicated to Yugoslavia, Poland and Czechoslovakia as well as Prime Minister Jawarharlal Nehru of India, President Charles de Gaulle of France, Yugoslav President Josip Broz Tito and Chairman Mao Zedong of China.

Source: Sangkum Reastr Niyum Photos Albums



31. A parade of 1960s vehicles drive along the former USSR Boulevard with the Ministry compound as the backdrop

32. Site plan of ministries in the 1960s
33. Phnom Penh in 1968 showing the position of the ministerial compounds
34. Ministries along USSR Boulevard under construction in the 1960s, with the Council of Ministers in the background



Government Compound: Council of Ministers

Initial function: Council of Ministers
Present use: Council of Ministers
Location: Union of Soviet Socialist Republics/Russian Federation Boulevard, Phnom Penh
Inauguration: 1950s
Architects: Vann Molyvann & Grimeret

Vann Molyvann says the Council of Ministers was inspired by the UNESCO building in Paris with its curvilinear facade. This may explain the sweeping curve of the facade, but the comparison stops there. This classical reinforced concrete structure is designed on a grid corresponding to the size of a standard office. The balcony and overlap of the roof provide shade.

In addition the main facade is orientated due north. A large conference hall was provided at the rear. Little is known about Grimeret, although Vann Molyvann acknowledges the French architect's contribution to the design.

It is not clear when the building was completed or inaugurated, although it seems that construction was well underway by 1956. An undated photograph from *Cambodia Today* shows the building under construction, describing it as a new Ministry of Planning. A separate photograph found in American archives is clearly from the same period and dated 1956. The caption also described it as the new Ministry of Planning and said the site used to be a low, swampy area infested with pests. The buildings in the foreground (now the Ministry of Rural Development and adjacent buildings) are apparently being used by UN and American aid workers, although other sources say French aid workers were there too. Henri Chatel's separate drawing for the design of the new Ministry of National Defence in 1960 shows the building in the background.

The building is one of Vann Molyvann's early works. Although indisputably elegant, it does not show his characteristic verve by using an architectonic structure and pronounced contrasts of building materials, suspended roofs and double walls. It seems to draw more on the Modern Movement's architectural ethic with its smooth facade and flat roof hidden from view by a parapet. The ground floor was designed as a carport but the building does not use the Khmer tradition of cross ventilation, relying on air conditioning to function comfortably. Compared to the Chaktomuk Conference Hall, which was inaugurated in 1961, this is a surprisingly demure design for Vann Molyvann.

Sources: Sangkum Reastr Niyum Photos Albums; Années 60; Photos Souvenirs de mon Cambodge; interview with Vann Molyvann in 2001



35. Aerial view of the Council of Ministers building in the 1960s with vehicles parked underneath

36. Council of Ministers building in 2001

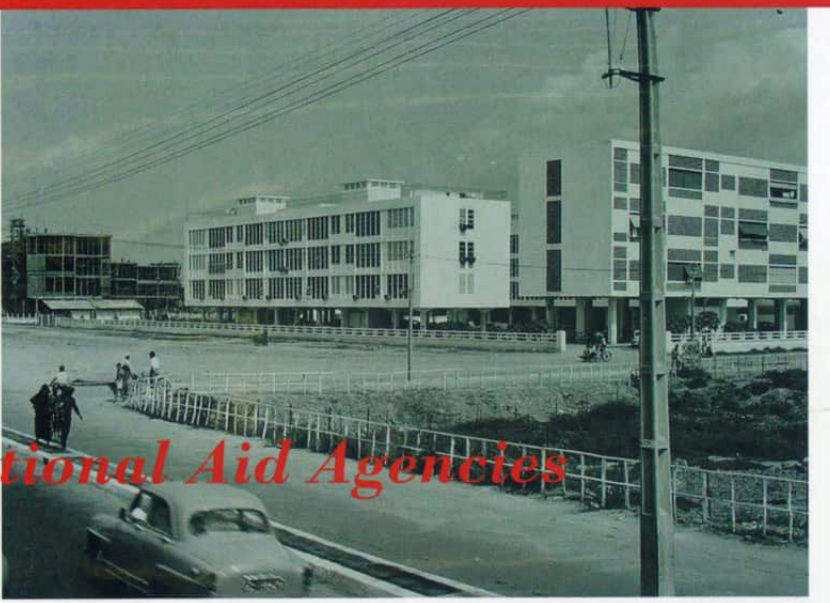
Government Compound: International Aid Agencies

Initial function: Three buildings for international aid agencies
Present use: Ministry of Rural Development, Municipal Cadastral Office, housing
Location: Union of Soviet Socialist Republics/ Russian Federation Boulevard, Phnom Penh
Inauguration: c.1955-56
Architects: Seng Suntheng and/or Roger Colne

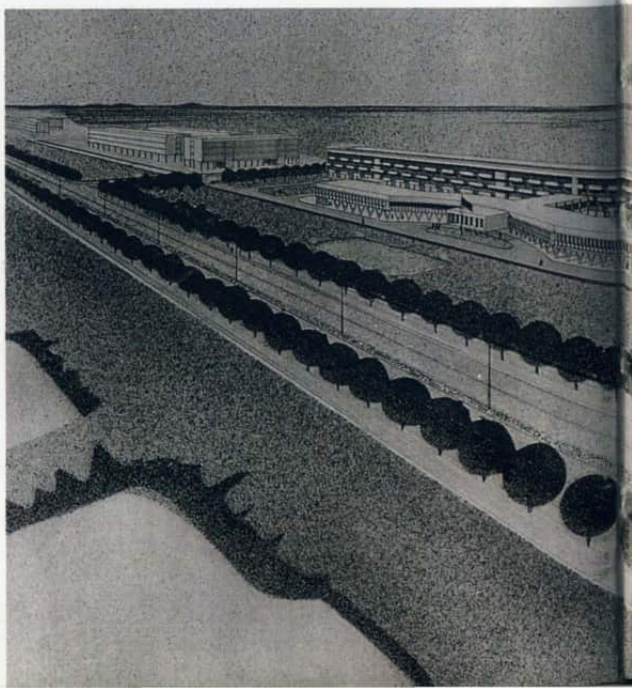
Vann Molyvann remembers Seng Suntheng as the architect. But photographs of the three buildings under construction have also been found in the curriculum vitae of Roger Colne, a Frenchman who was registered as an architect in Cambodia and seems to have been well connected to government officials. The design of the buildings, which appear to have been the first in this city extension project, is typical of the Modern Movement.

Building three (see plan p.117) now occupied by squatters was used as an office for the French Economic Cooperation agency. A sign on the facade still reads "Université Technique" but we have no trace of this university building in our research references.

Sources: Cambodge d'Aujourd'hui November -December, 1961; interviews Société Concessionaire des Aéroports vice chairman Joël Vélasque and Vann Molyvann in Phnom Penn in 2001 and 2002; Vladimir Bodiansky archives; Records of the US Foreign Assistance Agencies, Office of Far Eastern Operations, Cambodia Subject Files





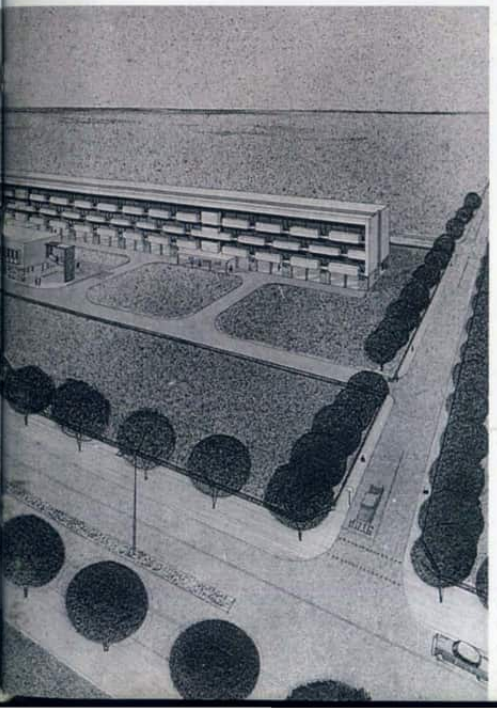


37. United States Overseas Mission & UN buildings in 1956 with the Council of Ministers (far left) under construction
38. Workers on the international aid agencies' building site in the mid 1950s



Initial function: Ministry of Defence
Present use: Ministry of National Defence
Location: Union of Soviet Socialist Republics/Russian Federation Boulevard, Phnom Penh
Inauguration: c.1962
Architect: Henri Chatel

Government Compound: Ministry of Defence



Prime Minister Sam Sary appointed Henri Chatel architect of the Ministry of Defence in 1954, a position he held for seven years. Under Defence Minister Sirik Matak, the young French architect played an important role in promoting a more innovative style compared with the earlier colonial architects. The clear-cut design of the ministry is typical of his style, with an alternating composition created by the windows. The joinery work is particularly refined. The volume is more horizontal than vertical, with two to four levels only. The buildings were raised off the ground, with the minister's offices standing on VV columns. Today, the area underneath has been enclosed. The roof of the main building appears to be double, with ventilation incorporated into the structure. No references to the building appear in the press of the sixties, possibly for security reasons.

Henri Chatel had already finished the ministry's design when he unexpectedly had to leave Cambodia. Although he never saw the completed building, it appears to have been built exactly according to his drawings - except for the road planned on the west end of the building. This road appears never to have been built, and the Ministry of Defence incorporated the then Ministry of Finance into its compound.

Source: Interview with Henri Chatel in Paris in 2001





39. Ministry of Defence in 2001
40. Perspective drawing of the Ministry of Defence by Henri Chatel dated August 5, 1960
40. Model of rear building, Ministry of Defence



Government Compound: Ministry of Finance

Initial function: Ministry of Finance
Present use: Army headquarters
Location: Union of Soviet Socialist Republics/Russian Federation Boulevard, Phnom Penh
Inauguration: c.1966-1967
Architect: Vann Molyvann



42. Aerial view of Ministry of Finance soon after completion in the late 1960s

After Henri Chatel's departure, Vann Molyvann took over most of the work for the Ministry of National Defence and the National Bank of Cambodia. This group of buildings was initially designed as the Ministry of Finance, although it has since been incorporated into the Ministry of Defence and serves as the army headquarters. It is a pity that they are difficult to see behind the high wall, for they are truly incredible designs. The structures are disarticulated from the walls of the building, standing out in a way which is almost reminiscent of Gothic architecture.

In some ways, the group of buildings emulates the Ministry of Defence with one floor standing on columns at the front of the site and three floors raised off the ground to the rear. Also, the rhythm of the facade is similar, except that here it reaches a higher level of agitation and is three dimensional, with the wall panels in different planes. The refined composition of the windows just adds to the general musical effect. The roof is double, with a separate wave-shaped structure raised off a flat roof, repeated in the form of the top beam which stands out against the sky. Overall, it is a very self-assured and mature work by Vann Molyvann and interesting to compare with the subdued Council of Ministers.

Sources: Sangkum Reastry Niyum Photos Albums; RUFA; interview with Vann Molyvann in Phnom Penh in 2001

43. Ministry of Finance from what was then USSR Boulevard

Maurice Masson

Maurice Masson was a well-established architect at the time of French Indochina, with his main office in Saigon and another in Phnom Penh. In 1949, he recruited Henri Chatel (see page 34) to work with him.

According to Henri Chatel, Maurice Masson studied architecture at the Ecole Nationale Supérieure des Beaux-Arts at the same time as Leroy of Leroy & Mondet, architects.

His major work was the cathedral of Phnom Penh, which was built between 1952 and 1955. Henri Chatel did the site work with the building contractor, Société Industrielle d'Etude et de Construction, (SIDEC).

He died January 1, 1955.

Sources: Mission Française à l'Etranger, Paris and interview with Henri Chatel, Paris 2001

ARK Research references: PP38: Cathedral of Phnom Penh



44. Khmera Cinema theatre near the central market was built for Mr Tan Pa, owner of the Banque Franco-Chinoise by architects Henri Chatel and Maurice Masson

Jamshed Phirozsha Petigura

Just before going to print, Renata Osborne, the niece of this hitherto little-known figure, contacted the authors and gave them important information.

He was born in Fuzhou, China in 1909 of Indian parsi and Chinese parentage and died in Phnom Penh in May 1970.

He had a French architect's diploma and after working in Saigon with the head of the Saigon School of Art and Architecture, he came to Phnom Penh and worked on an extension to the new National Bank of Cambodia building in 1956. Maurice Masson and Henri Chatel had designed and built the original central bank headquarters several years earlier.

Jamshed Petigura is also credited with completing the National Bank apartments designed by Henri Chatel in the late fifties. The latter won a competition for these buildings but, because he was seriously ill, had to leave Cambodia before completing construction and handed the plans to Jamshed Petigura, who promised to share the fees. In 2001, Henri Chatel said he never knew what fate befell the apartment buildings, which were completed by Jamshed Petigura and still stand inside the Russian Embassy compound.

Sources: Interviews with Henri Chatel and Vann Molyvann; letter to Henri Chatel from Chai Thoul; various references in Cambodian journals, Renata Osborne, Kingston, Australia through Alison Sloper, Phnom Penh

ARK Research references: PP7: Apartment building **PP18:** Apartment buildings for National Bank of Cambodia, **PP113:** Hotel Monorom **PP188:** extension to National Bank of Cambodia building **PP353:** Hotel Paradise **TV8:** Resort for National Bank of Cambodia staff **SV3**: 'Cité' apartment building financed by National Bank of Cambodia



45. Jamshed Petigura's Hotel Monorom in the early 1960s. This landmark property at the boundary of the city centre on Monivong Boulevard has been remodeled and refurbished as the Holiday Villa Phnom Penh



Photo Credits

APUR; 33

ARK Research; 5, 6, 7, 8

Chatel, Henri; 17, 18, 39, 41

Collins, Darryl; 4, 9, 10, 11, 12, 13, 14, 15, 16

Hok, Sokol; 2, 32, 35, 36, 40

ISTED; 34

Mission Française à l'Etranger; 26, 27, 28, 29, 30

Album des Principal Realisations; 19, 20, 21, 22, 23, 24

RUFA; 3, 25, 31, 43, 46

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Vann, Molyvann; 1, 35, 42

Vladimir Bodiansky archives; 38, 44, 45

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Grant Ross, Helen; "Hideous Cathedral" *Phnom Penh Post*, Phnom Penh, April 8-21, 2005

46. National Bank of Cambodia in the 1960s

Works:

Provincial Museum
Exhibition Hall
One Hundred Houses
Central Bank Staff Housing
SKD Brewery Staff Housing
SKD Brewery
The 'Round House'

Biographies:

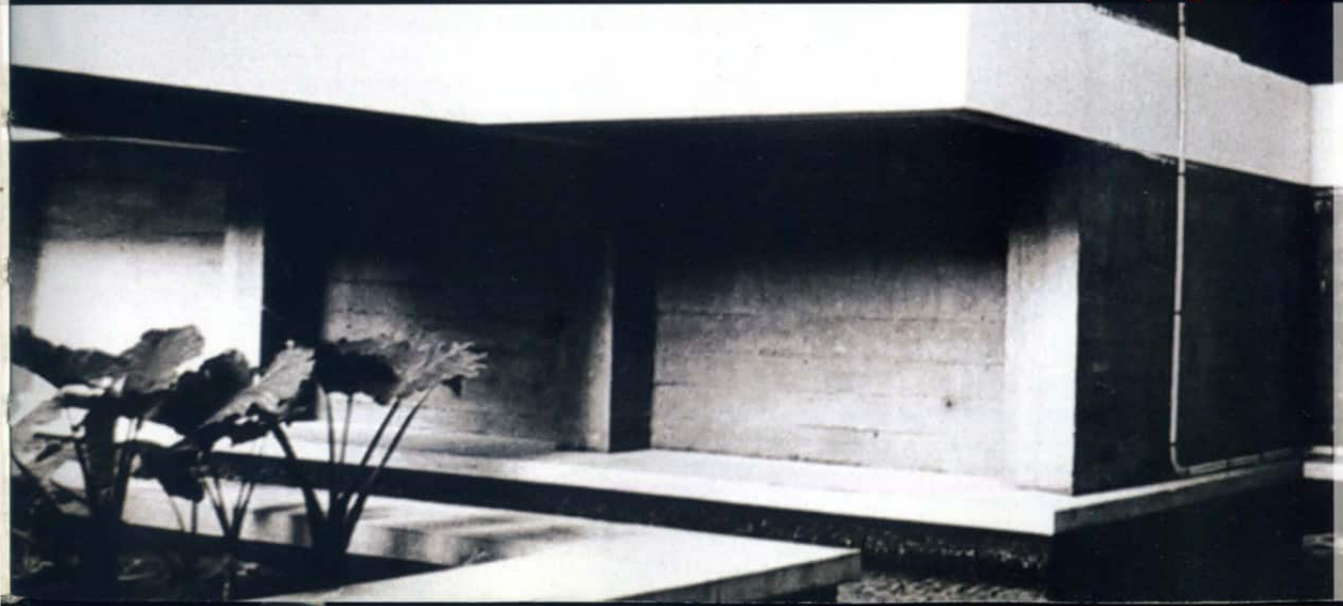
Uk Sameth
Oung Sadam
Um Samuth
Vo Toan



The vernacular style of building light-weight structures in Cambodia uses materials that are readily available such as bamboo, rushes, rattan, wood, tiles and bricks. The building is not made to last. Spatially, it is open, transparent and simple. Composed of a set of posts, the structure is not hidden but clearly visible. Inside, family members elect where to put their mats to sleep, as the idea of having a room with walls does not exist. The open space is ideal for improvisation. Such houses are often built on stilts, transforming communities into vast water villages with boats and floating markets during the annual flood season. Large water villages are still widespread across Cambodia, including floating villages on the Tonle Sap.

New Khmer

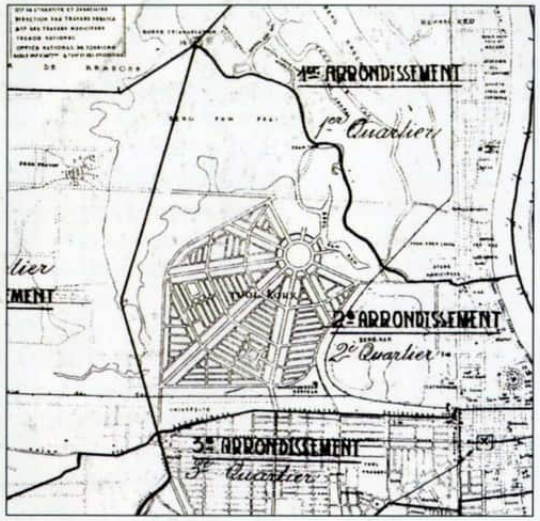
Chapter 5



Back to Basics

When he returned to Cambodia in 1956, Vann Molyvann felt he had to integrate Cambodian traditions into his work rather than simply follow the lessons of his French masters. "I noticed that there was an unprecedented creative dynamism in my country after a long period of decline," he told *La Dépêche du Cambodge* in 1964. "Everybody was aware that it was necessary to rediscover our origins, the motivation behind our country's existence and that like any country with an ancient tradition, it should reassert its own personality." For

1. Water pools at the National Sports Complex in the 1960s



Vann Molyvann, this spirit was imprinted onto the cultural movement of the period. "Obviously, this did not mean reproducing the artistic creations of Angkor but being inspired by them, transcribing and adapting them to a new reality," he said.

In another commentary published that year, Vann Molyvann noted that the Angkorian builders always used rules of composition which were extremely rigid and "classical" from the stylistic point of view. "Their square plans were oriented on the cardinal axes which had an exact symbolic meaning. For almost a thousand years, they drew their inspiration from this. This order was exploited in space and time as styles which succeeded each other were integrated into the same basic composition."

Angkor complexes were "unthinkable" without their moats, ponds and basins, creating a backdrop for the monument itself. "Also, we have to take into account the construction and special tradition of the Khmer wooden house, which is functional in the way space is organised." In particular, Vann Molyvann noted how the area under the house provided shade, how verandas offered protection from the rain but were also oriented to benefit from the wind and how spacious roofs provided a buffer zone from the heat.

"You can find all these Khmer architectural characteristics in the new public buildings (Chaktomuk, Ministry of Finance, State Palace of Chamkar Mon) and often in private houses. But I think that the work which best characterises the Cambodian architectural renaissance is the National Sports Complex, which was inspired by the great principles of our tradition but which was built using the most modern construction techniques."

In addition, public buildings often incorporated moats and drainage systems into their design. Some, such as the sports complex, used ancient methods of land works to build.

Relics of Colonialism

Ernest Hébrard's plan for Phnom Penh in 1925 was a scholarly academic design based on an assertive road network, the "alignment" of buildings in relation to roads, tree planting and a well-defined hierarchy of urban space. This is a good recipe for town design that guarantees a certain amount of homogeneity even when buildings are extremely diverse in style and size.

After independence, two kinds of urban development took place throughout the country to accommodate the growing population in towns. One was a somewhat uninspired French style of town plan, illustrated by the Tuol Kok estate in the northwest corner of Phnom Penh. The other was a more enlightened kind of urban development with large sites devoted to public buildings, Phnom Penh University being one of the best examples.

The Tuol Kok estate is a contrived symmetrical network in which seven roads converge into a roundabout. It was probably designed by the French before independence. Rather than continuing the traditional cardinal axis idea found in Ernest Hebrard's plan, this mangle does not offer a clear plan that has any specific quality. It looks like a reinterpretation of classical French town planning, somewhat reminiscent of l'Etoile in Paris.

Compared with this confusing plan, the university campus offers a striking design in which all plots are oriented north-south. These are surrounded by moats and accessed by bridges in a way that seems directly inspired by the temples of Angkor. The master plan was designed by Leroy & Mondet but Vann Molyvann arrived in time to modify it. Whereas the French architects intended to level the land by infill, Vann Molyvann imposed the excavation of the moats in true Khmer fashion.

The westward extension of Phnom Penh and the extension of Battambang to the eastern bank of the Sangker in the sixties are as uninspired as Tuol Kok. It was bad interpretation of Ernest Hébrard's legacy, and there were no strategic perspectives to give identity to outstanding buildings. This seems to have been the case for most provincial town plans developed during the period. These plans seem to emulate traditional French town planning but lack the

2. Tuol Kok district from a map of 1969. The outline of this fan-shaped suburban extension to Phnom Penh appears on maps from the late 1950s.

clarity and qualities of Ernest Hébrard's plan. As for Sihanoukville, it merits a complete study. The reason for the chaotic result lies with the then governor, who failed to impose the guidelines drawn up by urban designers such as Gérald Hanning and André Gutton. Instead, he let the town develop where the first builders of the deep-sea port had set up camp.

If New Khmer Architecture found its inspiration in ancient Khmer, vernacular and modern architecture, there was no model for urban planning. Southeast Asian countries never had a tradition of urban planning and design. The traditional Khmer town was not planned, but consisted of a loosely organised and spontaneous system of wats, waterways and houses. Except for projects like the Phnom Penh and Battambang university campuses, Cambodian town planners in the fifties and sixties did not explore the potential offered by examples from Angkor or the vernacular style. The challenge is still waiting to be taken up by Southeast Asian town planners.

The colonial influence on buildings in the fifties and sixties is surprisingly small. In some provincial schools and even the Buddhist University of Phnom Penh, the blocky colonial villa style described in Chapter 4 was perpetuated to a certain extent. But on the whole, the Italian palaces and Loire Valley castles were not reintegrated into the architectural lexicon.

Nevertheless, the colonial traditional style was maintained across Cambodia by architects such as Lu Ban Hap and an architect from Battambang identified as Yieng. He seems to have been behind a group of public buildings in Battambang comprising an exhibition hall, a provincial museum and a court house. Except for the Chenla State Cinema, designed



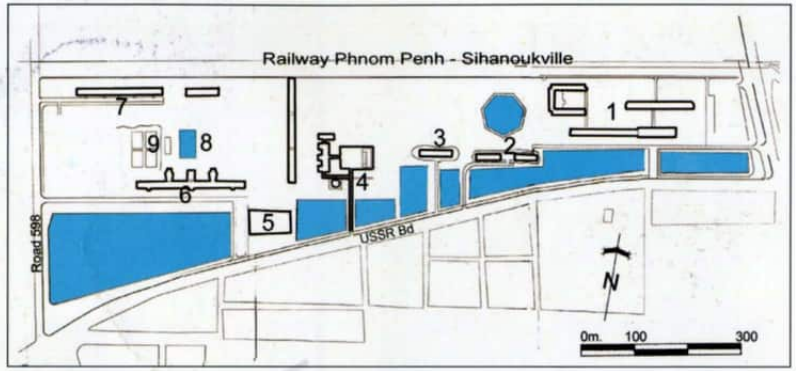
Three Dimensions

The very first structure that Vann Molyvann designed was not a building but a monument that forms the roundabout at Monivong Bridge (although one witness claims this was designed by Seng Suntheng). Inaugurated in 1957, it is an unusual demonstration of the use of reinforced concrete in a three-dimensional structure. What inspired these four inclined concrete beams springing from the ground and reaching for the sky, adorned with nagas?

Rather than orthogonal ground-based structures, the inspiration seems to come from gravity-defying carpentry work, maybe even traditional scaffolding. In the Angkor period, scaffolding techniques required deft carpenters to put together three-dimensional bamboo structures that encompass the space where stupas or temples were to be built.

As a young man, Vann Molyvann remembers that he loved to play with a piece of paper, folding it to make it rigid. This search for dynamic structures is a leitmotif that can be found in all his work.

3. Exhibition material from the sixties with details of an urban plan of Sihanoukville (see 53.)



4. Site plan of the university compound in the1960s showing:
   1. Institute of Technology of Khmer-Soviet Friendship
   2. Institute of Technology housing
   3. unknown
   4. Teacher Training College
   5. main hall of Sangkum Reastr Niyum University
   6. Sangkum Reastr Niyum University
   7. university apartments
   8. swimming pool
   9. tennis and basketball courts.

with Chhim Sun Fong in a distinctive sixties "brutalist" style, most of Lu Ban Hap's buildings have a similar traditional language. Two of his most important were the University of Takeo/Kampot and the University of Kompong Cham. These were destroyed, but photographs reveal an extensive use of wat-style roofs and stupas with temple-like buildings organised around courtyards.

The Cambodiana Hotel in Phnom Penh was one of Lu Ban Hap's last works and attempted to transform a massive concrete block of 140 rooms into a "Khmer-style" building. The large temple-style roof included pointed dormer windows - identical to the ones found on Lu Ban Hap's house on Monivong Boulevard which is now the Ministry of Land Management - and a kind of stupa to finish off the entrance hall. The hotel has been radically transformed (see page 57).

Modernist Influences

It is hard to imagine that a major architectural movement could have taken place in the sixties without some influence from the Modern Movement that had such a powerful effect on architecture worldwide. None of the main architects of the period claim to have been "followers" of the movement, although Lu Ban Hap and Vann Molyvann must have studied Le Corbusier's theories and ideas in France. In rejecting the academic approach and searching for new types of expression in the twenties, Le Corbusier developed five universal rules for a new order of architecture - flat roofs, structures separate from the wall, open plans, horizontal windows and columns to raise the building off the ground.

Separate structures, raised buildings and even the open plan are all part of the Cambodian vernacular tradition. But some New Khmer Architecture has an obvious affinity with the Modern Movement as seen in the main building of the University in Phnom Penh the structure of which is similar to the Unité d'Habitation by Le Corbusier in Marseilles. The engineer for Le Corbusier's building was Vladimir Bodiansky, who worked on the National Sports Complex in Phnom Penh with another engineer by the name of Wladimir Kandaouroff who appears also to have worked for Leroy & Mondet, the architects who designed the university.

In addition to Vladimir Bodiansky, Gérald Hanning had worked with Le Corbusier as well. As UN experts involved in much of Cambodia's planning and construction between 1960 and 1965, they both gave Vann Molyvann technical backing and assurances for ambitious projects. Although the Cambodian architect says they were his "masters," it is hard to evaluate the impact of these two charismatic personalities. Vladimir Bodiansky was one of the most famous engineers of his era, putting his rigorous engineering knowledge acquired in Moscow to the test on railways, bridges, aircraft

and buildings. The challenge of designing aircraft probably influenced his approach to building engineering. Gérald Hanning contributed to Le Corbusier's theory on proportion, *Le Modulor*, which Vann Molyvann used as a design tool in many buildings. Here, the Modern Movement and Angkor's traditional rules of composition tend to be in the same direction.

Young Cambodians and international experts weren't the only ones inventing magnificent new styles of building. Some old colonial architects such as Leroy & Mondet underwent a radical change, as seen in the startling contrast between their neo-classical Faculty of Medicine of the fifties and their modernist Sangkum University inspired by Le Corbusier of the sixties.

Low-key

Apart from monumental temples and sacred structures, buildings are traditionally not ostentatious in Cambodia. They show a natural modesty, be they the floating houses on the Tonle Sap, the wooden huts of farmers or even the meetings rooms of royal palaces. In the complex of buildings at Chamkar Mon, including the magnificent State Palace (now the Senate), the simple and gracious designs for the houses of Norodom Sihanouk's immediate entourage are striking. Built with brick, roughly hewn stone and reinforced concrete, they are modest in size. Each seems to have been tailored for its occupant in some kind of experiment. They are reserved but also joyful with intimate little gardens, swimming pools, sculptures and decorations that bring the space alive. They have far more in common with the traditional Southeast Asian family compound of simple rooms around gardens and fountains than with the pretentious monstrosities of Phnom Penh's present new rich or with boxy colonial villas.









5. Sangkum postage stamp issued in 1968 celebrating the Royal University of Kompong Cham
6. Façade of the Royal University of Phnom Penh, now renovated with a complement of faculties and students
7. Battered signage is all that remains of the ill-fated Royal University of Takeo-Kampot
8. The Faculty of Medicine on Monivong Boulevard dates back to 1955 and retains vestiges of French colonial architecture

Climate

Just as vernacular architecture distinguishes itself by its openness, New Khmer Architecture shows how easy it is to make buildings comfortable for users in a tropical climate. Orientation, preferably facing north, is important. A good example of this is the Institute of Technology of Cambodia (see page 185). Here, the main facade, facing due north, opens onto an inside courtyard, cooled by large forest trees. The southern facade is composed of a wall made of open concrete panels that protect a corridor from direct sunlight. The corridor, in turn, acts as a buffer for the walls of the rooms.

Raising the building off the ground allows air to cool the area underneath and also creates a useful meeting place. During floods, it also protects the main functions of the building from damage. High ceilings, cross ventilation of rooms and north-south orientation are all favourable to natural cooling of the air and avoiding excess humidity.

The roof should be spacious to provide shade to the walls, a volume of air that protects the top of the building from direct sunlight, and a slope that enables heavy monsoon rain to drain off quickly. The best solution for this first appeared in Henri Chatel's idea of suspending a VV-shaped roof over a flat roof. This avoided contact and heat transmission between the two layers of roof, and provided a place for people to congregate. It took only a few years these distinctive roofs of New Khmer Architecture to evolve into the bold statement they would become in such buildings as the State Palace. Not content with double roofs, Vann Molyvann introduced double walls into his mid-sixties buildings.

The Court at Chamkar Mon

The State Palace is a magnificent demonstration of the roof creating the architecture. By the time Vann Molyvann was designing it, he was a self-assured architect with his own style. Taking the idea of a raised roof to an extreme, the roof had become his signature tune, and it dominates the design of all his later works.

The walls of red sandstone from Kampong Cham contrast with the white zigzag roof. As the hub of political life, it is rightly impressive. But at the same time it is also demure, set low into the site with the internal space alternating with green courtyards. The palace was designed with cross ventilation, high ceilings, a double roof and double walls that offer insulation from the sun. The ground floor was raised on columns.

Like all of Vann Molyvann's buildings, the State Palace is encircled by a large open drain, covered with paving stones in true Angkor tradition. This way of gathering the excess monsoon rainwater is the most practical solution for the climate. Unlike underground drains that can get clogged up, overflow and require maintenance, surface drainage systems simply require the removal of a paving stone to check that the water is flowing away.

This building shows how New Khmer Architecture draws on tradition and an intrinsic knowledge of climate and Cambodian society. Materials are not used ostentatiously but economically. Simple local materials such as rough stone, marble and brick are used to enhance the composition.

In the SKD Brewery, for example, red brick is used for the wall on the outside, with a gap of air separating it from the internal concrete wall. The brewery also uses ingenious natural ventilation systems in the walls and roofs.

Walls made of claustras had already been used in some late colonial buildings such as the Central Market in Phnom Penh. In the National Bank of Cambodia, walls were made of beautifully-designed prefabricated claustras, providing permanent shade and ventilation for the space within. In a simple classroom building for Electricité du Cambodge, Mam Sophana makes use of elegant columns to create a deep recess in the facade. In his Round House, he uses a multitude of devices from claustra walls to perforated walls.

The Angkor Hotel was designed bearing in mind the demands of tourists. Although air conditioning was provided in all the bedrooms, these were designed on a courtyard basis enabling cross ventilation as well. The main hall, reception area and restaurants had a high roof and no air conditioning.

By the time this exemplary hotel was built by Claude Bach in the seventies, there was already concern about deforestation so the structure was built of steel. Bricks and tiles were made locally. Ultraviolet rays and ponds were used for water and sewage treatment. Electricity was generated by solar panels (and a generator when necessary).



Lifestyle

Urban development and adequate housing are two major challenges faced by countries with high birth rates. Between 1953 and 1970, Phnom Penh managed to accommodate an explosion in its population from 370,000 to one million. The municipal government provided roads, drainage and water supplies. To finance urban development, plots were sold to private developers who were mostly Chinese merchants. As a result, the buildings were mainly Chinese shop houses. Tuol Kok to the north and Boeng Keng Kang to the south were developed into low-density housing estates with high standards and innovative designs that remain.

Public experiments in housing were also taking place. The Bassac Development's apartment buildings were an attempt to build higher density housing adapted to the Cambodian way of life. Vann Molyvann relates how Vladimir Bodiansky pointed out that the traditional Cambodian house was perfectly adapted to the climate and way of life. While higher density and several storeys were imposed, Vann Molyvann incorporated internal patios and cross ventilation, with the main living area hidden from outside view.

The National Bank of Cambodia promoted several experiments in housing. The competition won by Henri Chatel (see page 22) gave rise to a large group of apartments in Phnom Penh, but also an apartment building in Sihanoukville. The central bank also financed the one hundred houses project by Vann Molyvann, directly inspired by the traditional Cambodian house but with modern comforts like electricity, water and drainage - and an improved

9. Louvered vents and windows incorporated into the facade of the Cambodian Technical Institute diffuse light into a breezy exterior corridor and classrooms



roof. Experiments to build community centres and low-cost housing also took place in provincial towns and rural areas.

The Preah Suramarit National Theatre in the Bassac Development was designed so that traditional Khmer choreography and music could take place in the open air. The quest was not to maintain tradition for its own sake but to improve traditional building, adapting it to the changes that Cambodian society had undergone.

Lessons Unlearned

Starting off shyly after independence, New Khmer Architecture had developed into a powerful style by the mid-sixties. Vann Molyvann was the major talent, but others such as Lu Ban Hap, Ung Krapum Phka, Uk Sameth and Chhim Sun Fong also played an important role. Even the old colonial hangers-on Leroy & Mondet were affected by the winds of change.

Private buildings such as apartments, cinemas and hotels also have a high standard of design that emulates New Khmer Architecture. Investors not subjected to the high building standards set by Norodom Sihanouk were swept along by the creative atmosphere generated by the public sector. Nowhere is this better seen than in house design. Apart from those successfully dated and identified, there are few records of the hundreds, if not thousands, of houses built to satisfy the needs of the new middle class. They have a distinctive flavour, not least in their horizontal planes intersecting with vertical elements and sweeping roofs. The houses are open and modest, corresponding to a convivial and simple style of family life. Climatically well designed, they interact with gardens and patios and do not rely on air conditioning.

Private housing in the fifties and sixties is in strong contrast with the pretentious pseudo-pastiche Thai soap-opera style adopted by the new rich of Phnom Penh at the turn of the 21st century. With their concrete tiles, small tinted windows and rococo balustrades, these buildings are all air conditioned.

10. Entrance building of the former SKD Brewery (now Cambrew) with a strong play of colour and 'dong raik' design over the brick and concrete exteriors.

Reinforced concrete

Towards the end of the French era, concrete gained ground in local buildings such as the Central Market and the Phnom Penh Railway Station. Although reinforced concrete was France's strong point in building techniques, it would be simplistic to presume that this explains its widespread use in the post-colonial period. Reinforced concrete is not the ideal material for a developing country. In some Indian states, for example, it was banned as it consumes valuable foreign exchange to import steel. Reinforced concrete also requires complex engineering calculations and mastery of building techniques for its tensile and compressive static qualities to be assured.

Concrete was nevertheless the most widely adopted building material after independence. It lent itself well to the post and beam structure of traditional wood buildings. Concrete also allowed large spans and reduced the pressure of deforestation. Moreover, concrete corresponded well to the Cambodian idea of building open-planned structures off the ground. At the same time, boat builders and traditional carpenters knew how to make the forms. Concrete also went well with a sculptural approach to architecture and experimentation.

With Chinese assistance, Cambodia had its own cement factory in Kampot by 1964. It may have accelerated the conversion from traditional stone carving of ornamentation and bas-reliefs to the moulding of decorative panels and building finishes. But steel still had to be imported. Wood was hardly ever used. Although Yieng's little Exhibition Hall in Battambang was built of wood, his museum next door was concrete. And despite appearances, even the Independence Monument sculpture is rendered with red-granite concrete.

Used by Vann Molyvann, concrete allowed the truthful expression of structure. The choice of concrete seems to have been a happy one - it offered not only creative potential but also survival for many buildings despite the lack of maintenance for many years.

White unrendered or granite finished concrete lent itself well to the play of light and shade with deeply recessed window openings, the stark contrasts highlighted by overhanging roofs. This accentuated the impact of the sculpted forms generated from the design. Concrete allowed the roof to be built as one extension of the structure, not necessarily using tiles to make a slanting roof. White natural concrete was offset by a variety of other materials - red brick, red stone, rough hewn stone, red earthenware claustra tiles, floor tiles, marble and ironwork. Cement was also widely used to create decorative claustras, ornamental panels and sculpture incorporated into buildings. This corresponds to the Cambodian tradition of sculpture as a vital part of architecture that is still alive today with stone carving having converted to cement moulding.



On the other hand, Vietnam caught the New Khmer Architecture bug during its decade-long presence in Cambodia. As a result, Cambodia now has some remarkable Vietnamese buildings, the most obvious example being the second campus of the University of Phnom Penh near Pochentong Airport. Sihanoukville has several Vietnamese buildings of a high standard notably the Cambodian People's Party building near the National Bank building and the sports hall near the market in the town centre. The construction techniques, choice of materials and aesthetics of this group of Vietnamese buildings draw their inspiration from a good understanding of New Khmer Architecture.

Four decades after New Khmer Architecture reached its peak, comparable architecture can be found nowhere in Southeast Asia. In recent

11. Aerial view of the former Chakrey Ting Cement Factory near Kampot soon after construction in 1964. The entire compound was recently sold for scrap metal.



12. Incinerator for burning old banknotes at the National Bank of Cambodia branch in Sihanoukville with a screen wall to hide machinery and provide ventilation

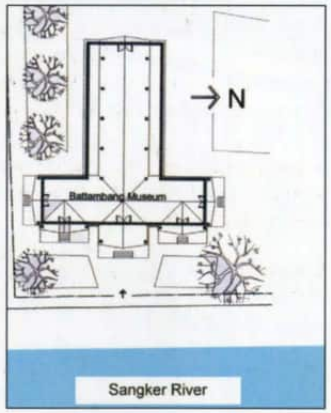
years, Thailand has produced some interesting architects, notably Sumet Jumsai, who designed the Bangkok Post and Robot buildings as well as the International School of Bangkok. Boring pastiche Thai predominates in the politically correct public buildings. Like Malaysia and Indonesia, it is mainly bogged down in banal pastiches of low-quality American-style highrises. The Philippines seem to be the exception, as has been documented by Cornell University researcher Edson Cabalfin. Myanmar is economically and politically stifled out of any artistic expression, and Brunei's architectural splendours are largely the work of foreign architects. In recent years, Singapore started to produce some exceptional buildings, with William Lim the best-known proponent of the emerging Singapore style of architecture.

Cambodia's creative era came to a brutal end with the Lon Nol coup in 1970 and the escalation of war. In a short span of only 17 years, Cambodia achieved an enviable level of development and produced hundreds of buildings of an exceptional standard. Their authenticity comes from the way they continually innovate, drawing their inspiration from tradition and transcending it into something new.

With the return of exiled Cambodians and the influx of foreigners in the nineties, the country's French colonial buildings have attracted attention with their readily identifiable picturesque style. But the unique and authentic modern Cambodian buildings of an internationally high standard have not been universally recognised for their outstanding quality.

Despite years of neglect, many of the surviving buildings were so well designed that they still serve as hospitals, schools, universities and theatres. What would Cambodia have done without them in 1979 when society started to function again? Twenty-five years on they are still serving their purpose.





Most people think this picturesque museum is a relic from the French colonial era. Indeed, the building has nothing striking about its design. It draws inspiration from traditional elements of Khmer architecture. But it has nothing in common with the experimental architecture of the new university on the road to Battambang airport, which opened within days of the museum.

Like the exhibition hall, the museum uses traditional elements of Cambodian architecture to create a space. In this case, however, it is a more classical design and appears colonial if compared to the National Museum of Phnom Penh. The concrete structure has a gabled roof and Khmer-style tiles. This part of Battambang was developed to extend and utilise the riverfront area with a number of civil buildings.

Sources: Norodom Sihanouk; Sangkum Reastr Niyum Photos Albums; interview with Sieng Sang Em in 2000; Le Sangkum, No. 43; Etudes Cambodgiennes, No. 15, 1968

Provincial Museum

Initial function: Museum
Present use: Museum
Location: Battambang (west bank)
Inauguration: October 29, 1968
Architect: Yieng (full name unknown)

13 | 14
15

13. Main entrance of the Battambang provincial museum in a scaled-down version of a traditional style similar to that of the National Museum in Phnom Penh
14. The facade is attributed to a government architect identified as Yieng
15. Site plan of the museum facing east towards the Sangker River









Exhibition Hall

Initial function: Sangkum Reastr Niyum exhibitions
Present use: Exhibitions, community centre
Location: Battambang (west bank)
Inauguration: January 24, 1961
Architect: Yieng (full name unknown)



Although his background is not clear, Yieng worked for the Department of Public Works in Battambang, and Sieng Sang Em remembers him well. In addition to the exhibition hall, he designed several other buildings, including the local museum. He died during the Pol Pot regime.

This building is one of the few surviving exhibition halls built across the country to house travelling exhibitions. Except for the removal of the words "Sangkum Reastr Niyum" from the sign outside, it has hardly changed since it was built. It still houses a somewhat shabby exhibition of regional photographs and is also used as a community centre.

The irregular-shaped building is wooden, with the floor raised above ground level. A modest structure, it uses traditional elements of Cambodian architecture to create a space for exhibitions in the form of a gallery around a central courtyard with crazy paving walls. This introverted space is cooled by a lotus pond and a well-ventilated wooden cloister. The outside shows some of the typical signs of this era, including rough stone walls and reinforced concrete for the portico with traditional Khmer motifs in the triangular pediments.

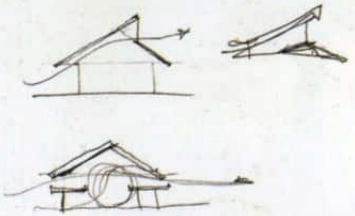
Both the exhibition centre and the museum were part of the urban development along the riverside in central Battambang.

Sources: ISTED 1963; interview with Sieng Sang Em in 2000

16 | 17 | 18
19

16. Unassuming facade looking through to the interior courtyard. This building dates to the same period as the provincial museum
17. Light-filled interior garden space
18. Painted pediment detail with naga finials of the roofs over the main entrance of the Battambang exhibition hall
19. Site plan of the Sangkum Exhibition Hall in Battambang on the west bank of the river next to the provincial museum





Through these sketches, Vann Molyvann explained his ingenious concept for the roof design for these houses built between 1965 and 1967. Inspired by a military cap, it allows the air to circulate freely. The lower sketch shows the traditional Cambodian house where air circulates straight through the building but the roof is not cooled directly.

Although the floor plan looks simple, the two staircases permit separate access to the "wet" area and the main rooms. Other aspects of tradition include the house being raised on columns and the rooms being cross-ventilated.

One Hundred Houses

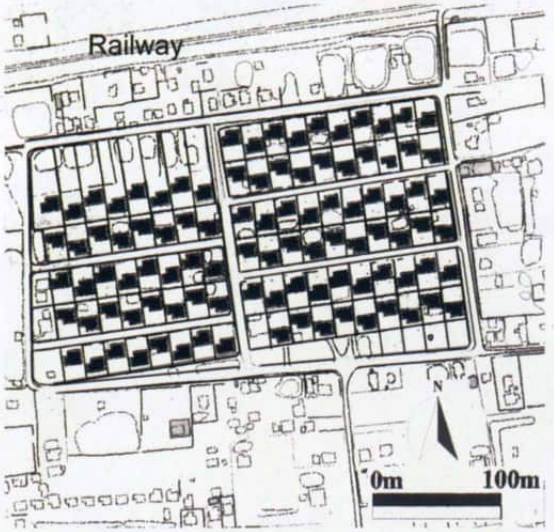
Initial function: Houses for National Bank of Cambodia staff
Present use: Private houses
Location: Tuk Thla, Phnom Penh
Inauguration: c.1965
Architect: Vann Molyvann

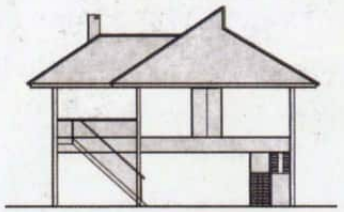
Also, the floor for the terrace and bathroom area is concrete while the main rooms are of wood. This has helped to preserve these otherwise unassuming abodes of about 75 square metres. By adding modern facilities such as water and in-house toilets and by making ventilation more efficient and using durable building materials, Vann Molyvann has improved on tradition.

Occupying about 12 percent of the land, this kind of development offers a solution for low-cost housing which seems better adapted to tradition. Without copying it textually, it is directly inspired by the Khmer house and is interesting to compare these houses to the Bassac development of five-storey apartments or large areas of Chinese "shop house" development in Phnom Penh. A full understanding of these different typologies and their socio-economic effects would be beneficial to inspiring future housing developments.

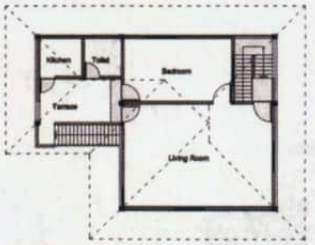
These unassuming houses were built for National Bank of Cambodia staff on a 6.5 hectare site sandwiched between the railway line and the road to Pochentong. Now privately owned, they are in varying states of transformation and maintenance. No. 39, the one ARK Research surveyed, is in its initial state. The foundations, columns and floor, structure are reinforced concrete while the roof is wooden with earthenware tiles. There is no glazing but the windows are equipped with wooden louvres.

Sources: Interviews with Sieng Sang Em in Battambang in 2002 and Vann Molyvann in Phnom Penh in 2001





Elevation



Floor Plan

20 | 21 | 22 | 23

20. Vann Molyvann and party visiting house No. 43 in 2005
21. Architect's sketch showing how the roof line was derived from a military or police officer's cap. To insulate and cool the house, air circulates above the ceiling space under the gable
22. Site plan of the One Hundred Houses which were originally built next to the railway line for staff from the National Bank of Cambodia
23. Elevation and plan drawings of a typical staff house

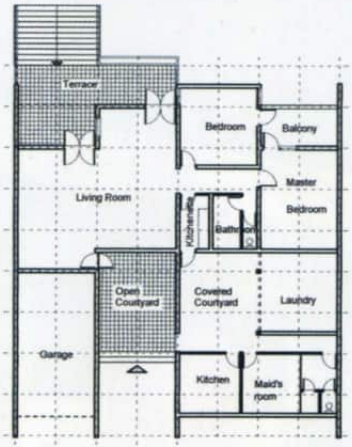






Central Bank: Staff Housing

Initial function: Housing for National Bank of Cambodia staff
Present use: Renovated for unidentified purposes
Location: Sihanoukville
Inauguration: November 13, 1968
Architect: Vann Molyvann



National Bank of Cambodia
Manager's House



The central bank compound set into a slope near Victory Beach has three large houses - one for the local director and two more for visiting staff or guests. It also has a semi-detached apartment building for local staff and housing for other workers. The large houses are similar to those found at the SKD Brewery in the choice of building materials and the strong contrast of red brick and white concrete. Both the National Bank of Cambodia and SKD Brewery houses were designed using Le Corbusier's Modulor grid of 2.26 metres. But here the roofs have two slopes and a central gutter. This is yet another experiment in Vann Molyvann's search for the modern Cambodian house but the internal space respects the Cambodian way of life with separate wet and living areas.

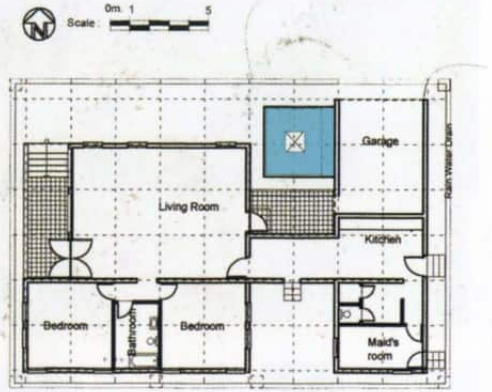
Sources: Site visit; SMUH 1966; interviews with Vann Molyvann in 2001

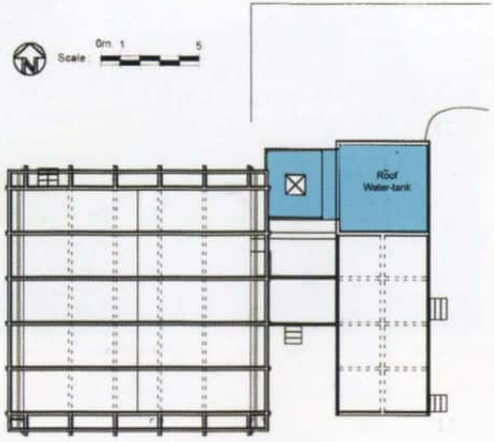


24. Elevated semi-detached houses next to an incinerator used for burning old bank notes
25. Detail of National Bank of Cambodia housing in Sihanoukville featuring a slotted brick wall to ventilate the 'wet' service areas of the house
26. Staff house integrated into a garden setting
27. Survey plan of manager's house with clearly-defined living, service and common areas that mirror traditional Khmer models
28. The house used by the branch manager in 2001 was originally built for visiting guests and faces the sea

SKD Brewery: Staff Housing

Initial function: Staff housing for managers
Present use: Renovated residences
Location: National Route No. 4, Sihanoukville
Inauguration: November 13,1968
Architect: Vann Molyvann







29 | 31
30

29. Floor plan of a manager's house with a pool
30. Roof plan with a water-cooled garage roof overflowing into a decorative pool alongside the main entrance
31. Exterior of a house in a leafy garden setting, 2001



SKD built 76 dwellings for its factory staff. Only a few were for management, including two houses which are interesting examples of a reinterpretation of Cambodian tradition. They are both built with modern materials and have Western-style bathrooms, internal kitchens and carports. Vann Molyvann said the plan was based on a 2.26 metre grid because all the proportions were devised from Le Corbusier's *Le Modulor*.

When the SKD Brewery ceased operations in 1975, the houses were abandoned and gradually taken over by private occupants. One house covers about 300 square metres and was occupied by one of the former employees of the factory in 2001.

Although aesthetically very different from the One Hundred Houses designed for the National Bank of Cambodia (see page 142), there are similarities. The living room, for example, has a separate access from the "wet" part of the house. It also integrates cross ventilation and north-south orientation with the living room facing the south. But the structure also has a system of visually powerful reinforced concrete posts and beams and a double roof with a suspended ceiling. The walls are well-insulated masonry (concrete with brick facing) which is 20 centimetres thick. The base of the walls is roughly pointed local stone. All the windows and doors are to Modulor proportions to a standard size. They were also equipped with metal screens to provide ventilation when the house was locked.

Since taking over the plant in 1998, Cambrew refurbished the second house for its factory manager. This involved walling in the separate living-room access to create a third bedroom, changing all the windows to tinted glass, repairing the walls, repainting the brick facing in a strong red and painting the concrete structure white. Air conditioning was installed and the house no longer has natural ventilation. As can be seen from the roof plan, the car port was covered with a water reservoir "to keep the car cool" and provide water for the garden and other uses. There's also a small pond beside the entrance door.

Sources: Interviews with Cambrew technical manager Lim Seng Hong in Sihanoukville in 2000 and Vann Molyvann in Phnom Penh in 2001



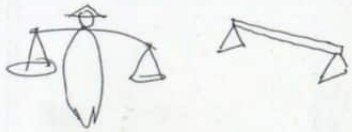
32 | 33

32. Raised on a freestone plinth, the clean lines of this manager's house in brick and concrete are coupled with an excellent sense of proportion and scale to produce a classic 1960s look
33. Brick, freestone and concrete blend into a strong yet refined geometry, with the subtle changes in horizontal brick layers adding visual interest



This was a private commission for Vann Molyvann and he made it into a showcase factory incorporating an elevated walkway for visitors to view the factory floor. Estimated to have cost 500 million riel, with primary colours highlighting different pieces of equipment like pipes and vats, the reinforced concrete structure itself has double walls with red facing brick. The roof is also double and incorporates chimneys for natural ventilation and lighting. Numerous staircases have beautiful dynamics, underlined by the wooden curves of the balustrades.

The star is the office and reception building with its innovative reinforced concrete structure, reminiscent of Vann Molyvann's Chaktomuk Conference Hall but somehow more liberated. The architect says it was inspired by the transfer of load illustrated by the "dong raik" sketch (see below). The result is a building that seems to be suspended in the air. The building also has a six-metre cantilevered overhang of the roof around the perimeter. This provides protection from the sun and also a carport on the north side. The white "bones" of the building stand out dramatically against the red brick.



34. Low horizontal lines and contrasts in colour emphasise the main building that makes use of the design of the traditional 'dong raik' carrying pole used to support heavy loads. Vann Molyvann used this principle (right sketch) in the brewery to carry the load of the building on a series of extremely long beams

SKD Brewery

Initial function: Drinks manufacturing by Société Khmère des Distilleries
Present use: Drinks manufacturing by Cambrew Ltd
Location: National Route No. 4, Sihanoukville
Inauguration: November 13, 1968
Architect: Vann Molyvann













35 | 36 | 37
38 | 39 | 40

35. Gracious reception area for the company's headquarters
36. Skylight diffuses reflected light into the upper floor of the building
37. Main entrance offices in contrasting red brick and white concrete forms. The brickwork is subtly varied in horizontal bands, providing added depth to a strong design
38. Illusion of staircase suspended in mid air
39. Handrail of curved staircase on the upper floor of the main building
40. Main entrance building of the former SKD brewery in Sihanoukville highlighting the 'dong raik' forms in the concrete with the upper floor 'suspended' from the cross beams



Part of the new town development project, the four-hectare site was chosen after a long search throughout Cambodia for the best water source. The water from the spring behind Independence Beach is said to have the ideal mineral content for making good beer. During the sixties, however, the location was criticised due to its distance from the Phnom Penh glass factory at Cheung Ek. As a result, bottles were sent all the way to Sihanoukville to be filled and sent back to Phnom Penh. An initial problem with the water supply was much debated but seems unfounded as today the water supply is ample and of excellent quality.

The factory was equipped with the highest technology available at the time. It was abandoned until 1998, when it was taken over by Cambrew, a company associated with a Malaysian company which reportedly sold its minority stake to Danish brewer Carlsberg in 2005. The initial plant produces the international award-winning Angkor beer and other beverages under licence such as Pepsi Cola. Although most of the original equipment from Nancy in France is still used, it is gradually being replaced. The initial aluminium and cement vats, for example, are being replaced by stainless steel.

The inside space of the office building is theatrical - offices are on the first floor and the whole ground floor is devoted to an immense reception area which is today used for a happy hour for staff every Friday evening. The hall originally had a huge pool which has since been filled. But an exterior deep storm water drain covered with concrete slabs still exists. Apart from cleaning up the whole building, the new owners have not had to do any major repairs, although air conditioning has been installed. Overall, the brewery is an exemplary industrial complex which is hard to rival in the most developed countries in the way it reconciles functionality, beauty and a positive image to promote the company's activities.

Sources: Norodom Sihanouk; Sangkum Reastr Niyum Photos Albums; Années 60; SKD advertisements in Kambuja in 1966 and 1967; Kambuja, May 1966; Etudes Cambodgiennes 1968; SMUH; Photos Souvenirs de mon Cambodge; Le Sangkum, March 1969; interview with Cambodian Breweries technical manager Lim Seng Hong in Sihanoukville in 2000; interviews with Industry and Mines Secretary General Ith Praing and Vann Molyvann in Phnon Penh in 2001 and with Michel Marec in Paris in 2001





41 42 43

41. Well-designed brewery storage and production sheds still functioning at Cambrew
42. Some SKD wines and brandies targeted the Chinese market in the 1960s
43. The 'Royal Crusade' men's fragrance produced by SKD for members of the armed forces in the 60s









The 'Round House'

Initial function: Private house
Present use: Pachem Dental Clinic
Address: 171 Norodom Boulevard, Phnom Penh
Inauguration: c.1971
Architect: Mam Sophana

Mam Sophana said his client wanted a house but gave him no special brief. "If you don't tell me what you want, I will give you bent columns," the architect said. He did, which explains the strange shapes that support the round room on the first floor. This landmark inspired students at the Royal University of Fine Arts to copy this design, and a similar building was recently constructed on Street 214.

The building itself is an incredible mixture of circular volumes, strange columns and Moorish windows. The entrance is a space underneath the circular glazed living room with a surprising spiral staircase that winds upwards around a red brick-faced curved wall. There is a stunning contrast between the red brick and the white concrete.

Mam Sophana, who was still working for the Cambodian government in 2005, has a philosophy all his own in which the word "freedom" tends to recur. He says the mixture of curves and lines corresponds to his idea "please feel free to do." From observing how traditional buildings were built to respond to the climate, he integrated this intelligence into his designs, so here we find cross ventilation, the main floor on the upper level and so forth. "A building should not only be good to look at but good to live in. It should not be a copy but a creation," Mam Sophana said.

Source: Meetings with Mam Sophana in 2000



44. Mam Sophana's 'Round House' before recent alterations
45. Main body of the more conservative part of the house with deeply-arched windows and the supported circular-glazed living area jutting to the fore
46. The geometric concrete screen provides air and glimpses of the space outside
47. Circular suspended concrete stairs lead past the alternate-patterned brickwork that supports the circular living space above

Uk Sameth



Born about 1940, Uk Sameth won a scholarship in 1960 to study in the United States, where he earned a degree in architecture and town planning at the University of Florida. Between 1967 and 1971, he worked as an architect with the Ministry of Public Works and also in private practice. During this period, he designed a Nestlé plant in Phnom Penh and the headquarters for Comin Khmère, a local building materials and construction company.

He also designed an apartment for General Srey Meas on Kampuchea Krom Boulevard. Among other works are cooling towers for a power station and the Bassac development. He renovated Norodom Sihanouk's house in Battambang and Norodom Buppha Devi's house in Chamkar Mon. He was also involved in plans for Phnom Penh and Sihanoukville.

Sameth Uk recalled that Phnom Penh was "very lively" in the sixties. "There was a French influence from colonial architecture which was strong until Vann Molyvann commenced," he said. Architecture adapted more to the climate, and there was a switch to form and function. After studying at the London School of Economics in 1971, Uk Sameth moved to Paris, where he worked for the Secrétariat de la Mission de l'Urbanisme et l'Habitat (SMUH), especially in developing countries. In more recent years, he worked as a consultant for the World Bank, the European Union and the Asian Development Bank. He returned to Cambodia in 1997 and works for the government.

Source: Interview with Uk Sameth, 2001

ARK Research References: PP66a: Comin Khmère building **PP197:** Nestlé Factory



48
49

48. The Nestlé factory located on the Tonle Sap riverfront north of Chruoy Changvar bridge features Angkor Wat and dancing apsaras on wrought iron balcony panels
49. The former Comin Khmère offices on Kampuchea Krom Boulevard, now used by the Ministry of Health, feature a perforated screen facade

Oung Sadam

Oung Sadam was born in 1943 in Cambodia and today works and lives in the south of France.

From 1960 to 1967 he studied architecture at ENSBA, Paris, in the Arretche studio as did Vann Molyvann. He continued studies for the next two years at the Institute of Urbanism with Nouth Narang (at present a senator in Cambodia). His also obtained a PhD for his study of the church of St Francois de Paul in Fréjus in France.

He returned to Cambodia in 1969 to work under Uk Sameth at the Ministry of Public Works, where he remained for two years. He was then appointed head of Urbanism Department of the Municipality of Phnom Penh 1972-1975 (in place of Lu Ban Hap).

He taught at RUFA from 1969 to 1975, where Ros Borath who is now a director of APSARA was a student at the time. His main concern was the urban development of Phnom Penh for which he did numerous studies, including a plan for Oudong in which he identified all the historic monuments requiring protection.

He made an inventory of all the ancient wooden wats in Cambodia which were threatened with being demolished. He also carried out a study with CNUD for a style of low-cost habitat derived from traditional buildings.

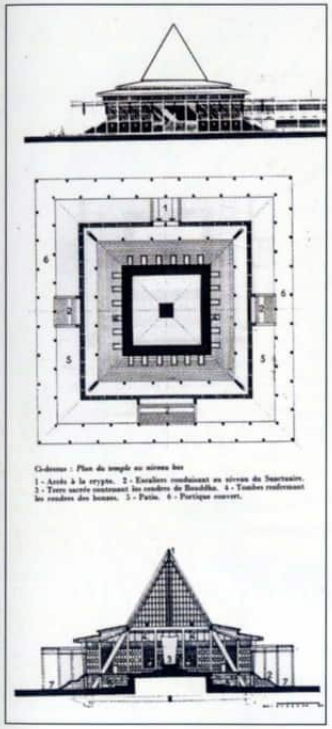
His memory of the era is one in which Lu Ban Hap and Vann Molyvann dominated the architectural field.

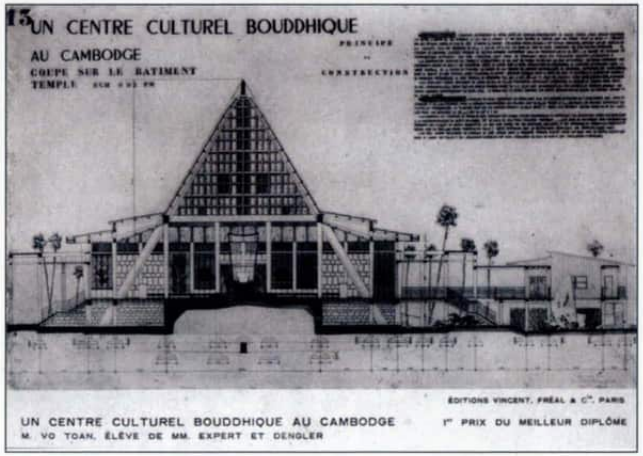
In 1975 he came to France for a training course on construction techniques and hence escaped the Pol Pot era. Since then, he has never returned to Cambodia, and still works as a professional architect in the south of France.

Sources: Telephone interview, Paris, 2001

ARK Research references: Cambodia19: Inventory and conservation proposal for wooden pagodas **KD59:** Urban plan Oudong **PP204:** Pharmaceutical Factory **PP211:** Rehabilitation Centre for Handicapped Children **SR14:** Historic Monument Protection Zone, Siem Reap







Vo Toan

It is not known whether Vo Toan was Cambodian. ENSBA archives show that he studied there between 1950 and 1956. He distinguished himself in 1952-1953 by being "admis à monter aux 24 heures," a special honour at ENSBA.

He is mentioned again in 1954-1955 for the best architect of the year award for "A Buddhist Cultural Centre in Siem Reap, Cambodia." This was in the Expert & Dengler workshop. In 1955-1956 he won the Redon competition in the Leconte workshop. The Architecture Française article credits him with also having graduated from the Architects Association in London.

Vo Toan designed the Rabat Mausoleum for the King of Morocco in the 1960s, for which he was granted a prize by the Aga Khan Foundation.

Sources: ENSBA archives, 5 slides of his diploma; Journal Architecture Française vol. 16, 1956 p.76-77 "Centre Culturel Bouddhique au Cambodge"

ARK Research reference: SR5: Buddhist Cultural Centre for Cambodia

Um Samuth

Um Samuth was born on February 25, 1928, and studied at ENSAP Paris (Ecole Nationale Supérieure des Arts Appliqués). He later worked with Vann Molyvann at the Public Works Department as his right hand man, friend and chief of works.

He was appointed dean of the Faculty of Architecture and Urbanism in February 1967. He is believed to have died during the Pol Pot regime.

ARK Research reference: Cambodia18:
Rural Village Prototype, Department of Urbanism and Habitat with Oung Sadam, architect, Ty Yao, Architect, Chou Leang, architect, Tan Thanh, engineer, Kry Beng Hong, engineer, Guy Lemarchands, international expert

50 | 51 | 52

50. Vo Toan's award-winning design for a Buddhist Cultural Centre, Siem Reap
51. Elevation, plan and section of the proposed Buddhist centre for Siem Reap
52. Cross-section design of the temple for the Buddhist Cultural Centre, 1955



Photo Credits

Anonymous; 5

ARK Research; 4, 14, 19, 22, 23, 27, 29, 30

Kambuja; 42, 43

Collins, Darryl; 6, 8, 10, 13, 15, 18, 25, 32, 41, 48,49

ENSBA; 50, 51, 52

Etudes Cambodgiennes; 2

Grant Ross, Helen; 7, 9, 12, 16, 17, 20, 26, 33, 36, 37, 38, 39, 40, 44, 45, 46, 47

Hok, Sokol; 24, 28, 31, 34

RUFA; 3, 11, 53

Vann, Molyvann; 1, 21, 35

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Grant Ross, Helen; *Building Cambodia New Khmer Architecture 1953-1970 - Elements of tradition transcended*, paper and conference mAAN (modern Asian Architecture Network) Surabaya, Indonesia, August 29, 2003

53. Exhibition material from the sixties with details of an urban plan of Sihanoukville

Works:

Preah Kossomak Centre
Khmer-Soviet Friendship Hospital
Central Bank Branch in Sihanoukville
University Campus:
- Master Plan
- Institute of Technology
- Institute of Technology Housing
- University of Phnom Penh
- Teacher Training College

Biographies:

Georges Kondracki
Michel Courtier
Lieutenant Ach Tham Sam
Mean Kim Ly
Michel Marec



Chapter 6

Public Investment

As the years progressed, Norodom Sihanouk tightened his grip on power. In some quarters, he was accused of becoming a tyrant. He virtually admitted as much after being overthrown. "It is true that I have been an authoritarian head of state," he is quoted as saying. But he saw himself as "a blend of Sukarno of Indonesia and Nasser of Egypt" rather than an African despot. "Quite simply, I am a man, with his good points and his bad. I am neither more nor less virtuous than my brother men."

If Norodom Sihanouk was a dictator, he was an enlightened one, serving the people of Cambodia by developing education, health, housing and infrastructure. Strong leadership was an advantage in carrying out the sort of national development that was unrivalled in Southeast Asia at the time. This came to the attention of Australian journalist Alan Reid, whose impressions were recorded in an Information Ministry publication in 1967. "I was immensely attracted by your country, terribly impressed by what you are doing and attempting to do and excited by the obvious progress and vitality," Reid reportedly said. "The manner in which your architects are blending utility with beauty is something that I hope we will one day copy in Australia. Sihanoukville is clearly not only going to be - if it is not already - of considerable economic value to you, but also before many years pass a very beautiful place." But such projects also came at considerable expense. What was the state of the Cambodian economy and how did such a small country finance this extraordinary public spending binge?

1. Aerial view of the former Chakrey Ting Cement Factory near Kampot soon after construction in 1964. The entire compound was recently sold for scrap metal.



Economy

In the early post-war years, Burma, the Philippines and Sri Lanka were widely seen as Asia's most promising developing economies. But it was not long before Cambodia's development began to be noticed. Cambodia developed so rapidly in the decade after independence that Phnom Penh was at one point considered for the headquarters of the new Asian Development Bank, before losing out to Manila. By 1967, Australian figures cited by the Information Ministry showed that Cambodia was the fifth richest among 15 Asian countries, just after the Philippines and ahead of Thailand. The country's gross national product (GNP) was $120 a head, which meant that Cambodia was almost twice as rich as Indonesia, the poorest country in Asia at the time. That was probably the position Cambodia was in a century earlier when France colonised the country in 1863. French accounts painted a bleak picture - no roads, no towns, no schools except in monasteries and a subsistence economy based on barter.

When Cambodia gained independence in 1953, its only resources were agricultural. The road, railway, health and education systems left by the French were not insignificant, and bore comparison to those of Thailand, which was never colonised. The French had also developed rubber plantations, and rice was being exported before World War II. But there was no manufacturing sector and the service sector was limited. Cambodia had been part of an Indochina focussed on Vietnam, which made all sorts of daily necessities ranging from matches to cloth. As a result, the French designed Cambodia's road and railway systems to serve navigation links with Vietnam.

2. Lycée Sangkum Reastr Niyum, now the CPP headquarters Phnom Penh, is inaugurated on January 18, 1969 by Norodom Sihanouk



L'INDUSTRIALISATION REPRESENTE UNE NECESSITE VITALE POUR NOTRE PAYS NON CERTES PARCE QUE NOUS ESPERONS POUVOIR SUBVENIR A NOS BESOINS EN TOUTES CATEGORIES DE PRODUITS MANUFACTURES MAIS PARCE QUE NOUS DEVONS IMPERATIVEMENT ETRE EN MESURE DE TRANSFORMER L'ENSEMBLE DES RESSOURCES NATURELLES DONT NOUS DISPOSONS ET D'EVITER AINSI DE COUTEUSES IMPORTATIONS. IL EST BIEN EVIDENT QU'IL SERAIT ABSURDE POUR LE CAMBODGE DE SE LANCER DANS LA CREATION D'UNE INDUSTRIE LOURDE OU DE CERTAINES INDUSTRIES DE TRANSFORMATION SANS AVOIR LES MATIERES PREMIERES ET LES MOYENS TECHNIQUES POUR LES FAIRE FONCTIONNER. NOTRE INDUSTRIALISATION DOIT TENIR COMPTE DE CES FACTEURS ET AUSSI D'AUTRES FACTEURS NON MOINS IMPORTANTS TELS QUE LES BESOINS INTERIEURS ET LES POSSIBILITES REELLES D'EXPORTATION EN UN MOT NOUS NE TENONS NULLEMENT A FAIRE DE NOTRE INDUSTRIALISATION UNE PURE QUESTION DE PRESTIGE.

NORODOM SIHANOUK

Norodom Sihanouk's idea was to improve agriculture by setting up processing industries both to reduce the reliance on imports and to develop export markets. As oranges were processed into juice, cotton into thread and rubber into tyres, manufacturing gradually developed. Transport links were expanded too. After France's humiliating defeat in Dien Bien Phu, the Republic of Vietnam founded by Ho Chi Minh in 1945 was split into two. To avoid relying on the navigation link with its new neighbour of South Vietnam in the east, Cambodia looked stet with an ambitious road and road to Sihanoukville, railway link to a new town and port on the Gulf of Thailand. After the Americans started sending troops to South Vietnam in 1961, the emerging industrial hub and deepwater port of Sihanoukville would prove to be a vital link to the outside world. This development stetwards was part of a broader plan to develop transport, telecommunications, health and educational facilities.

Within weeks of the coup in 1970, the new government led by General Lon Nol was denouncing Norodom Sihanouk for having "disastrous consequences" on the national economy. The monthly *Cambodge Nouveau* said the new manufacturing industries owed their survival to state subsidies and protectionist bans on foreign goods. Prices were often twice the level of similar goods on the international market. The government magazine asserted that Norodom Sihanouk had "only succeeded in putting a sort of modern gloss on a country that is still underdeveloped and intrinsically weak."

Domestic Financing

Most of Cambodia's development was financed by the national budget overseen by Finance Minister Son Sann, the "austere financier" who formulated economic programs under Norodom Sihanouk for almost two decades. The National Bank of Cambodia also played a role. The central bank started operating at the beginning of 1955 with



3. Chakrey Ting cement works used in an SRN exhibition extolling the virtues of national industrialisation
4. 'Angkor Wath' tyres and rubber goods produced by the Tyre Factory at Takhmau that commenced operations in 1966 funded by a Czechoslovakian loan









the launch of a new currency known as the riel to replace the piastre, the old French colonial currency. Important commissions for central bank buildings soon followed.

The central bank seems to have used deposits from the commercial banking sector as well. During the fifties, at least five commercial banks had operations in Cambodia; these included Banque Nationale pour le Commerce et l'Industrie (BNCI), Banque de Phnom Penh and Banque Khmère. Independence from France also brought with it two British colonial institutions - Chartered Bank of India, Australia and China (today's Standard Chartered Bank) and Hongkong and Shanghai Banking Corporation (HSBC). By 1960, Banque Sovanaphum and Cambodia Commercial Bank were also on the scene. Major industrial projects were often nationalised and by 1965, Banque Khmère and Banque Inadana Jati were being run as state-owned banks. When public coffers started to run dry in the late sixties, Norodom Sihanouk resorted to setting up a casino to boost government revenues. Amid criticism of the deteriorating state of public finances, he also made "personal" donations, which did not appear under the national budget's spending figures.

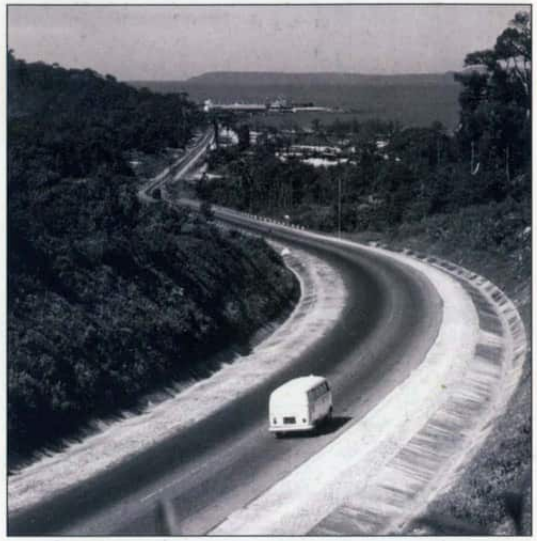
Norodom Sihanouk also relied on his fellow citizens. He was skilled in getting everyone mobilised for the national development effort, or at least giving that impression. There are many accounts of villagers being called to build bridges and roads, and photographs of him holding a shovel. Charles Meyer recalled how villagers could be "invited" to take part in the construction of a school, a health centre or a bridge. This involved financial contributions and labour over a certain number of days. Additional financial contributions were required when Norodom Sihanouk inaugurated the building. Small businesses were also encouraged to participate actively in developing Cambodia. Kickbacks to police and other civil servants were not uncommon. Indeed, allegations of corruption among officials and politicians grew as the sixties progressed. Hun Sen has recalled that while



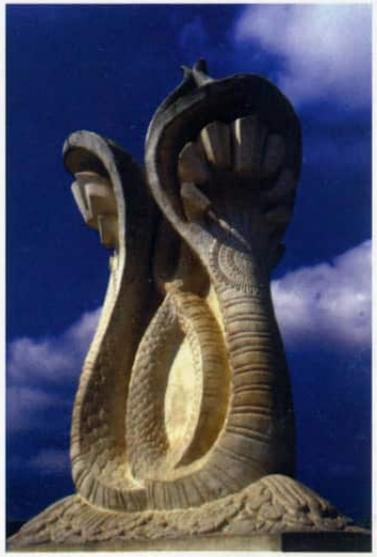
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5. One-piastre note issued by the French colonial Institut d'Emission d'Etats du Cambodge, du Laos et du Vietnam in 1946 featuring a portrait of Norodom Sihanouk
6. One-riel note issued by the National bank of Cambodia in 1955 with the signature of Finance Minister Son Sann and a 'kinorei' design
7. Postage stamps issued in 1960 featuring Norodom Sihanouk's portrait with the urban plan of Sihanoukville, shipping, the port insignia and an aircraft
8. First Day cover celebrating the inauguration of the Port of Sihanoukville on April 2, 1960
9. 1958 magazine featuring the Port of Sihanoukville emerging from the dense vegetation lining the southwest coast of Cambodia









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10. A new road, street lighting and holiday residences mark the beginnings of Sihanoukville
11. A lone vehicle wends its way along the main road from Phnom Penh to Sihanoukville in the 1960s
12. Inauguration of the US-funded Phnom Penh-Sihanoukville highway with Norodom Sihanouk (left), US Undersecretary of State for the Interior Fred Seaton (centre) and Ambassador William Trimble (right).
13. Two giant entwined nagas rear over a mounted bronze plaque commemorating the start of the highway from the capital to Sihanoukville

Discreet Diplomat, Austere Financier

Born in Phnom Penh in 1911, Som Sann came from an old Cambodian family in Tra Vinh, located on the lower stretches of the Mekong Delta in Vietnam. At the request of a member of the royal family, his father had returned to Cambodia to study. Som Sann's father later worked for Norodom Sihanouk's father, then Prince Norodom Suramarit who was appointed minister in 1929. Som Sann himself went to high school in France and in 1933 became the first Cambodian to graduate from the Ecole des Hautes Etudes Commerciales. After returning to Cambodia, he joined the French colonial administration as an assistant provincial governor, first in Battambang and then in Prey Veng. In 1939, however, he quit to set up a private business called "Au Petit Paris" which he ran until the end of the war in 1945. During this period, he maintained his links with the colonial administration, and was part of a French economic delegation which travelled to Tokyo at the end of 1940 to negotiate sales of Cambodian rice to Japan.

After World War II, Som Sann was appointed finance minister and took part in negotiations to resume sovereignty over territory that Thailand annexed in 1941 including Battambang and Siem Reap. He returned to France for a conference in 1949 and took part in several internships in Paris with French commercial banks, the Banque de France and the Ministry of Foreign Affairs. When he returned in 1950, he was appointed foreign minister. Som Sann took part in negotiations for independence in 1953 and joined Norodom Sihanouk at the Geneva conference on Indochina in 1954 which divided Vietnam into two countries. He was also put in charge of setting up the National Bank of Cambodia which started operating in 1955 with the issue the riel as the new domestic currency.



Over the next 12 years, Som Sann held various posts in successive governments, mainly as economics and finance minister. He also served as central bank governor. In the two governments formed between 1967 and 1969, he served as prime minister and deputy chairman of the Council of Ministers in charge of economic policy. He was also private advisor to Sihanouk before his overthrow in 1970. Som Sann left Cambodia in 1971 and remained in exile for two decades before returning in the early nineties heading one of the four parties in the Supreme National Council of the new State of Cambodia. His Buddhist Liberal Democratic Party came a distant third in national elections in 1993. Following the promulgation of a new constitution later that year, Som Sann became a senior private adviser to King Norodom Sihanouk. He died in France in late 2000 and was cremated in Phnom Penh in early 2001.

Sources: Charles Meyer, Raoul Jerinar

he was growing up, he respected and admired Norodom Sihanouk but hated the corrupt officials and members of parliament. "These people never went to the villages to get in touch with the people, nor did they keep the promises they made during the election campaign," the prime minister said in his biography published in 1999.

Foreign Financing

If Norodom Sihanouk was skilled at getting donations from his own people to help pay for public works, he was brilliant at charming foreigners for assistance. Almost all foreign financial aid was in the form of grants rather than loans. In the confrontational climate of the Cold War, it was inevitable that Norodom Sihanouk was wooed by world leaders as the undisputed ruler of such a strategically located neutral country. Vann Molyvann recalled Norodom Sihanouk having a particular aversion to debt. "I don't want my children to repay my loans," he reportedly said. "Cambodia is a small country but we have to help ourselves, never ask for help from others. You must not sell your sovereignty to others." But grants were acceptable, "as long as the funding resulted in the completion of the work paid for and organised by the donor - so as to avoid corruption."

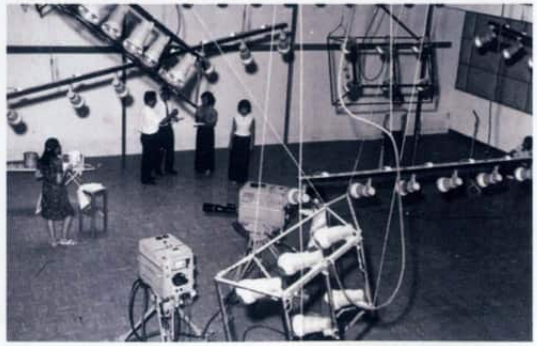
The Americans funded and built the first road to Sihanoukville, inaugurated in 1959, but the quality of work was so poor that it soon had to be rebuilt (see page 166). The Americans also funded the Chaktomuk Conference Hall and several educational buildings, notably the School of Applied Arts in Phnom Penh. But by 1963, the war in Vietnam was having repercussions on Cambodia and relations with the United States. According to Charles Meyer, Norodom Sihanouk's former adviser, Cambodia had received $340 million in American aid. But only a third was actual economic aid. Another third went to salaries for American aid workers and the rest was military spending. "Americanisation had hit the new middle-class Cambodian society and American aid came with strings attached that clipped Norodom Sihanouk's wings in his quest for non-alignment and non-engagement in the Vietnam-America conflict," the Frenchman wrote. The Khmer Serei, equipped and trained by the CIA, were frequently entering Cambodia through South Vietnam and Thailand. In November, 1963, Norodom Sihanouk cancelled all American aid contracts and severed diplomatic relations shortly thereafter. Meyer recalled Norodom

4. Riel image emblazoned on decorative metal grills cover four large windows of the National bank branch, Sihanoukville



Sihanouk saying that "the most elementary dignity forbids Cambodia from accepting any kind of assistance whatsoever from America."

In such a "neutral" environment, the Soviets and Chinese also provided aid. The Soviet Union funded, designed and equipped the Institute of Technology and its residences. With more than 30,000 square metres. of space, this magnificent school for engineers was inaugurated in 1964 (refurbished in 1993 and run by France, it still





trains about 500 technicians and engineers to high standards every year). The other major donation of the Soviet Union was the Khmer-Soviet Friendship Hospital. This training hospital inaugurated in 1960 had over 500 beds and was fully equipped with the most up-to-date technology. China meanwhile financed several projects including a 37,000 square metres textile factory in Kompong Cham in 1960 and a plywood factory in Kandal province in 1961.

The French remained committed to Cambodia, extending technical assistance to the deep-sea port





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15. Inauguration of the traffic island on Nehru Boulevard. It was recently removed and replaced by traffic lights
16. Monivong Boulevard in the 1960s looking south from the then Hotel Monorom (right) with hotels, offices and apartment buildings lining the main thoroughfare of the central business district
17. Sihanoukville station at the end of the line today is almost deserted. Regular passenger services were phased out in 2005
18. Staff at the fully equipped television studio in Tuol Kok in the 1960s
19. Postage stamp depicting the railway station and a locomotive, released in 1969 to celebrate the opening of the new line



and oil refinery in Sihanoukville and financial aid for the boat-loading jetties. Under President Charles de Gaulle, France withdrew from NATO's political command and showed great sympathy for its neutral ex-colony. When De Gaulle visited Cambodia in 1966, he was given a hero's welcome. France had helped finance the airport in Phnom Penh and the oil refinery in Sihanoukville as well as Calmette Hospital, inaugurated in 1957, and the faculties of medicine and paramedical science. France probably also introduced joint-venture funding to

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20. Contour sketch plan for the road network and development of Tioulongville (Kirirom)
21. One of the urban plans of Sihanoukville

Cambodia as it took part in a jute mill venture in Battambang and a Phnom Penh distillery, Société Khmère des Distilleries (SKD).

Chinese aid took off as relations with the United States deteriorated. Among the Chinese projects were a cement works at Chakrey Ting in Kampot province inaugurated in 1964 and a cotton-spinning mill at Andoeuk Hep in Battambang in 1965. Over the next thee years, China financed other projects including a textile factory in Battambang and a glassworks in Phnom Penh.

Yugoslavia contributed to a hydroelectric station at Kirirom. In a rare exception to his reluctance to borrow, Norodom Sihanouk built a sugar refinery in Kompong Speu with a loan from Czechoslovakia. It started operating in 1965.

Documenting the Heritage

The shift from colonial to New Khmer Architecture was neither overnight nor absolute. Vestiges of earlier styles and models remained in buildings constructed well into the seventies (and even now), blurring the lines of aesthetic, structural and decorative styles that define colonial and modern. New Khmer Architecture is, however, truly Cambodian, and should be viewed as an independent development freed of the constraints of former styles.

ARK Research has identified and documented details of more than 1,100 structures that qualify as New Khmer Architecture, mostly public works. Criteria for listing these works on the ARK database included personal visits to sites, photographic or other documentary evidence, official inaugurations





French Colonial Tourism

The development of Cambodia's tourism industry can be traced to the first three decades of the 20th century. The virtues of Kep as a health spa were being extolled as early as 1903. Within nine years, the first bus service linked Phnom Penh with the nearby river port of Kampot, where an envoy of Napoleon III disembarked in 1852 to negotiate a religious and trade agreement with King Ang Duong.

Based on the success of the mountain resort of Dalat in Vietnam, Indochina's Governor-General Ernest-Nestor Roume outlined plans to build a hill station at Bokor in 1916. The French colonial authorities established Kep as a seaside resort the same year. A tortuous road to the wind-swept summit of Bokor was completed in 1921, although the project was criticised for the deaths of prisoners forced to work on its construction. In 1922, King Sisowath (1840 - 1927) founded a health resort at Bokor and also initiated a development plan for Kep. By 1925, the new Bokor Palace Hotel had opened amid much fanfare, and a new road linked Kampot with Ream.

Tourism was also developing in Angkor where as many as 200 tourists visited in the space of three months in 1907. The Auberge Royale des Temples directly in front of Angkor Wat, opened in 1908, and bullock carts for visitors were introduced three years later. The Parc d'Angkor was launched in 1925, the same year as the Sambor Prei Kuk site was "rediscovered" and opened to tourists. By the thirties, the Grand Hotel d'Angkor was opened and convoys of automobiles were bringing well-heeled tourists from abroad including Saigon and Bangkok. Prominent visitors were Charlie Chaplin and his dazzling co-star Paulette Goddard in 1936. During the short-lived independence from France in 1944, King Norodom Sihanouk established a second hill station closer to Phnom Penh in Kirirom.

Sporting Life

In 1955, Cambodia had a single sports ground, the colonial Lambert stadium at the end of Monivong Boulevard in Phnom Penh. It had an interesting suspended structure, and was seriously upgraded in the early 1960s by architect Lu Ban Hap, who designed the grandstand. According to *Kambuja*, the number of such sports grounds had risen to 40 by 1968. During the same period, the number of football fields jumped from 15 to 541. Phnom Penh also had the National Sports Complex and the international-class Athletes' Village (see pages 211 & 28).

According to Charles Meyer, Norodom Sihanouk launched his "vast campaign to develop sport" in 1963. It climaxed with the inauguration of the National Sports Complex at the end of 1964. "For months, Cambodia lived its hour of sport. Setting the example, the prince formed his own football and basketball teams and played at Chamkar Mon against the diplomatic and military missions." Meyer noted that the ultra-modern sports complex cost more than one billion riels ($30 million), leaving a "big hole" in the five-year plan.



As Olympic-standard sports complexes go, however, it seems likely that the budget for the National Sports Complex was relatively small. Vann Molyvann chose an economical building technique that was best adapted to the site. Excavating land for moats to avoid flooding during the monsoon rains, earth was piled up and compacted to create the stadium, making an expensive raised structure for seating unnecessary. The design also enabled work to be carried out simultaneously, with the Sports Stadium being constructed on one side while the Olympic Swimming Pool was being built on the other.

After the National Sports Complex was built, the Lambert Stadium became known as the "old stadium." The Khmer Rouge used both to imprison thousands of people during the evacuation of Phnom Penh in 1975.

The Battambang Sports Centre might be thought of as colonial but is not. It was designed by Leroy & Mondet with the swimming pool by Lu Ban Hap. By the turn of the century, it was being managed by Thai interests.

22. Series of stamps issued in 1960 to promote the achievements of the Sangkum
23. 1960s stadium in Svay Rieng still standing in 2001



24. The Sangkum Reastr Niyum Bridge spanning the Tonle Sap in northern Phnom Penh opened in 1967, providing the city with direct access to the Chruoy Changvar peninsula for the first time. Built by a Japanese construction company with funds from the national budget, it had a relatively short life. In October 1972, explosions destroyed several spans, crippling access to and from the city for more than two decades. In the 1990s, prefabricated replacement spans from Japan were hoisted into place, connecting the city to the peninsula once again. Known as the Chruoy Changvar Bridge, it gained the epithet "Japanese bridge" at the second inauguration in March, 1994.

and interviews with architects themselves. But the list reveals only a fraction of the more than 4,000 primary schools, health facilities, sports facilities and airports reported to have been built between 1955 and 1968 (see Thirteen Years of Progress). In addition to this, an enormous amount of construction was taking place in the private sector, though few sources remain to identify these buildings.

Infrastructure & urban development

together yielded more than 200 items that have been positively identified, 174 related to infrastructure and transport and the remaining 29 dealing with urban development. Norodom Sihanouk continued the programme of road building and upgrading of existing routes that were originally a colonial network linking the cities and countries of French Indochina. As two major examples of the development of infrastructure, the road and rail links to the port of Sihanoukville are exemplary of the quality and scale of development that took place (see page 166).

Infrastructure also covers dams, irrigation canals, reservoirs, railways, water treatment stations, bridges, telecommunications facilities and power projects. From the architectural point of view, some of the most significant works are the new boulevards built in Phnom Penh and Sihanoukville. Great care was taken in the landscaping, tree-planting, lighting and scale - boulevards were designed not only for traffic but also for pedestrians. In Phnom Penh, roads were often named after friendly leaders (such as Charles de Gaulle, Mao Zedong, Jawaharlal Nehru, Josip Broz Tito and John F. Kennedy) and nations (such as Czechoslovakia, the Soviet Union) and even long-lost territory in Vietnam (Kampuchea Krom). Twelve airports or airport buildings have been identified. Those of Battambang and Siem Reap

Thirteen Years of Progress

	1955	1968
Primary schools	2,731	5,857
Hospitals *	16	59
Clinics **	103	553
Stadiums	1	40
National Sports Stadium	0	1
Athletes Village	0	1
Football fields	15	541
International airports	0	2
National airports	1	4
Provincial airports	15	21

* includes health centres
** includes infirmaries and dispensaries

Source: *Kambuja* October, 1968

Private Sector

Sector	1954	1963	1966
Agriculture	271	1,651	1,837
Forestry	253	626	725
Building materials	94	189	191
Textiles	2	40	113
Rubber	0	27	42
Plastics	0	13	31
Paper products	0	52	110
Chemical products	1	37	57
Metal products	2	90	186
Others	5	85	142

Source: Ministry of Information, 1966

Six Years of Spending
(millions of riel)

	1962	1968
Foreign reserves	3,395	2,986
Currency creation	3,296	6,047
Trade deficit	635	945

Source: *Cambodge Nouveau*, May, 1970

25. The bridge from above Chruoy Changvar peninsula, looking towards the new suburban development of Tuol Kok. The "Old" Stadium, previously known as the Lambert Stadium, is to the upper right of the bridge approach



New Trade Route to the Sea

The road and rail links to the port of Sihanoukville were developed over 15 years. The scope of these two projects for a country the size of Cambodia is difficult enough to grasp even in this century. The aim was to give Cambodia direct access to maritime trade by building a deepwater port on the Gulf of Thailand. Under French colonial rule, access to the South China Sea involved navigating along lower stretches of the Mekong River in Vietnamese territory. Although Cambodia had a river port with direct access to the Gulf of Thailand in Kampot, the harbour in Kompong Som was more suitable for big ships.

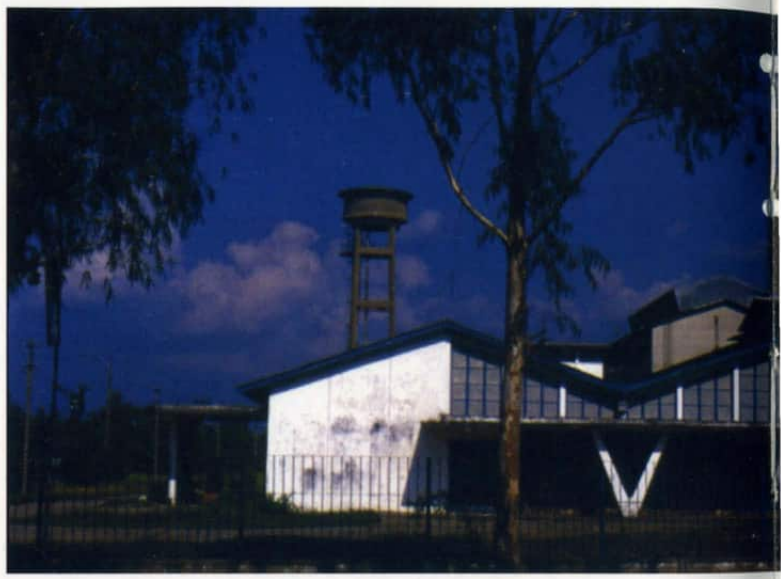
After Vietnam was divided into two separate countries in 1954, Cambodia started work on the deepwater port in Kompong Som as the domestic political situation deteriorated in the new neighbouring country of South Vietnam. The new port town was named Sihanoukville in 1959, the same year as the United States started building a road to Phnom Penh, which became known as the Khmer-American Friendship Highway. The project was ill fated. Bernard Krisher, the US journalist, recalled that it was "constructed on an inadequate foundation so that the surface began to break up almost immediately upon completion. It became virtually unusable." According to Krisher, the "shoddily built" highway was abandoned by the US because "the State Department and the White House simply couldn't tolerate the free-thinking prince." The road was nevertheless rebuilt and Marie-Alexandrine Martin's history of Cambodia published in 1989 says the French engineer Michel Marec (see page 197) was among those involved.



To bolster the link between Sihanoukville and Phnom Penh, Norodom Sihanouk forged ahead with ambitious plans to expand the colonial-era railway that linked the capital with Battambang and Sisophon. The idea was to boost exports. Construction took place over nine years as security deteriorated in South Vietnam, with navigation in the Mekong Delta becoming particularly hazardous. The new railway line was started within four months of the opening of the deepwater port in 1960. The original plan divided the 270 kilometre line into three stages. The first, between Phnom Penh and Takeo was supposed to be completed at the end of 1965. The Takeo-Veal Renh sector was to be finished at the end of 1966 and the final stretch, from Veal Renh to Sihanoukville, at the end of 1967.

Eighty percent of the work was carried out by "volunteers" in the provinces through which the line passed. There were three major stations with 22 secondary stations. Georges Kondracki designed Takeo Station, located 75 kilometres from Phnom Penh and opened a year behind schedule in 1966. Michel Marec was the structural engineer for the station, which was rebuilt after being destroyed by shells in the eighties. Kampot Station, a further 91 kilometres away, was designed by Ung Krapum Phka and inaugurated in 1967. Sihanoukville Station, located 104 kilometres from Kampot, was probably built by Kondracki working with a German engineer. It was completed at the end of 1969, two years behind schedule. Cambodia now had road and rail access to the sea which was vital if traders wanted to avoid the war raging in South Vietnam. Unfortunately, the US had already started bombing Cambodia. The "island of peace" was no more.





SOKHAR and Friends

Catering to the masses entailed major goverment involvement in hotels, travel agencies and nightclubs. One state-owned enterprise, Société Khmère des Auberges Royales (Sokhar) and its affiliate SOKHAR Voyages managed Auberge Royale de Bokor and Auberge Royale de Pochentong, Hotel Khemara, Hotel Le Royal, Hotel Mondial, Hotel Monorom and Hotel Sukhalay in Phnom Penh. It also ran Auberge Royale des Temples, Grand Hotel d'Angkor, Hotel de la Paix and Villa Princière in Siem Reap and Motels Krung Preah Sihanouk in Sihanoukville. Another state-owned enterprise, Magasin d'Etat (Magetat), ran the Battambang Motel, the Bokor Palace and Kiri Hotel in Bokor as well as the Angkor Travel Agency, Chaktomuk Night Club, ~~MA~~GETAT Night Club and Olympic Night Club in Phnom Penh. It also operated the Hotel Independence in Sihanoukville. Among other players were Société Khméro-Française which managed the ill-fated Angkor Hotel in Siem Reap and Société Royale d'Hôtelière which managed Hotel-Village Cambodiana in Phnom Penh.

26. Insignia of the Port of Sihanoukville during the 1960s
27. Petroleum Refinery at Sihanoukville that attracted French funding in a joint venture was inaugurated in November 1969
28. Khmer Chinese Friendship glassworks of Choeung Ek, Phnom Penh opened mid 1968



University Construction Boom

Norodom Sihanouk used talented and well-educated Cambodians to forge a "new look" for Cambodia in the sixties. At that time, a growing number of young Cambodians were pursuing their higher education abroad. In 1964, there were 646 studying in 19 different countries, of whom 210 were in the United States and 190 in France. Many had also joined the Colombo Plan, which had been placing Asian students in Australian tertiary institutions since 1950, notably Chhim Sun Fong (see page 39). But higher education was also being developed at home. According to a Norodom Sihanouk publication in 1991, national budget appropriations to education soared from 260 million riel in 1954 to almost 1.1 billion riels in 1964. Of the 10 universities or new campuses founded during the sixties, seven were located in Phnom Penh and one each in Kompong Cham, Kampot and Battambang.

The biggest, the Royal University of Phnom Penh, was inaugurated as the Centre Universitaire Sangkum Reastr Niyum at a cost of 210 million riels in 1968. Originally designed as a high school in 1961, it had faculties of civil engineering, hydraulic sciences and navigation, electrical engineering, and arts and crafts by the time it opened as a university. Applied chemistry, civil aeronautics, and mercantile marine faculties were added later. The site plan was initially designed by French architects Leroy & Mondet, but Vann Molyvann was responsible for keeping the natural land level and incorporating the water features. Kandaouroff probably worked on the project as well. It is not clear why the project took so long to complete but Chatel and others recalled that Leroy died in about 1965, so it appears that Mondet "carried" the project for several years.

The Royal University of Fine Arts opened three years earlier in 1965, with Vann Molyvann serving as the first rector. In addition to the Faculty of Architecture and Town Planning, it had faculties of choreography, music, fine arts and archaeology as well as architecture and drama academies and a preparatory institute for music and dance. The university also provided training for artisans and film and television technicians.

Among other universities in Phnom Penh, the Faculty of Law and Economics opened in 1961. The Institute of Technology of Cambodia began as the Khmer-Soviet Friendship Institute of Higher Technology in 1964 with faculties of construction, mining, agricultural hydraulics, electrical engineering and textiles. The People's University, with several campuses including Chamkar Mon, Tuol Kok and one near Pochentong airport, opened in 1965. It specialised in training masons, electricians, plumbers and mechanics. A new campus for the Royal University of Agronomical Sciences established in 1948 was also completed in the sixties.

Faculties were devoted to agricultural science, forestry, veterinary science, fisheries, rural engineering, and rural economy and sociology. Norodom Sihanouk himself was chief benefactor of the Buddhist University founded on Sothearos Boulevard in 1958.

The first two provincial universities opened in 1965. These were the Royal University of Kompong Cham with faculties of mechanical science, tropical agriculture and mathematical physics, and the Royal University of Takeo-Kampot, situated half way between the two provincial capitals with faculties of mechanical science, electrical engineering and oceanography. The Royal University of Battambang opened in 1968 with faculties of agricultural, food processing, applied geology, mining and mechanical construction. Both Kompong Cham and Takeo-Kampot universities were later destroyed.

In addition to all these universities, there were two technical training centres that also catered for advanced studies. The Preah Kossomak Centre for Professional Training opened in Phnom Penh in 1969 and included a faculty of electrical engineering. The Faculty of Applied Arts, partly completed in 1965, included an engineering faculty but was never completely finished due to the withdrawal of US aid that accompanied the break in diplomatic ties. It is now used for military training.

Marie-Alexandrine Martin, whose history of Cambodia was published in 1989, questioned whether all these universities were necessary. "A lot of Cambodians wondered if Cambodia needed so many," she recalled. "The country required technicians and engineers. Did this require every teaching institution to be a university? Simple institutes would suffice and require less administrative and teaching personnel." At one point in the sixties, she noted that Cambodia had seven universities with only 3,500 students. Moreover, the University of Takeo-Kampot was in the middle of the countryside and had only 114 students. And while it included a faculty of oceanography, the campus was located 50 kilometres from the sea.

Charles Meyer, the former Norodom Sihanouk adviser, was scathing about the high cost of running so many universities, noting that Battambang institution had only 131 students. At the same time, a disproportionate number of the 787 students attending the Royal University of Fine Arts at one stage were studying choreography and music. Nevertheless, the number of students enrolled in higher education exploded from only 116 in 1954 to 10,800 in 1968. During the same period, the number of students pursuing technical and professional studies jumped from 219 to 7,400.



29. An enthusiastic Norodom Sihanouk with his wif Monineath seated beside him, converses with guests on the inaugural trip of the Sihanoukville railway in 1969

survived the Khmer Rouge period. But the air terminal designed by Vann Molyvann has been radically transformed almost beyond recognition. A later terminal donated by China has been demolished and rebuilt. Also included is a television station opened in 1966 which was donated and probably designed by the Chinese. According to *Kambuja*, the country's electricity capacity expanded from 11,055 kilowatts in 1955 to 70,000 kilowatts in 1968. The length of railway lines increased from 386 kilometres to 665 kilometres in the same period, while surfaced roads grew from 1,600 kilometres to 2,600 kilometres.

One of the most significant findings was 28 urban projects ranging from the new town of Sihanoukville, for which several designs were made, to the Bassac Development, part of the Greater Phnom Penh Development project. Major experiments also took place. The experimental community centre for Anlong Romiet in Kandal province was a modest design by Vann Molyvann. It was one of many attempts to improve rural lives by providing communities with a collective arts and crafts centre, a health centre and a community meeting room along with water supplies and sanitation facilities. Inaugurated in 1961, it was destroyed by the Khmer Rouge. Also identified was a plan to develop Chruoy Changvar in Phnom Penh with a cargo port and other buildings.

Social development covers more than 600 structures, including 291 educational buildings and 147 health facilities. Other findings in this sector are related to tourism and leisure (85) and religion (44), followed by sports (17), culture (10), museums and welfare (eight each) and youth (five). The educational buildings range from primary schools and technical

Industrial Development

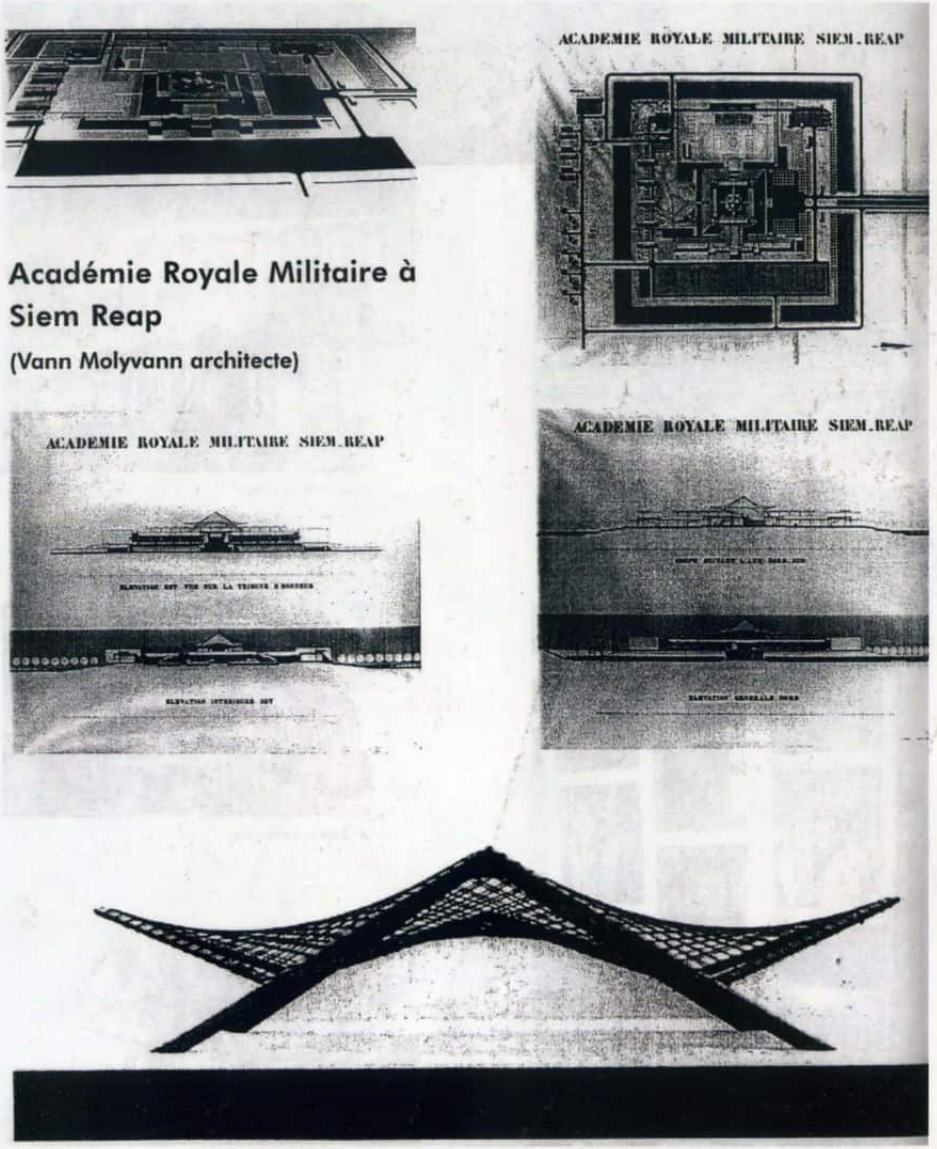
Figures reported by *Kambuja* show that Cambodia had 28 state-owned enterprises and 29 joint ventures in 1968, compared with none of either in 1955. The country also had 3,700 small and medium-sized enterprises operating in 1968, up from 650 in 1955.

Photos of the Koh Kong fish-processing factory operated by Société Nationale des Conserveries de Poisson (SONACOP) show a bold portico design. But the architect has not been identified. This is not so for the brewery set up by Société Khmère des Distilleries (SKD) in Sihanoukville, a showcase factory by Vann Molyvann. It comprises a stunning headquarters, a well-designed factory and 76 houses for staff.

Charles Meyer, the former Norodom Sihanouk adviser, criticised the lack of feasibility studies for the brewery. He also questioned the location of the plant and the quality of its production. But it is still functioning today with the same buildings, albeit renovated. Much of the original sixties plant remains despite being abandoned for decades. And the Angkor Brewery still uses the original spring water from a lake near Independence Beach.

ARK Research has documented references to almost 40 industrial facilities in the fifties and sixties. In Phnom Penh alone, these include SKD and several beverage and food companies (such as Nestlé, Coca Cola and Pepsi Cola), Compagnie Frigorifique Glaciaire Pochentong, the Chiptong factory for rubber sandals and a Khmer-Chinese glassworks. A metalworks and other factories for pharmaceuticals, plastics and textiles were also identified, along with a state-owned dairy and a chemical and battery plant operated by Société Cambodgienne de Matériaux Electriques et Quincailleries (SOCMEQ). In addition to all these operations, Phnom Penh had the Lubico biscuit factory and a myriad of small private manufacturers.

In the provinces, Battambang boasted a cotton mill, a jute mill, a sugar refinery, a textile factory and the Seng Thai ice factory (which is now a Pepsi Cola plant). In Kampot, ARK Research found references to the Phnom Sar and Bokor brickworks, the Chakrey Ting cement works operated by Société Nationale de Ciment and the Tuk Meas phosphate works operated by Société Khmère des Phosphates (SOKPHOS). In Kandal, Société Khmère de Construction had a ceramics factory, Société Khmère des Pneumatiques had a tyre factory and Société Nationale de Contreplacqués ran a plywood factory named after Norodom Sihanouk and Chinese Premier Zhou Enlai. Among other manufacturing operations were a cotton mill operated by Société Nationale de Textile (Sonatex) in Kompong Cham, a state-owned sugar refinery in Kompong Speu and a saw mill in Kompong Thom. In Kratie, the paper mill operated by Société Nationale de Papier was another "friendship factory" financed by China. In Pursat, there was a rice mill operated by the state. Svay Rieng was home to the Chamroeun Phal rice mill, a second Seng Thai ice factory and another Pepsi Cola plant. In addition to its oil refinery and the SKD brewery, Sihanoukville had a tractor assembly plant operated by Société Nationale des Tracteurs (SONATRAC). Tioulongville, as Kirirom was then known, had a machine, boat and jeep factory operated by the army.



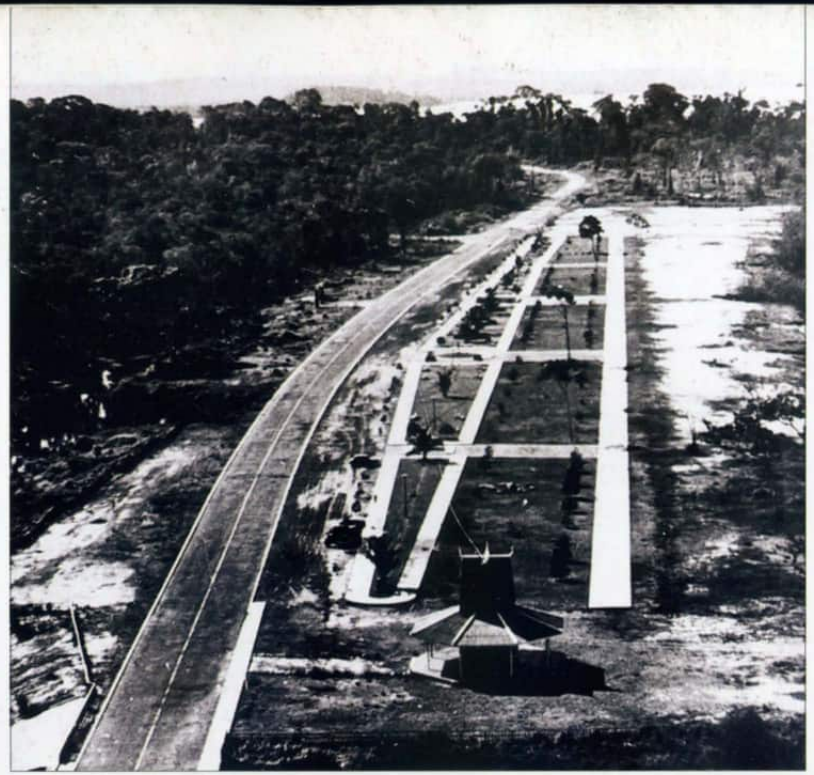
Académie Royale Militaire à Siem Reap

(Vann Molyvann architecte)

30. Proposed Royal Military Academy for Siem Reap suggests Angkor-like associations with its causeway and moats surrounding symmetrically-placed buildings









colleges to high schools, engineering institutes and universities (see page 167). In 17 years, this is an incredible feat and reflects the effort made to deploy 20 percent of the national budget in favour of education. Many of these buildings were simple designs but extremely well built and are still standing today. They usually had a large roof to provide shade and stilts to ventilate the floor from below and avoid floods. With cross ventilation and shutters instead of glass windows, they were well adapted to the tropical climate and local building capacity. Some are among the most impressive designs realised between 1953 and 1970. *Kambuja* reported in 1968 that 1.03 million children were attending primary school, up from 293,000 in 1955. The number of high school students was 117,000 up from only 3,543 in 1955.

Health facilities identified range from small provincial health centres to fully equipped training hospitals. Most are small health centres or dispensaries, but there are also many hospitals and maternity clinics including the remarkable Khmer-Soviet Friendship Hospital. A little known one, designed by Mam Sophana, is the paediatric clinic on Monivong Boulevard in Phnom Penh. This is an unusual organic design. The record also covers research facilities such as the Pasteur Institute on Chruoy Changvar and innovative projects such as mobile health centres. According to *Kambuja*, the number of hospitals, health centres, infirmaries, dispensaries and clinics leapt from 119 facilities in 1955 to 612 facilities in 1968.

Tourism and leisure facilities mushroomed after independence, with cinemas, theatres, motels, hotels, public parks, holiday chalets catering to

31 | 32
33 | 34

31. Metal sculpture of entwined sea horses from the 1960s still graces the foreshore of the 'Promenade des Anglais' near Independence Beach
32. Norodom Sihanouk himself designed the 'Promenade des Anglais' along the beach below the Independence Hotel
33. Classic 1960-style cast sculpture of the sea nymph Sovann Macha being ravished by Hanuman near Independence Beach
34. A sixties landscaped park in Sihanoukville dedicated to the queen situated below the state residence designed by Vann Molyann

35. Plans in the 1960s for the Chruoy Çhangvar peninsula, Phnom Penh, to encompass a port and industrial development





the population at large rather than the elite (see page 175). On the other hand, relatively few religious buildings were erected. Improvements were made to Wat Langka, Wat Tuol Tom Pong and Wat Onnalom in Phnom Penh, and Wat Preah Vihear, Wat Krom and Wat Leu were built in Sihanoukville. The cubist Wat Tuol Tom Pong was somewhat out of the ordinary, as was the "robot stupa" at Kompong Cham. Bokor stood out for its construction of a Buddhist temple, a Catholic church and a mosque. Although relatively little information was found about wat construction, details about Catholic churches and seminaries were found in French archives. Construction of sports facilities was actively promoted during the early sixties (see page 163). The importance attached to cultural affairs is reflected by the number of museums created in provincial towns, notably Battambang (see page 140). Vann Molyvann meanwhile oversaw the renovation of the National Museum in Phnom Penh.

Economic development between 1953 and 1970 resulted in more than 100 structures that have been identified. Forty-six are commercial buildings belonging to companies and banks, although this category also includes markets not just in Phnom Penh but also in provincial capitals such as Kompong Chhnang, Kep, Kratie, Prey Veng, Sihanoukville, Svay Rieng and Takhmau. Another 38 buildings related to economic development are manufacturing facilities including factories, mills and other industrial plants (see page 169). The 10 agricultural facilities listed include a genetic research centre, a rubber research institute, a dairy and a state-owned nursery for raising orchids.



36. Information hall in Preah Vihear province designed by Vann Molyvann in the 60s

Government works identified exceed 160 and are dominated by 62 entries related to the Sangkum Reastr Niyum. These include exhibitions, exhibition halls and travelling exhibitions such as the light-weight structure designed by Vann Molyvann for an exhibition in Sihanoukville in 1968. The permanent exhibition hall in Battambang, which is still intact, uses elements of traditional architecture and building materials with an original courtyard design. Vann Molyvann, Roger Colne and Lu Ban Hap worked intensely on numerous exhibitions over the years, travelling around Cambodia and to countries as diverse as Australia, Czechoslovakia, East Germany, France, Japan, Switzerland and Yugoslavia. Also included are Sangkum offices and hostels for the Royal Cambodian Socialist Youth brigades.



37. Exterior of the prefabricated exhibition hall
38. Temporary exhibition hall at Sihanoukville for the 15th Anniversary of the Sangkum Reastr Niyum

There are also 24 entries for various state residences, although many of these were within the compound of the Chamkar Mon State Palace or the grounds of the Royal Palace itself. Norodom Sihanouk nevertheless had a state residence in almost every provincial town. Designs are relatively modest and there is nothing flashy or ostentatious about them, as the chalet in Sen Monorom indicates. Among the 21 monuments listed are those not only in Phnom Penh but also in the provinces such as the intriguing sculptures along seaside boulevards in Sihanoukville and the imposing Dambong Kraneung statue in Battambang.

The list also includes 16 ministries and other agencies, 15 public buildings such as post offices, another 15 defence or military structures, notably army barracks in Kompong Chhnang and Svay Rieng and the air force headquarters at Pochentong. The most surprising was Henri Chatel's military academy designed for the Ministry of Defence in 1956. Destined to be located next to the Bayon Temple at Angkor, it was never built. Another Siem Reap military academy designed by Vann Molyvann with the assistance of Guy Nafilyan in 1968 was also shelved. Among the seven diplomatic buildings listed is the French Embassy, which has since been rebuilt. Three court buildings were also identified. The court in Siem Reap is intriguing because of its dynamic structure and is the work of Seng Suntheng.

Housing development unearthed 101 examples of private houses and public apartment buildings. This is a largely unexplored field as there are almost no records of the thousands of domestic buildings. Details of a low-cost housing competition in the early sixties enabled several architects to



39. Stepped wooden exhibition hall at Kirirom used to display Sangkum achievements to visiting dignitaries



Catering to the Masses

While tourism had largely been a French colonial activity shared with the Cambodian royal family, independence brought mass tourism to the country. Kirirom and Bokor were both developed with resorts not only for state officials and guests but also for Cambodians. In 1962, Bokor was refurbished not just as a playground for the elite but as a small town complete with schools, health centres and a town hall as well as a casino. Kirirom developed holiday chalets for civil servants, central bank staff and employees of state-owned enterprises. During the sixties, it was renamed Tioulongville after the military figure Nhiek Tioulong, who was also known as "General Tractor" for his road-building and civil-engineering skills. Many low-cost motels were designed in Sihanoukville and Siem Reap. At the same time, luxury hotels were provided to attract upmarket tourists. Norodom Sihanouk was particularly committed to the tourist industry and personally supervised the construction of state motels that had subsidiaries in major towns. He also donated some of his own personal villas for public use, including the Villa Princière used in his film "Shadow Over Angkor".

The tourism triangle linked the beaches of Sihanoukville with the bright lights of Phnom Penh and the antiquities of Siem Reap. Airports were built to international standards in all three locations. In Sihanoukville, the plan was to separate the industrial section from the leisure areas. The aim was to protect the coastline and natural environment from all building except a few approved hotels or motels. This explains why the present town centre is so far from the beaches. With motels operated by the tourism authority, Société Khmère des Auberges Royales (SOKHAR), and holiday houses for the rich, Sihanoukville and Kep were the hubs of Cambodian social life in the sixties. The imposing Hotel Independence, perched on a small bluff in Sihanoukville, catered mainly for foreign tourists. It wasn't long before Sihanoukville was being dubbed the "Côte d'Azur", with Kep and Kampot as the "Cambodian Riviera" and Koh Kong as "The Unknown Eden." To add to the glamour, Norodom Sihanouk allowed SKD to market products under his wife's name *(Eaux de Cologne Monica)* and the name of his daughter *(Cristal Bopha Devi Brillantine De Luxe)*. One fragrance was even named after Norodom Sihanouk's *Croisade pour l'Independence* from France in the early fifties.

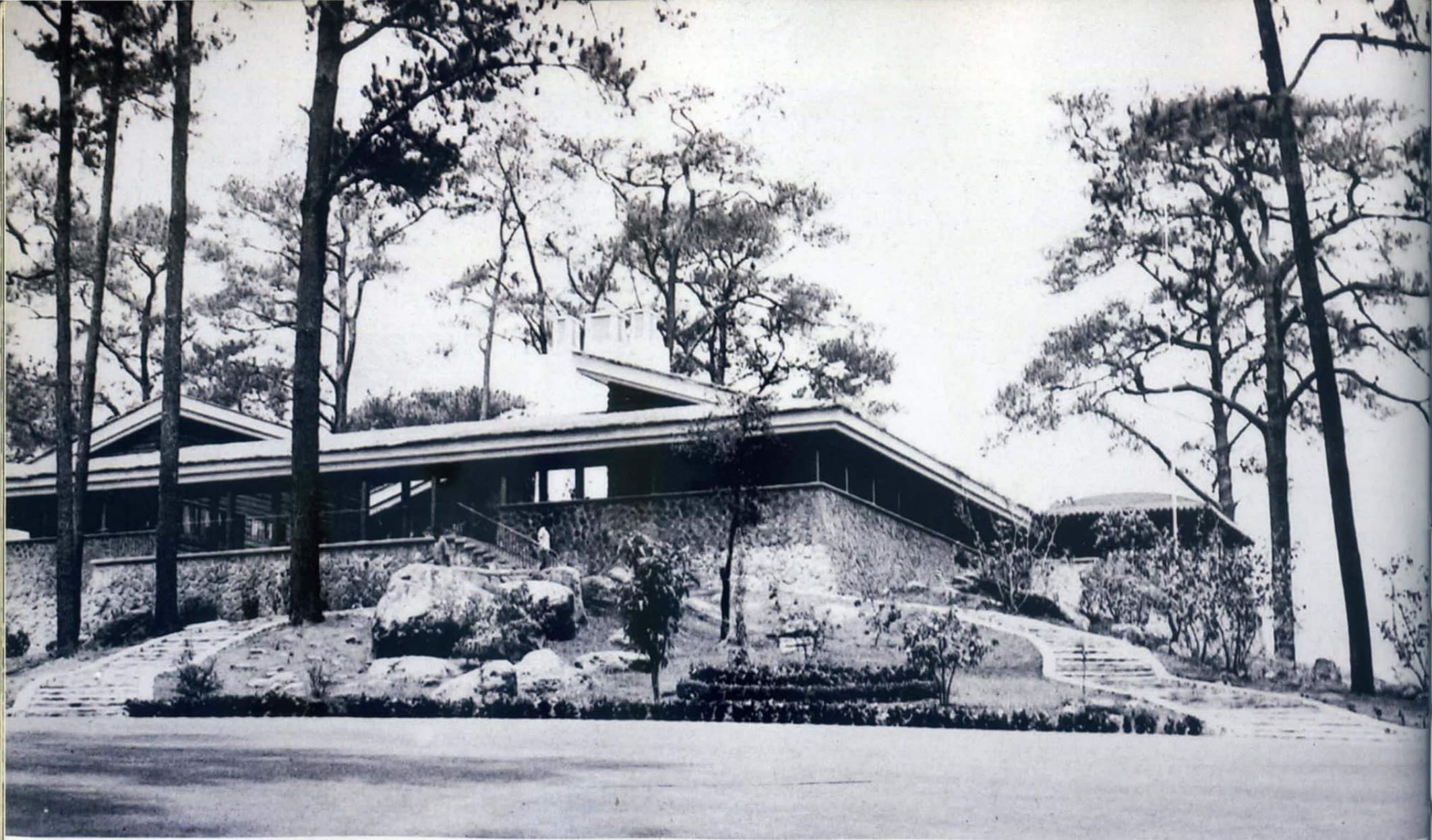
Norodom Sihanouk took an interest in hotel development. He pressed Le Royal, which opened in Phnom Penh in 1929, to get a facelift (which it did, by Henri Chatel) and encouraged private investment in new hotels in the capital.

Phnom Penh benefited greatly from its westward expansion and many large modern hotels were built along Monivong Boulevard during the fifties and sixties. These included the Sukhalay, Khemara, Monorom and Paradise hotel. The Hotel Pailin was reputedly built for a businessman; Chau Seng Kosal. Many smaller hotels sprung up along Kampuchea Krom Boulevard and the Central Market area. Architects who took part in this hotel construction boom included Roger Colne, Lu Ban Hap and Jamshed Petigura.

The development of mass tourism can be traced to a string of earlier hotels, inns and bungalows built during the French colonial period. Almost every provincial capital sported an inn (auberge). The Auberge Royale des Temples in front of Angkor Wat had developed from a small guesthouse for early visitors to the site. By the sixties, it had been enlarged and modernised to cater to those who wanted to gaze at Angkor through the large windows of the dining room. In 1964, the state-owned SONAC construction company carried out a 42-room extension and built a swimming pool. Lu Ban Hap and Roger Colne were both involved in the project which cost nine million riel. At the other end of the market, youth hostels operated by the Royal Khmer Socialist Youth association were built in such distant places as Battambang, Kratie and Stung Treng.

Cambodia set about wooing international tourists. In 1966, SOKHAR offered favourable exchange rates for foreign visitors using its state-managed hotels and restaurants in Kep, Phnom Penh, Siem Reap and Sihanoukville. The rates were also extended to those booking tours through its affililiated SOKHAR Voyages. Older hotels in Phnom Penh and the provinces were renovated, German trainers were brought in to upgrade staff and new amenities provided for the expanding market. Tourist awareness of Cambodia was not limited to monuments. Throughout the sixties, efforts were made to feature Khmer handicrafts at promotional exhibitions that toured Europe, Australia and Southeast Asia. By the end of the sixties, by which time a casino was operating in Phnom Penh, Cambodia was heavily reliant on tourism income.

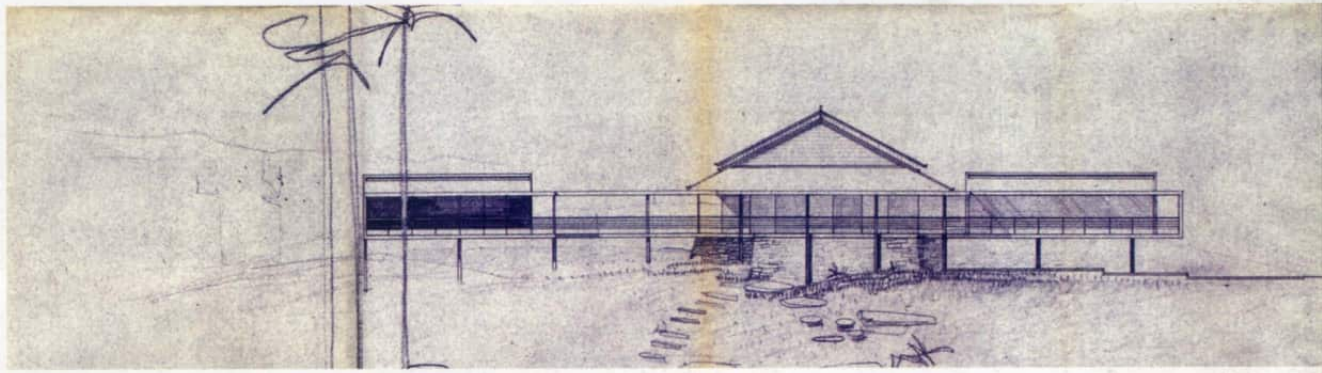
Norodom Sihanouk's frequent visits to provincial centres and streams of official guests required the construction of several state residences. Some were turned over to SOKHAR management for upmarket tourists. Architects and engineers for these residences included Roger Colne, Ach Tham Sam, Tim Dong, Ung Krapum Phka, Vann Molyvann and Mondet of the Leroy & Mondet partnership.



40. Kririrom state residence set on a hill with pine trees



be identified, notably Seng Suntheng and Henri Chatel. What is significant here is the number of experimental projects, low-cost houses, community developments, innovative apartment buildings and even houses for ethnic minority communities in remote areas. Those designed by Henri Chatel for the National Bank of Cambodia with their double roofs and clean-cut geometry were opening doors for the development of New Khmer Architecture as early as 1959. Another intriguing design is that of the apartments for French experts. These unusual buildings are still standing behind Calmette Hospital and are the work of Roger Colne. A housing experiment by Vann Molyvann, known as the "One Hundred Houses" estate at Tuk Thla, was inspired by traditional Khmer housing and was inhabited by civil servants. National Bank and SKD Brewery staff quarters in Sihanoukville also illustrate Vann Molyvann's search for the modern Khmer house.





41. Perspective sketch for the modest hilltop residence
42. Elevation drawing for the state residence in Sihanoukville
43. The modest state residence at Preah Vihear province in the sixties



Preah Kossomak Centre

Initial function: Training centre for Electricité du Cambodge (EDC)
Present use: National Technical Training Institute
Location: Tuk Thla, Russei Keo district, Phnom Penh
Inauguration: June 17, 1969
Architect: Mam Sophana

This group of buildings included straightforward grid-sized classrooms and offices. But the main building, standing behind a large lotus pond, has a double facade made of beautifully shaped columns. This transforms a plain rectangular building into something special where the facade is reflected in the pond. As far as the architect was concerned, "the columns are elegant and rhythmical like dancers. This is like the Sangkum Reastr Niyum, the kingdom and refined culture." But Mam Sophana admitted that the access corridor should have been on the outside to ensure cross ventilation.

44. Mam Sophana's 'dancing' column facade of the former Electricité de Cambodge (EDC) training centre inaugurated in Tuk Thla in 1969









The elevation reveals the complex composition of the facade incorporating louvred doors and ventilation as part of the architecture. The roof span creates shade on the facade. Red brick alternates with concrete and the elegant marble columns have a white granite finish which has survived remarkably well. This required excellent form work on behalf of the contractor to achieve such a perfect finish. The proportions are beautiful.

The site was developed as part of the extension of Phnom Penh towards Pochentong Airport and was probably a wetland. Initially built as an EDC training centre, the building was renovated by Soviet aid in 1981 and once again used to train electrical technicians. It became a centre for educational instructors in 1987 and its fate now depends on the Ministry of Education. It is interesting to note the large amount of water which has been preserved as part of the landscape.

Sources: SRN Photos Albums 1995; Le Sangkum No. 22; Etudes Cambodgiennes, 1968; Le Sangkum, No. 48 and October 1968; Photos Souvenirs de mon Cambodge; interviews with Mam Sophana and Bun Phearin in Phnom Penh in 2000

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45. Facade detail of contrasting white columns against the red-brick main building
46. A row of columns screens the main building
47. Detail of single column
48. Close-up of granite finish





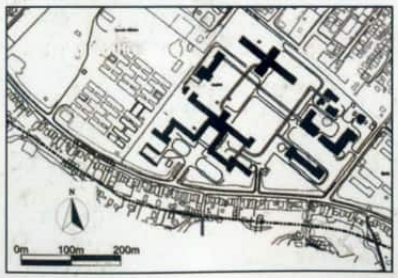
Khmer-Soviet Friendship Hospital

Initial function: General and teaching hospital
Present use: General hospital
Location: Yuthapol Khemarak Phoumin Boulevard, Phnom Penh
Inauguation: August 29, 1960
Architects: Ms. Gordienko and Ms. Erchov (full names unknown)

In 1956, when Norodom Sihanouk was on a state visit to Moscow, Soviet leaders offered to build a hospital in Phnom Penh. An agreement was signed in May 1957 and Soviet specialists were beginning the first soil resistance tests by the end of the year. The Guiprazdrav Institute in Moscow designed the project which eventually involved 172,000 cubic metres of earthworks spread over 10 hectares. Norodom Sihanouk laid the foundation stone on May 16, 1958, and the main works were finished within a year. In 1960, an additional agreement was signed to install medical equipment and the new Khmer-Soviet Friendship Hospital was transferred to Cambodian authorities on August 29.

But it was not all plain sailing. According to French architect Henri Chatel, who was in Phnom Penh at the time, the Soviet engineers designed the concrete entrance canopy to be reinforced with steel. The concrete required three weeks to set. But when the forms were removed, the beam collapsed - the steel had been stolen. The Soviet engineer was sent home in disgrace. Still, the building was a significant technical achievement - only two and a half years elapsed between the first earthworks and the delivery of the 500-bed hospital.

Initially headed by Dr Thioun Thioeun, the hospital had 150 beds for general medicine, 120 for tuberculosis, 60 for other infectious diseases, 60 for surgery as well as 50 paediatric and 60 maternity beds. An outpatient's clinic could accommodate 500 consultations a day. In addition to the Cambodian staff, there were nine Soviet doctors and a Soviet pharmacist at the launch. The 13,000 square metres of floor space were organised around courtyards, enabling most of the rooms to have cross ventilation. Initially, the hospital was equipped with six operating theatres with the latest surgical equipment, seven X-ray machines and a cobalt cancer treatment machine.



"In 1955, we only had nine doctors," Norodom Sihanouk said at the inauguration in 1960. "Today, we have 24. Forty-one are completing their training either in France or in Phnom Penh. There are 97 field doctors and 122 more being trained. In 1955, we only had 550 nurses whereas today we have over one thousand and 297 are being trained. The number of midwives has gone from 27 to 108, and 88 will shortly be leaving school." Figures from the period show the national health budget soaring fourfold from 81.9 million riel in 1955 to 347 million riel in 1960.

The striking canopy across the entrance has aged remarkably well, although it would take a lot of investment to return it to its initial standard or to bring it up to modern international standards.

Sources: Sangkum Reastr Niyum Photos Albums; Norodom Sihanouk World Leaders; Cambodge d'Aujourd'hui, July-August 1960, Etudes Cambodgiennes No. 15, 1968; Cambodian Commentary, September 1961; interviews with Henri Chatel in Paris and Russian Ambassador Victor Samoilenko in Phnom Penh in 2001

49. Aerial view of the Khmer-Soviet Friendship Hospital in the 1960s

50. Panorama of the Khmer-Soviet Friendship Hospital soon after completion in 1960
51. Site plan of the Khmer-Soviet Friendship Hospital on Yothapol Khemarak Phoumin Boulevard, now the city ring road



Central Bank Branch in Sihanoukville

Initial function: National Bank of Cambodia branch
Present use: unknown
Location: Krong Street, Victory Beach area, Sihanoukville
Inauguration: November 13, 1968
Architect: Vann Molyvann

When given a commission, Vann Molyvann was scrupulous in researching the functional needs of the building. In this case, he investigated the construction of Swiss banks and incorporated highly reinforced vaults into the basement. The construction of a provincial branch of the central bank seems to have been motivated by proximity to the port. As bank notes were made in France, it was considered safer to store them in Sihanoukville and redistribute them to the rest of Cambodia from there rather than transfer the whole cargo to Phnom Penh.

This complex is set into the hillside overlooking the sea and includes a main building with the ground floor for banking activities and the basement and vaults set into the natural slope of the land. It also has a workshop with a technical plant for a generator and an incinerator for destroying used bank notes. In addition to a garage, store and guards building, there are three large houses, an apartment building and housing for other workers (see page 143). The buildings are of reinforced concrete and brick. The complex is set into a landscaped garden with extensive lawns.

Vann Molyvann used the 2.26 metre grid of Le Corbusier's Modulor to design the buildings. Characteristic of his other designs, there are a double wall, a butterfly roof and pools integrated into the steps at the entrance. There is also a drain around the perimeter and large decorative screen walls. The effect is a cool cross ventilated space with filtered light.

As a whole, it resembles a monolithic sculpture. The main entrance has beautiful doors and windows with metal grills featuring the Khmer symbol for the riel and the back wall features a huge screen wall with a geometric motif. Inside is a large open-plan office with wooden service counters finished with aluminium and stainless steel. Even the separate technical workshop, which includes an incinerator for burning used notes, has an unusual design with a screen wall and a geometrical concrete roof raised off the main structure.

This complex seems to have been inaugurated as part of the 15th anniversary of independence in 1968. Whether it actually ever served as a central bank branch is not clear as it became a commercial bank in 1969. Although the Khmer Rouge tried to blow it up, they only succeeded in damaging the vault. In 1979, it was reopened as a municipal office and the Vietnamese built the People's Revolutionary Building next door.

In 1999, the National Bank of Cambodia returned. The manager said the following year that the main building was sinking into the ground, possibly as a result of the Khmer Rouge attack. Although part of the roof has been replaced with corrugated iron and the technical plant is badly damaged, the complex has survived remarkably well. Holes can be seen in the vault walls, but these do not seem to have compromised the structure. Amid talk of possible leisure development, it seems unclear whether this group of buildings will continue to function as part of the central bank.

Sources: SMUH; interviews with manager in Sihanoukville in 2000 and Vann Molyvann in Phnom Penh in 2001

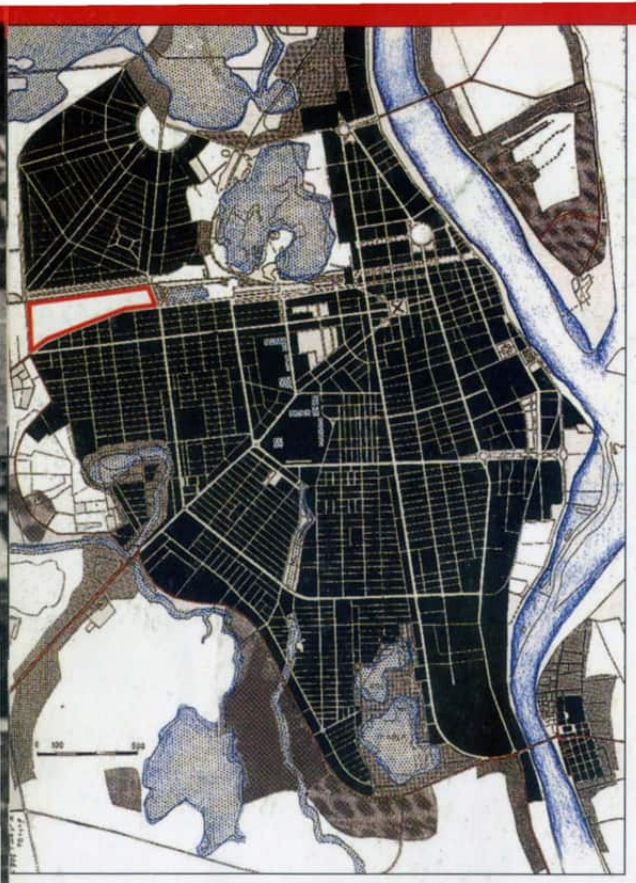


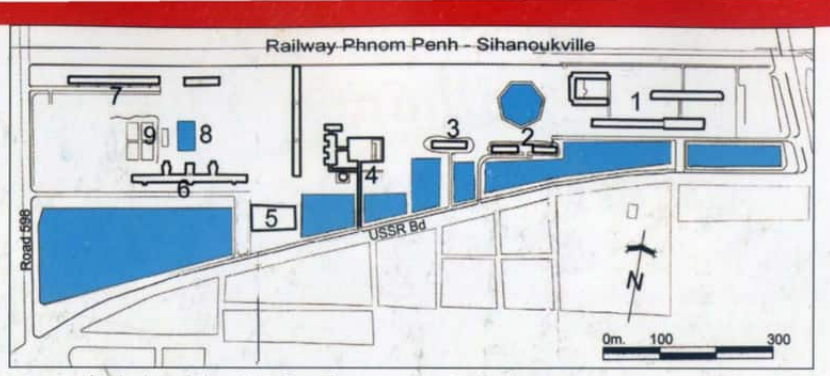
52. General view soon after completion of the main building on the left and and the management housing to the right





53. Screen wall at the rear of the main building
54. Front window
55. Front steps, porch and facade





1. Institute of Technology of Khmer-Soviet Friendship
2. Institute of Technology housing
3. unknown
4. Teacher Training College
5. main hall of Sangkum Reastr University
6. Sangkum Reastr Niyum University
7. university apartments
8. swimming pool
9. tennis and basketball courts.

University Campus: Master Plan

Initial function: University campus
Present use: University campus
Location: Russian Federation Boulevard, Phnom Penh
Inauguration: c.1960
Architects: Leroy & Mondet, Vann Molyvann and Ung Krapum Phka

The Leroy & Mondet partnership was responsible for public works before independence. They designed a master plan for the university campus which was itself part of the broader urban plan to extend Phnom Penh westwards with a new boulevard, a new railway line built on a dyke and a new airport. The French architects planned to fill in the entire 45-hectare site between the boulevard and the railway, both of which were on high ground.

In the late fifties, public works engineer Ung Krapum Pkha and Vann Molyvann intervened. Instead of landfill, they proposed large water basins to avoid flooding. This made sense as it feeds a *prek* that originally connected the university to the Tonle Sap via street 108. Under the revised plan, 25 percent of the surface was to be devoted to a large moat separating the buildings from the road. This not only solved the problem of handling heavy rainfall but also created a beautiful landscape and set off the buildings. Even though different architects worked on the campus over a 10-year period, the result is harmonious.



Sources: Cambodge d'Aujourd'hui Nos. 3-4; Chea Bunseang; interview with Vann Molyvann in 2003

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56. Map of Phnom Penh in 1968 showing the university area between Tuol Kok to the north and USSR Boulevard to the south
57. Site plan of the Phnom Penh university compound in the 1960s showing
58. Norodom Sihanouk with staff and guests at the inauguration of the university in 1968



University Campus: Institute of Technology

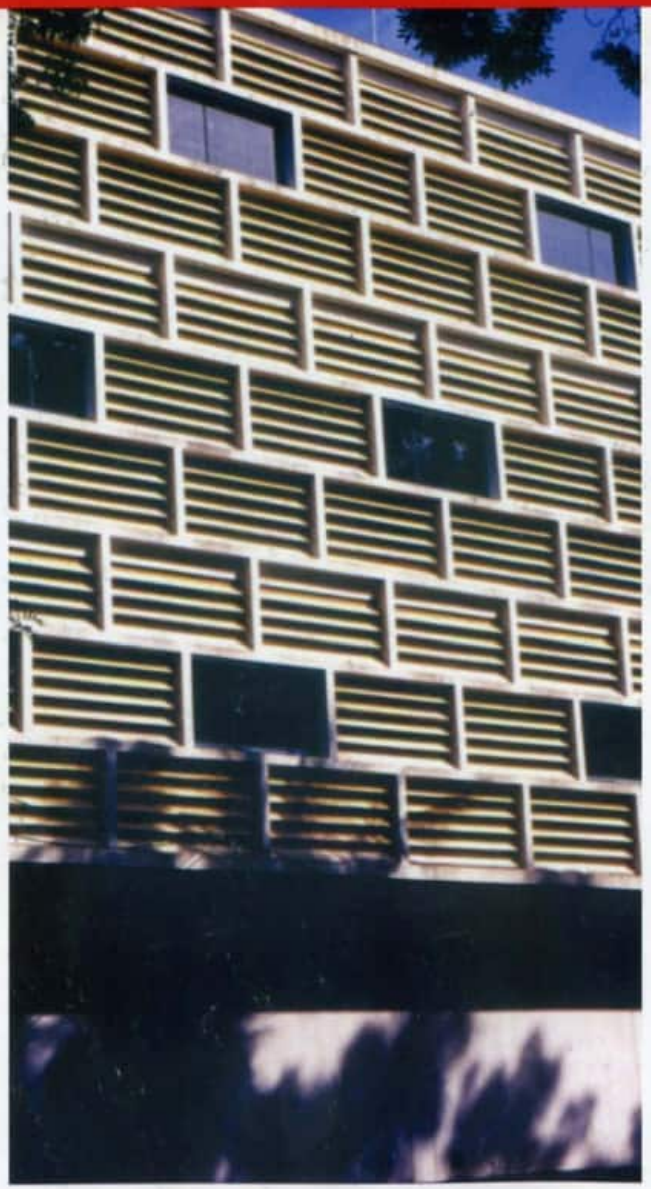
Initial function: Institute of Technology of Khmer-Soviet Friendship
Present use: Institute of Technology of Cambodia
Location: Russian Federation Boulevard, Tuol Kok district, Phnom Penh
Inauguration: September 20, 1964
Architects: Soviet team from Moscow headed by an unnamed woman

In an agreement signed with Norodom Sihanouk in mid-1961, Soviet Premier Nikita Khruschchev offered to donate and technically supervise the construction of a higher technical institute and two buildings with 28 apartments for teachers. In early 1962, earthworks started on the 10.3 hectare site under a Cambodian company supervised by a team of Cambodian and Soviet engineers. Work was completed in August 1964 and the complex was inaugurated by Norodom Sihanouk and the Soviet higher education minister the following month.

The group of buildings comprised an administrative building, a pedagogical building, a swimming pool and a sewage treatment station as well as the two apartment buildings. Designed for up to 1,000 students, the institute had a floor area of about 30,000 square metres with 40 teaching rooms, a conference hall, two auditoriums, 32 laboratories, 10 workshops, and 23 study rooms. It aimed to train engineers and highly qualified technicians in civil engineering, hydrology and agriculture, electrical engineering, chemistry, geology and mining and textiles. It was acclaimed by Norodom Sihanouk as being the most successfully designed university building in Cambodia.

Up to 1975, as many as 100 Soviet teachers trained Cambodian engineers at the institute. The medium of instruction

59. Panorama of the Institute of Technology on USSR Boulevard soon after opening in 1964









60. Glazed windows and louvered screen wall on the upper level
61. Entrance with a clear understorey for air to circulate
62. Louvered sunscreen facade letting in filtered light and air to corridors and classrooms
63. Indirectly-lit corridor provides airy access to classrooms



was French. During the Pol Pot era, the buildings were used as a transit camp. Soviet teachers returned in 1980, although this time teaching in Russian. In 1993, two years after the last Soviet teachers left, France agreed to rehabilitate the buildings and provide administration and teaching in the same fields as the institute's initial vocation as well as computer technology. Over the next decade, about 150 French and Cambodian teachers trained 500 technicians and engineers every year.

It remains the most pleasant university building in Cambodia. The Soviet architects must have spent some time studying the adaptation of architecture to the tropical climate as the design uses all the techniques to accommodate the heat and humidity. Walls are made of sunscreens, deep recesses are in the window openings, and rooms are cross ventilated. A large open meeting place under the main building is linked to an inside courtyard, now full of trees. Even the roof was specially designed to cope with heavy rain, with a VV-shaped profile covered with bitumen and red floor tiles. But it is not only extremely functional, it is also beautiful, as can be appreciated from the exacerbated rhythm of the facade which creates an exciting space inside as well. A wide variety of granite finishes and coloured tiles enhance the public spaces. The plans - which are still to be found in institute's maintenance department - show the extent to which this team of architects from Moscow designed every detail.

Sources: Norodom Sihanouk; Sangkum Reastr Niyum Photos Albums 1995; Années 1960; Cambodia Today, May-June 1962; Kambuja No. 13; Cambodge d'Aujourd'hui Nos. 3-4; Etudes Cambodgiennes, No. 15, 1968; Le Sangkum, October 1968, Institute of Technology of Cambodia; Institut Technique Supérieur de l'Amitié Khméro-Soviétique; interviews with Institute of Technology of Cambodia staff and Vann Molyvann in Phnom Penh in 1999, 2000 and 2001



64. Night views emphasize the structural beauty
65. Six-riel postage stamp issued in 1968 commemorating "l'Institut Technique Supérieur de l'Amitié Khméro-Soviet"

University Campus: Institute of Technology Housing

Initial function: Housing for teachers
Present use: Demolished 2006
Location: Russian Federation Boulevard, Phnom Penh
Inauguration: c.1964
Architects: Unidentified Soviet architects or Leroy & Mondet



66. Two blocks of elevated teacher residences next to the Institute of Techology

The agreement signed by Norodom Sihanouk and Nikita Kruschev on June 24, 1961, stipulates that two apartment buildings be built for teachers. As the institute was entirely designed and built by a Soviet team, one assumes the apartments were too. But Lu Ban Hap, who was Municipal Town Planning and Housing Department director at the time, said he remembered the buildings being designed by the team of Leroy & Mondet. The French architects did the original master plan for the whole campus and the main university buildings on the western side of the campus. Either way, the reinforced concrete apartment buildings are not remarkable - apart from efforts to deal with the climate such as sunscreens, cross ventilation and raising the structures off the ground.

One reason they suffered so much without maintenance is that the roofs had concrete slab terraces which have inevitably leaked. As a result, these buildings suffered from intense damp and their structures were damaged so much that it was not feasible to even attempt to refurbish them.

Sources: Institute of Technology of Cambodia staff and Vann Molyvann in Phnom Penh in 1999, 2000 and 2001

University Campus: University of Phnom Penh

Initial function: University
Present use: Royal University of Phnom Penh
Location: Russian Federation Boulevard, Tuol Kok district, Phnom Penh
Inauguration: November 8, 1968
Architects: Leroy & Mondet



67. Aerial view of the university buildings and main hall under construction
68. Nine-riel postage stamp issued in 1968 commemorating the 'Centre Universitaire du Sangkum Reastr Niyum'









69. Main university building from the road
70. Former residence for teachers to the rear of the main buildings
71. Facade of main building
72. Facade of main building featuring prominent staircases

Initially conceived as a high school for up to 3,500 students in 1962, the main group of buildings in the university campus was billed as the "Cité Universitaire du Sangkum Reastr Niyum" by the time it was completed in 1968. The high school buildings were well adapted for such a university and the 14 hectare site now houses the Royal University of Phnom Penh. It was nevertheless a mammoth task to complete a group of buildings of this complexity for 210 million riel. When the state-financed centre was inaugurated in 1968, it grouped faculties of arts, science, and pharmacy.

The six floors of the main building had 100 classrooms and laboratories, libraries, a medical centre and a teachers room. A roof terrace of 2,000 square metres was for outdoor lectures and was protected by a second roof. The main meeting hall, built of a parabolic concrete shell with a span of 40 metres, covered 1,850 square metres. There were also 10 workshops for practical work and two buildings with 60 apartments as well as a swimming pool and tennis and basketball courts.

The architects, the French team of Leroy & Mondet, seem to have been inspired by the trends found in international magazines at the time. The main building relates to the Modern Movement and has elements of Le Corbusier, particularly the substructure which is made of gigantic columns similar to the Unité d'Habitation built in Marseilles in 1954. The idea of "framing" the building with a powerful concrete wall could have been taken from the High Court at Chandigarh.

What is intriguing is the technical prowess required to build such large structures out of reinforced concrete. The design of a sub-structure like this would have required a highly competent engineer as the whole weight of the building is borne by a few columns. While there is no trace of the engineers who worked with Leroy & Mondet, it is noteworthy that National Sports Complex engineer Vladimir Bodiansky was also engineer for the Unité d'Habitation. But from correspondence between Vladimir Bodiansky and Vann Molyvann, it seems that neither held Leroy & Mondet in high regard. Perhaps assistance came from Wladimir Kandaouroff, another engineer who worked on the sports complex.

As for the main hall, this parabolic structure could have been inspired by the Bacardi factory in Mexico City. Nevertheless, it is proof that complex formwork was possible in Phnom Penh in the sixties and this is interesting, as carpentry work is an old tradition in this country of boat builders and wooden houses. In recent years, the main hall has been used as a motorbike garage in the daytime and occasionally tried out as an auditorium. However, the parabolic form is bad for acoustics and the reverberation of sound is intolerable. The building has suffered from a lack of maintenance and the roof has leaks which have eroded the concrete. The apartment buildings are in a very bad state and, like those of the Institute of Technology, it is hard to see any justification for refurbishing them. Apart from resembling hundreds of apartment buildings going up in the French suburbs at the time, they have no distinguishing features.





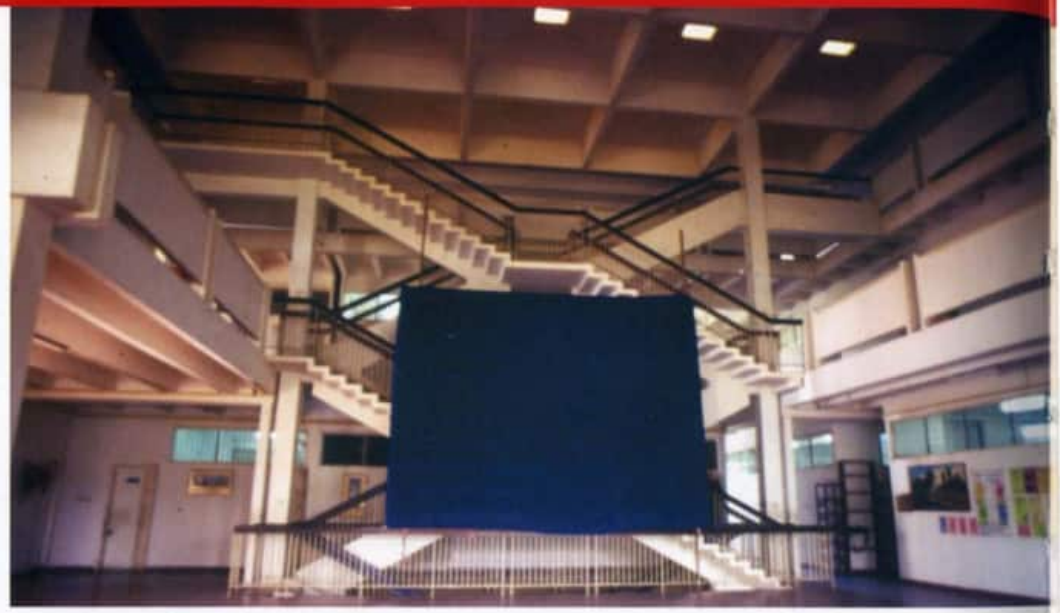


Sources: Norodom Sihanouk; Sangkum Reastr Niyum Photos Albums 1995; Etudes Cambodgiennes No. 16; Cambodge d'Aujourd'hui Nos. 1, 3-4; Kambuja, April 1966; Le Sangkum, October 1968; Architecture d'Aujourd'hui, No. 109, 1964; Photos Souvenirs de mon Cambodge

73 | 75
74

73. Parabolic roof of the main hall of what is now the Royal University of Phnom Penh at present under renovation
74. The interior of the main hall is sometimes used to park motorcycles
75. Parabolic roof of main hall of what is now Royal University of Phnom Penh





University Campus: Teacher Training College

Initial function: Teacher Training College
Present use: Institute of Languages
Location: Russian Federation Boulevard, Tuol Kok district, Phnom Penh
Inauguration: 1972
Architect: Vann Molyvann





76. Completed final design around 1971 with row of practical workshops in the foreground
77. Internal space of the main building
78. Pierced alveolated wall of interconnecting passageway between teaching laboratories
79. Bridgehead with double naga motifs

Whatever the reasons for Vann Molyvann's despair in 1965, we can almost be thankful that the preliminary design was never built as the final design surpasses it in many ways. "We must use our last shot. It will also be the last for me here in Phnom Penh," he said in a letter to Vladimir Bodiansky, the engineer with whom he worked on the National Sports Complex. It was.

Bodiansky wrote to Vann Molyvann in early 1965 to confirm that they would be the project leaders with architects Jean-Claude Morin and Claude Duchemin and urban designer Marc Ing as their assistants. On March 10, Vladimir Bodiansky received a letter from France's Town Planning and Housing Mission. "Bad news," it said. "Foreign Affairs cabled Phnom Penh last night to confirm the elimination of Vann Molyvann's project. Pretext - design not adapted to the program. But from the tone of my informer, it would appear that politics played a role." On the same day, Vann Molyvann and his wife wrote to Vladimir Bodiansky indicating that they wished to leave Cambodia. The reason for this desire to move abroad remains obscure. What is clear is that Vann Molyvann was acclaimed internationally for the National Sports Complex completed in 1964 and that Vladimir Bodiansky tried to get him nominated as a United Nations expert in 1965.

Competing against Vann Molyvann for the campus was the team of Leroy & Mondet, the two French architects who had designed the master plan for the campus six years earlier which was later modified by Vann Molyvann and Ung Prakum Phka (see page 93). Leroy & Mondet had also designed the main university building on the campus (see page 184). Why they later stopped competing for the Teacher Training College design is not clear but they were involved in some kind of scandal. Leroy is also believed to have died in 1965, although Mondet apparently continued to work in Cambodia.

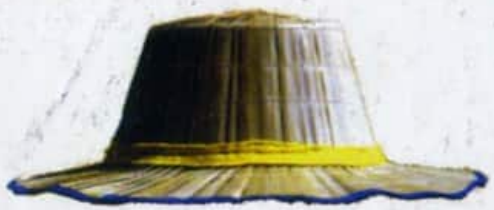
Vann Molyvann's final design, inaugurated in 1972 after he left Cambodia, shares a number of points in common with the earlier design - a square main building and a complex of moats. But the final composition has exploded with the main building, the library and other rooms expressing themselves independently. Although free of the initial symmetry, it retains homogeneity - the same building materials are used throughout and a footbridge connects the buildings. Moats are everywhere.

The entrance of what is now the Institute of Languages consists of a monumental bridge, complete with nagas, reminiscent of Angkorian temples. If the site was restored to its initial design, the buildings would all be surrounded by water.

All buildings are raised off the ground. The main building, which has a car park underneath, is like an inverted pyramid, each floor overhanging the lower one. This creates a strong geometrical effect and also reinforces light and shade in the facades, contributing to a strong sculptural effect as if extractions and cavities have been made in a primitive cube. It also has a reason - each floor provides shade for the lower one. The reinforced concrete roof of the main building is an incredible cavitied structure reminiscent of honey comb. The walls, where they exist, are composed of diverse red brick panels, sun screens



80. Pond with Angkorian-inspired bridge linking the entrance gate with the main building





81 | 83
84 | 82

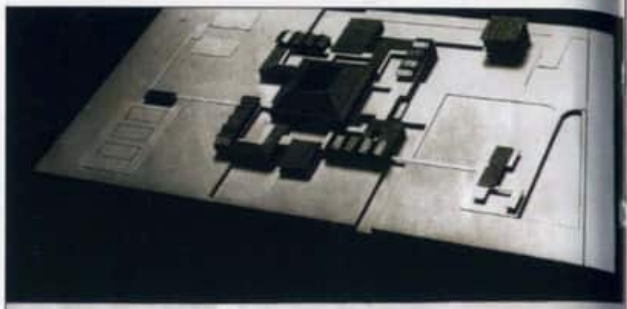
81. Traditional palm-leaf hat used by Vann Molyvann as inspiration for the library of the Teacher Training College, now the Institute of Languages
82. Circular library building based on the traditional palm-leaf hat
83. Earlier model naming Vann Molyvann and Duchemin & Morin as architects with Vladimir Bodiansky and Marc Ing as planners
84. Library interior with seemingly suspended circular ceiling

and reinforced concrete in strong contrast both in texture and in colour. The external staircase is a fire escape sculpted into the composition like those of Le Corbusier.

Inside the main building is an immense hall with staircases, balconies and columns with light penetrating indirectly from the facades. It is somewhat like the SKD Brewery with offices suspended around the central space but far more bold and daring. The teaching labs are a fantastic composition of individual structures positioned on reclining columns and represent yet another experiment in roof composition. The connecting passageway is bordered with a wall pierced with holes. Vann Molyvann said the small library was inspired by a straw hat. Its circular concrete roof indented with rays seems to be floating on a circular glass wall. Inside these buildings, light is filtered by the ingenious location of windows so that one is never blinded nor troubled by intense contrasts of light.

This last work of Vann Molyann before Norodom Sihanouk's overthrow uses all the devices he developed over the years in responding to the climate and finding his own particular style. But here it is taken to such an extreme that one could almost qualify these buildings as "New Khmer Baroque Architecture." Barely 10 years separate this from the Council of Ministers. But they could almost be the work of two different architects.

Vann Molyvann left Cambodia before the Teacher Training College was inaugurated in 1972. Like most of his buildings, it has weathered incredibly well and the structure is still sound. The building would nevertheless benefit from a complete overhaul as would the moats and surrounding landscaping, which are even more in need of renovation.



ECOLE NORMALE SUPERIEURE DE PHNOM-PENH

VANN-MOLYVANN ARCH. DPLG – BODIANSKY EXPERT UN-TAO
DUCHEMIN & MORIN ARCH. DPLG : MARC ING. URBANISTE

Sources: Vladimir Bodiansky archives; interviews with Vann Molyvann in Phnom Penh 2001 and Vladimir Bodiansky's son Vladimir in Paris in 2001



85. Main building with shallow ponds and raised walkways linking entrance gate and library



Georges Kondracki

Georges Kondracki, born in 1928, seems to have been a refugee in the French Pyrenees during World War II, where coincidently, he went to the same school as Vladimir Bodiansky's son (see page 95).

Kondracki desperately wanted to be an architect but first worked with Le Corbusier and as an assistant in the AT.BAT group. It seems likely that Vladimir Bodiansky introduced him to Le Corbusier - and why not to Cambodia?

He took US nationality and served in the US Marines during the Korean War. After that he was given a grant to study architecture at Cornell University. He also obtained a master's degree in architecture at Harvard.

As a United Nations expert, he worked in Cambodia from 1965 to 1970 where we have traces of his excellent contribution to the station designs of Takeo and Kep.

"I was interested to see how local people with low incomes succeeded in generating an admirable environment and architecture for themselves. This architecture uses air, shade and stilts in a country that is regularly flooded", he said in an interview in May 1993.

Ing Kieth, responsible for the Sihanoukville railway infrastructure, remembers Georges Kondracki well. In fact he saw him in Asia, shortly before his death. He had designed his house at 90 Norodom Boulevard in Phnom Penh, and the inspiration was the US architect, Eero Saarinen. This was rented to the Indonesian Embassy until recently.

In 1984 he was in Jakarta, where he was working on the city development plan. More recently, Kondracki was working in Ethiopia (UN in Nairobi) and before that in the Philippines.

He died in March 2001.

Sources: Vladimir Bodiansky archives at Georges Pompidou Centre, Paris; Roger Aujame, architect, Paris 2001; Vladimir Bodiansky son, Paris 2001; Nicolas Kondracki, son, architect, Paris 2001; interview conducted by Claire-Hélène Drouin, School of Architecture Paris-Villemin (provided by Nicolas Kondracki), May 1993; Ing Kieth, Paris 2001; various references in journals in Cambodia

ARK Research references: PP132: House for Ing Kieth (former Indonesian Embassy), 90 Norodom Boulevard, Phnom Penh **TK26:** Takeo railway station

Michel Courtier

Michel Courtier was project manager for the French Ministry of Foreign Affairs mission to Cambodia in the 1960s and technical adviser of SMUH (Sécrétariat des Missions d'Urbanisme et d'Habitat, Paris), which contributed to the construction of the port of Sihanoukville (other technicians were Michel Weill, architect and town planner; Michel Courtier, technical counsellor; and Guy Ragot, architect and town planner).

Sources: Vladimir Bodiansky archives - meeting at Sihanoukville July 7, 1965; SMUH activity report June 18 - July 9, 1965; SMUH "Aménagement de la Presqu'île de Sihanoukville" July 1966

ARK Research reference: SV55: Urban plan, Sihanoukville



Lieutenant Ach Tham Sam

Lieutenant Ach was born in Cambodia (date unknown). Not a great deal is known about this army architect, but in an interview Vann Molyvann he recalled that Ach Tham Sam was responsible for two buildings, as listed.

Sources: Interview with Vann Molyvann 2002, Phnom Penh; photographs of State Residence at Sen Monorom in Kambuja; article with photographs reproduced in Années 1960 showing "Salakhet" District Hall at Tbeng Meanchey with accreditation; photograph National Archives; photograph RUFA

ARK Research references: MK7: State Residence, Sen Monorom **PV9:** "Salakhet" District Hall, Tbeng Meanchey



Mean Kim Ly

Mean Kim Ly was head of the Urbanism and Habitat Department in 1965, and also head of the Port Authority of Sihanoukville.

In January 1968 he wrote, "A few figures illustrate how much the port of Sihanoukville has developed since it was created. The number of ships has risen from 89 in 1961 to 258 in 1966. During the same period, freight has risen from a total of 95,484 tons (imports 35,084 tons, exports 60,400 tons) to 548,526 tons (imports 274,750 tons, exports 273,776 tons). Of 253 visiting ships in 1966, 73 were French, 33 Greek, 20 British, 20 Polish, 18 Yugoslavian, 17 Panamanian, 14 Norwegian, 13 Chinese, 12 Russian, 11 Japanese, 7 Dutch, 5 Cambodian, 4 Danish, 3 Maltese and 3 Lebanese. The total value of imports and exports was 998.5 and 329.2 (1,327.7 million riel) in 1962 and this rose to 1,399.1 and 2,869 (4,268.1 million riel) in 1963."

Sources: Vladimir Bodiansky archives, Paris - meeting at Sihanoukville July 7, 1965 and Port Authority report, January 1968

Michel Marec

Michel Marec, engineer from the Ecole Polytechnique and Ponts et Chaussées, was born in France in 1937.

In 1964 he was sent to Cambodia by the Ministry of Foreign Affairs as a professor of engineering at the Ministry of Public Works school. Ing Kieth was the head of this school and Michel Marec was his assistant. However, after a few months he was asked by the head of Cambodian Railways to take the responsibility for the railway from Phnom Penh to Sihanoukville.

When Michel Marec began working on the railway, Khaou Chuly already had a contract for the construction of 12 bridges but no one in the country was capable of calculating the structures. So he shut himself up in his apartment (rue Samdech Iem in the same building as Guy Lemarchands) and did all the calculations and drawings himself (without a computer) for the bridges and the first phase of the railway from Phnom Penh to Takeo (75 kilometres).

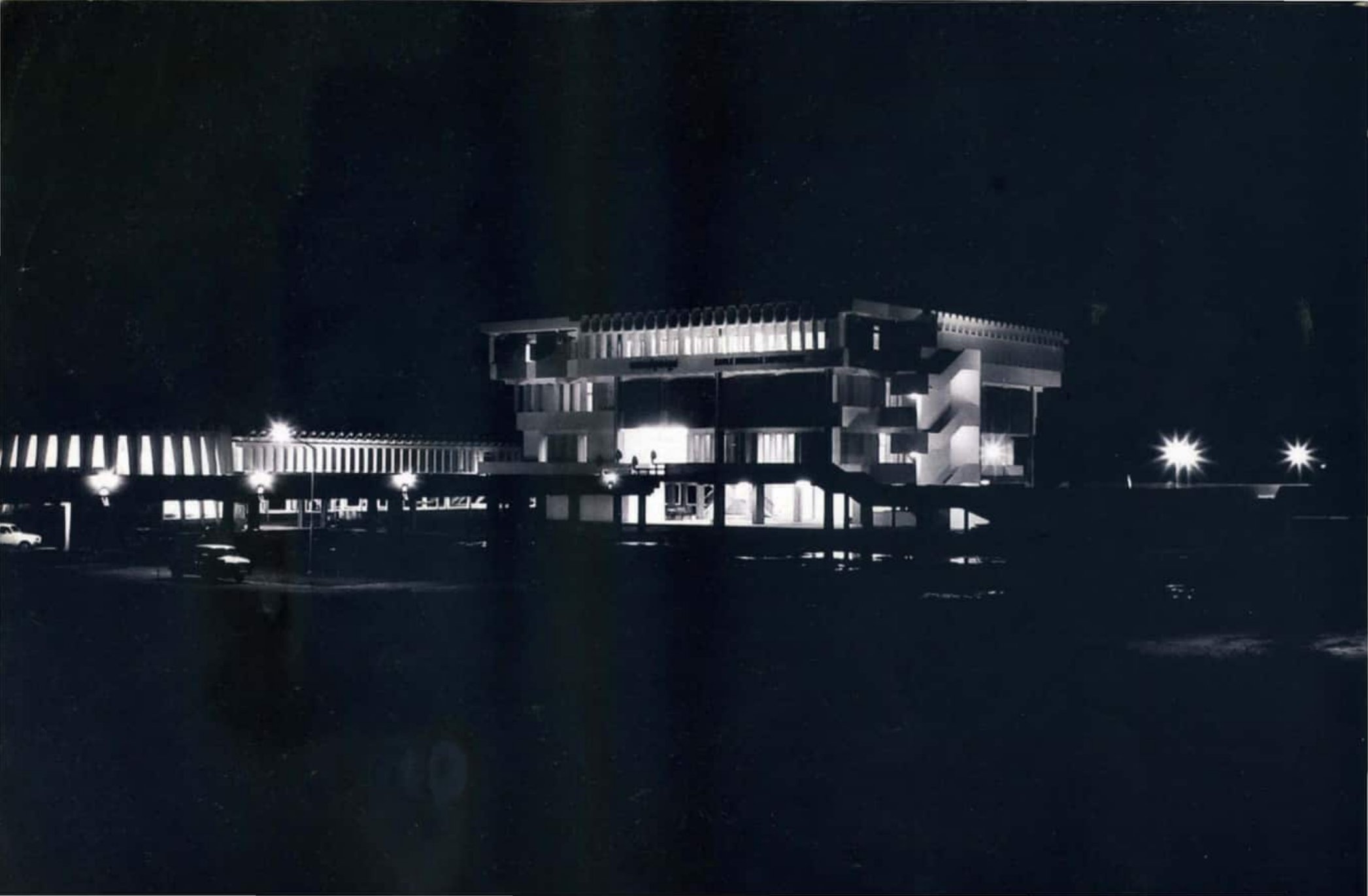
Khaou Chuly employed a good Vietnamese engineer named Tan Hy, who assisted Michel Marec on site with the construction.

After an international career he retired in 2000.

Sources: Meeting with Jean-Marie Charpentier, Paris 2001; Meeting with Michel Marec, Paris 2001

ARK Research references: K22: Kampot railway station **PP320:** Railway line Phnom Penh-Sihanoukville **TK26:** Takeo railway station

86. Lt. Ach Tham Sam's District Hall at Preah Vihear province





87. Night views emphasizes the structural beauty of the Teacher Training College

Photo Credits

Anonymous; 5, 6, 7, 8, 19, 22, 65, 68

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Works:

The National Sports Complex:
- Urban Plan
- Outdoor Stadium
- Indoor Stadium
- Swimming Pool
- Water Sports Complex
- Complex Legacy

Biographies:

Vann Molyvann
Louis Arretche
Claude Duchemin
Wladimir Kandaouroff
Sieng Sang Em



Norodom Sihanouk demanded the highest standards of design, functional buildings and public works. He was the ideal client, pushing his architects to their limits and supporting creativity in all areas of society. Client and architect are wedded in a relationship that requires mutual trust and respect. The role of the public client is to support the architect by finding the money and recognising the quality of the design, striving for something even more radical than the architect had dared. With a client like Norodom Sihanouk, the architects had to be talented. Many were. But in terms of both quality and quantity, only one stands out.

The Architect

Chapter 7



Sink or Swim

Vann Molyvann's early career lasted only 13 years. While he was studying in France, Cambodia obtained independence and Norodom Sihanouk was waiting for the right person to oversee national planning and construction when the country's first qualified architect returned. As Vann Molyvann says, it was an "ideal situation" for a young architect to be asked to design so many important buildings. Appointed head of town planning and housing at the Ministry of Public Works, he was supervising construction across the country from a young age. He was soon building monuments, organising exhibitions

1. A team of experts looks at some blueprints with Vann Molyvann fourth from the left



2. The 30 year-old architect, Vann Molyvann sits in front of one of his first buildings designed for the 2500th anniversary of Buddha's birth held in Phnom Penh in 1956

at home and abroad and designing state residences, airports, factories and urban development projects. Vann Molyvann may have been lucky, but he knew he would fall into disrepute if he failed to meet the high expectations of his client.

Most architects grow into their careers slowly. Vann Molyvann had to sink or swim. Apart from his relative youth, he faced other challenges, notably in the building industry. Materials were limited and there were no civil engineers, surveyors or other professionals to help at various stages from design to completion. Building contractors were few, mostly French or Vietnamese, and it took time for Cambodian construction companies to develop. Two that have survived are Comin Khmère and Khaou Chuly. Another challenge was the shortage of skilled personnel. It was not until the mid-sixties that the first engineers and technicians were graduating from local universities, and not until 1970 that the first locally-trained architects were completing their studies.

Vann Molyvann's origins were relatively humble. Born in Ream, Kampot, in 1926, he grew up in a traditional wooden house. He was clever enough to be sent to Lycée Sisowath in Phnom Penh, the country's only high school at the time. After obtaining his baccalauréat in 1944, he was one of the first Cambodians to be awarded a grant to study in France. He tried law, but opted for architecture instead. The Ecole Nationale Supérieure des Beaux-Arts (ENSBA) in Paris was a cultural shock and he had to repeat his first year. "I was a Buddhist jumping into Western architecture," he recalled. "Coming from Cambodia and being forced to draw Corinthian, Doric and Ionic columns was not easy but served me well in the end." So did judo, which he learnt as a student to reinforce his self confidence and self-control.

The Cambodian student noted two trends at the fine arts college - the "systematic" teachers who relied on rationality and understanding, and the "artistic" teachers who followed their intuition and had keen eyes and creative talents. Vann Molyvann worked in the studio of Louis Arretche, whose dedication influenced many architects who studied under him. He used existing urban structures as the inspiration for his designs. He preferred traditional materials like granite and slate. These characteristics are found in Vann Molyvann's work - Angkor-inspired plans with moats and buildings aligned along an east-west axis with local materials like brick and stone.

While in Paris, Vann Molyvann took part in conferences held by Le Corbusier and the Modern Movement that did not leave him indifferent. But he was most impressed by the American architect Paul Rudolph, whose Massachussets Institute of Technology used natural concrete. Rudolph's architecture is a synthesis of the Modernist ideas of Le Corbusier, mixed with Frank Lloyd Wright's more organic and Louis Kahn's more culturally inspired designs. His buildings are characterised by their powerful sculptural quality, sweeping monolithic forms and intricate interior spaces. "He was a sculptor, a structuralist and a humanist at the same time," Vann Molyvann said. "Le Corbusier was a sculptor. Frank Lloyd Wright was an architect." Vann Molyvann defines his own architecture as "structure as a form of sculpture."

It was also in Paris that Vann Molyvann married his first wife, the daughter of Henri Marchal, the French archaeologist and architect who dedicated his life to conserving Angkor. Vann Molyvann briefly headed the radical Khmer Association of Students at the Maison du Cambodge and studied Khmer art

at the Ecole du Louvre between 1950 and 1952. For his final year, Vann Molyvann avoided the grand designs favoured by students of the Modern Movement at the time. Instead, he chose a study on Brazilian vernacular architecture which would later inspire his "military cap" design for the One Hundred Houses project in Phnom Penh many years later.

When the young graduate returned to Phnom Penh, the architectural scene boiled down to a few old colonials. A young French architect who stood out in this restrictive atmosphere was Henri Chatel, who was exploring new directions for Cambodian architecture compared to the stuffy colonial style (see page 34). As architect to the Ministry of Defence, Chatel showed a refreshing approach, as seen in his apartments for army officers in 1957. His winning design in a 1959 competition for National Bank of Cambodia staff apartments signalled the winds of change.

Vann Molyvann returned in 1956. Before long, he had teamed up with Seng Suntheng, a young Cambodian designer who had trained at the Ecole Nationale des Arts Décoratifs in Paris (see page 39). Seng Suntheng had returned to Phnom Penh in time to take part in an international exhibition in 1955. The two set up practice together in Tuol Kok in 1957, but it was short lived as there were few private commissions. One project they did work on together was a doctor's residence that now houses the Civil Aviation Department on Norodom Boulevard.

The Le Corbusier Connection

The biggest influences on Vann Molyvann were two foreign consultants working for the United Nations who had been associates of Le Corbusier - Gérald Hanning (see page 94) and Vladimir Bodiansky



3. Vann Molyvann in 2005 standing next to the 'Olympic flame' with the official grandstand in the background

(see page 95). Although Gérald Hanning was born in Madagascar and Vladimir Bodiansky in Russia, they had both adopted France as their home and shared with Vann Molyvann a knowledge of the French language and the architectural scene in Paris. These three men soon forged a close friendship that stretched over five years.

"My masters were Gérald Hanning, who was a town planner, and Vladimir Bodianski who was a wonderful engineer," Vann Molyvann said. He also describes them as as the "intellectual guides" to his career. They had both fallen out with Le Corbusier. Although Vann Molyvann was interested in Le Corbusier's theories and his rejection of an academic approach to architecture, he was no slavish follower of the Modern Movement either. Gérald Hanning had played a major role in developing *Le Modulor*, a tool used by Le Corbusier to define building proportions. He seems to have introduced it to Vann Molyvann, who modified and used it in all his later designs. "When I was young, I was convinced that beauty could not be calculated because you could follow your nose," Vann Molyvann said. "But by 1955, I was already interested in *Le Modulor*." Vladimir Bodiansky had used it on Le Corbusier's revolutionary Unité d'Habitation apartment building in Marseilles. "He did a wonderful job on the structure," Vann Molyvann said. "The immense pylons on which it is built are as light as a dancer."

Vladimir Bodiansky was the kind of engineer that every architect dreams of working with. When Vann Molyvann hesitated about building the daring roof canopy over the stadium in the National Sports Complex, he urged him to go ahead. "If you extend the budget, people might complain a bit. But if you make a mistake in the design, then it is your reputation that is at stake."

Vann Molyvann described Gérald Hanning as his "best friend", someone who was sensitive to the need for poor countries to use local building materials. He appears to have introduced Vann Molyvann to the idea of using brick, which was readily available in Takhmau. Gérald Hanning opposed importing European-style buildings into a country like Cambodia. Instead, he sought to improve local building traditions in ways that could be easily adopted by local people.

Gérald Hanning believed that the traditional Cambodian house of wood and thatched roof was perfectly adapted to modern needs in a tropical climate. The challenge was how to integrate it into a densely populated modern city. "Hanning taught me a lot about the landscape," Vann Molyvann said. "When you look at a map, it is a bit like a leopard's skin with dark patches and empty ones. Hanning said: 'You must work there where it is already dark, not in the empty bits. Instead of going to the empty parts of the country, we should work where there is already something. We should thicken the leopard skin.'"

Gérald Hanning was a big fan of water, and used water to landscape the city in the Greater Phnom Penh development plan. Rather than filling in the marshes and flood ponds, he proposed to model them to incorporate water into the plan. Vann Molyvann agreed. "In Phnom Penh water should be integrated into the city," he told a conference in 1999. "It is an aquatic town. The city should develop close to the Mekong that represents its foundation. I dream of an urban extension of the city along the river banks with its high and low water levels. We should reuse ancient irrigation systems." Vann Molyvann elaborated on these ideas during a meeting in 2002. "If I was asked to draw up the master plan for Phnom Penh, I would try to adopt the American style of water and earth," he said. "In the USA, I saw an example of a town like that. Here we should have a city of lakes, organise the housing around lakes integrated into the topography and the hydrography."

In the design of the National Sports Complex, Gérald Hanning's role seems to have been integrating the city and the climate. "The central plains of Cambodia are an amphibian country which enjoys the peaceful and immense annual flooding of the Tonle Sap and the Mekong," Hanning wrote. "Humanity is necessarily accustomed to this heaven-sent separation of earth and water, by earth works and the indefatigable efforts of the Khmer peasant who has transformed the landscape, as he contributed to the majestic construction of antique Angkor. This order of dykes and canals, of mounts (phnom) and moats that characterises Khmer tradition, found its place naturally in the design of the National Sports Complex."

Japanese Tradition

Vann Molyvann said the architecture he discovered while on honeymoon in Japan with Trudy, his new wife in 1962 left a strong mark. Derived from the use of the tatami as a unit of measure, it was simple and harmonious. In the Arretche studio in Paris, a professor who specialised in Renaissance and Palladian architecture dismissed Gothic, Romanesque and especially Baroque architecture. For this professor, Baroque was full of lies and illusionary *trompe l'oeil* elements whereas Renaissance was an expression of clarity and truth. Vann Molyvann believed that this was also the case with Japanese tradition. He has been seeking clarity and truth ever since.

"Architecture is not only about drawing. It is knowing about beauty and ugliness," Vann Molyvann said. In 1962, he discovered that Japanese architecture was organised and rational - the size of building was determined by the tatami. "Japan taught me about architecture," he said. "I rejected my classical French architectural training. The Japanese concept of beauty was asymmetrical, more like Le Corbusier, whereas Renaissance architecture was symmetrical. The Japanese brought different things together in one composition. The classical approach was to subordinate design to the main element of the composition."

Drowning in Japanese Culture

Vann Molyvann's sketches for the royal residence in Sihanoukville are interesting to compare with the Katsura Imperial Villa near Kyoto in Japan. Although not built to these drawings, there are some obvious similarities such as the modular composition of the facade and the roof gable. Most striking of all are the stepping stones of the garden path drawn by the architect.

While the Katsura Imperial Villa was built by 17th century aristocrats who prized simplicity, it anticipates many of the innovations of Modernist architects. Vann Molyvann admitted that he visited the villa during his honeymoon but played down any connection. "I am like a chameleon - when in France like a Frenchman, when in Japan drowned in Japanese culture. I often went to Kyoto - there was a vogue for Japonisme. What interested me most was how Japan jumped from the middle ages to the middle of the 20th century and modernity."

Sources: Interviews with Vann Molyvann in 2003

He tried to do the same thing in Cambodia. But the tradition of proportion was different. How could it be translated into modern architecture? This is where *Le Modulor* was useful. Some Modernist influences can be identified in the clear-cut plans and designs, and the use of reinforced concrete to express the dynamics of the structure. But at the same time, he was drawing his inspiration from a multitude of sources from vernacular and Angkorian to Japanese and Renaissance. As Vann Molyvann's very personal style developed, the structure increasingly became part of the aesthetics.

In Cambodia, people today still use ancient methods for carrying and weaving. Vann Molyvann drew from such traditions in his designs. The Société Khmère des Distilleries (SKD) brewery, for example, was inspired by the simple carrying stick called a "dong raik" that people use to support heavy loads balanced on each end of a long pole. In traditional Cambodian architecture, the structure is not heavy and earthbound but pushed upwards and air-bound. In this case, the triangulated structure gives the impression that the brewery office building is suspended in the air. A six-metre cantilevered overhang of the roof around the perimeter provides protection from the sun, and a carport on the north side. The white skeleton of the building stands out against the red brick.

Another example of a building inspired by everyday objects is the small library in the Teacher Training College (now the Foreign Language Institute at the Royal University of Phnom Penh) and Vann Molyvann's last design before he left the country. It was based on a woven straw hat with ribs of concrete instead of rattan. Inside, the circular concrete roof indented with rays floats on a cylindrical glass wall.

Cambodian Tradition

From 1957 to 1971, Vann Molyvann strove to incorporate Cambodian tradition into his French architectural training with a deep understanding of vernacular and monumental architecture. This resulted in the use of water in all of his plans, the creation of internal patios, the systematic use of cross ventilation and orientation of the main élevation of the building to the north. He also respected Cambodian social behaviour by separating the wet area of the house from the living quarters, leaving spaces under buildings and providing roof terraces for people to meet in the shade of a suspended roof.

"Cambodia is a society of half-earth, half-water," he says. "Cities should not be built by landfill but by incorporating water into their design. Modernity should not be inspired superficially by Western ideas that destroy all traces of the past. New building should bring tradition and heritage back to life."

Vann Molyvann is particularly fond of one of his most modest designs - the One Hundred Houses project for the National Bank of Cambodia, off the road to Phnom Penh. A military cap inspired the unique roof design. His reasoning was that the purpose of the cap was to protect the head from direct heat. But to do this, the fabric should incorporate an air cushion and not rest directly on the head. Although the roofs of these houses look

traditional, Vann Molyvann has actually improved on the vernacular tradition by incorporating an air cushion for insulation.

His early projects in Cambodia show the influence of the Modern Movement - the Council of Ministers and the Faculty of Law. But Vann Molyvann's very personal style is already evident in the Chaktomuk Conference Hall inaugurated in 1961. The first two designs are discreet attempts at modernist architecture compared with the demonstrative dynamics of Chaktomuk. After building the National Sports Complex, Vann Molyvann seems to find himself and his designs have a maturity that surpasses his previous works.

Vann Molyvann's architecture may look modern - or in the words of one senior official, "not Khmer style" - but this is a superficial view. It does not take into account all the elements incorporated into the design, such as the way people live, the climate, the landscape, the use of water and openness. A particularly good example is the reception area of the State Palace at Chamkar Mon, which used to open onto planted courtyards. As part of the Senate, it has recently been glazed and air conditioned.



4. 1966 postage stamp commemorating GANEFO and the National Sports Complex

Reasserting Cambodian Culture

"When I came back to Cambodia in 1956, it was moving to rediscover all the Khmer monuments that I looked at in a new way. It would have been easy, of course, to follow the excellent training of my teachers along the beaten path. But that would not have enabled me to integrate my nation's Khmer heritage. Therefore, I undertook to fervently study the Angkorian masters.

I noticed that there was an unprecedented creative dynamism in my country after a long period of decline. Everybody was aware that it was necessary to rediscover our origins, the motivation behind our country's existence and that like any country with an ancient tradition it should reassert its own personality. All the present cultural movement, of which architecture is a part, bears the print of this spirit.

Obviously, this did not mean reproducing the artistic creations of Angkor but to be inspired by them, to transcribe and adapt them to a new reality. To accomplish this, modern French architectural techniques and methods were invaluable. By the way, I would like to point out that there is a lot in common between our classical architecture and that of the West. This made the synthesis easier to attain.

Also, I believe that tradition motivates Cambodians to 'Khmerise' everything that comes from abroad. Cambodia is a Hinduist country and we owe a lot to ancient India. But that does not mean that we copied Indian models and very soon we had created an original style that reached its peak in the 12th century. The process began again with independence in 1953: we borrowed a lot from the West but this influence was 'Khmerised' so that our civilization was not weakened by being completely integrated...

We must not forget that the Angkor builders always resolved their constructions based on rules of composition which were extremely rigid and 'classical' from the stylistic point of view. Their square plans were oriented on the cardinal axes which had exact symbolic meanings. For almost a thousand years, they drew their inspiration from this. This order was exploited in space and time as these styles which succeeded each other were integrated into the same basic composition. Let us add that the Angkorian complexes were unthinkable without their moats, ponds and basins, creating a backdrop for the monument itself. Also we have to take into account the construction and special tradition of the Khmer wooden house, functional in the way its space is organised, with room under the platform of the house built on stilts for work and play to take place in the shade, verandas protected from the rain and oriented to benefit from the dominant wind, elegant roofs in which the loft acts as an effective insulation of ventilated air.

You can find all these Khmer architectural characteristics in the new public buildings (Chaktomuk Conference Hall, the Ministry of Finance, the State Palace of Chamkar Mon) and often in private houses. But I think the work that best characterises the Cambodian architectural renaissance, is the National Sports Complex, which was inspired by the great principles of our tradition but which was built using the most modern construction techniques.

Our head of state personally supports and encourages artistic accomplishment, in particular architecture. Also the Sangkum allows architects a free hand in conducting their research and their work. Finally we now have a Faculty of Architecture and a Faculty of Construction that trains highly qualified architects and engineers. They are engaged in the path that was traced 15 years ago and I think they will be up to the task."

Source: Interview with Vann Molyvann, A l'Ecole des Maîtres Angkoriens, 1969

The Independence Monument shows a brilliant reinterpretation of ancient Khmer architecture - a deep knowledge of ancient rules of proportion, and visually obvious elements of tradition. It stands timelessly at one of the most important points of Phnom Penh. Compared with this impressive monument, such low-key designs as the One Hundred Houses or the experimental community development of Anlong Romiet seem almost insignificant. Yet Vann Molyvann paid as much attention to these more humble buildings, as seen by the proportions, detail and the way they transcend tradition.

Vann Molyvann considers the National Sports Complex, the Chaktomuk Conference Hall and the National Theatre as his best works. But the sports complex stands out as a masterpiece. The logistics behind such a complex design are demanding in any circumstances. But in Cambodia, it was a feat to achieve the construction of this mammoth work, which is on a scale of the Angkor monuments themselves. The number of articles in foreign publications attest to the wide international acclaim it received.

The speed in carrying out the project was spectacular. On August 20, 1962 the sealed tender documents were opened. A French contractor, Société Française d'Entreprise de Dragages et de Travaux Publics, had won the bid. The first site meeting took place in February 1963, with the games planned for the end of the year. Due to political problems in Indonesia, the games were postponed and the inauguration took place in late 1964. For any country, such rapid work is remarkable. For a small country like Cambodia, it was astounding and acclaimed worldwide.



Call from the Palace

Vann Molyvann's wife Trudy recalled how the project to build the National Sports Complex started. "One day, Prince Norodom Sihanouk phoned. "We will have the Southeast Asian Games in Phnom Penh in 18 months and you have to complete the stadium by then". Two and a half months later, Moly woke up in the night with the concept. People here, the swimming pool there. "That was when I realised that architects have the idea first. The site was divided into two parts. Earth on one side, concrete on the other."

Source: Interview with Trudy Vann in 2001

5. Vann Molyvann in the midst of a planning meeting



6. "Onward! No Retreat!" states this commemorative envelope dating back to the GANEFO Games held in 1966

How did Cambodia with its limited technology build an Olympic-standard sports complex? It was an Angkorian challenge. The solution involved using the material most readily available - half a million cubic metres of earth that could be dug out of the site and piled up to create an elliptical stadium for 60,000 people. Moats for drainage and irrigation represented about a sixth of the land area. As the land was too soft to support bulldozers, construction began with ox-drawn carts. Only after the site had been compacted sufficiently could bulldozers be brought in safely and the mound consolidated by anchoring the seating to prevent it from slipping. In his capacity as director general of heavy machinery, Keat Chhon engineered the earthworks.

The $30 million tab came out of the national budget. Compared with Kenzo Tange's stadium for the Olympic Games in Tokyo in 1964, it is far more economical. Tange used tensile steel in self-supporting parabolic and hyperbolic curves. Vann Molyvann's simple idea was to use the earth.

Pursuit of Excellence

Vann Molyvann's designs became more and more assertive as the years passed. The success of the National Sports Complex left him a self-assured creator. He liberated himself from his French training and the Italian Renaissance, and drew more and more on elements of ancient Khmer and vernacular architecture as well as Japanese traditions and everyday Cambodians objects such as carrying sticks and straw hats. Once he found his path, he never strayed from the highest standards.

Many of his buildings are still standing today as he was a most meticulous designer, studying every detail and finish of his buildings. The original structures were brilliant inventions in stability, the junction of brick and concrete, of crazy paving and anodised aluminium. They survived well as they were built for Cambodian conditions and did not rely on sophisticated maintenance to remain in good shape. Nor did they require air conditioning to be well ventilated. The designs prevented the concrete from being infiltrated with water and disintegrating with damp and mould.

These sources of inspiration culminated in the eccentric Teacher Training College inaugurated after Vann Molyvann's departure from Cambodia in 1971. Here his extremely personal style reaches a paroxysm of sculptural effect both within and without. The landscaping with its moats, entrance bridges and nagas is of obvious Angkorian inspiration. The composition of the massive main building, the small round library and the row of training rooms fits with his understanding of the simplicity of Japanese architecture and how diversity is integrated into the whole. The sculpted exterior - the contrast of concrete and brick, light and shade, with the appearance of being carved from a block with deep indentations and recesses - may reflect his fascination with the American architect Paul Rudolph. The interior is exciting and almost theatrical, and might also relate to this youthful influence.

Vann Molyvann uses structure as a form of sculpture. Nothing is hidden. All is revealed. This last work before leaving Cambodia uses all the devices that he developed over the years in response to the climate and discovering his own style. Here it is taken to an extreme, the work of the same hand as the subdued Council of Ministers. This is Vann Molyvann at his best. The scale of work achieved in 13 years is staggering. As Mam Sophana points out, Vann Molyvann had a quasi-monopoly on the public sector, with no fixed budgets and a free hand to design. "This is an extremely unusual context for an architect so Vann Molyvann was lucky. But he was also talented, very strong with a unique architectural style."



7. Vann Molyvann answering students' questions in a 1999 conference held at the French Cultural Centre





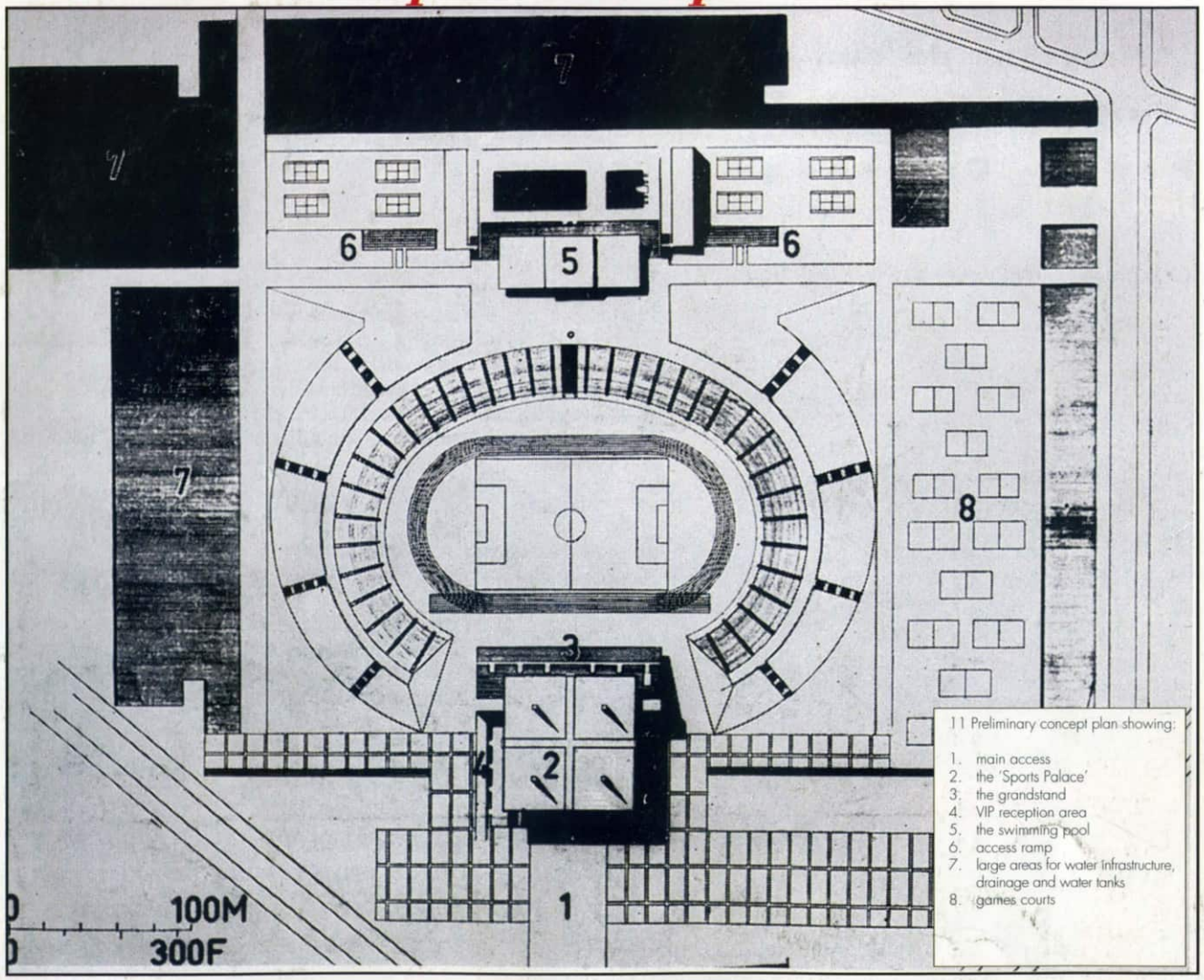


The National Sports Complex: Urban Plan

complex was integrated into the urban landscape

9. City plan from the 1960s showing
   - 1. the 40 hectare sports complex site
   - 2. the Olympic Village on the Bassac river
   - 3. the Water Sports Complex at Chaktomuk
10. The Bassac development showing the Olympic Village nearly completed and the National Theatre already under construction. Note the floating village and improvised housing along the banks of the river.

The National Sports Complex: Construction



11 Preliminary concept plan showing:

1. main access
2. the 'Sports Palace'
3. the grandstand
4. VIP reception area
5. the swimming pool
6. access ramp
7. large areas for water infrastructure, drainage and water tanks
8. games courts

Initial function: Olympic-standard sports complex
Present use: Little used
Location: Phnom Penh
Inauguration: November 12, 1964
Architects: Vann Molyvann, Um Samuth, Gérald Hanning, Claude Duchemin and Jean-Claude Morin
Engineers: Vladimir Bodiansky, Mean Kim Ly, Wladimir Kandaouroff and Keat Chhon

Contractors and subcontractors:
Société Française d'Entreprise de Dragages et de Travaux Publics, Entreprise Khaou Chuly, Etablissements Frascoia & Bobo, SCCREC, Entreprise Générale d'Investissement au Cambodge, Entreprise Générale d'Electricité du Cambodge & Siemens, Société Nan, Société Philips, Société York, Société Dègremont, Société Everitube, Etablissements Kesseler, Etablissement Alb. Buysse, Etablissement Lefèvre, Etablissement Weitz and Société Descours & Cabaud

With Cambodia scheduled to hold the Southeast Asian Games in 1963, work on the National Sports complex started in 1962. But frantic work to finish the complex proved to be in vain as the regional event never took place. Instead, Jakarta stole Phnom Penh's moment of glory in 1963 by hosting a non-aligned version of the Olympics known as the World Games of the New Emerging Forces (GANEFO). Norodom Sihanouk went ahead anyway and inaugurated the new facilities as the Phnom Penh National Sports Complex in late 1964. Up to 100,000 people were estimated to have attended the inauguration ceremony, complete with fireworks and other displays.

Norodom Sihanouk told the assembled crowds that the new complex was an "impressive achievement" and then launched a stinging attack on the "enemies" of Cambodia, apparently referring to the United States and its allies in the region. "By our achievements and progress in all



fields and by the dynamics of national unity, we have certainly shown to the world that we are not a bastard nation deprived of intelligence, courage and energy - as the enemies of our country and people have often pretended. Despite the criticism and slander of some of our neighbours and their imperialist masters, we have proved our capacity to transform our ancient kingdom into a modern nation."

The cancellation of the Southeast Asian Games proved to be a blessing in disguise. It gave the architects, engineers and contractors more time to complete the gargantuan task of finishing the facilities. In an editorial, the nationalist publication *Neak Cheat Niyum* wrote that the new complex was "not only destined for Olympic-standard sports events, but as a popular forum where Khmers and their guides will be able to meet periodically to express their unity, their force and their faith in the destiny of the Nation. In this context, the grandiose construction which has just been inaugurated should be seen not simply as a meeting place for sport but as a symbol of Cambodian rebirth."

The complex inaugurated in 1964 had three main functions - indoor and outdoor sports facilities, water sports facilities and housing of athletes (the Olympic Village was part of the overall development of housing along the Bassac and appears on page 20). The Outdoor Stadium could accommodate almost 70,000 people with basic seating for 50,000, standing room for another 10,000 and a grandstand holding a further 8,000 spectators. The grandstand formed the back of the Indoor Stadium which had

12. View of the complex construction work

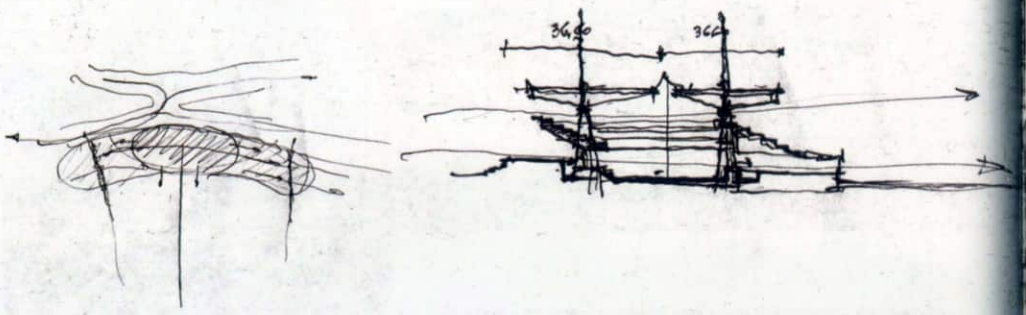
seating for another 8,000. The swimming and diving pools, both outdoors, could seat 4,000 spectators. Outdoors, there were also eight tennis courts (four courts with seating for matches and four training courts) and 16 volleyball and basketball courts. The Water Sports and Yacht Club was located at Chaktomuk with the Olympic Village on the Bassac waterfront.

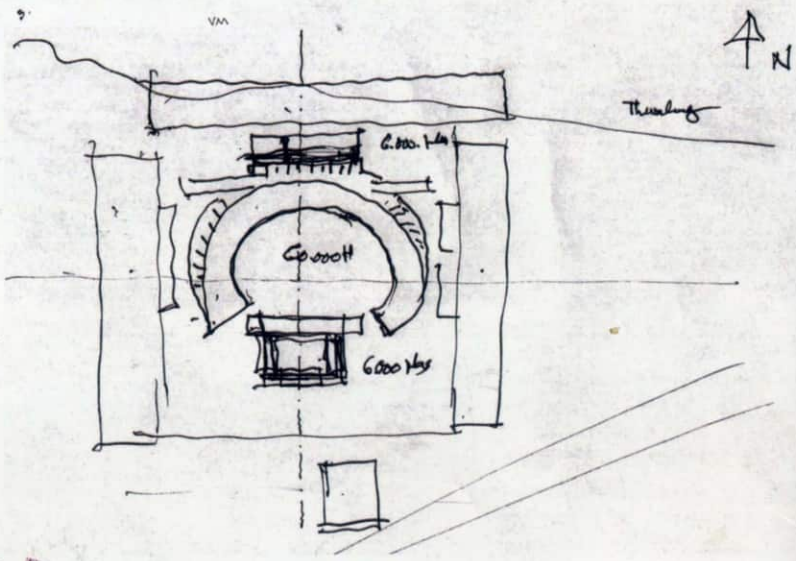
Charles Meyer, a former advisor, said Norodom Sihanouk began a "vast campaign to develop sport" in 1963. "Forty provincial stadiums were built, and hundreds of football pitches and basketball courts," he wrote, predicting that the price tag of more than one billion riel ($30 million) would leave a "big hole" in the five-year plan. "For months Cambodia lived its hour of sport. Showing the example, the prince formed his own football and basketball teams and played at Chamkar Mon against the diplomatic corps, the French military and American missions," Meyer wrote. "This expensive venture was financed exclusively with Cambodian state funds, except for the valuable contribution of United Nations experts."

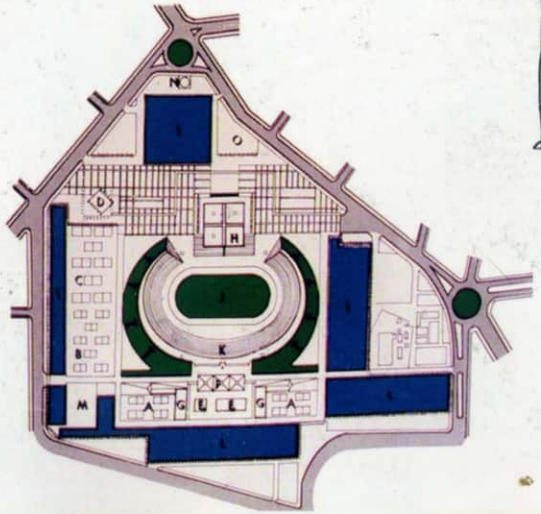
Earth and concrete

According to Vann Molyvann's wife Trudy, the order to build the sports complex was a bolt from the blue. "One day, Prince Norodom Sihanouk phoned. 'We will have Southeast Asian Games in Phnom Penh in 18 months and you have to complete the stadium by then.' Two and a half months later, Moly woke up in the night with the concept. 'People here, the swimming pool there.' That was when I realised that architects have the idea first," she recalled. "The site was divided into two parts. Earth on one side, concrete on the other." The logistics behind such a complex design and building are demanding in any circumstances. But in a country like Cambodia in the sixties, it was a feat to achieve the successful construction of this mammoth work on a scale of the Angkor temples themselves. Many international publications attest to the wide acclaim it received worldwide.

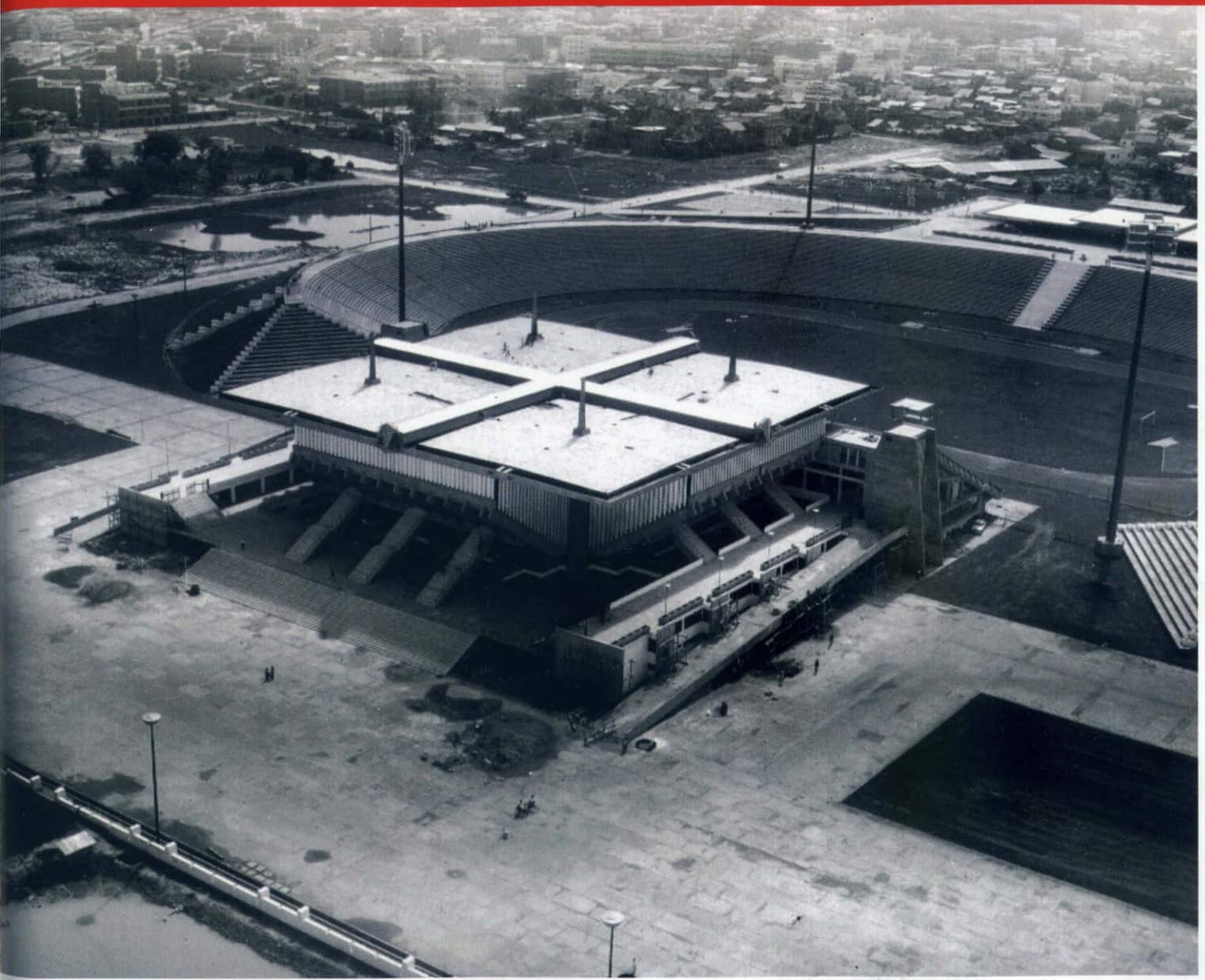
The list of technicians and builders reflects Vann Molyvann's capacity to bring together a competent team. UN experts Vladimir Bodiansky and Gérald Hanning were internationally-renowned specialists in their fields. Both had worked with Le Corbusier after World War II.







13. Sketch showing the watershed
14. Various functions fit under the roof of the indoor stadium
15. Site plan showing different facilities at cardinal directions. A sixth of the land is devoted to reservoirs and water-treatment stations
16. This sketch by Vann Molyvann shows how the water tanks and drainage were integrated into the thalweg, an old underground meander of the Mekong river system

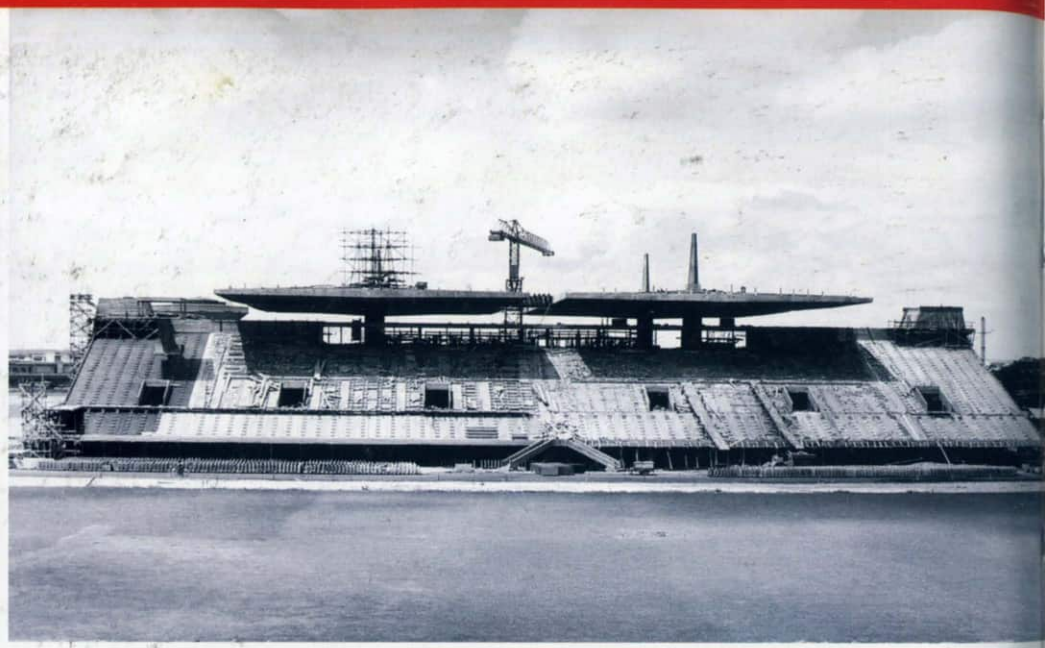


17. The nearly-completed indoor stadium showing the gigantic cruciform roof that seems to be suspended in the air.

Once the concept and preliminary design were finalised, the architects Claude Duchemin and Jean-Claude Morin provided working drawings from Paris, where Bodiansky acted as the coordinator of the architects and engineers, travelling back and forth to Phnom Penh. Duchemin and Morin produced an enormous quantity of drawings after construction began and the engineer Wladimir Kandaouroff was responsible for all the structural calculations. Also present at regular meetings of the technical team in Paris were representatives of Société Française d'Entreprise de Dragage et de Travaux Publics, the main contractor, and Société Degremont, which was responsible for the swimming pool, the water treatment plant and moat pumping. Gérald Hanning's role seems to have been in urban integration and ecological aspects of the project. For Gérald Hanning, the annual flooding of the Mekong was a "heaven-sent separation of earth and water" which required earthworks and efforts by peasants to transform the landscape in the tradition of Angkor. "This order of dykes and canals, of mounts (phnom) and moats that characterizes Khmer tradition, found it's place naturally in the design of the National Sports Complex," he wrote.

The 40-hectare site chosen for the sports complex required major earthworks. As the Prampi Makara district was a wetland area, oxcarts were used in the initial phase. Only after the first platform of earth had been created could mechanical diggers and bulldozers move in.





Vann Molyvann recalled how the first bulldozer gradually sank into the ground without the driver realizing what was happening. Somebody shouted for him to jump out which he did "like a frog" - just in time to see his machine disappear into the mud. It is still there for some archaeologist to discover in the future.

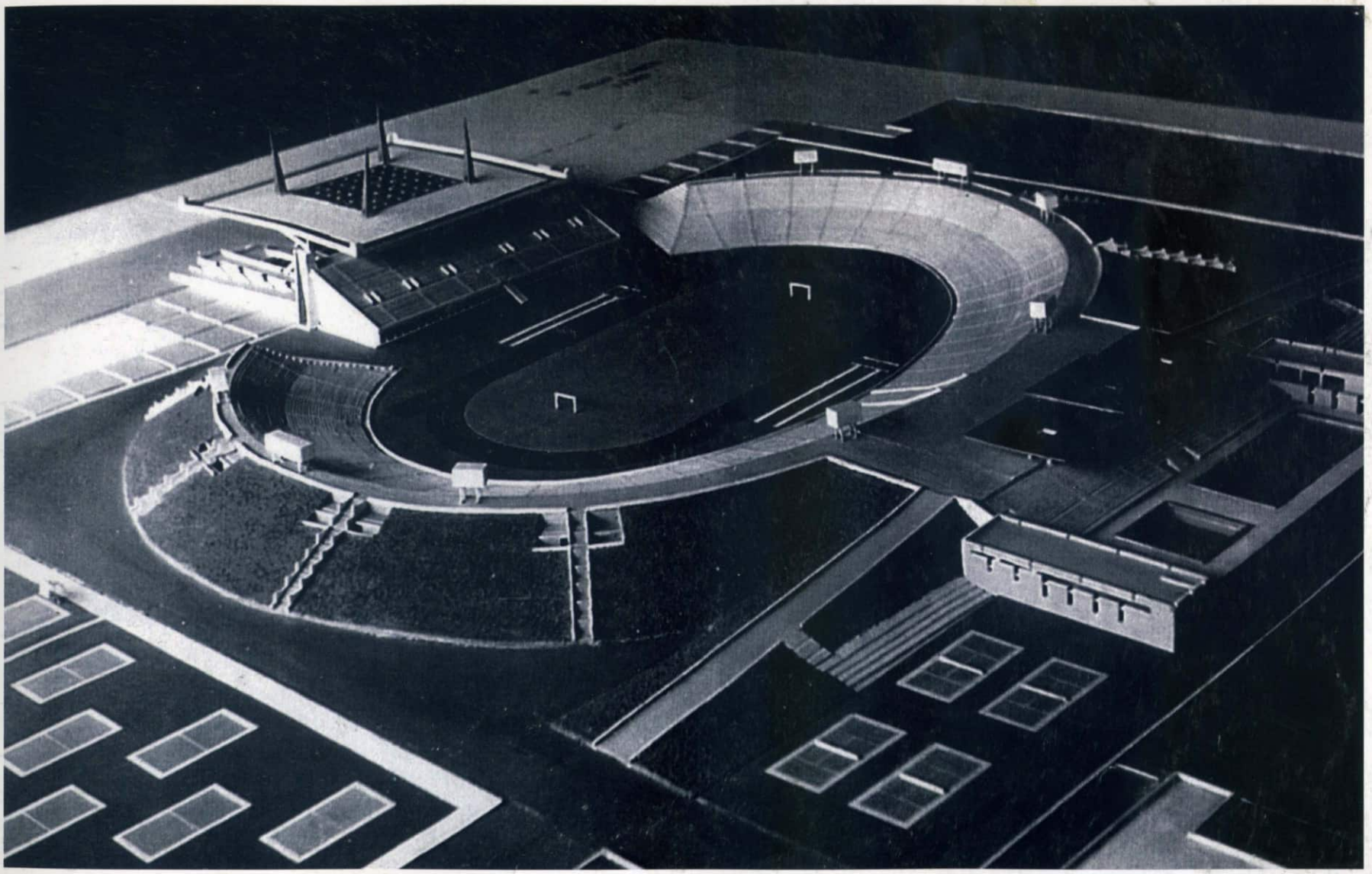






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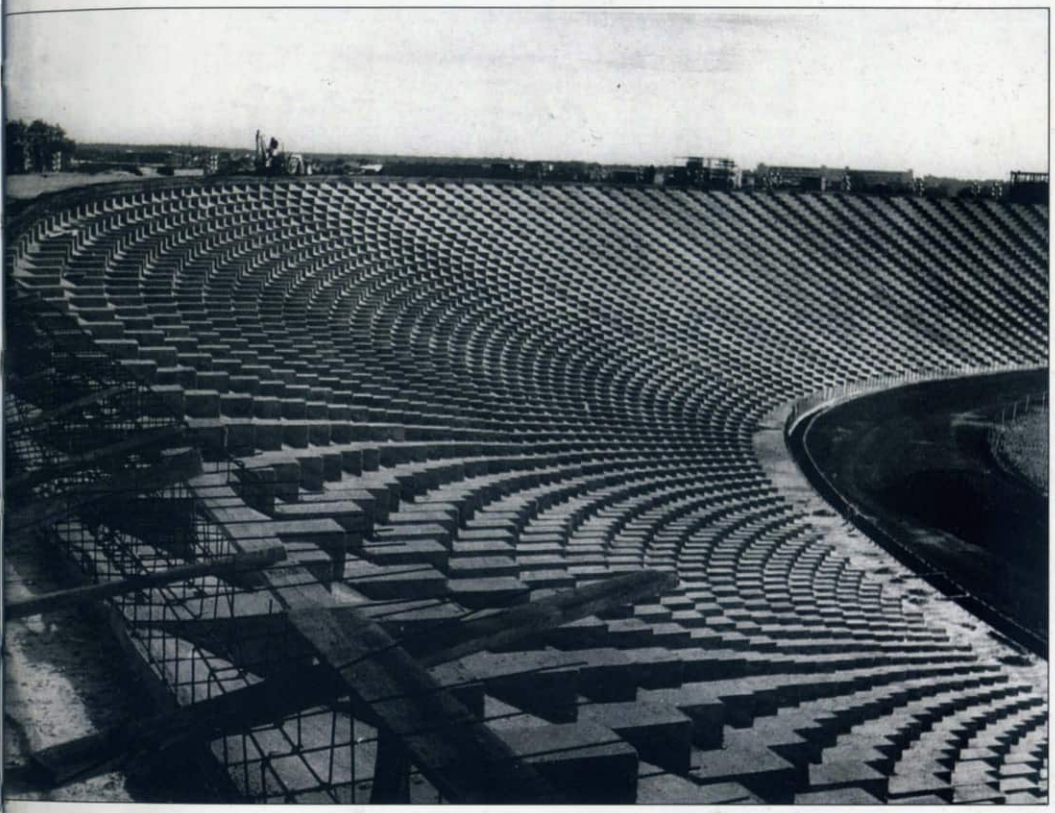
18. The complex nears completion with the indoor stadium to the left and the main stadium with its eight staircases with the pool on the right. The north-south road traversing the podium to the left of the pool provides vehicle access to the whole complex.
19. The official grandstand begins to take shape
20. Ox-carts prepare the earthworks in traditional style
21. Only after preliminary works can bulldozers be brought in to move the 500,000 cubic metres of earth to create the ellipse of the stadium
22. Stark volumes



23. Working model of the complex



The National Sports Complex: Outdoor Stadium



24. The grandstand silhouetted against the night sky

The stadium comprises an immense elliptical crown on a gradient of stepped seating rising to 12 metres on the north and south sides of the Indoor Stadium. The summit consists of a large space for 50,000 seats and 10,000 spaces for standing. Eight staircases inserted into the grassed earth mound provides access to the viewing area. Toilets for 60,000 people can be found at the base of the staircases. A separate monumental staircase leads to the podium directly opposite the grandstand.

An estimated 500,000 cubic metres of earth was need to build the 12-metre crown, which is about 70 metres wide at the base and six metres wide at the summit. The form was created with a 20 centimetre concrete slab with dilatation joints following the radius of the crown and also parallel to the seating. The joints ensured the progressive stabilization of the earthworks without undue variations. The slab's resistance was guaranteed by solid anchoring, and served at the same time as a drain - not only for rain pouring off the slope but also for the stadium itself. As leaks could have caused the earth under the seating to slip, the earthworks were thoroughly compacted and stabilised.

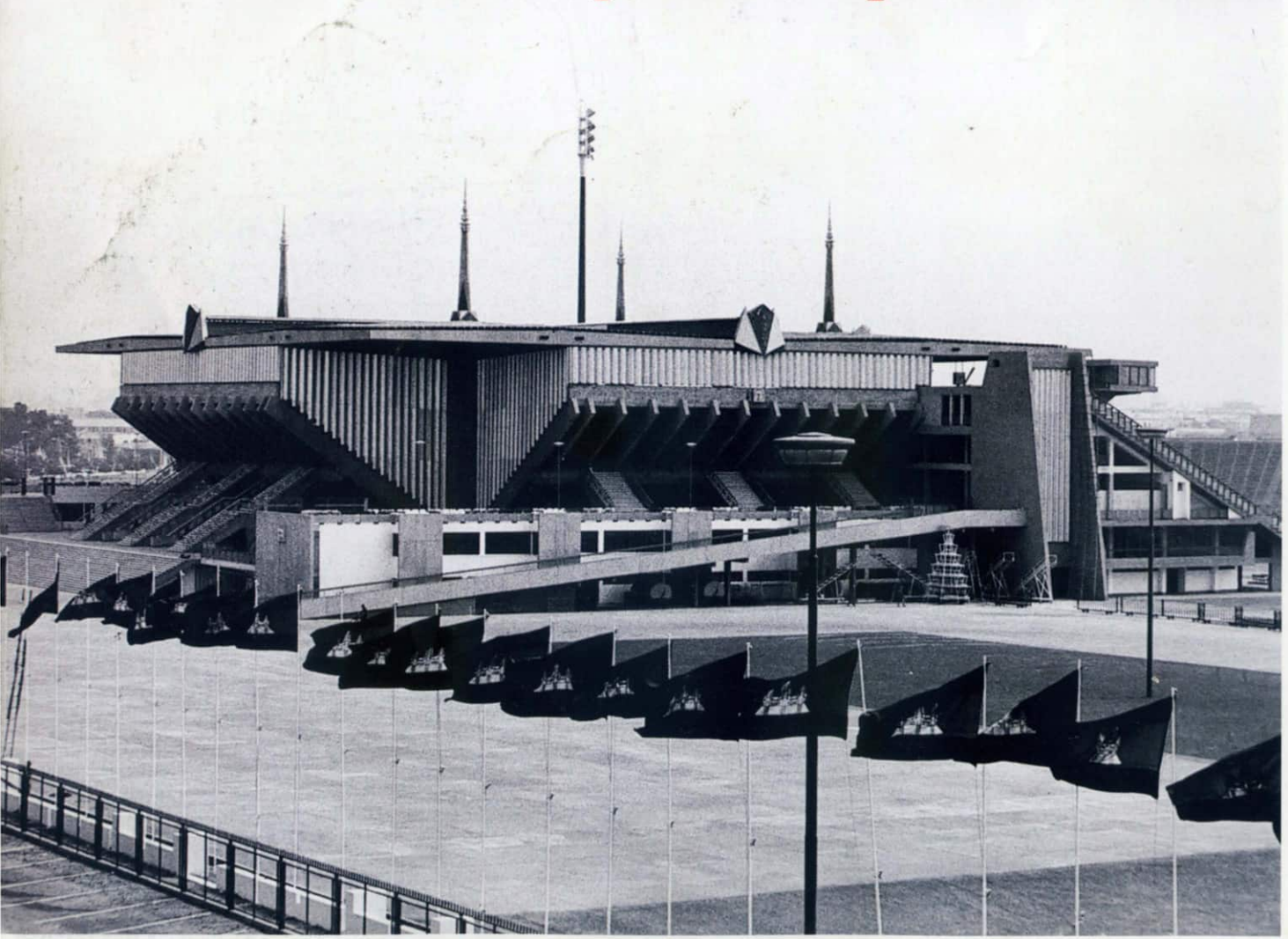
On the waterproof concrete slab were formed the supports for the concrete seating. This was prefabricated, numbered and put into place before being fixed. The upper circulation was built in a similar way with joints to allow for stabilising the earthworks. The staircases for public access were fixed straight onto the slope of the stadium. The external side of the mound was covered with lawn turf, which was first fixed with bamboo spikes. After one rainy season, the grass had grown sufficient roots.

Track and playing fields were done at the same time as the earthworks. The ground was first made waterproof with a layer of clay and then covered with a layer of loam which incorporated the drainage system. Finally, it was covered with a layer of peat and lawn, or with whatever other material was appropriate. Rainwater from the stadium slopes and from the sports field was gathered into a drain and evacuated into the moats.

The beauty of the plan is how the Indoor Stadium, the outdoor grandstand, the changing rooms, restaurants and reception areas are all housed under a single roof. Moreover, the four 25-metre columns supporting the roof do not block the view of spectators in the Indoor Stadium. Construction was a logistical feat with all of this being built at the same time as the Outdoor Stadium, the swimming pool, the training fields, the water-treatment plant, the water pumps, the mechanical engineering and the car parks.

25. Prefabricated concrete is anchored into the earth mound to stabilize it

The National Sports Complex: Indoor Stadium

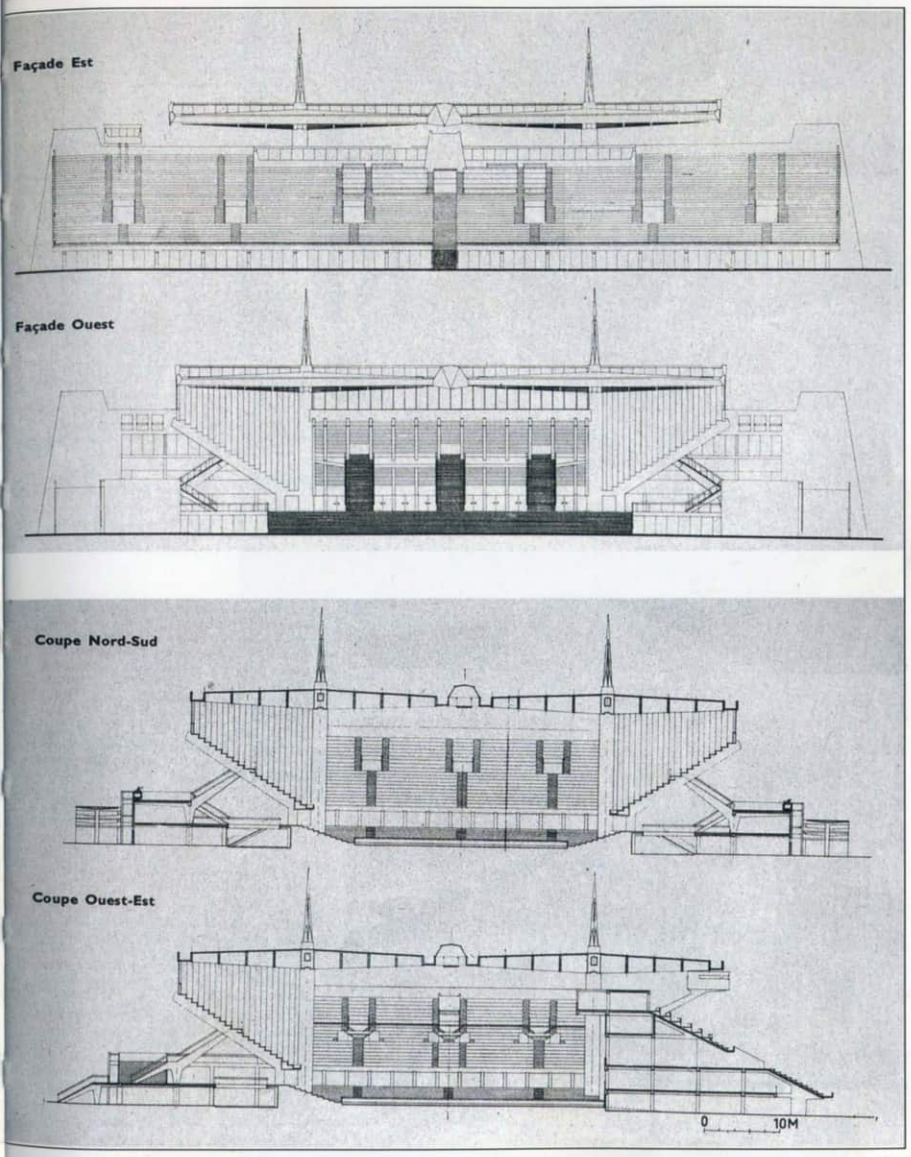


26. 1960s view of the completed indoor stadium

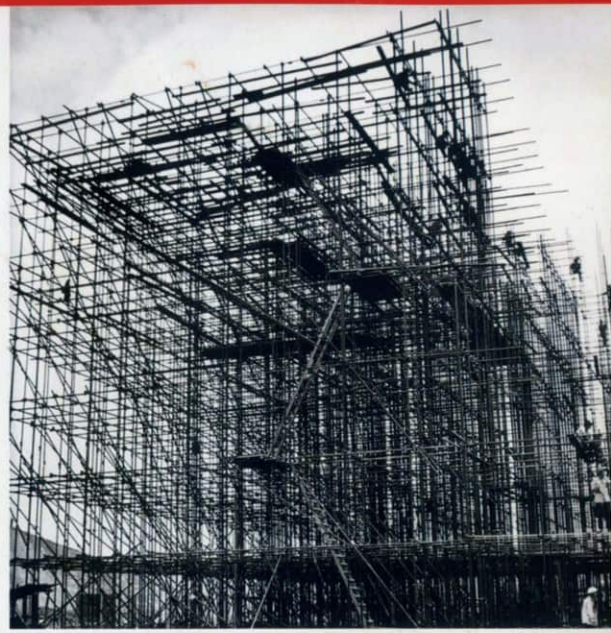
Standing at the entrance of the whole complex, this is the dominant architectural element thanks to its imposing design. Its main function is to hold a covered track, with seating for 8,000 spectators on three sides. Underneath, at ground level (Level 0.00), were facilities for technical services, management, athletes, umpires, first aid, administration and maintenance. On the north, south and west, these spaces are separated from each other by interior gardens with ponds and fountains filled from the rain off the roof.

Spectators gain access via an 80-metre wide staircase which leads to a platform from which nine footbridges cross the sunken garden to give access in all directions. The eastern side is equipped with administrative offices and spacious rooms for artistic and cultural associations, together with a large foyer which opens on to two restaurants. A large hall gives direct access to the outdoor grandstand. Work areas for judges and journalists and various technical rooms are located under the grandstand along the reception areas and royal balconies. Two sets of staircases and lifts provided access to this area.

The roof canopy comprises four giant reinforced concrete square umbrellas each spanning 34 metres. Supported by two-metre square pillars that are 25 metres high, the umbrellas were made from pre-constrained reinforced concrete ribbed squares covered with bitumen and raised terrace slabs. A Greek cross-shaped gap







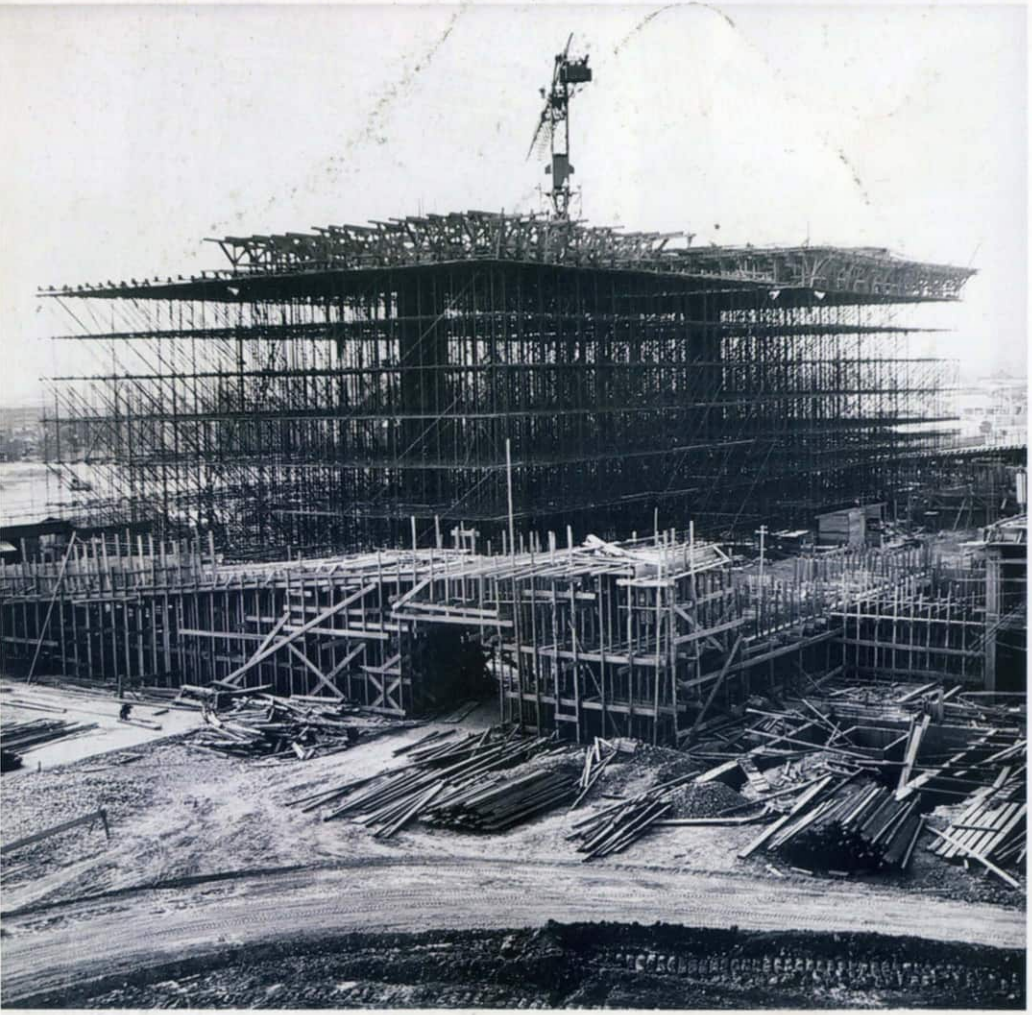
between the umbrellas provides a space for ventilation and daylight as well as a technical gallery. Rainwater is gathered by a peripheral gutter, flowing to drain pipes in the middle of the structural columns.

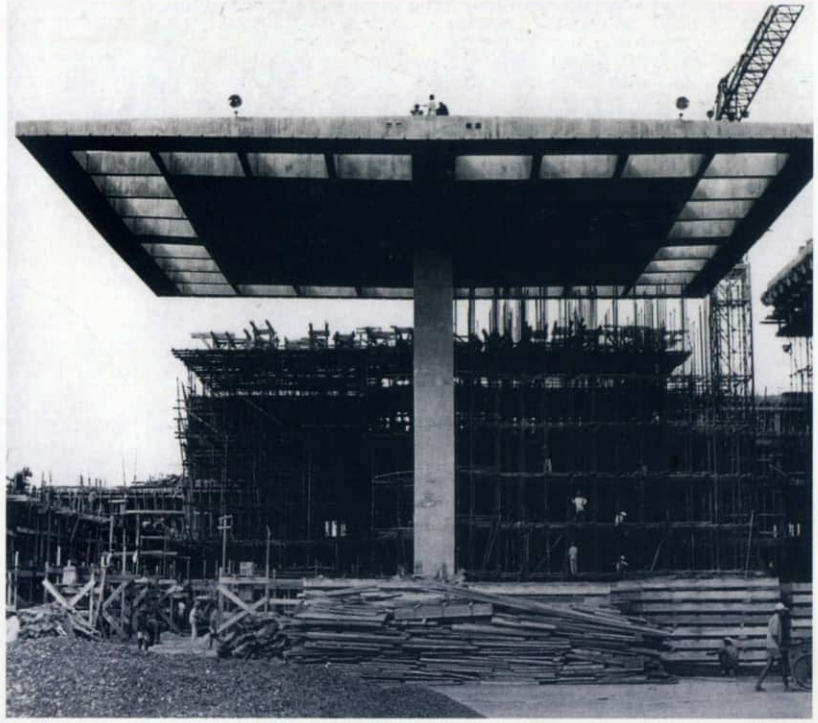
Seating is provided by a series of "giraffe" sloping beams carried by the foundations and longitudinal beam in the middle. Wall screening between the seats and the ceiling is made of alternating V-sections which provide perfect ventilation and protection from the sun, natural diffused light and protection from heavy rain.

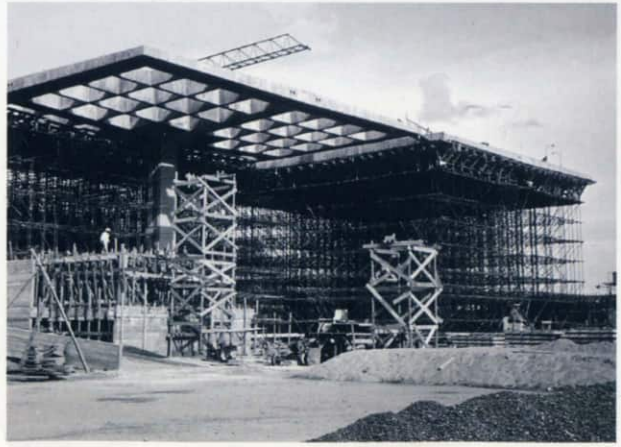
The aim was to complete the roof with 15 months to enable internal work to continue during the rainy season. This explains why

27 | 28 | 29

27. Elevations and cross sections show how the indoor stadium, the grandstand and other facilities are ingeniously interlocked under one roof
28. Vendors provide refreshments for the ten thousand spectators attending of a boxing match
29. A forest of scaffolding is erected to build the indoor stadium



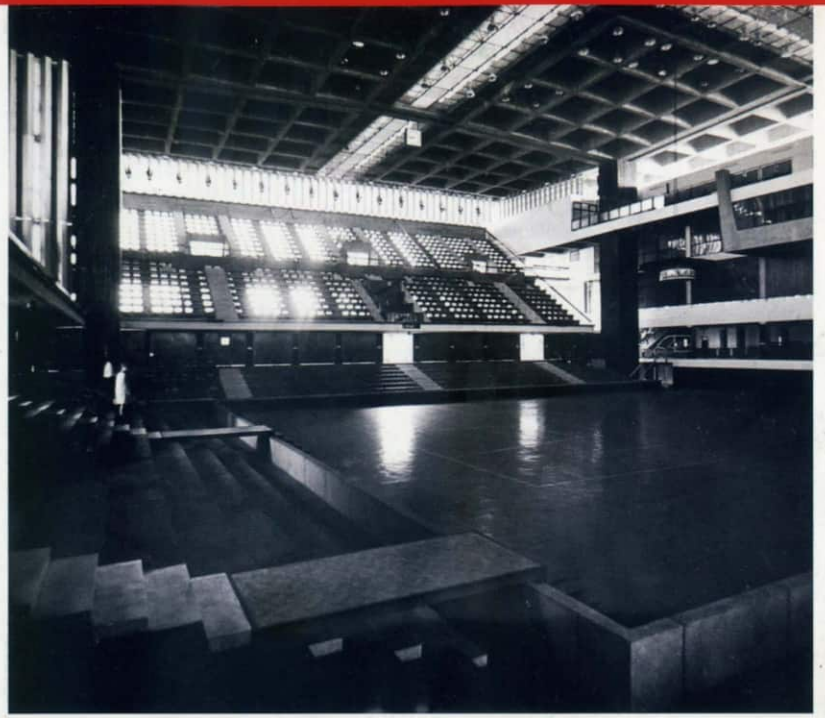




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32

30. The figure in the left hand corner indicates the scale of the task
31. The first 'umbrella' is completed as work continues on the other three
32. Work progresses on the reinforced concrete structure





the four posts with their 11-metre wide foundations were begun first. To support the giant umbrellas, the builders erected a Mills system of scaffolding that was 22 metres high over an area of 5,000 square metres. A model had to be made to test whether the structural beams could pass through the maze of metal scaffolding.

To speed up construction as much as possible, a maximum number of prefabricated materials were used for the seating, stairs and the roof water-proofing. This is how the main works were completed within 10 months. Other works were done by companies specialising in everything from lighting, electricity, plumbing and air conditioning to telecommunications, acoustics, clocks, photography and display boards.

Problems arose with the aluminium wall cladding and the technical gallery. The aluminium walls are made of varying lengths with a V-shaped section and a width of 50 centimetres and were interlocked every 75 centimetres in perfect correspondence to the seating. Such precision required the aluminium to be prefabricated in France and assembled on site according to a detailed plan with numbering for each item.



33 | 34
35

33. Water basins cool the air in the protective shade of the grandstand that serves as a reception area
34. Light and air filter through the striking architectural composition of the Sports Hall
35. A packed crowd watches a boxing match held in May 2005

The National Sports Complex: Swimming Pool

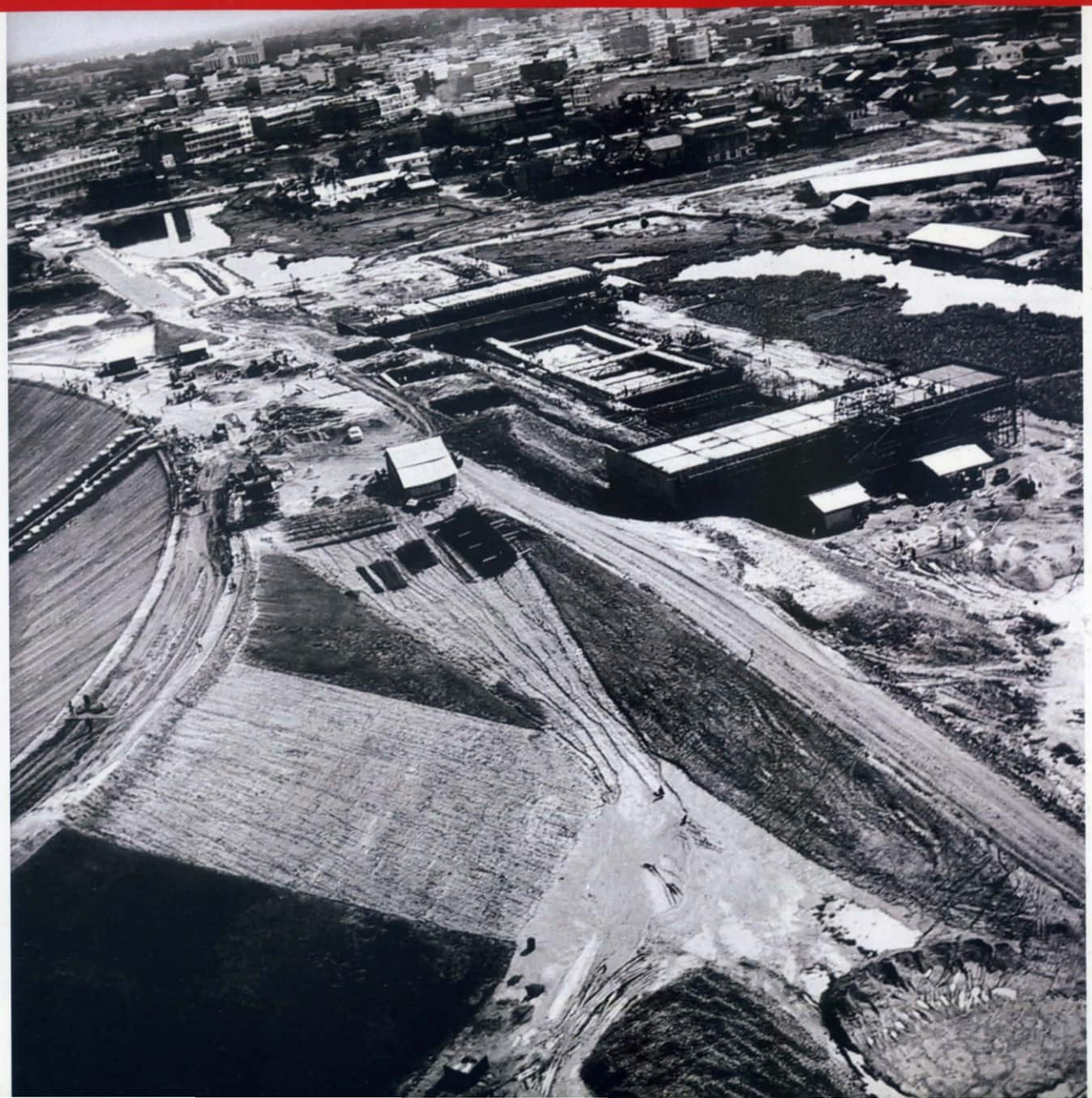




The swimming pool is next to the vast podium and is three metres above ground level. Seating for 4,000 spectators is arranged on a slope from the level of the pool up to 12 metres above ground level, the same level as the podium. The 50 metres pool is 20 metres wide with eight lanes. A separate diving pool was equipped with 1 metre, 3 metres, 5 metres and 10 metres boards and could also be used for water polo. The pools are surrounded by a technical gallery for the water supply, filter and lighting equipment which can also be used to observe the swimmers.

On each side of the stands are two buildings for changing rooms, bars and restaurants and more technical equipment.

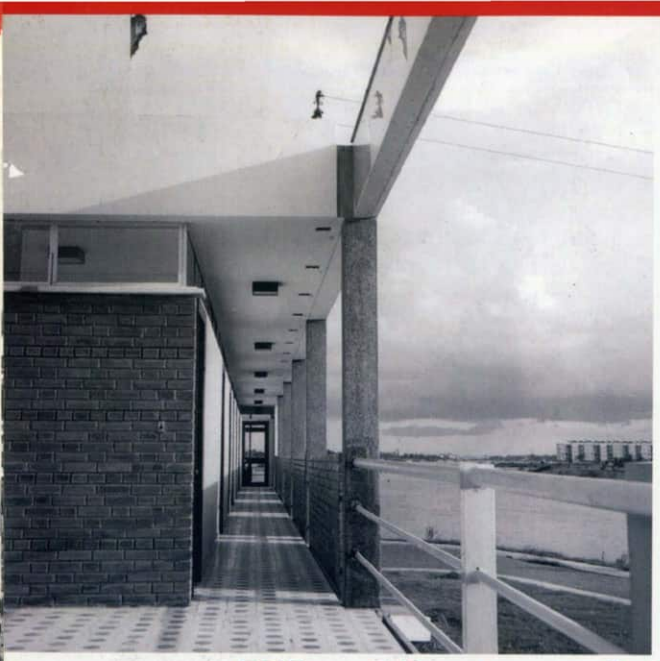
36 Aerial photograph showing the gigantic infrastructure required for an Olympic standard swimming pool
37. Despite little maintenance, the swimming pool had survived remarkably well as of 2005



Part of the seating is protected by a roof comprising three umbrellas made of reinforced concrete. Measuring 27 metres across, the umbrellas sit on a central construction of four 3.5 metre columns with the central umbrella raised slightly higher. The technical problems raised by the construction of the swimming pool were similar to those of the outdoor and indoor stadium. Seating was built in the same way with concrete slabs made on the earth mound and anchors for the concrete seating. The foundations of the pool and other structures were made on very close piling, with the slab and walls of the pools built of reinforced concrete.

To protect them as much as possible from dust and dirt, the pools are surrounded by 15-centimetre foot-baths that are 1.2 metres wide. The diving towers are composed of two platforms that are six and seven metres long and three metres wide. The platforms sit on two columns that are five and 10 metres above the water. Diving boards were located three metres above the water with insulated supports to avoid vibrations. To meet Olympic regulations, four water reservoirs of 500 cubic metres each provided water to the pools.

38. The swimming pool is dwarfed by the earthworks for the stadium



The National Sports Complex: Water Sports Complex

Initial function: Olympic-standard sports complex
Present use: Little used
Location: Phnom Penh
Inauguration: November 12, 1964
Architects: Vann Molyvann, Um Samuth, Gérald Hanning, Claude Duchemin and Jean-Claude Morin
Engineers: Vladimir Bodiansky, Mean Kim Ly, Wladimir Kandaouroff and Keat Chhon

Contractors and subcontractors:
Société Française d'Entreprise de Dragages et de Travaux Publics, Entreprise Khaou Chuly, Etablissements Frascoia & Bobo, SCCREC, Entreprise Générale d'Investissement au Cambodge, Entreprise Générale d'Electricité du Cambodge & Siemens, Société Nan, Société Philips, Société York, Société Dègremont, Société Everitube, Etablissements Kesseler, Etablissment Alb. Buysse, Etablissement Lefèvre, Etablissement Weitz and Société Descours & Cabaud

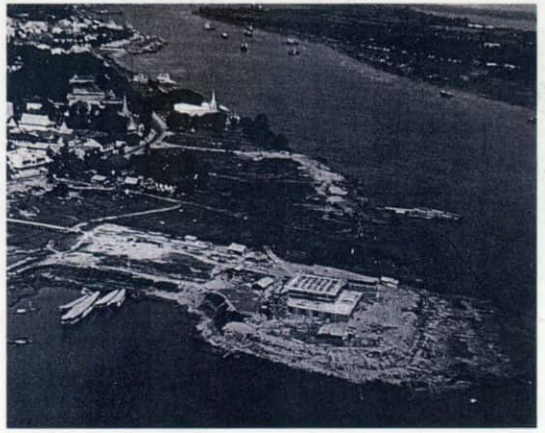
39 | 40

39. View from the Water Sports Complex towards the National Bank of Cambodia apartments on the Bassac river
40. Umpire's tower for yachting and water-skiing competitions



Located on the Bassac River, the water sports complex comprised boat garages with a club, a bar and restaurant as well as administration offices. Rooms for athletes, judges and journalists were on the upper floor. It also had floating jetties and an observation tower for timing. The site chosen for the water sports complex was just opposite the junction of the Bassac and Mekong rivers and as close as possible to the low-water level which can be as much as 12 metres lower than the flood level. The complex was built during the dry season on columns raised off the ground. In the wet season, dredging provided sand that was deposited underneath and around the structure, raising the land above flood level.

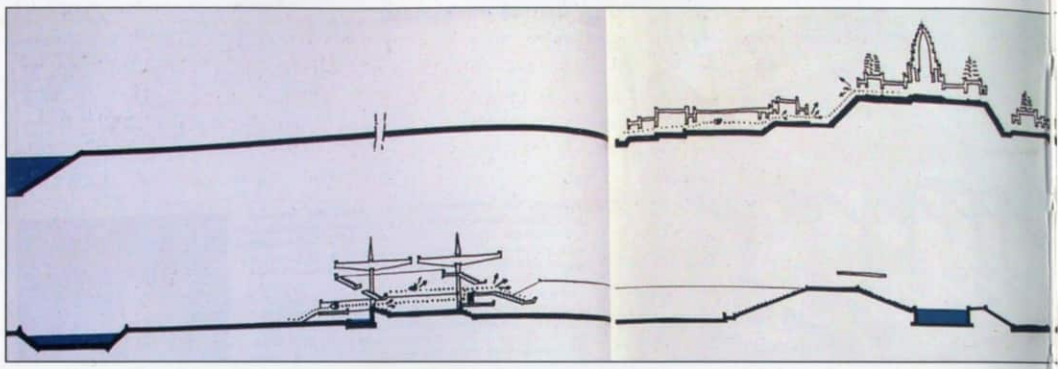
In its heyday, the water sports complex was the location of a yacht club and a waterskiing club. It was apparently used as a Khmer Rouge prison and later occupied for living quarters. When Vann Molyvann returned to Phnom Penh in 1991, his wife Trudy recalled that the only thing left in their house was a pair of seemingly useless water skis. The remnants of the complex were demolished a few years later.

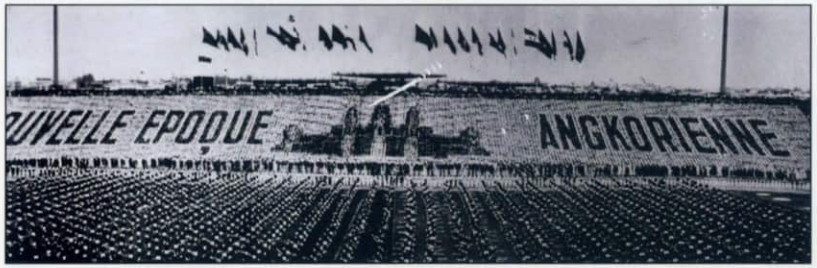


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41. The ensemble as it was seen in the 1960s
42. Construction of the Water Sports Complex at the same time as earthworks in the early 1960s. The pointed spire of Chaktomuk Conference Hall can be seen in the background







The National Sports Complex: Complex Legacy

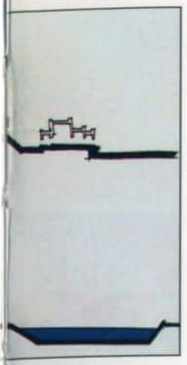
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43. This spectacular re-enactment of ancient Khmer glory, held in 1968 and designed by Vann Molyvann, fills the stadium with a gigantic crowd
44. Cross-sections compare Angkor Wat and the National Sports Complex
45. Tens of thousands of well-synchronised Cambodians hold cards that read 'nouvelle époque angkorienne' ('a new Angkorian era') while rows of athletes demonstrate their talents on the sports ground in the 1960s

This National Sports Complex was a huge project undertaken by a small developing country with its own funds. The driving forces may have been Norodom Sihanouk, Vann Molyvann, Vladimir Bodiansky and Gérald Hanning, but it took the efforts of numerous Cambodian and foreign construction companies and technicians to complete it. Although the Water Sports Complex has not survived, the National Sports Complex was still standing in 2005, despite years of neglect as everything that Vann Molyvann designed was rigourously planned. When functions are in the right place and the structure to support them is technically viable, great architecture can be achieved. Indeed, the National Sports Complex was recognised as such by critics worldwide.

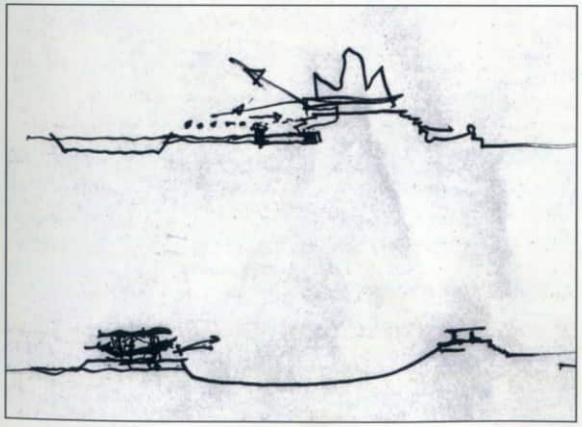
Some said it was a folly to devote so much time and effort to a sports complex when there were so many other unsatisfied needs throughout the country. Charles Meyer was certainly critical of it and considered it megalomaniacal. But the Japanese were amazed that Cambodia could achieve this at a time when they, themselves, were only beginning to find their way in modern architecture with such pathfinders as Kenzo Tange and Kisho Kurokawa. The fact that it was inaugurated the same year as the Olympic buildings designed by Tange in Tokyo in 1964 also makes for an interesting comparison. But perhaps the most interesting thing of all is the way this completely modern complex of buildings could draw on Angkor tradition and express it in a new way.

Vann Molyvann himself studied traditional Khmer construction with Bernard-Philippe Groslier, the French archaeologist who spent most of his working life in the Ankgor temples. "He had noticed that the foundations of Khmer monuments had ashes at their base and that all



basements were protected by a perimeter of water. This keeps the termites out of the building," Vann Molyvann recalled. In modern engineering, it is often necessary to provide water sedimentation pools for excess rain to accumulate before draining away. These can sometimes be seen next to airports or motorways and look like ugly asphalt holes in the ground. But Vann Molyvann integrated enough moats into his design not only to collect excess rain water, and avoid even temporary flooding, but also to provide beautiful cool places where plants could grow and people gather to enhance the architecture.

Vladimir Bodiansky was one of the most well-known civil engineers of his generation, and among other achievements, designed the structure and mechanical engineering for Le Corbusier's Unité d'Habitation in Marseilles. His mastery of civil engineering enabled Vann Molyvann to have this project built the way it was designed and not to adapt it to the constraints of some limited engineer. When Vann Molyvann proposed a roof "like a table" with only four columns for the Indoor Stadium, Vladimir Bodiansky found the structural solution for this by calculating the four pylons and the honey-combs of the reinforced concrete self-bearing roof. "I was afraid it would cost too much" Vann Molyvann admitted. Vladimir Bodiansky is said to have replied: "If you extend the budget people might complain a bit. But if you don't make a good design, your whole reputation is at stake."



Nineteen sixty-four was a turning point for Cambodia. The war was escalating in Vietnam and diplomatic ties with the United States were soon to be severed. With hindsight, it is easy to criticise and condemn the National Sports Complex as a financial misjudgment. But the tide was only just changing when the decision to build was made in 1962, and nobody could predict the terrible future.

Although it draws on the spirit of Angkorian architecture, there is no attempt to emulate it or to copy it for the sake of appearance. This is what characterizes misplaced nationalistic pride such as can be found throughout the world in totalitarian states - architecture devoid of invention, copying the official version of tradition. Here we are dealing with a completely authentic and new design which looks like what it is. Indeed, this is one of the things that makes Vann Molyvann's personal style. "In my architecture there are no hidden structures. Everything is visible," he says.

The National Sports Complex was used for important national and international sports events during the sixties as well as national independence celebrations, ceremonies to welcome foreign heads of state and lavish demonstrations of national unity. This gave rise to its other name, the Forum of the People.

"The Angkor builders always resolved their constructions based on composition rules which were extremely rigid and 'classical' from the stylistic point of view. Their square plans were orientated on the cardinal axis which had an exact symbolic meaning," Vann Molyvann wrote in the sixties. "For almost a thousand years they drew their inspiration from this. This order was exploited in space and time as these styles which succeeded each other were integrated into the same basic composition. Let us add that the Angkorian complexes were unthinkable without their moats, ponds and basins, creating a backdrop for the monument itself. Also we have to take into account the construction and special tradition of the Khmer wooden house, functional in the way its space is organised, with room under the platform of the house built on stilts for work and play to take place in the shade, verandahs protected from the rain and orientated to benefit from the dominant wind, elegant roofs in which the loft acts as an effective insulation of ventilated air.

"You can find all these Khmer architectural characteristics in the new public buildings (Chaktomuk, Ministry of Finance, State Palace of Chamkar Mon) and often in private houses. But I think that the work which best characterizes the Cambodian architectural renaissance, is the National Sports Complex which was inspired by the great principles of our tradition but which was built using the most modern construction techniques."

Sources: Norodom Sihanouk; Sangkum Reastr Niyum Photos Albums 1995; Le Sangkum, November 1969; Le Sangkum, October 1968; Kambuja, April 1966; Etudes Cambodgiennes, October - December 1968; Alain Daniel; Cambodge d'Aujourd'hui, Nos. 56-57; Cahiers du Centre Scientifique et Technique du Bâtiment No. 73, April 1964; Rassegna dei lavori pubblici; Techniques et Architecture, Volume 25, 1965; Architecture d'Aujourd'hui 1964; RUFA; ISTED; Vladimir Bodiansky archives; Vann Molyvann (conference with Claude Prelorenzo in Phnom Penh in 1999); interviews with Vann Molyvann in Phnom Penh and Lu Ban Hap in Paris in 2001; telephone interview Claude Duchemin in 2001





46. Vann Molyvann 2005 sketch shows how the construction technique of Angkor Wat at the top compares with that of the National Sports Complex
47. Flash cards at the stadium in the 60s read 'que le sport cambodgien progresse' ('to the future of Cambodian sport')
48. In the tradition of the builders of Angkor' showing from top to bottom: Norodom Sihanouk, Lon Nol and Architect Vann Molyvann

Vann Molyvann



1926
Born in Ream, Kampot province

1944
Becomes one of the first Cambodians to pass baccalureat at Lycée Sisowath

1945
Studies law at Ecole Royale d'Administration in Phnom Penh

1946
Studies law at Sorbonne in Paris

1947-1956
Studies architecture at Ecole Nationale Supérieure des Beaux-Arts, Arretche studio, Paris; also Khmer art at Ecole du Louvre in Paris (1950-52); works as architect in Paris (1954-56)

1956-1962
Appointed chief architect for state buildings and head of the Urban Planning and Housing Department of the Ministry of Public Works and Telecommunications, Phnom Penh

VANN - MOLYVANN
Architecte D.P.L.G. & D.A.A.

1956-1964
Appointed adviser to the municipality of Phnom Penh

1962-1964
Appointed secretary of State at the Ministry of Public Works and Telecommunications

1965-1967
Appointed founding rector of the Royal University of Fine Arts. In 1965 Vann Molyvann was named the first rector of the Royal University of Fine Arts. Until then there was only a small school attached to the National Museum that taught traditional Khmer decorative arts, sculpture and painting. At the request of Norodom Sihanouk in person, he set up a modern university comprising faculties of architecture, archaeology, music, dance, and plastic arts in which he tried to create an artistic environment as stimulating as the one he had himself experienced in Paris. "I wish our young people to be initiated into the arts in general. At my school we knew sculptors and painters; we went together to the Alcazar, to the opera, to a concert café. When I left Cambodia I was a little peasant. I was forced to work very hard. You do not improvise architectural training."

As the 1971 RUFA handbook certifies, six years later a competent team of teachers, both Cambodian and foreign, made up the staff. The first graduates were emerging with an excellent level of training, and their work was being published in Cambodian newspapers.

1965-1967
Appointed inspector of ancient Khmer monuments

1967-1969
Appointed minister for national education and fine arts



49 | 50 | 51

49. Vann Molyvann's award-winning poster design for the International Flower Exhibition in Paris in 1955
50. Letterhead for architect 'd.p.l.g.' 'd.a.a.' (French Government's and British Architects' Association diplomas)
51. A 1967 cartoon depicts then Minister of Education giving marching orders to students while 'Asok' goes in the opposite direction

1969-1970
Appointed minister of state to the head of state for youth, students and teaching staff

1970-1971
Appointed senior expert to the Ministry of Public Works and Telecommunications

1971
Leaves Cambodia

1972-1979
Works as architect in Switzerland, post-graduate lecturer at the Ecole Polytechnique Fédérale de Lausanne and consultant for international agencies

1979-1987
Works on senior assignments for United Nations Centre for Human Settlements throughout the world

1988-1993
Appointed senior technical adviser for United Nations Centre for Human Settlements in Burundi and Laos

1991-1993
Appointed senior adviser to the Cambodian government

1993-1998
Returns to Cambodia, appointed minister of state for culture and fine arts, territorial management, urban planning and construction

1995-2001
Appointed president and executive director of the Apsara Authority (Authority for the Protection and the Management of Angkor and the Region of Siem Reap)

1996
Elected member of the French Academy of Architecture

2000
Awarded First Obayashi Prize by the Obayashi Foundation

2002
Bestowed Grand Cross of the Royal Order of Cambodia by H.M. King Norodom Sihanouk

2002
Appointed supreme privy counsellor to H.M. King Norodom Sihanouk

2005
Awarded the commission for the renovation of the Central Market, Psah Thmei, Phnom Penh



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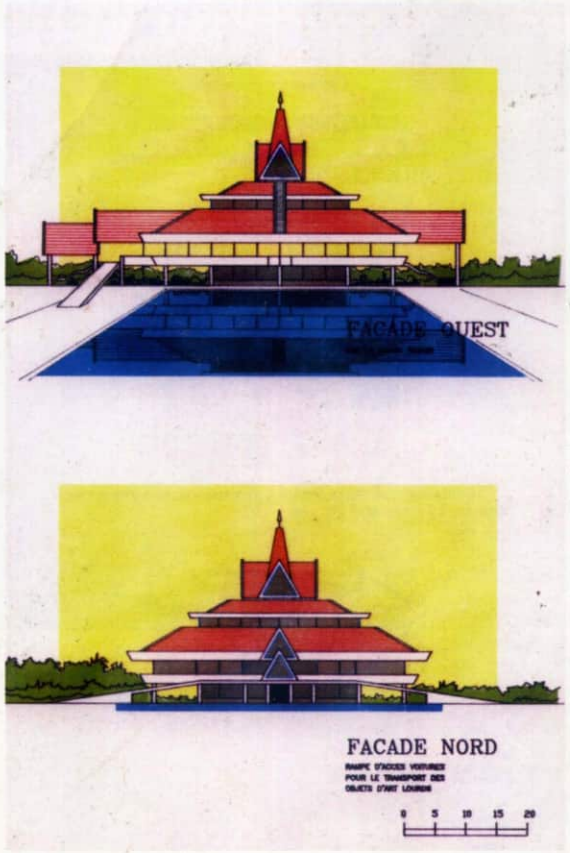
Techniques et Architecture, "le complexe olympique et forum de Phnom Penh", *volume 25, 1965*

Vann Molyvann, "Modern Khmer architecture", *Nokor Khmer*, Quarterly Review no. 1, Sangkum Reastr Niyum Editions, October-December 1969

Sources:

Numerous interviews by ARK Research between in Phnom Penh between 1999 and 2005; interview with Sieng Sang Em in Battambang in 2001; ENSBA archives, Vladimir Bodiansky archives

52. In 1965 the new Rector of the Royal University of Fine Arts, Vann Molyvann, stands in front of the renovated buildings

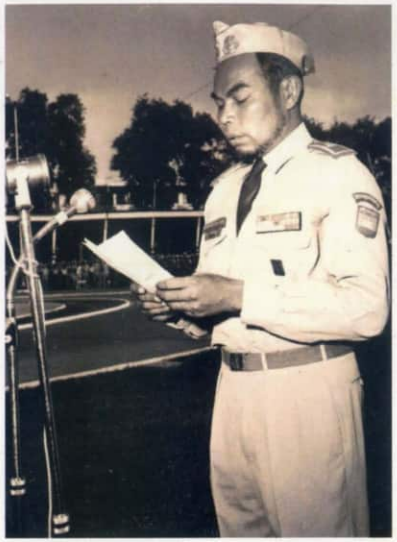


53. One of Vann Molyvann's more recent designs – a Museum of Antiquities in Siem Reap

ARK Research references:

BB33	Jute mill SRN Preah Puth Sasana, 1968
BB65	State Residence
C21	10 years of Sangkum Exhibition, 1964
C22	Exhibition SRN (industrial, reusing East German building), 1967 (with Ung Krapum Phka)
I2	Embassy of Cambodia, Ho Chi Minh City, Vietnam
I6	Exhibition: Zagreb, Yugoslavia, 1961
I7	Exhibitions: Japan, Yugoslavia, Czechoslovakia, France, UK, etc.
I8	Flower study competition prize-winner, 1954
I10	Slum improvement for the United Nations, 1970s
I11	State Villa, Mougins near Grasse, France
I12	International Trade Fair, Osaka, Japan, 1955
KC44	State Residence, 1961/1966
KD31	Prototype village Anlong Romiet, 1961
P2	Exhibitions: Kompong Cham, Kompong Som, Kirirom, Siem Reap provinces
PP10	Apartment building (12 dwellings), 1958
PP11	Apartments building (24 units), 1962
PP17	Olympic Village (164 units), 1963-1964
PP33	Building for celebration of 2,500 Years Buddha's Birth, 1957
PP36	Capitol Cinema renovation (after fire), 1967
PP37	Casino, installed in the Water Sports Complex, 1969
PP42	Chiptong Factory
PP67	Chaktomuk Conference Hall, 1961
PP68	Council of Ministers (with Grimeret)
PP84	Exhibition: 2,500 years of Buddha's Birth, 1957
PP87	Exhibition Hall: Realisations Sangkum Reastr Niyum, 1961
PP99	Children's Hospital 'Kantha Bopha', 1960
PP136	House for mother of Norodom Sirivuth
PP137	House for Tep Hun
PP139	House for Raksmei Sophana (see also Roger Colne's CV)
PP140	House for Vann Molyvann, 1966 (with Walter Hamberg engineer)
PP151	Urban Plan "Sihanouk City", 1963-1964 (with Gérald Hanning)
PP154	Housing for the National Bank of Cambodia '100 houses', 1965/67
PP171	Military Police Centre or Academy, c.1962 (see also Lu Ban Hap)
PP172	Ministry of Finance, 1966/1967
PP180	Ministry of Water Resources & Meterology (extension)
PP182	Monument (Independence), 1962 (with sculptor and builder Tan Veut)
PP183	Monument (Naga) Preah Monivong, 1957/1958
PP187	National Assembly projects (again in 1991), 1958/1969
PP190	National Museum of Phnom Penh (improvements), c.1966
PP193	National Sports Stadium 1964 (with international team Vladimir Bodiansky, engineer, Gérald Hanning, urbanist, Claude Duchemin & Jean-Claude Morin architects, Wladimir Kandaouroff, engineer)
PP194	National Sports Stadium staged ceremony "Angkor and the Sangkum", 1968
PP196	National Theatre, 1968
PP199	Pasteur Institute, 1965/67
PP223	Royal Palace, Stupa (HRH Princess Kantha Bopha), 1962 (with Tan Veut)
PP224	Royal Palace, Stupa (King Norodom Suramarit and Queen Kossomak), 1962 (with Tan Veut)
PP254	State Palace Chamkar Mon, offices, c.1966
PP255	State Palace Chamkar Mon, offices near gate, c.1966
PP259	State Palace Chamkar Mon, Reception/Dining, c.1966

PP260 State Palace Chamkar Mon, State Palace, 1966
PP264a Telephone exchange
PP269 Teacher Training College, 1972
PP270 Teacher Training College project, 1965 (with Vladimir Bodiansky, engineer, Duchemin & Morin architects, Marc Ing, urbanist)
PP274 Faculty of Law and Economics, 1961
PP289 Urban development plan for 'New' Phnom Penh, 1961/1964 (with Gérald Hanning)
PP293 Urban Plan 'Bassac Riverfront' Phnom Penh (with Vladimir Bodiansky, Gérald Hanning, Robert Hansberger, Lu Ban Hap and the Municipality of Phnom Penh)
PP305 House for Penn Nouth, c.1966
PP308 House for Dr Saing Sophann (now Civil Aviation Headquarters), 1958 (with Seng Suntheng)
PP318 Yacht Club, Water Sports (National Sports Complex), c.1963
PP327 Office building for General Ngo Hou
PP345 Police Detention Centre, 1959
PP346 Airport: VIP Pavilion, Pochentong (tensile structure), 1963
PV8 Information Hall, Tbeng Meanchey
PV10 State Residence, Tbeng Meanchey
SR2 Airport (V.I.P.), Siem Reap-Angkor, 1963
SR23 Military Academy (never built), c.1968 (with Guy Nafilyan)
SV5 National Bank of Cambodia, 1968 Sihanoukville (following design by Henri Chatel construction started by Jamshed Petigura)
SV6 National Bank of Cambodia housing, 1968
SV7 National Bank of Cambodia technical building and incinerator, 1968
SV17 Exhibition: 15th Anniversary of Independence, 1968
SV18 Exhibition: Realisations Sangkum Reastr Niyum, Brewery, 1968
SV37 State Residence, 1962
SV46 SKD Brewery, 1968
SV47 SKD Brewery housing (originally 76 dwellings), 1968
SV56 Urban plan - Sihanoukville (with Gérald Hanning and André Gutton)
TV4 Exhibition hall for SRN, Kirirom
TV18 State Residence, 1962, Kirirom
TV21 Urban development plan - new town 1960, Kirirom







54 | 55
56

54. Vann Molyvann addressing a youth rally on the Veal Men (in front of the National Museum) in the sixties
55. In 2005 Vann Molyvann returns to visit the 'one hundred houses' to the west of Phnom Penh
56. Sixties portrait of Vann Molyvann at Banteay Srei temple, Siem Reap

Wladimir Kandaouroff

Wladimir Kandaouroff was the engineer for the innovative Phnom Penh Central Market, "Psah Thmei", built by architect, Louis Chauchon in Phnom Penh in 1937.

Little is known about this interesting engineer, who also contributed to the structural calculations of the National Sports Complex and the Bassac urban development plan with Gérald Hanning, and who seems to have participated in the Royal University of Phnom Penh designed by architects, Leroy & Mondet.

Sources: Vladimir Bodiansky archives, meeting at Sihanoukville 7 July 1965; SMUH activity report 18 June - 9 July, 1965

ARK Research Reference: PP193: National Sports Stadium

Sieng Sang Em

Sieng Sang Em was born in Battambang in 1941. He trained at the Ecole Nationale des Travaux Public et des Mines from 1960 to 1963 and worked as a civil servant technician in the Ministry of Public Works and Urbanism from 1963 to 1974 under the authority of Vann Molyvann.

He first heard of Vann Molyvann before he worked for him by reading about him in a US magazine which he saw in 1957, in which Vann Molyvann was mentioned as the architect who designed the throne of the 2500th Anniversary of the Birth of Buddha.

He provided a wealth of information and names to ARK Research that assisted them greatly.

In 1979 he was appointed assistant director of public works in Battambang.

Sources: Interviews in Battambang, 2000

ARK Research references: BB29: Hotel Samakki **BB39:** Post Office & Telephone Exchange

Claude Duchemin

Claude Duchemin was born in France in 1926 and was a contemporary of Vann Molyvann at the Ecole Nationale Supérieur des Beaux-Arts, where he graduated in 1956. He worked for 10 years with Pierre Dufau, architect until 1960 (see page 253). They designed the first French nuclear power station. He then set up his own practice with Jean-Claude Morin.

Duchemin and Morin worked with Wladimir Kandaouroff, who was a member of AT.BAT civil engineers and through Vladimir Bodiansky they obtained the commission for all the working drawings for the National Sports Complex.

They were based in Paris and never went to Cambodia. Their fees were paid by the Société de Dragage, the main contractor, which served as intermediary for sending plans back and forth, and rectifying building details as the building was in progress. Claude Duchemin and Jean-Claude Morin figure as having participated in the first design for Vann Molyvann's Teacher Training College, though Duchemin claims he never worked on it!

After the death of Morin in 1973 (born 1926) Claude Duchemin moved to the Gap area in the south of France and had a successful career.

Sources: Telephone interview by ARK Research July 2001

ARK Research references: PP193: National Sports Stadium **PP270:** Teacher Training College

Louis Arretche

Louis Arretche, architect was born in St. Justin, France in 1905 and is especially well known as heading one of the most famous studios of the Ecole Nationale Supérieure des Beaux-Arts. His dedication as a teacher influenced many highly reputed architects who studied under him. Vann Molyvann studied in the Arretche studio from 1949 to 1955.

His work can be recognised by the way in which he used existing urban structures as the inspiration for his designs and an architecture using traditional materials such as granite, slate roofs etc.

After the Second World War, he contributed to the reconstruction of Saint Malo. One of his most original works was the Church of St. Joan of Arc in Rouen, which was consecrated in 1979.

He died in 1991.

Sources: ENSBA archives; Contemporary Architects Dictionary; Dennis Sharp

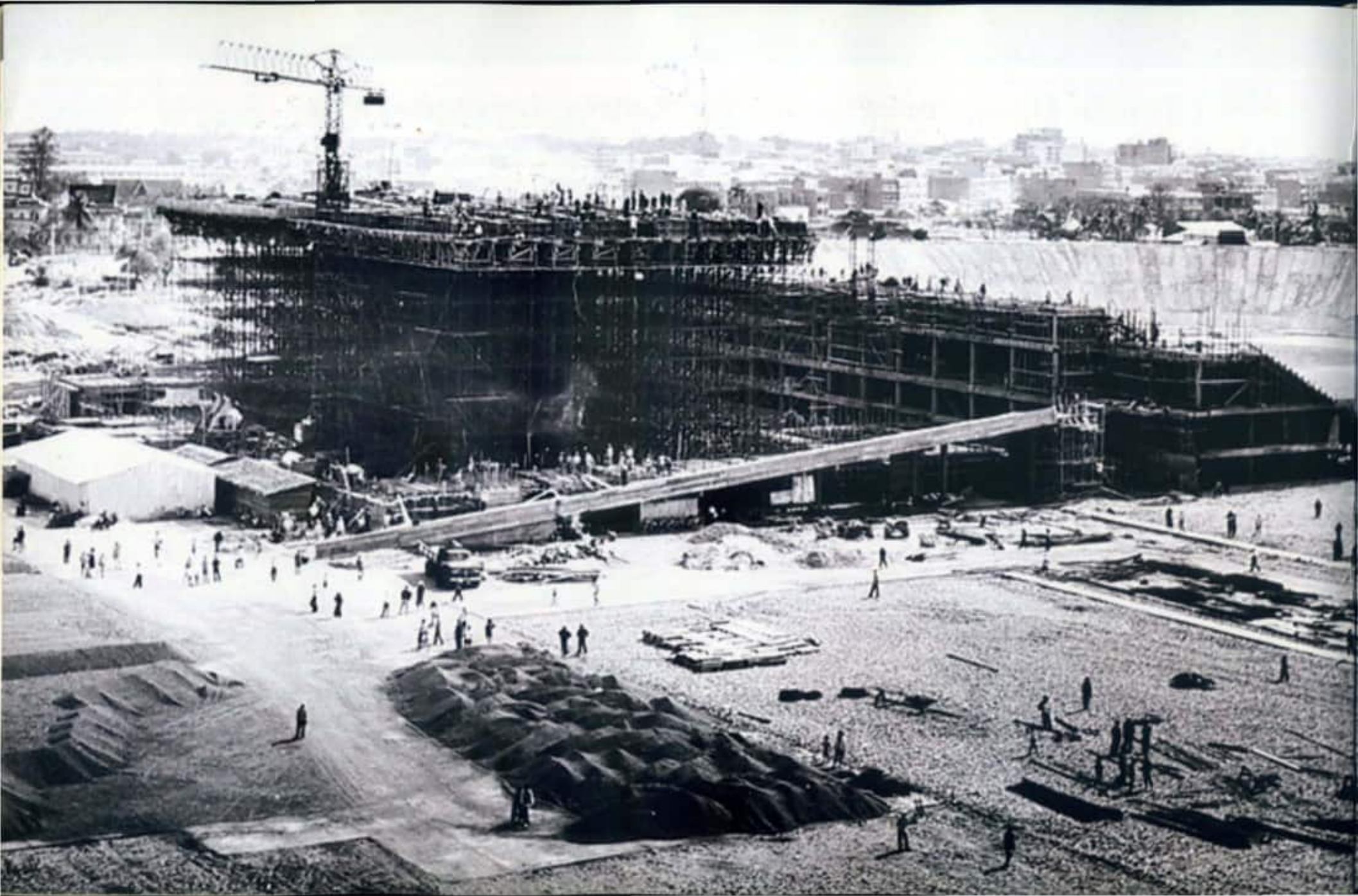




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ISTED; 10

Kambuja; 51

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Wening, R; 56

Vann, Molyvann; 1, 5, 8, 13, 14, 15, 16, 19, 24, 26,27, 30, 31, 32, 33, 34, 36, 38, 44, 46, 48, 50, 53, 57

Vladimir Bodiansky archives; 12, 20, 23, 25

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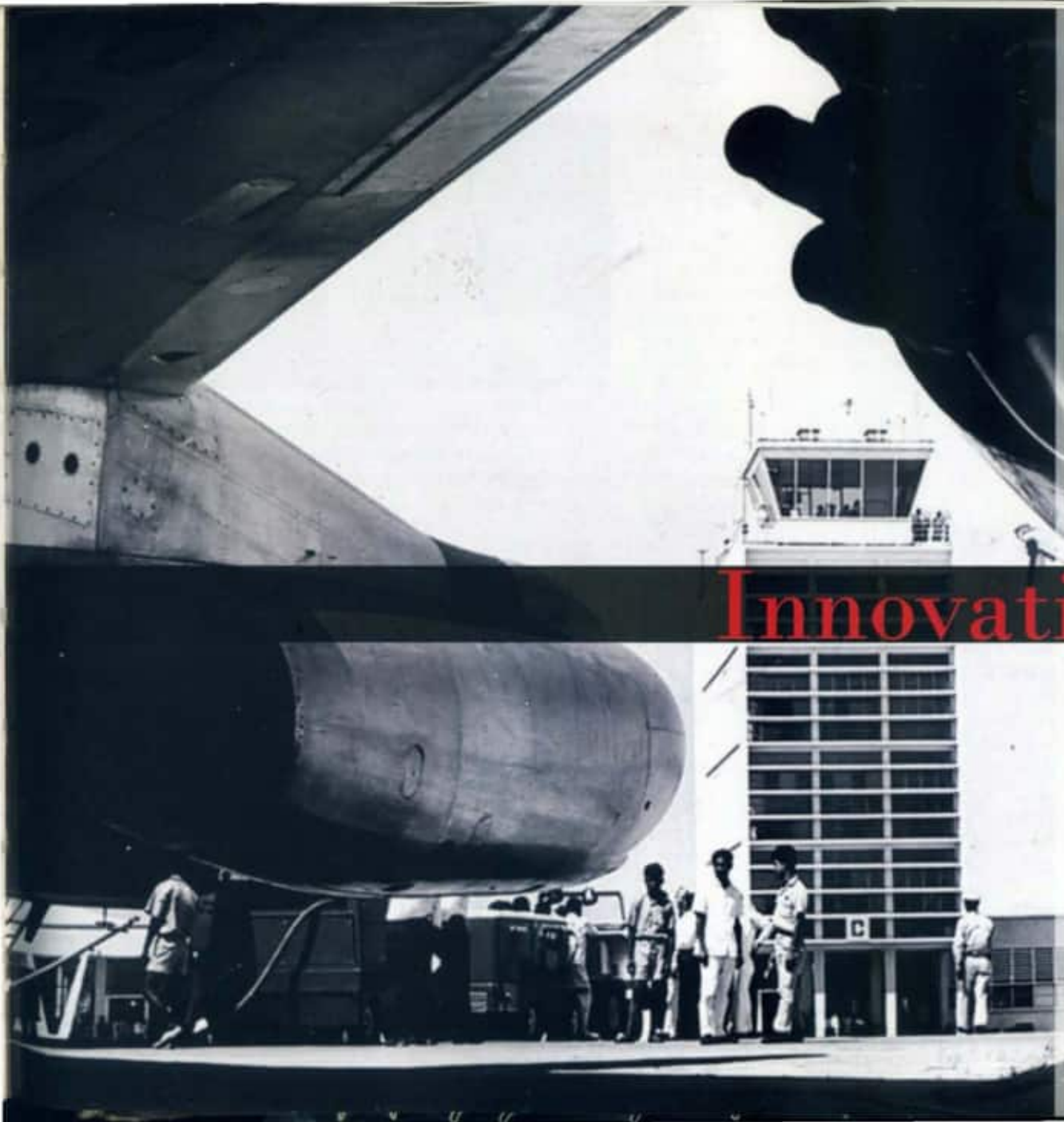
Grant Ross, Helen with François Gerles; "L'urbanisme du Sangkum Reast Niyum X 'La saga du stade olympique" *Cambodge Soir*, Phnom Penh, September 20-22, 2002

Grant Ross, Helen; *The National Sports Complex - Vann Molyvann's masterpiece* 7th Royal University of Phnom Penh Socio-Cultural Congress, Phnom Penh, November 2004

57. The logistics of dealing simultaneously with infrastructure, earthworks, scaffolding, buildings and the ellipse of the stadium itself were challenging to say the least

Works:
Pochentong Airport
Siem Reap Airport

Biographies:
Guy Lemarchands
Pierre Dufau



In the mid-seventies, British art authors were already identifying the styles of the forties and fifties. The baby boomers - the young adults who had been born after World War II, educated in the fifties and sixties, and matured as young adults in the flower-power generation of the seventies - had come of age. The post-war baby boom had followed more than a decade of economic depression, deprivation

Innovative Model

Chapter 8

and war. The energy of this new generation was reflected in experimentation and a zest for life that percolated through every form of artistic expression from music and fashion to writing and architecture.

By the end of the 20th century, Americans were also re-evaluating their architectural legacies of the fifties and sixties. *Vogue* magazine noted that the 'post-Deco' years between 1945 and 1972 were fuelled by the "unbridled optimism and exciting technological advances" that followed World War II. "The style now known as Mid-Century Modern made extensive use of glass and poured concrete and often featured such dramatic elements as

1. A plane on the tarmac in the 1960s

accordion-fan walls, stone pylons, grand porte cocheres, soaring asymmetrical roofs, and large neon signs." In Cambodia's tropical climate, however, New Khmer Architecture rarely made extensive use of glass or showy extravagant neon.

Unlike many other former colonies, Cambodia embraced and respected its own models, which incorporated water in many of its aspects. It did not mindlessly copy European patterns. The former British colony of Ghana did, and the capital Accra is only now going through an architectural revival after decades of ignoring West African tradition. "While the city may boast some nice Modernist public buildings from the 1950s, the original 1958 "masterplan" was only implemented half-heartedly," a British architecture magazine noted in 2002. "And what little was executed now exhibits all the drawbacks so evident when European-style planning methods are used in an African context. This time round, Accra has been promised proper urban spaces and parkland - the team have even been checking out Central Park in New York for inspiration."

Stark Colours, Sparse Interiors

New Khmer Architecture featured a break from the traditional colours used in French colonial architecture - yellow and white lime-based colours with touches of grey and dark green for painted woodwork. These colours are still favoured for colonial buildings throughout Cambodia. Prime examples include the Royal Palace, many public buildings and colonial houses.



The new buildings of the fifties and sixties use a much starker palette. White was often contrasted with blue or black for metalwork or detailing. Concrete was also contrasted with dark red brick or orange tiles in panels and roofs. Greys appeared in painted detailing, natural stone panels, foundation bases or floor tiles. Gold was used sparingly for anodised aluminium doors, window surrounds and insignia on government buildings. Browns and bronzes were supplied by natural timber finishes and metal fittings. Greens and black were often favoured for tiling interior walls, or for tiled or marble floors.

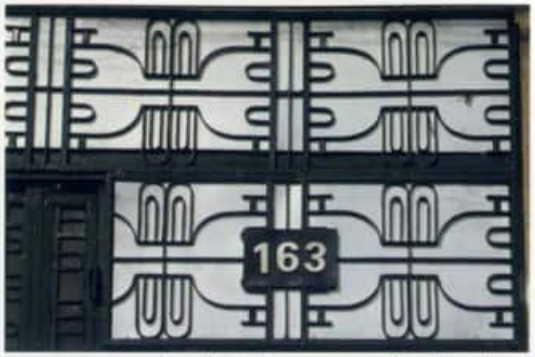
A fine example that uses many of these combinations is the Chamkar Mon State Palace (now the Senate) which also demonstrates the eclectic range of sources for decorative elements. In a rare insight published in 1967, *Kambuja* reported that Norodom Sihanouk had conceived the interior arrangement and decoration himself. "He personally chose the furniture, paintings, vases, carpets and other decorations," the magazine said, adding that the furniture was from France. "The luminaries, chandeliers, wall brackets, mobile candelabrum are made from crystal from Bohemia and were ordered from Czechoslovakia. The paintings are by the well-known artist Nhek Dim and the portraits of the head of state and his wife have been done by President Sukarno's personal portrait painter. The lacquer panels and the small furniture are from the Royal Palace ateliers and made by Kim Dil. The carpets and most of the vases came from



China, the tapestries from France. All the wooden works, doors, floors, etc., were also made in the Royal Palace ateliers. The black marble came from Italian quarries. The building was done under the supervision of contractor Bun Leang. The French gardens designed by Architect Lu Ban Hap were prepared by the horticulturists of the Phnom Penh Municipality, then governed by Tep Phan."

Hotels deliberately chose a "holiday feel" in both the capital and the provinces. The interiors of the main railway stations between Phnom Penh and Sihanoukville used "international" sixties styling, as did the airport lounges throughout the country. "Mix 'n match" combinations of bright primary and secondary colours were offset by more subdued tertiary hues. Burnt oranges, claret reds, lime greens and vibrant blues were teamed with earthy ochres and olive tones. Documented examples include the interiors of the Hotel Independence in Sihanoukville and two colonial hotels that were extensively renovated in the fifties and sixties - Hotel Le Royal in Phnom Penh and Grand Hotel d'Angkor in Siem Reap. The colour schemes of the Hotel Monorom in Phnom Penh and the Villa Princière in Siem Reap have also been documented. These hotels all featured bright and sparse arrangements of fabric-covered wooden or metal-framed armchairs and lounges arranged on contrasting carpets. In

2. Khmer decoration translated in 60s delicate balustrade forms, Wat Po Veal, Battambang
3. Sixties terrazzo floor in a house by architect Ung Krapum Phka, Phnom Penh



some cases, colonial interiors were updated and "modernised" - not in keeping with their period but to service the contemporary taste of the influx of wealthy foreign tourists, especially Americans.

On government offices, banks, schools and religious buildings, interplays of sunlight and shadows were exemplified by the extensive use of geometric screens which were also excellent for ventilation. On sixties exteriors, these produced contrasts of smooth white surfaces with complex multi-coloured textures. Traditional floral motifs were adapted as friezes on monuments and stupas - and also for the screens. Excellent examples of screened facades include the former Royal University of Battambang and the National Bank of Cambodia branch in Sihanoukville. For traditional motifs, the Independence Monument and stupas within the Royal Palace are good examples that refer to Banteay Srei (built in 967 CE) as a model for traditional Khmer designs.

Crazy paving is almost ubiquitous on walkways and is often simulated in concrete with multi-coloured abstract designs on building facades and walls.

Decorative ironwork railings, with Cambodian motifs, appear on doorway and window grills. The motifs are drawn from nature (landscapes, flowers and birds), scenery (Angkor and monuments), more romantic idealised forms (the moon and stars) and even dancing apsaras. Geometric designs, again on exterior screens, made frequent use of interlocking triangular, circular, square or rectangular forms. Tiles, freeform work and bubble or bamboo screens also add to the decorative inventory of the period.

Local materials were widely used. Cambodian craft workers excel in woodwork, modelling and concrete formwork, wrought metal and adaption of traditional designs. In rare cases, imported fixtures were purchased for special effect - anodised metal for detailing (used at the State Palace) and delicate Czechoslovakian crystal chandeliers are two such examples. In some cases, imported Italian or Chinese marbles complemented local stonework. In typical sixties fashion, all these occasionally strident notes were teamed with either painted French Directoire-style furniture or the latest "Scandinavian" wood-framed lounges. The Hotel Independence was a prime example.

Bisnuka: Khmer Patron of Architects

"In a middle Khmer legend still widely known, the heavenly abode on earth which is the temple of Angkor Wat was built not for Indra but for his half-human son Ketmelea. Indra ordered his divine architect Visvakarma to construct a replica of his own palace in the sky.

"The power of Angkor Wat over the Khmer imagination was such that even this mythical architect, his name blending phonetically with Bisnulok to become Bisnukar, was transformed into the god of all construction, a primordial element in Khmer ritual practices throughout Cambodia up to the present day."

Source: Ashley Thompson, the APSARA Authority

From Angkor to the World

The fusion of nationalism and culture are often featured in the flowering of nationhood. The Cambodian flag - red and blue with the central white outline of Angkor Wat - is the world's only national flag to feature a building. Despite the multiple changes of the flag since independence, the nation has always been represented by an architectural motif that has become an icon.

In Cambodia, it is also possible to enter the realm of Hindu legends. Preah Bisnuka, for example, is the god invested with the skills for all



4. Decorative iron window grills on 1960s apartments along the riverside quay, Phnom Penh
5. Detail of the sculpted frieze at the base of the Independence Monument by Tan Veut



6. Buddhist marriage ceremony depicted in a 60s setting, Wat Mohor, Kompong Thom

construction. Although the patron of architects, builders, smiths and artisans, he is not as popular or well documented as the triad of Brahma, Shiva and Vishnu. Before any construction, all artisans today are still required to make offerings to Bisnuka to ensure success. Bisnuka is bound to Angkor Wat, which has 16th and 17th century inscriptions referring to Bisnulok. These recall the posthumous name given to the founder of Angkor Wat, Paramavisnuloka, and possibly even the divine architect Visvakarma as well (see page 241).

As the Khmer patron of construction, *Bisnuka* is now usually represented holding eight attributes in his hands. In his four left hands, he holds a carpenter's saw, a rule, a chisel and an axe. In his right hands are a mallet, a rasp, a set square and a plumb line. These emblems clearly identify him with the architecture and building professions. Today, modern sculptural images of the god can be found on the carved wooden pediments on the facade and in front of the conservation section of the National Museum and at student ceremonial gatherings at the Faculty of Architecture at the Royal University of Fine Arts.

Independence fostered greater emotional awareness and national pride - a renewed sense of purpose, of working together and striving for the Cambodian nation. This was reflected in the Royal Khmer Socialist Youth which galvanised young people, reviving a sense of traditional culture to protect Cambodia from negative influences from neighbouring countries. For Norodom Sihanouk, members of the youth movement were "the young standard-bearers of Cambodia's future." Speaking at a rally in 1960, he urged young people to adopt the skills and achievements of other peoples "without any surrender of the essential traditions and qualities of our own race." Cambodia should be "discriminating" in adopting technical, cultural and scientific influences. Otherwise, Norodom Sihanouk warned, Cambodia would be "assimilated" by its neighbours. Such nationalistic rhetoric was typical of the times and closely associated with Buddhism. Indeed, a Thai appraisal of the "inseparable ties" between

Cambodia and Thailand as recently as 1995 noted that the Buddhist Institute founded in 1930 was a "cradle of Khmer nationalism" during the thirties. "The 20th century marked the rebirth of Khmer Buddhism," it said. Under Norodom Sihanouk, the number of wats flourished in the fifties and sixties. By 1969, Cambodia had 69,000 monks and 3,326 wats, up from 2,600 wats three decades earlier.

France & America

Major architectural influences from abroad were from Europe, particularly France, and the United States. Cambodians who went to study abroad in the sixties were likely to head to these two countries. Most visitors to Cambodia were French and American, although the French were surpassed by the Americans in the mid-sixties and were being rivalled by the Japanese at the end of the decade. During this period, Cambodia came of age and Khmer culture started to be seen on the world stage with active encouragement from Norodom Sihanouk. Two of his children, Princess Buppha Devi and Prince Sihamoni, promoted and performed traditional and western forms of dance for visitors to Cambodia and at venues abroad.

The hallmark of sixties architecture worldwide is the use of reinforced concrete, a French-invented construction material. As the author of a book on the





7. The burnt theatre in 2001
8. Contrasting colours of the floor tiles emulate the triangulated interior foyer space of the National Theatre

French overseas empire has noted, it appeared at a time when the "social composition of the colonial city was almost everywhere changing." An important legacy of post-colonial rule was the Economic and Technical Assistance Mission (SMUH). From 1955, it provided technical assistance to major projects including a maritime port in Sihanoukville and an international airport at Pochentong. The mission also provided teachers and lecturers for the Lycée Descartes, the Ecole Norodom, the Ecole Royale de Médecine, the Institut National d'Etudes Juridiques et Economiques and the Ecole d'Administration. An associated organisation distributed lecture manuals and printed thousands of copies of Géographie du Cambodge for distribution to school students. France also provided training for the armed forces and financed the construction of military schools.

The Americans competed with the French for Cambodia's culturally attentive youth in the sixties. By1965, pervasive American culture had made important inroads into Southeast Asia. "While Cambodia appeared to be swinging toward China politically, it certainly wasn't heading that way culturally," recalled Bernard Krisher, the American journalist. "Bikinis were not banned, American music was rampant and unrepressed and most Cambodians seemed to share the Western drive to achieve a more affluent life. The younger generation of lycée students were not only "francophones" but also passionate francophiles. I well remember one Tropical Existentialist, a "countergirl" in a bar reading Sartre in paperback and daydreaming of a pilgrimage to Paris."

The United States poured money into Cambodia following the establishment of diplomatic ties. In addition to military aid, American funds were deployed in a number of important Cambodian building projects, including infrastructure and urban developments. Among these was a low-cost housing project in Tuol Kok in 1958, the highway from Phnom Penh to Sihanoukville in 1959, an irrigation plant in Siem Reap in 1960 and the Chaktomuk Conference Hall in Phnom Penh in 1961. The United States also built numerous concrete and steel bridges. Some buildings still stand, although the School of Applied Arts and Engineering was never completed following the break in diplomatic ties in 1965.

By the end of 1960, according to State Department figures unearthed by American researcher Ingrid Muan, US aid amounted to $195 million, of which $102 million was military assistance. A further



9. On a state visit Emperor Haile Selassie of Ethiopia is driven away from Siem Reap Airport in 1969

$32.5 million went to the highway between Phnom Penh and Sihanoukville, with the rest going to agricultural, educational and health projects as well as information activities. By comparison, Cambodia had received an estimated $28 million from China, $18.5 million from France, $10 million from the Soviet Union, $4.1 million from Japan and $1 million from the United Nations. Information activities included the American Library, training in film-making, travelling exhibitions and other operations under the United States Information Service (USIS). Between 1952 and 1959, the USIS propaganda machine produced a Khmer-language magazine called *Free World* with as many as 70,000 copies per issue. Based in the Philippines, it was also distributed in local languages in Indonesia, the Philippines, Taiwan, Thailand and South Vietnam. Articles focused on lifestyles, traditional arts and culture with reference to the West, notably America.

Neighbours

Cambodia's relationships with its immediate neighbours in Laos, Thailand and the divided Vietnam were a complex mixture of power-balancing alliances that fluctuated according to the politics of the day. With France focussing its military forces on Vietnam, Cambodia and Laos secured the departure of French troops and both gained independence in 1953. With the French defeat the following year, Vietnam was divided and its relations with Cambodia were dictated by the latter's policy of neutrality and a reluctance to get drawn into the American conflict. By 1963, however, relations with the American-backed regime in South Vietnam were strained. Bombing of Cambodia began in 1967. Within two years, the rubber plantations of Kompong Cham - a key source of foreign exchange - had been devastated by agent orange. Relations with Thailand, previously dominated by its earlier occupation and governorship of several Cambodian provinces, were also strained by a bitter territorial dispute over a temple complex in Preah Vihear. In 1962, however, the International Court of Justice in The Hague ruled in Cambodia's favour and sovereignty was confirmed.



Several cultural events during the sixties drew particular attention. An important exhibition of Khmer artifacts was seen at three locations in Japan in 1963. Curated by Madeleine Giteau of the National Museum in Phnom Penh, it was sponsored by the Mainichi newspaper group and held in Matsuzakaya department stores in Tokyo, Nagoya and Osaka. In 1965, a dance troupe from the Philippines visited Cambodia. In 1968, Phnom Penh hosted its First International Film Festival, with 27 countries represented, including India, Japan, North Korea, Pakistan, the Philippines and

10. Flame trees and beautiful landscaping set off the Royal Palace compound in 1968



North Vietnam. A second festival the following year was chaired by Vann Molyvann, the same year that Cambodia took part in the International Conference on Traditional Theatre and Music in Southeast Asia in Kuala Lumpur. These cultural activities were relatively short-lived and ended the following year when Norodom Sihanouk was overthrown.

To balance the picture is an impossible task. National sensitivities emerge, personalities conflict, cultures clash and healing national ties relies on diplomacy of the highest order. Following centuries of turmoil and strife, what was Cambodia's political position in the sixties? It appears from documented visits that Cambodia, as a newly founded nation in its own right, was intent on peaceful coexistence with its neighbours. But there were powerful forces operating in the opposite direction, rapidly escalating into wars outside Cambodia's control yet impinging on its land and sovereignty.

Developing Cambodia

The scale of achievement of New Khmer Architecture was an experiment that merits a place in the annals of the modern history of architecture. The reasons for it not being recognised are numerous. At independence, Cambodia was an obscure French-speaking outpost of little economic significance. The focus of American-led Western interests was containing communism in Vietnam and encouraging friendly English-speaking states like Burma, Ceylon and the Philippines. Moreover, the modern history of architecture had largely been dominated by Western schools, notably the Bauhaus and the Congres Internationale d'Architecture Moderne (CIAM).

Such movements have tended to overshadow any other experiments. Cambodia meanwhile won few Western friends by playing an active role in the Non-Aligned Movement. To cap it all off, years of civil war and genocide eradicated Cambodia's memory of its own recent history.

Planning with territorial development is in the French cultural tradition. This was the way Indochina had been run - with the different regions of Tonkin, Annam, Cochinchina, Cambodia and Laos designated for various economic and social functions. As part of this development, the French left a strong legacy of town planning across Indochina. Ernest Hébrard was responsible for many new cities including, Hanoi, Saigon and Phnom Penh in the 1920s. These remarkable plans can still be appreciated today as they resisted the political and social changes since their conception. With independence, Cambodians inherited an urban culture that was directly inspired by the French colonial example. This idea of centralised urban planning and territorial development came naturally to French-educated Cambodians like Norodom Sihanouk, Vann Molyvann and Lu Ban Hap.

In the absence of centralised decision-making, Hébrard's town plans for Indochina had no equivalent in France itself. This is because territorial development can only be thought out and implemented when political power is strong and decisions are in a few hands, as was the case during the French colonial period. But centralised



power alone does not guarantee quality, as seen by the destruction of 20 percent of Bucharest for a four-kilometre "perspective" showing off the 300,000 square metres. palace of Romania's Nikolae Ceausescu. Unlike such megalomaniacs, Norodom Sihanouk was an enlightened planner. He was not simply content with a French offer to build a deep-sea port in an inaccessible jungle, an American offer to build a road from Phnom Penh and a Soviet offer to develop a university campus on the city outskirts. Norodom Sihanouk orchestrated a whole series of urban and architectural developments that were grafted onto this backbone connecting the capital to the Gulf of Thailand.

Even one of Norodom Sihanouk's most acerbic critics, Milton Osborne recognised this. "Sihanouk's energy was phenomenal. Working at a pace that exhausted his associates, he travelled widely through the kingdom, opening schools and clinics, inaugurating factories or irrigation schemes," the Australian historian recalled. "The fact that there were achievements, that schools were built and clinics opened, depended overwhelmingly on Sihanouk and his energy. Just as he came to the

11. Norodom Sihanouk portrait distributed as a souvenir during his state visit to Laos in 1962
12. Buddhist University Preah Sihanouk Raj in 2001

provincial centres, so did he travel into rural areas to make his presence felt among the peasantry." Norodom Sihanouk's experiment was based on Buddhist ethics, national pride and the Khmer tradition of monarchy. It played an essential role in the development of Cambodia. By recruiting all talented Cambodians regardless of their political ideology, it succeeded in creating a political monopoly for itself by virtually depriving any other political party of its life blood.

The era was marked by deeply ingrained national pride. With single-party rule, the administration verged on dictatorship and Norodom Sihanouk used populist rhetoric to stir up allegiances. But the achievements and vitality of the period do not resemble those of a totalitarian state. Nor does the architecture bear the characteristics of an officially acceptable style. On the contrary, it demonstrates much diversity and innovation. And except for the National Sports Complex, there is a notable lack of monumental works. For many, this is a dilemma. As one commentator cited by Osborne admitted: "Prince Norodom Sihanouk was the promoter of much excellent and beautiful architecture and it is difficult to know how to draw the line about his ambiguities."

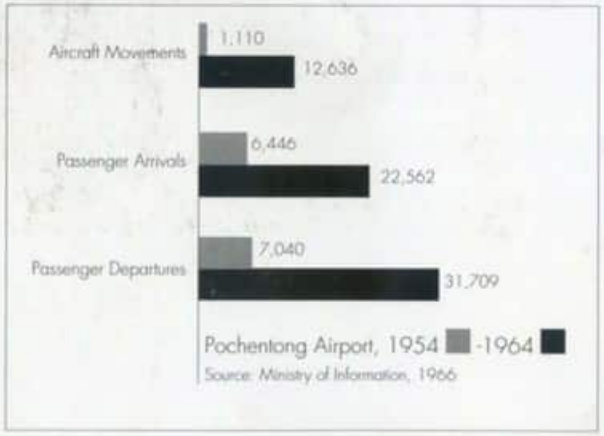
It is easy to categorise New Khmer Architecture as a style inspired by the Modern Movement in architecture. This simplistic view ignores its authenticity and uniqueness, as Edson Cabalfin has noted in regard to the Philippine experiment in 20th century architecture. "Modern architecture in the Philippines is not an alternative modernity, but rather its own modernity," he told an Asian architecture conference in Istanbul in 2005. In the same way as Cambodia invented its own political engine, it promoted its own unique artistic movement and its own style of architecture that should be recognised for its intrinsic qualities.

For Norodom Sihanouk, the ancient Indian emperor Asoka was a model for Buddhist rule. "Such a doctrine makes of us 'warriors', convinced and energetic, fighting for our national ideology," he wrote in *Kambuja* in 1966. In regard to internal politics, this was "the fight against under development, against social injustice, the raising of our people's living standards, their happiness and their *joie de vivre* in fraternity and concord." He offered a simpler definition eight years earlier as he was laying the boundary stones of Wat Preah Puth Andeth. Politics, he said, was "the art of building the nation."



13. Illuminations at the Independence Monument gardens in 1968





14. Pochentong International Airport in the 1960s
15. Air France passengers embark

Pochentong Airport

Initial function: Civilian airport
Present use: Civilian and military airport
Location: Pochentong, Phnom Penh
Inauguration: January 19, 1959
Architects: Pierre Dufau (air terminal and control tower);
Vann Molyvann and Guy Lemarchands (VIP reception areas)







In 1954, Cambodian aviation was limited to flights between Phnom Penh and Siem Reap on Dakota aircraft. In 1956, Royal Air Cambodge was set up and started flying between Phnom Penh and Saigon, a route previously a monopoly of Air Vietnam, as well as Phnom Penh, Siem Reap and Bangkok. By 1959, the new Pochentong International Airport was said to be the "most elegant" airport in Asia.

Financed by France, the entrance hall of the new airport was paved with Italian marble. The bar and restaurant had furnishings in the "latest polyester materials and laminated woods" and giant glass windows looking out onto the runway. The green and beige transit lounge came with a bar, a bookshop and a souvenir shop. The pilots' lounge had a bar and a meteorological office, while the small air conditioned VIP lounge had a separate patio decorated in grey-green and aubergine. There was also a car park for 200 vehicles.

With aid from the French Mission for Economic and Technical Assistance and the Service Technique Français des Bases Aériennes, construction work had started on December 4, 1956. Entreprise Française de Construction and Messrs. Lavigne et Lemées were responsible for the airport building while Entreprise Mathieu Barre et Passoda built the top of the tower. The building required 28,000 cubic metres of preliminary embankments, 1,000 cubic metres of excavation, 1,200 cubic metres of concrete, 150 tonnes of steel, 2,530 square metres of aluminium sheeting, 2,000 square metres of marble-tile flooring and eight kilometres of cabling. The complex was 114 metres long and 32 metres wide. A hall covered by a V-shaped roof took up about a third of the space. It was well ventilated and adequately lit, and the roof was made of light-weight aluminium. The 25-metre high control tower was covered with tinted glass of double thickness for thermal and sound insulation.

The runway, built by Société Française de Dragages et de Travaux Publics on a northeast-southwest axis, was supposed to be 2,100 metres long but was shortened to 1,800 metres and the width was reduced from 45 to 40 metres. Work on the runway began on November 20, 1957, and was finished in nine months and 10 days. Over the next eight years, it was lengthened to 2,400 metres and then 3,000 metres to accommodate bigger aircraft.

The original VIP arrival pavilion designed by Vann Molyvann, a metal tensile structure covered with fabric, was built in 1963. It was replaced by a more solid structure of reinforced cement in 1966 to welcome French President Charles de Gaulle. This corrugated "fan" structure by French engineer Guy Lemarchands has been slightly altered but still stands today to welcome VIP guests.

By 1964, the number of takeoffs and landings at Pochentong was 12,636, a twelve Fold increase from 1954. By 1965, Royal Air Cambodge was flying from Phnom Penh to Vientiane, Hong Kong and Singapore as well as Hanoi and Guangzhou (Canton). Seven foreign airlines also flew to Cambodia - Air France, Union de Transports Aériens (UTA), Union of Burma Airways, Cathay Pacific, Air Vietnam, Ceskoslovensko Aérolinie (CSA) and Garuda Indonesian Airways. By 1969, Royal Air Cambodge was also flying to Manila and a new route to Bali was about to be inaugurated. By 1969, the airport was being used by DC-8, TU-104, Convair 990, Electra and Caravelle aircraft.

In 2003, six years after the Pochentong Airport was heavily damaged in fighting between rival military forces around Phnom Penh, Cambodia inaugurated a new terminal built by France's Société Concessionaire des Aéroports (SCA). The name Phnom Penh International Airport was adopted in February of the same year.

Sources: Cambodia Today, January 1959; Kambuja, October 1965; Kambuja, April 1966; Etudes Cambodgiennes, July - September 1968; Le Sangkum, October 1968; Kambuja, February 1969; Kambuja, September 1969; Années 60; interviews with SCA vice-chairman Joël Vélasque and Vann Molyvann in 2001 and 2002





16. Passengers in the airport lounge view an awaiting plane
17. Officials await VIPs in the shade of Vann Molyvann's hyberbolic parabolic tensile structure
18. Guy Lemarchands VIP pavilion photographed in the 1990s



Siem Reap Airport

Initial function: VIP and civilian airport
Present use: Civilian and military airport
Location: Off National Route No. 6, Siem Reap
Inaugurations: 1963 and June 22, 1968
Architects: Vann Molyvann (VIP building), Chinese architects (main building)



Construction of Siem Reap Airport on the outskirts of town began in the early fifties. Reception areas were added a decade later to cope with the growing numbers of tourists visiting the Angkor temples. Built on a northeast-southwest axis, the initial runway of 700 metres in 1954 was increased to 1,670 metres in 1963.

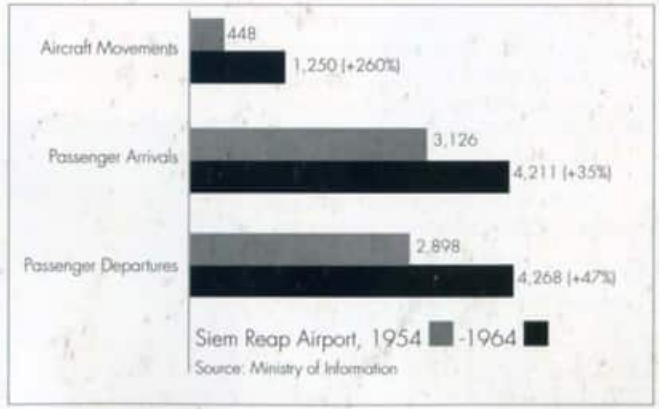
The original reinforced concrete VIP building designed by Vann Molyvann the same year had jutting glassed walls inspired by Frank Lloyd Wright. Recently reserved for military use, it has been altered almost beyond recognition with the walls drastically reduced to token windows and the rest cemented closed. A second building in 1968 was a gift from China in response to an appeal to donors by Norodom Sihanouk. Designed by Chinese architects, it was a reinforced concrete structure with large screen walls and high-ceilinged open spaces providing natural ventilation. To make way for the new Siem Reap-Angkor International Airport, Société Concessionaire des Aéroports (SCA) significantly altered this building in 2002. With current flight paths over the Angkor temple zone, the relocation of the airport from its current location near the Western Baray has been under consideration.

Siem Reap was by no means the only provincial area to have its own airport in the sixties. The Ream-Sihanoukville airport dating back to 1956 was upgraded in 1965 and Khemarak Phouminville airport in Koh Kong was built around the same period. Stung Treng airport is dated to May 1968 and Bek Chan Airport in Battambang opened in October the same year.

Sources: Kambuja, October 1965; Ministère de l'Information, 1966; Kambuja, April 1966; Etudes Cambodgiennes, July - September 1968; Le Sangkum, October 1968; Kambuja, February 1969; Kambuja, September 1969; Charles Meyer, Années 60; interviews with SCA vice-chairman Joël Vélasque and Vann Molyvann in 2001 and 2002







19. Triumphant visit of Emperor Haile Selassie at Siem Reap Angkor airport in 1969

20. Vann Molyvann designed VIP terminal in the sixties
21. Chinese funded terminal prior to recent transformation as the nearby international terminal is completed
22. Front entrance of the old VIP terminal



Guy Lemarchands

Engineer and architect who came to Cambodia with French Cooperation in the sixties. He was also a lecturer at the Faculty of Architecture and Urbanism, Royal University of Fine Arts. He continued to be a technical adviser to Cambodia until recently.

ARK Research references: Cambodia: 18 Rural Village prototype, Department of Urbanism and Habitat, Study for Ministry of Habitat and Public Works with Um Samuth architect, Oung Sadam, architect, Ty Yao, architect, Chou Leang, architect, Tan Thanh, engineer and Kry Beng Hong, engineer **PP5:** Airport, VIP Pavilion **PP168:** Military Academy **SV41:** Sihanoukville railway station

Pierre Dufau

Pierre Dufau, d.p.l.g., Grand prix de Rome, and fellow architect Claude Duchemin, designed the first French nuclear power station.

After arrival in Cambodia, he was responsible for the design of Pochentong Airport in 1959 (now the Phnom Penh International Airport) and two years earlier had won the competition for the design of the French Embassy on Monivong Boulevard.

Sources: Henri Chatel meetings, Paris, March 2001; meeting Joël Vélasque, vice chairman SCA, Phnom Penh, January 2001

ARK Research references: PP3: Passenger Terminal, Airport **PP77:** French Embassy





23 | 24 | 25

23. The completed French embassy
24. The French embassy under construction in the early 1960s
25. The French ambassador's residence designed by Pierre Dufau



Photo Credits

Anonymous; 10

Batailliard, Philippe; 18

Chatel, Henri; 23, 24, 25

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26. 1960s mural from Wat Intrisamvara, Kompong Thom photographed in 2004



Epilogue

Future Heritage

Has anything changed? Billed as "the belle of Southeast Asia," Phnom Penh blossomed in the sixties with its tree-lined boulevards, parks and gardens and major architectural and town planning developments in place. The city's location at the junction of four branches of the Mekong is unique in Asia. Phnom Penh was the "Paris of the East" and for the first seven decades of the 20th century, the gateway to the architectural splendours of Angkor.

As with the ancient Khmer, who were not only admirable architects but excelled at sophisticated engineering, development under Norodom Sihanouk focused on essential infrastructure and buildings to accommodate the full range of human activity. Thanks to aiming for the very highest standards, Cambodia was able to rely on these assets after the Khmer Rouge disaster.

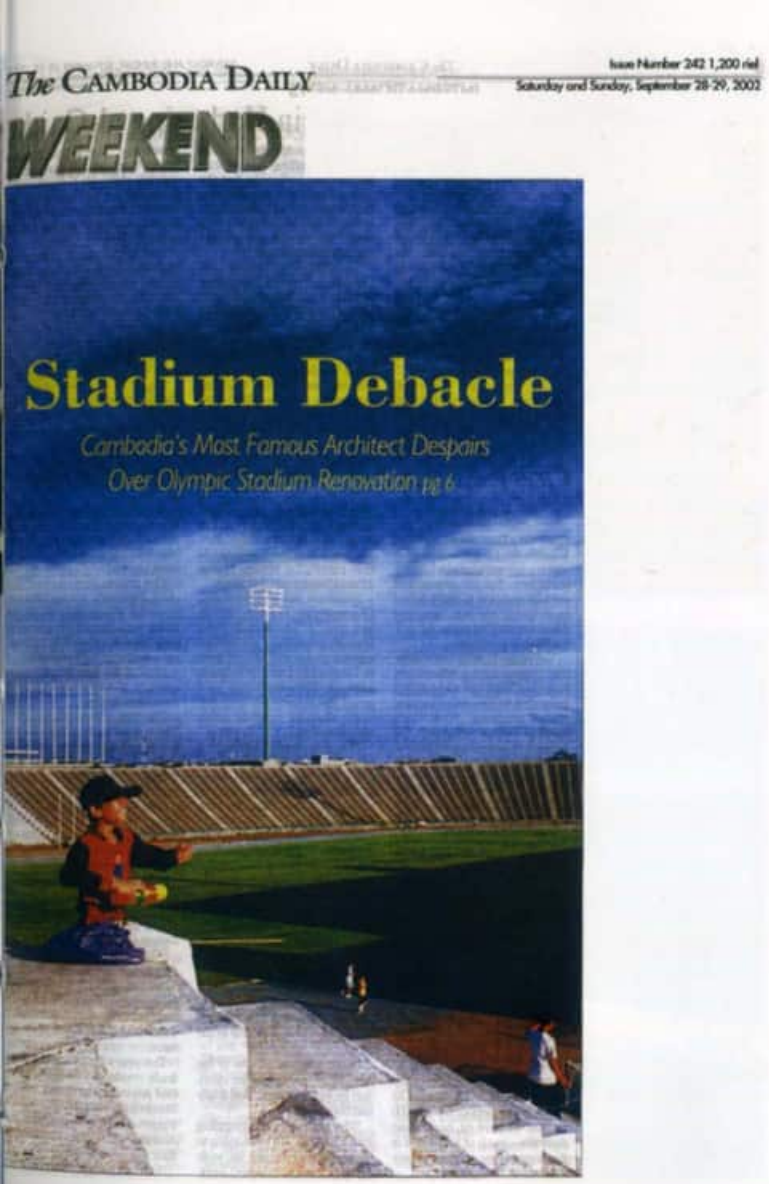
1. Ruins of the burnt out National Theatre in 2001







2. The 1994 fire rages in the National Theatre
3. Hollowed shell with remains of the stage in 2001
4. Devastation during the disastrous fire, 1994



Visitors to Phnom Penh today are shown fine, but sometimes neglected, examples of French colonial architecture. Few discover that the city conceals a more exciting treasure - prime examples of fifties and sixties architecture that saw Phnom Penh rise in stature to become a regional model for urban planning, design and construction. Indeed, Singapore's Prime Minister Lee Kuan Yew was reportedly so impressed with the garden city during his 1967 visit that he expressed a desire for Singapore to develop in a similar manner. In a letter to Norodom Sihanouk the same year, Australian Prime Minister Harold Holt said he was "deeply impressed by the architecture, the charm and grace of Phnom Penh and by the ancient grandeur of Angkor" during his visit. "I was also most interested in your vigorous programme for economic development, with the imaginative and progressive port and town development at Sihanoukville. It was heartening also to observe the contentment and prosperity of the Cambodian people."

The plight of Cambodia in the second half of the 20th century is a sad and difficult period to document. There are countless books on the political excesses of this era and the outcome is far from over. The mental and physical scars borne by Cambodians are testimony to the horrors endured. But what is the legacy of the period that immediately preceded this abyss?

It is salutary to note that a large number of works from the fifties and sixties survived. Some of the most significant are infrastructure projects such as the westward expansion of Phnom Penh, the road and railway to Sihanoukville and the town itself. They still fulfil a vital function in the fabric of Cambodian society. Many important buildings from the period are once again being used for the purposes for which they were built. Others have been adapted for today's needs. Some, such as the National Theatre, have been devastated by accidental damage. Others like the Front du Bassac and the National Sports Complex have been vandalised by overzealous redevelopment. At the the time of writing, the ministerial compound on Russian Boulevard still housed the cabinet, the Ministry of Environment and the Ministry of National Defence as well as the army headquarters. Many educational and health facilities have survived, as have the Chaktomuk Conference Hall, the Cambodiana Hotel and the National Cultural Centre. Unfortunately, most large factories have had their machines sold off. Some well-built empty buildings - such as the textile and jute factories in Battambang - lay waiting for a new life. Others like the Kampot cement plant have been sold off for scrap. The Kompong Cham rubber factory was destroyed by war but the magnificent brewery in Sihanoukville still functions with its original equipment. The refinery no longer exists but the site is still used to store imported petroleum.

A great architectural legacy remains to bear witness to what many Cambodians still view as the Golden Age. The songs of Sinn Sisamouth may romanticise the past but they remain popular with today's youth with direct references to the fashionable places to be during the fifties and sixties.

High-rise development now looms. Wooden architecture has all but disappeared, wats are being rebuilt and French colonial architecture is being demolished to make way for new construction. The new rich are rushing to build pseudo-colonial villas,

5. Front page of the *Cambodia Daily*, September 2002







6. The plan for the Shin Tian Dih Plaza shows how such dense development around the complex will strangle it to the point of being unusable
7. Shops and apartments around the sports complex are built on the retention walls of the water tanks that are an intrinsic part of the original design. The moats have been transformed into underground car parks.
8. These cheap buildings may have high commercial value but they use the National Sports Complex's drainage system for foundations

with cookie-cutter designs copied from master plans that are simply rearranged to suit the wishes and purse of the client. In such an environment, many great examples of New Khmer Architecture are under threat.

In the quest for quick returns, architectural masterpieces are being sacrificed. Classifying this modern heritage might be a solution. But where is the urban plan? Where are the master architects? And given the lack of awareness of the valuable legacy of the fifties and sixties, who are the builders of Cambodia in the early 21st century? Unfortunately, New Khmer Architecture is still not recognised by decision-makers, town planners or members of the public for its true value. It is too modern to appear interesting to those romantically attracted to the picturesque or the exotic. Compared to the colonial heritage that is widely recognised as worthy of conservation, this is surprising. Town planning is probably its strongest point. With their porticos, tiled roofs, verandas and louvered windows, ochre-washed buildings have a certain style, reminiscent of Palladian villas in seaside resorts on the Italian and French Riviera. Perhaps this is what people find so immediately attractive about them. They are reminiscent of something else and have nothing extraordinarily original about them. They seem familiar and are readily accepted as they upset nobody.

On the other hand, New Khmer Architecture marks a radical break from the colonial past. It is not considered worthy of conservation even among those who should know better. One politician even declared that the style was "not Khmer" - a typical remark among those who promote greater awareness of French colonial heritage. If this is the official position of the authorities, negligence and destruction are certain to follow.

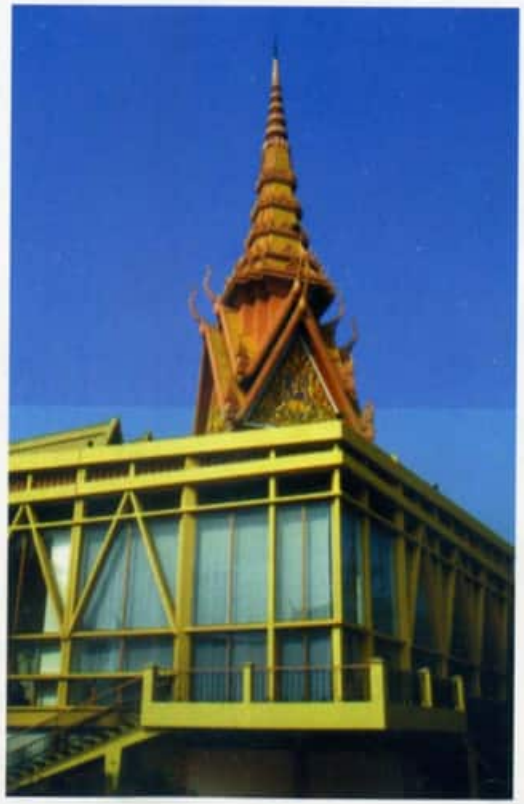




9. The Russian Embassy has maintained the National Bank of Cambodia housing which is now inside the embassy compound
10. In 2000, the Olympic Village was encased in a concrete shell and put on the market for rent







New Khmer Architecture is not only 100 percent Cambodian but also represents the very highest achievements in architecture with incredible creativity and technical mastery. It rose out of the ashes of French Indochina and began straight after independence. It is the result of the collective efforts of the Cambodian people themselves to build a new nation under the guidance of an exceptionally inspired and energetic leader. Development took place in a complex political and military context which prevailed during the period. Norodom Sihanouk was implicated in every dimension and was undoubtedly its major force.

There was a certain level of megalomania but it was restrained. Consciously or unconsciously, Norodom Sihanouk and his entourage attempted to prove to the world that Cambodia was reviving the splendour of Khmer civilisation. But there is no great architecture without ambition. This explains why there are so few countries today that can claim to be contributing to the world's architectural heritage in any meaningful way. Some might say that a small country like Cambodia could not afford to embrace such ambitious development. But why should it not have reached for the highest levels? The alternative was to perpetuate the mediocre state it inherited in 1953 with the added danger of being drawn into regional conflict.

Many authors have written about Cambodian politics during the 20th century but there is very little mention of the arts or architecture. Such historical amnesia probably reflects the fact that the Sihanouk era was so closely followed by the Lon Nol dictatorship and the Pol Pot tyranny. As a result, the collective memory was lost.

No other country in Southeast Asia during the sixties can claim such a high standard of development with such an exceptional quality of architecture. Politics shift. Society changes. But buildings remain, and new generations are born. "Cambodia has often been reduced to nothing," Vann Molyvann told a young audience at a conference in 1999. "At the present time, it's the same. So you young people will be given the challenge, and you have to be ready for it."

11. A plagiat of Mam Sophana's 'Round House' was built on Street 214 in Phnom Penh in 2002
12. The reception centre built by Canadia bank in 2003 (left) competes for attention with the Chenla State Cinema
13. A Malaysian company took over the Chaktomuk Conference Hall and renovated it in 2000


សំណង់មជ្ឈមណ្ឌលពាណិជ្ជកម្ម
នៅជុំវិញកីឡដ្ឋានអូឡាំពិក ត្រឹមត្រូវ
តាមច្បាប់ហើយ.! ល្អហើយ..!
THE COMMERCIAL CENTER BUILDINGS
AROUND THE OLYMPIC STADIUM
ARE LAWFUL..! NO PROBLEM..!
មិនត្រឹមត្រូវតាមច្បាប់ទេ!
IT'S NOT LAWFUL..!
PEOPLE
TOTAL
CSD
February - March
2003
មិនល្អទេ..!
IT'S NOT GOOD..!



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15. Bridgehead with double-naga motifs at the entrance to the Teacher Training College, Royal University of Phnom Penh

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1 Agricultural Centre (Technical)
Inauguration 8-Jul-65
Tual Samrong





2 Airport
Inauguration 29-Oct-68
Bek Chan-Battambang

3 Bank Khmer
Architect: Lu Ban Hap



4 Bridge Sangker
Inauguration 29-Oct-68
Stung Sangker



5 Bridge (Foundation stone)
Inauguration May-65
Stung Sangker

6

7 Community Development Centre (government office, health centre, market)
Andoeuk Hep

8

9

10 Cotton-spinning mill (Usine textile de Battambang)
Inauguration Jun-65
Andoeuk Hep



11 Court Building 1960s
Architect: Yieng, Public Works Dept

12 Electricity generator
Inauguration 20-Aug-65
Pailin

13 Exhibition Hall: Realisations Sangkum Reastr Niyum
Inauguration 24-Jan-61
Architect: Yieng Public Works Dept

14 Genetic Centre for rice
1962

15 Health Centre
Inauguration 9-Jul-65
Mongkolborey

16 Health Centre
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Rattanak Mondol

17 Health Centre
Inauguration 23-Dec-68
Baeung Khtum

18 Health Centre
Andoeuk Hep

19 Health Centre & Sala Srok
Inauguration May-63
Phnom Srok

20 Health Centre & Sala Srok
Inauguration May-63
Poipet

21 Health Centre Chhoeu Meanchey
Inauguration 19-Aug-65
Roung

22 Health Centre of the Red Cross
Inauguration Dec-68

23 Health Centre Preah Kossomak
Inauguration 5-May-67
Pailin

24 Hospital
Inauguration 4-Mar-68
Andoeuk Hep

25 Hospital (Monks)
Built 1959?

26 Hospital (new buildings)
Inauguration 11-Dec-69

27 Hospital building
Inauguration May-60

28 Hospital Preah Kossomak
Inauguration 16-Jul-62

29 Hotel Samakki
Built 1964
Architect: Sieng Sang Em (with two associates)

30 Housing for sugar refinery
Kompong Kaul





31 Ice factory Seng Thai (now Pepsi Cola factory)
1960s

32 Irrigation barrage
Inauguration 2-Nov-68
Bavel





33 Jute mill (Usine de tissage du jute)
SRN Preah Puth Sasana
Inauguration 30-Oct-68
Daun Teav
Architect: Vann Molyvann funding in joint French venture



34 Wat Slaket 1966-1972
Architect: Tan Veut - Architect & builder

**** Some numbers are not allocated, due to later correction for duplication***



35 Monument (Dambong Kraneung)
Battambang





36 Motel
Engineer/Architect: Ung Krapum Phka

37 Museum (Musée au monastère Pothiveal)
Inauguration 18-Aug-65
Wat Pothiveal

38 Museum (Musée Sangkum Reastr Niyum, Battambang Provincial Museum)
Inauguration 29-Oct-68
Architect: Yieng, Public Works Dept

39 Post office & telephone exchange
1960s
Architects: Sieng Sang Em with Mr Hababou

40 Primary school
Inauguration 2-May-67
Kompong Preah

41 Primary school extension
Nov 1966

42 Primary School for girls Sohoeun
Inauguration 11-Dec-69



42a Public Works Dept



43 Railway station

44 Road (19km)
Inauguration Dec-68

45

46 Sala Srok
Inauguration May-63
Praneth Preah

47 School
Sep-64
Haisan

48 School Eap Poy Ky
Inauguration Dec-68

49 School (Makak)
Inauguration May-63
Sisophon

50 Secondary school (Collège Bhavavarman 1er)
Inauguration May-65
Mongkolborey

51 Secondary school (Collège Bhavavarman 1er) additional building
Inauguration 7-Mar-68
Mongkolborey



52 Secondary school (Collège Neth Yang)
Inauguration Jun-65

53 Secondary school (Collège Preah Beida Ekareach Cheat)
Inauguration May-63
Maung Russei

54 Secondary school (Collège Samdech Euv)
Inauguration May-63
Sisophon



55 Secondary school (Lycée Bouddhique Ung Thuong de Battambang)
Inauguration 10-May-63
Wat Pothiveal





56 Secondary school (Lycée Bouddhique de Battambang) additional buildings
Inauguration 2-May-67
Wat Pothiveal



57 Secondary school (Lycée Eap Khut) additional buildings
Inauguration 31-Oct-61

58 Public park (place Chivapol)
1960s

59 Secondary school (Lycée Preah Bat Monivong) - extension
Inauguration Oct-66



60 Wat Sdei
Mural signed & dated 1951
Architect: Tan Veut - also builder & painter of murals

61 Secondary school Sangkum Reastr Niyum
Inauguration Dec-68
Thmor Puok

62 Seima Intakel Wat Ratanak Sophon
Inauguration May-68Pailin Battambang



63 Sports Centre (Au Cercle Sportif de Battambang)
Inauguration May-65
Krong Battambang
Architects: Leroy & Mondet, Lu Ban Hap designed the swimming pool





64 Sports ground
1960s

65 State Residence
1960s in the grounds of the provincial res.
Architect: Vann Molyvann

66 Sugar Refinery (Complexe Agro-Industriel 'Samakki')
Inauguration 10-Dec-69
Kompong Kaul

67 Technical school (Khmer-German)
Inauguration Dec-68

68 Textile Factory (Usine Sangkum Niyum Preah Puth Sasna)
Inauguration 3-May-67





69 University (Université Royale de Battambang)
Inauguration 31-Oct-68
Architect: Ung Krapum Phka Engineer

70 Urban extension - Quartier Vert du SRN Battambang

71 Urban extension - East of Sangker River (University & Airport)

72 Veterinary Department building
Inauguration 1-Feb-61
Poipet Battambang

73 Wat (Preah Vihear at Kossomak Hospital)
Inauguration Jul-62

74 Water reservoir
Inauguration Jul-60
Preah Sre





75 Youth Centre for Young Socialists
Inauguration 3-3-?
Architect: Mr Yieng, Public Works Department

76 Children's park

77 Railway station
Poipet
1957

78 Dam
Inauguration 15 October 1969

79 Community Centres
5 Mar 1966
Andoeuk Hep

80 Primary School Wat Keo

81 Primary School
Maung

82 Health Centre
Maung

83 Church
Mongkol Borei
Father Ahadobery's construction

84 Public Park
Place Chivapol

Bokor

1 Access road
Jan-61

2 Army Hostel (Centre de repos des militaires)
1961-1966

3 Bokor City (Reconstruction Cité du Bokor)
7-Jan-62
Architect: Norodom Sihanouk

4 Bokor Palace Hotel Annex



5 Bokor Palace Hotel & Casino
originally built in 1925 renovated 1962

6 Health Centre

7

8 Hospital SM Monivong - rehabilitation
originally built as the residence of King Sisowath Monivong

9 State Chalet (faced with wood) including guest house
SRN Photo Album 1995 6.292

10 Motel
Popokvil

11 Municipality & Sangkum People's Hotel

12 People's Restaurant

13 Primary School Chuan Dambaung
Popokvil

14 Royal Inn (Auberge Royale ex residence of Norodom Sihanouk)

15 Police (Municipal)

16 Cadastral office

17 Water reservoir

18 Water tower

19 Electrical Power Plant

20 Information Hall

21 Catholic church

22 "Five Boats" Wat
built in 1924 renovated by order of Queen Kossomak 1962

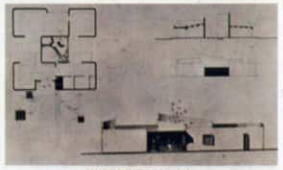
23 Post & Telecommunications

24 Preah Sihanouk Agricultural Station

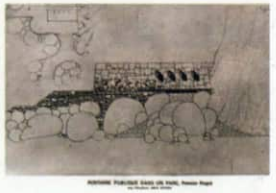
Cambodian Students' Works & General

1 RUFA Faculty of Architecture & Town Planning projects
Jul-71
drawing Prasat Neang Khmau

2 RUFA Faculty of Architecture & Town Planning projects
Jul-71
kiosk



3 RUFA Faculty of Architecture & Town Planning projects
Jul-71,
Art Museum
Architect: Nginn Mokhonn



4 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Fountain
Architect: Mea Outey

5 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Tourist OfficeCambodia
Architect: Sok Samuth

6 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Water landscape
Architect: Tim Varavudh

7 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Hotel
Architect: Oum Sokan

8 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Swimming complex
Architect: Ung Chau Nam

9 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Student residence
Architect: Ros Borath

10 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Pleasure park, Cambodia
Architect: Sieu Eng Keat

11 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Pursat leisure centre
Architect: Chou Leang

12 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Collective hous ing
Architects Chek Mau, Or Kim Song, Thong Ly Chheng, Keam Theth

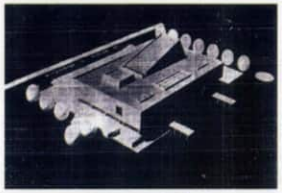
13 RUFA Faculty of Architecture & Town Planning projects
Jul-71Bus station
Architect: Nhem Sophan

14 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Bus station
Architect: Chou Leang



15 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Housing development, Cambodia
Architects Ven Sambok, Huor Long, Pring Key, Leng Samroth



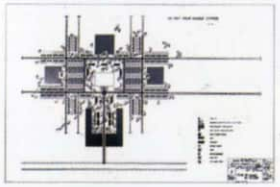


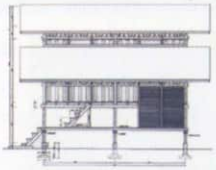


16 RUFA Faculty of Architecture & Town Planning projects
Oct-Nov 71
Diploma project for Royal University of Fine Arts
Architects Ros Borath, Ung Chau Nam, Chou Leang, Sieu Eng Keat



17 RUFA Faculty of Architecture & Town Planning projects
Jul-71
Drawing of giant
Architects: Boum Silong under Professor Guy Nafilyan





18 Rural Village Prototype, Department of Urbanism & Habitat
Mar-72
Study for Ministry of Habitat & Public Works
Architects: Um Samuth Architect, Oung Sadam, Architect, Ty Yao, Architect, Chou Leang, Architect, Tan Thanh, Engineer, Kry Beng Hong, Engineer, Guy Lemarchands, International Expert

19 Wooden Pagodas - inventory & conservation proposal
1970s
Architect: Oung Sadam

20 Boeung Chipun development project by RUFA 4th year students
1971
Urban projectCambodia
Architects: Chek Mau, Or Kim Song, Thong Ly Chheng, Keam Thet, Pring Key, Ven Sambok, Hour Long, Leng Samroth, Narem Heng, Mea Outey, Hor Lat

21 10 years of Sangkum Exhibition
1964
Architect: Vann Molyvann

22 Exhibition SRN (industrial, reusing East German building)
1967
Architects Vann Molyvann & Ung Krapum Phkar

International

1 Embassy of Cambodia in Bangkok
Interior Designer: Roger Colne

2 Embassy of Cambodia, Ho Chi Minh Ville, Vietnam
Architect: Vann Molyvann

3 Exhibition about architecture & culture in Geneva, Switzerland
Architect: Lu Ban Hap

4 Exhibition for International Fair at Osaka, Japan - Cambodian Pavilion
1970
Architects: Institute of General Arts & Urban Science Co Ltd

5 Exhibition for manufactured goods in Brno, Czechoslovakia
1965
Architect: Lu Ban Hap

6 Exhibition: Zagreb, Yugoslavia
1961
Architect: Vann Molyvann

7 Exhibitions: Japan, Yugoslavia, Czechoslovakia, France, UK, etc.
1960s
Architect: Vann Molyvann

8 Flower study competition prize-winner Rougevin competition, ENSBA
1954
Designer: Vann Molyvann

9 House for Cambodian Ambassador, Prague
Interior design: Roger Colne

10 Slum improvement consultation for the United Nations
1970s
Architect & UN Expert: Vann Molyvann

11 State Villa, Mougins near Grasse, France
Architect: Vann Molyvann

12 International Trade Fair, Osaka, Japan
1955
Architect: Vann Molyvann

Kampot

1 Brick Factory of Phnom Sar & Bokor 1961

2 Buildings
Dec-63
Prey Nop

3 Buildings for Sangkum
Oct-63







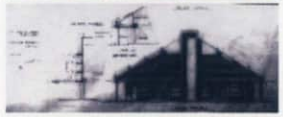
4 Cement works (Cimenterie de Chakrey-Ting) Sté Nationale de Ciment
9-Sep-64
Chakrey Ting

5 Cooperative
Mar-62
Prey Nop

6 Dam
Apr-63
Kamchay

7 Earth-works for railway line to Phnom Penh
Oct-62







8 Exhibition hall & bar
1960s
Architect: Roger Colne, intact but not used

9 Health Centre
Sep-59
Wat Ang Chak

10 Health Centre Sangkum Reastr Niyum
Tuk Meas

11 Hospital
21-Apr-67
Kompong Trach

12 Hotel Auberge aux Lacs
1960s
Kamchay
Architect: Roger Colne, not built

13 Information hall for Sangkum
Architect: Roger Colne

14 Phosphate works (Usine de Tuk Meas SOKPHOS) Sté Khmère des Phosphates
27-Jul-65
Tuk Meas

15 Police National HQ
Nov-65

16 Primary school
19-Jan-61
Trapeang Thkau

17 Primary school
Jan-62
Chhouk



18 Queen Kossomak's wooden rest house
1960s

19 Railway line to Kampot
10-Mar-67

20 Railway station
1966
Veal Renh



21 Railway station
Apr-67
Tram Sasar



22 Railway station
11-May-67
Architect: Ung Krapum Phka, structure calculated by Michel Marec Engineer

23 Railway station
12-May-67
Tuk Meas

24 Railway Station model

25 Railway works
Jul-66
Chakrey Ting

26 Railway works
Jul-67
Prey Nop
Engineer: Ho Kim Han

27 School
Sep-59
Wat Ang Chak

28 School & Information Centre
Jan-62
Tuk Meas

29 Secondary school
Jan-62
Tani

30 Secondary school
Feb-65
Chhouk

31 Secondary school (Collège de Tuk Meas)
27-Nov-65
Tuk Meas

32 Secondary school (Collège de Veal Renh)
25-Nov-65
Veal Renh

33 Secondary school (Collège Sangkum Reastr Niyum)
Dec-63
Veal Renh

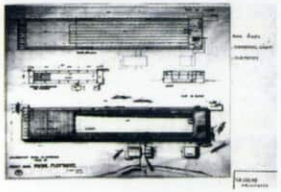
34 Secondary school (Lycée Preah Reach Samphea)
Jan-62

35 Secondary school (Lycée Preah Suramarit)
26-Nov-65
Tani

36 Secondary school Extension (Lycée Preah Reach Samphea)
24-Nov-65

37 Secondary School new buildings
30-Jul-68
Kompong Trak

38 Seima Wat
Apr-65
Sovann Sakor



39 Swimming Pool - floating
1960s
Architect: Roger Colne, not built







40 University (Université Royale de Takeo-Kampot)
Veal Renh
Architect: Lu Ban Hap

41 University Foundation stone
Jan-65
Kampot

42 Unidentified building
1966
Veal Renh



43 Sports stadium
1957

44 Health Centre
Veal Renh

45 Housing - low-cost
Veal Renh

46 Railway station
6-Sep-66
Tani

Kandal

1 Bridges (10 & other works)
Aug-67



2 Ceramic factory Société Nationale de Construction
Takhmau

3 Irrigation works
Angsnuol
Nov-69

4 Road from Koki to Saang
16-Sep-69

5 Communal Development Centre
Feb-62
Phnom Reach Treap

6 Sala Dambaung Court
16-Sep-59
Takhmau

7 Cooperatives (3)
Aug-67

8 Dam
Feb-59
Beng Thben

9 Dam
Jan-60
Pothivong

10 Dams (2)
Aug-67



11 Exhibition hall
Takhmau
Architect: Lu Ban Hap

12

13 Health Centre
Feb-60
Takhmau

14 Health Centre
May-62
Koh Thom

15 Health Centre
Jan-65
Stung Kandal

16 Health Centre
14-Mar-67
Kompong Luong

17 Health Centre
19-Mar-69
Koki

18 Hospital - Psychiatric Sonn Mam
Takhmau

19 Hostel & education centre for orphans
Setbo Kandal

20 Housing - low cost
Takhmau
Architect: Lu Ban Hap

21

22

23 Market
Feb-62
Takhmau

24 Monument in lake or reservoir
Takhmau

25 Monument of Vishnu
1959
Takhmau
Pedagogical Preparation Centre
Kompong Kantuot







26



27 Plywood factory (Usine de contreplaqués/Sihanouk-Chou En Lai Sté Nationale de Contreplaqués)
10-May-61
Dey Eth

28 Stadium
20-Feb-62
Takhmau

29 Primary Complimentary School
Jul-60
Koki

30 Primary Complimentary School
21-Mar-66
Chak Angres Krom

31 Prototype village
3-May-61
Anlong Romiet
Architect: Vann Molyvann - Totally destroyed but site identified

32 Public Park (Jardin d'enfants Preah Kantha Bopha)
1959
Takhmau

33 Public park with naga sculpture
1959
Tonle Bassac
Takhmau
Architect: Lu Ban Hap

34

35 Railway station (first on line Phnom Penh-Sihanoukville)
2-Jan-66
Prateus Lang

36 Sala Khet (Town Hall)
1964/65
Takhmau
Architect: Lu Ban Hap

37 School
Feb-62
Angsnoul

38 School buildings (32)
Aug-67

39 School buildings (Wat Ekkaram)
Sep-59

40 School buildings (Wat Kdei Kandal)
Sep-59

41 Secondary school
Jun-62
Rokkakong

42 Secondary school
Apr-63
Takhmau

43 Secondary school (Wat Champou Voan)
12-Oct-64

44

45

46 Secondary school - extra buildings
Mar-60
Dey Eth

47 Secondary school (Collège de Bèk Chan)
7-Mar-66
Bek Chan

48 Secondary school (Collège de Kompong Kantuot)
28-Feb-66
Kompong Kantuot

49 Secondary school (Collège de Tep Pranam)
23-Feb-62
Tep Pranam

50 Secondary school (Lycée Reastr Niyum Preah Sihanouk)
1966
Takhmau

51 Secondary school (Preah Tameak)
8-Feb-65
Kandal

52 Secondary school (Raksmei Sangkum)
8-Mar-65

53 Secondary school (Samei Sangkum)
28-Feb-66
Kompong Kantuot

54 Secondary school extension (Collège de Toeuk Khleang)
8-Aug-67
Tuk Khleang

55 Seima Wat Preah Vihear Niroth Reangsei
21-Mar-68

56 Seima Wat Sambor Meas
28-Mar-66





57 Tyre Factory Société Khmère des Pneumatiques
12-Dec-66
Takhmau

58 University - Royal University of Agricultural Science
1950s
Prek Leap

59 Urban plan
1970s
Oudong
Architect: Oung Sadam

Kep

1 Administrative centre
1950s
Architect: Roger Colne



2 Casino
Now used as a market

3 National Police HQ (Commissariat de la securité nationale)
28-Nov-65

4 Wooden houses
Koh Tonsay

5 Government villa
Architect: Roger Colne, not built

6 Magasin populaire
28-Nov-65

7 Market
1958
Architect: Roger Colne, not built



8 Motels SOKHA Kep
25-May-63
Architect: Roger Colne

9 Power Station
May-63

10 Queen Kossomak's Residence
1950-60s





11 Railway station including restaurants waiting rooms etc.
8-Feb-68
Damnak Changeour





12 Restaurant/café "Bar Rotunda"
Jan 1960
Architect: Roger Colne

13 Royal Inn

14 Royal Youth Hostel

15 School
Jan-62
Damnak Changoeur

16 Secondary school
May-63









17 State Residence
Architects: Leroy & Mondet, or M. Mondet?

18 Health Centre
1960s



19 Villa for Nhiem family
1950-60s

20 Villa for Sam Sary
Architect: Henri Chatel

21 Villa for Sinn Sisamouth
1950-60s

22 Villa for Sirik Matak
Architect: Henri Chatel

23 Villas - four
Architect: Lu Ban Hap

24 Hostel & education centre for orphans
Koh Tonsay

25 Church – Benedictine?

26 Wooden houses - (8)

27 Public works building

28 Primary school
Damnak Changeour

29 School inspection building

Koh Kong

1 Buildings
Feb-63
Khemarak Phouminville

2 Complimentary school
9-Dec-65
Ksach Kraham

3 Exhibition hall for Sangkum





4 Fish-processing factory Sté Nationale des Conserveries de Poisson SONACOP

5 Health Centre
29-Mar-61
Koh Por Krom

6 Health Centre
11-Dec-65
Thmor Baing

7 Health Centre
13-Mar-68
Khemarak Phouminville

8 Health Centre
15-Mar-68
Sakor

9 Health Centre
Sela Meanchey

10 Health Centre Sisowath Tackavith
26-Mar-67
Tuol Kruos

11 Hospital
27-Feb-63
Khemarak Phouminville

12 Hospital Operation Block
Mar-68
Khemarak Phouminville

13 HQ of SRN
Feb-63
Khemarak Phouminville

14 Infirmery Prey Praseth
Kompong Sela

15 Khemarak Phouminville urban plan
9-Feb-60
Khemarak Phouminville

16 OROC School, Infirmary, Sales Counter
Apr-66

17 Primary school
Feb-63
Khemarak Phouminville

18 Primary school
8-Dec-65
Anteat

19 Primary school
14-Mar-68
Seila Meanchey

20 Primary school
15-Mar-68
Chiphat

21 Primary school
17-Mar-68
Andaung Tak

22 Road from Sre Ambel to Khemarak
May-62
Khemarak Phouminville

23 Sala Khet
28-Mar-61
Khemarak Phouminville

24 School & Health Centre
Mar-66
Khemarak Phouminville

25 School & Health Centre
Mar-66
Russei Chum

26 School classrooms
Feb-63
Khemarak Phouminville

27 School, Health Centre & Sala Srok
Mar-68

28 Secondary school
Feb-63
Khemarak Phouminville

29 Secondary school (Collège de Khemarak Phouminville)
10-Dec-65
Khemarak Phouminville

30 Stadium
Feb-63
Khemarak Phouminville

31 State Residence
Kompong Sela

32 State Residence
Khemarak Phouminville

33 Tourist Resort
Kompong Sela

34 Wat
1965
Kompong Phoeun

35 Airport
Khemarak Pouminville

Kompong Cham

1 Monument



2 Bridge - concrete - built by inhabitants
Sep-61
Kang Meas

3 Centre d'élevage de la fratérnite khméro-japonaise
11-Aug-65
Tuol Preah Vihear

4 Community Niyum Preah Sihanouk
Oct-68



5 Cotton-spinning mill Ampil (Usine textile de Kompong Cham)
Textile Factory Sonatex Société Nationale de Textile
7-May-60
Kompong Siem

6 Exhibition hall for Sangkum





7 Gymnasium
Aug-59

8 Health Centre
Jun-65
Chup

9 Health Centre
Jun-65
Skoun

10 Health Centre
30-May-68
Choeung Chhnok

11 Health Centre
Prek Po

12 Health Centre Colonel Meas Houl

13 Health Centre for Leprosy treatment
Treng

14 Health Centre Preah Sihanouk
10-Apr-67
Prey Totung

15 Health Centre Preah Sihanouk Varman
May-67
Choeung Prey

16 Hospital Preah Suramarit - new buildings & operating theatre
Jun-62

17 Hotel Auberge Royale SOKAR
Architect: Roger Colne

18 Irrigation works
11-Mar-69
Choeung Prey



19 Library
May-60

20 Road Prey Totung-Peam Chikang
13-Oct-69

21 Rubber Plantation Plant
Chup

22 Rubber Research Institute - Institut de Recherches sur le caoutchouc
Chup

23 Sangkum HQ

24 School & Health Centre
Sep-64





25 Secondary school
1942

26 Secondary school
Aug-59
Choeung Chnok

27 Sports Centre (Cercle sportif)

28 Secondary school Angkor (buildings)
17-Mar-65

29 Secondary school

30 Secondary school (Collège de Peam Chikang)
23-Aug-67
Peam Chikang

31 Secondary school (Collège Srey Sar Chhor)
22-Aug-67
Prek Po

32 Secondary School (Collège)
Prek Kak

33 Secondary school (Collège)
29-Aug-67
Speu

34 Secondary school (Collège)
26-Sep-67
Stung Trang



35 Secondary school (Collège Preah Kantha Bopha)
Prey Totung

36 Secondary school (Lycée Preah Sihanouk Varman)
5-Sep-67
Svay Khleang

37 Secondary school (Lycée Preah Sihanouk)
Aug-59



38 Secondary school (Lycée)
Sep-67
Krouch Chhmar

39 Secondary school (Lycée)
Oct-68
Suong

40 Secondary school (Lycée) - 7th building
Oct-68
Tuol Svay Chum



41 Sports Centre with swimming pool
27-Jul-65
University grounds



42 Sports Stadium (Stade Narindrapong)01-May-60

43 Stadium
9-Mar-69

44 State Residence
1961/1966
Architect: Vann Molyvann

45 Swimming Pool - floating
1960s
Architect: Roger Colne not built



46 Theatre
(Le Théâtre Preah Sihamoni)
20-Jul-68

47



48 University (Université Royale de Kompong Cham)
4-Oct-65
Architect: Lu Ban Hap

49 Urban plan

50 Youth Hostel for JSRK (Foundation stone)
Aug-59

51 Dam
20-Jun-62
Tak Chha

52 Children's park
1960s

53 Electricity sub-station
1960s

54 House
1969 (date on facade)

55 House (now the dept of fisheries)
1960s



56 Stupa with modern sculpture
1960s
Wat Dei Dos

57 Primary School
1960s
Jihei

58

59 Primary school Sangkum Reastr Niyum
Authong Sar

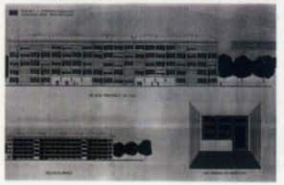
60 Wat Dei Dos Entrance Gate
1957 (2,500 years of Buddha's birth)
Wat Dei Dos

61 Primary School
Sdau

62 Airport

63 Community Development Centre Niyum Sangkum Meanchey
14-Oct-68
Kor

Kompong Chhnang



1 Apartment building for Military staff
Architect: Henri Chatel (built?)

2 Buildings for Sangkum
Jan-62
Romeas

3 Exhibition for Sangkum
Apr-63









4 Hangars & administrative building for Ministry of Defence
Lovek
Architect: Henri Chatel

5 Health Centre
21-Jun-65
Knor Dambang

6 Health Centre
30-Mar-68
Anchanh Roung

7 Health Centre at Coop HQ
Jan-66

8 Hospital (4th building)
29-Mar-68



9 Housing for military staff
Romeas
Architect: Henri Chatel

10 Irrigation works
16-Dec-69
Chrey Bak

11 Market
Feb-62
Ponley

12 Maternity Clinic Preah Kossomak
May-63

13 Monument of Independence

14 Primary school
Feb-62
Banteay Lovek

15 Primary school
Apr-63
Rolea Phiear

16 Primary school
Apr-63
Wat Kruos

17 Primary School
Baribau
Primary school (Sala Lek Pram)
Apr-63

18



19 Public Park on the Tonle Sap

20 School buildings (Angkor College)
Mar-65

21 Secondary school
Jan-66
Banteay Chey

22 Secondary school - extra buildings
Jan-60

23 Secondary school (Collège de Boribor)
6-Jan-66
Boribar

24 Secondary school (Collège de Kompong Boeung)
31-Mar-68
Kompong Boeung

25 Secondary school (Collège)
Mar-68
Kompong Leng

26 Secondary school (Lycée Preah Suramarit)
Jan-62
Banteay Chey

27 Secondary school (Lycée Preah Suramarit) additional buildings
5-Jan-66
Banteay Chey

28 Seima Wat Preah Tvear
May-67
Rolea Phiear

29 Stadium
Apr-63

30 Wards for monks
Apr-63

31 Health Centre
Prey Khmer

32 Housing - model
Ponley

33 Information centre

34 Secondary school (College de Ponley)

35 Youth Hostel JSRK

Kompong Speu

1 Building inauguration
Jun-60

2 Buildings
Jul-67

3 Dam & irrigation network
Feb-62
Kraing Ampil

4 Exhibition hall
Jul-67

5 Health Centre
Feb-62
Theam Taar

6 Health Centre
May-67
Prampey Mom

7 Health Centre
May-67
Thpong

8 Health Centre
7-May-67
Roleang Thloeung

9 Health Centre
17-May-67
Taing Khmau

10 Health Centre
Oudong

11 Hospital

12 Housing for the poor (5)
Voar Sar

13 Irrigation barrage & hydro-electric plant
Feb-63
Prek Thnout

14 Irrigation barrage

15 Irrigation works
Chan Tasen

16 Maternity clinic
Aug-63

17 Monument with lion & planet earth

18 Museum (provincial)
Jul-67

19 Primary school
17-May-67
Taing Khmau

20 Railway station
9 Jan-66
Prey Totung

21 School
Feb-62
Ang Metrei

22 School & Infirmery
Jul-67

23 Secondary school (College Oudong)
20-Sep-63

24 Secondary school
Apr-65
Kong Pisei

25 Secondary school (Collège Preah Harirak Rama)
27-Aug-68
Ang Metrei

26 Secondary school (Collège Samdech Euv Preatean)
26-Aug-68
Thnal Rokar

27Secondary school (Lycée Preah Amnoy Samdech Euv)

28 Secondary school (Lycée Santepheap)
Jul-67

29 Seima
Feb-68
Wat Angkor Chum



30 State Sugar Refinery (Usine de raffinage du sucre)
27-Jun-66
Kompong Tram

31 Wat Prang
Feb-63
Oudong

32 Wat Samakki Aram (Preah Vihear)
Feb-65

33 Wat School built by inhabitants
Sep-61
Wat Ang Metrei

34 State Residence
1960
Pich Nil Pass

35 Model village on route 4
1969
Prei Praseth

36 Health Centre
Rokokoh

Kompong Thom

1 Buildings
Feb-62

2 Buildings
Aug-64

3 Buildings
Aug-67

4 Canal works
Aug-67



5 Church for French Mission
1965
Kalmek
Architect: Father Venet

5a Church for French Mission
Kompong Kor

6 Clinic
Jan-65
Staung

7 Community Centre
23-May-67
Krava

8 Community Centre
Aug-68
Bak Suan

9 Cooperative
Aug-67

10 Exhibition hall
Aug-67

11 Health Centre
May-67
Baray

12 Health Centre Samdech Euv Pratean
Bak Sna

13 Health Centres - 2
Aug-67

14 Hospital Neak Moneang Monique Sihanouk
20-Aug-68
Baray

15 Hospital Operation Block
Aug-67

16 Irrigation canal
18-Aug-68
Baray

17 Irrigation works
Staung





18 Museum (provincial) Musee Provincial de Kompong Thom
Aug-67

19 OROC enquiry & sales
Jan-63

20 Primary school
21-Aug-68
Bak Snar



21 Public Park

22 Road
Aug-67

23 Sangkum HQ

24 Saw-mill
Balaing

25 School buildings (5)
Aug-67

26 Secondary school
Feb-62
Staung

27 Secondary school
Feb-62
Taing Kok

28 Secondary school
Oct-64
Kompong Thmor

29 Secondary school
Oct-64

30 Secondary school
Aug-67

31 Stadium
Feb-62

32 House for a professor

33 Wat Preah Vihear
5-Jan-65

34 Wat Preah Vihear
21-Jul-66
Wat Peam Metrei

35 Electricity Generating plant
1960s

36 Dam
18-Oct-69
Banteay Chas

Kratie

1 Bridge
Apr-68
Prek Chhlong

2 Buildings
Mar-63

3 Buildings
Apr-68

4 Complimentary school
24-Mar-66
Prek Prasap

5 Dam
Mar-66
Tranuol Chhnang

6 Health Centre
Mar-62
Snuol

7 Health Centre
18-Jul-68
Kantuot

8 Health Centre
Kompong Damrei

9 Health Centre
Svay Chreah

10 Hospital Buppha Devi
23-Apr-68
Chhlong

11 Irrigation barrage
7-Apr-61
Sambor

12 Irrigation barrage
23-Mar-66
Tuol Chhnang

13 Market
1-Sep-61
Snuol

14 MEDICO pavilion
5-Apr-61

15 Model school
1-Apr-61

16 Museum & Library: (Musée et Bibliothèque de Kratie)
16-Jul-68





17 Paper mill (Usine à papier de Chhlong)
Khmero-Chinese Friendship factory - Sté Nationale de Papier
23 Mar-62
Chhlong

18 Pepper plantation
5-Apr-61

19 Forestry road
26-Sep-63
Kompong Raing

20 Primary school
17-Jul-68
Koh Chreng

21 Primary School
Thmor Kre

22 Sala Khum
7-Apr-61
Snuol

23 Sala Srok & playground
Mar-63
Snuol

24 Sangkum Headquarters
Mar-63

25

26 Secondary school
6-Jun-67

27 Secondary school
7-Jun-68
Snuol

28 Secondary school (Collège Preah Kossomak)
19-Jul-68

29 Secondary school (Collège Preah Ang Mechar Khsatrey Monikesar)
25-Mar-66
Chhlong

30 Secondary School (Lycée Preah Moha Ksattriyani)
5-Apr-61

31 Secondary School (Lycée)
Snuol

32 Secondary School (Lycée)

33 Village (new)
7-Apr-61
Snuol

34 Youth hostel for JSRK
20-Mar-62

35 Primary School
24-Mar-66
Prek Prasap



36 Housing for civil servants

Mondulkiri

1 Exhibition
Jan-65
Sen Monorom



2 Health Centre
Apr-61
O Raing



3 Health Centre
Sen Monorom

4 Health Centre (foundation stone)
7-Dec-68
Bu Sra

5 Primary school
Jan-65
O Raing

6 Secondary school (Collège Sangkum Reastr Niyum)
4-Dec-68
Sen Monorom



7 State Residence
Architect: Lieutenant Ach Tham Sam

8 Traditional Khmer Leu house
O Raing

9 Village (model) Khmer Loeu
Jan-65
Sen Monorom

10 Agricultural development centre
6-Dec-68
Kok Nhek

11 Cooperative shop
Chhlong Loeu

Oddar Meanchey

1 Bridges
Jun-68

2 Dam
Jun-68

3 Health Centre
28-Jun-68
Chongkal

4 Health Centre
12-Dec-69
Samlot

5 Hospital (provincial)
25-Jun-68
Samrong

6 Irrigation barrage
Chongkal

7 Primary school
27-Jun-68
Samrong

8 Complimentary school - extension
Jun-68
Khtum

9 School
Jun-68

Phnom Penh

1 Air Force HQ (cinema, offices & housing)
1960s
Pochentong



2 Airport Control tower
19-Jan-59
Pochentong
Architect: Pierre Dufau

3 Airport Passenger Terminal
19-Jan-59
Pochentong
Architect: Pierre Dufau

4 Distance marker (sculpture) 12km to Phnom Penh Centre
1960s
Pochentong

5 Airport: VIP Pavilion
1966
Pochentong
Architect: Guy Lemarchands

6 American Cultural Centre
1960s
Architect: Roger Colne



7 Apartment building
St 84
Architect: Jamshed Petigura

8 Apartment building
St 388

9 Apartment building for army officers
Architect: Henri Chatel

10 Apartment building (12 dwellings)
1958
Architect: Vann Molyvann

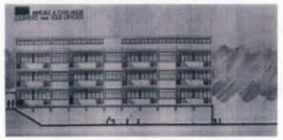
11 Apartment building (24 apartments)
1962
Architect: Vann Molyvann





12 Apartment building (Caserne Beylier)
30-Dec-57
Rue de France
Architect: Henri Chatel

12a Apartment buildings (now Embassy Place)
Bd Norodom
Architect: Henri Chatel





13 Apartment buildings for Military staff
Chak Angre
Architect: Henri Chatel

14 Apartment building for Seng Thai
St 109

15 Apartment building with 120 dwellings for military personnel
1957/58
Chamkar Chem
Architect: Henri Chatel

16 Apartment buildings
1963
Bd Sothearos
Architect: Lu Ban Hap

17 Apartment buildings for Asian games (164 apartments)
1963
Bassac
Architect: Vann Molyvann



18 Apartment buildings for National Bank of Cambodia
1963?
Bassac
Architect: Henri Chatel design (built by Jamshed Petigura)

19 Banque Nationale du Commerce International
1954
Bd Norodom
Architect: Henri Chatel

20 Bar Restaurant Dance Hall
Pochentong

21 Boulevard Charles de Gaulle
5-Jun-65

22 Boulevard de la République Populaire de Pologne
22-Aug-65



23 Boulevard de la République Socialiste Fédérative Yougoslavie
17-Jul-65

24 Boulevard de l'Independence garden design
Architect: Lu Ban Hap with Urban Department



25 Boulevard Jawaharlal Nehru
10-May-65

26 Boulevard Mao Tsé Toung
30-Aug-65

27 Boulevard Maréchal Josip Broz Tito
17-Jul-65

28 Boulevard Monivong

29 Boulevard Republique Socialiste Tchécoslovaque
23-Aug-65

30 Boulevard USSR
23-Apr-65

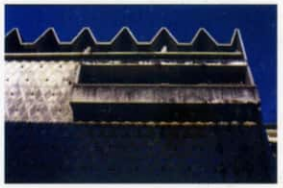
31 Bridge Preah Sisowath Monivong (Pont Preah Sisowath Monivong)
17-Nov-66
Route 1

32 Bridge Sangkum Reastr Niyum (Pont Chruoy Changvar)
15-Mar-67
Route 6A

33 Building for 2,500 years celebration of Buddha's birth, next to Faculty of Medicine
1957
Architect: unknown, Vann Molyvann?

34 Cambodia Beverage Co

35 Cambodian Red Cross
26-Jun-62
St Croix Rouge





36 Capitol Cinema renovation (after fire)
1967
St 19
Architect: Vann Molyvann

37 Casino
1969
Chaktomuk

38 Cathedral of Phnom Penh (destroyed)
1952-1955
Bd Monivong
Architect: Maurice Masson with Henri Chatel as site controller

39 Centre d'Hébergement Preah Sihanouk
20-Jan-69
Bd Norodom

40 Centre National d'Assurance du Cambodge
1959
Bd Monivong
Architect: Henri Chatel

41 Centre Preah Sihanouk de Protection de l'Enfance
9-Dec-61
Kambol



41a Chemical & battery factory (SOCMEQ)
Ste Camb des Materiels Electriques et Quincailleries)
Chak Angre

42 Chiptong Factory
Tuol Kok
Architect: Vann Molyvann

43 Cinema Angkor
1967
Bd Charles de Gaulle

44 Cinema Apsara
1973
St 93/Bd Sihanouk

45 Cinema Bokor
1967
St 95

46 Cinema Capitol
1955
St 19/148

47 Cinema Chhbar Ampoeu
1961
Chhbar Ampoeu

48 Cinema Eden
Phnom Penh
Architect: Roger Colne

49 Cinema Haema Cheat
1967
St 130

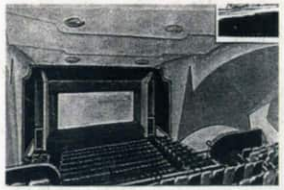




50 Cinema Khemara (demolished)
St 217
Architect: Henri Chatel & / or Roger Colne

51

52 Cinema Le Casino
Architect: Henri Chatel





53 Cinema Lux
Bd Norodom
Architect: Roger Colne



54 Cinema Majestic
Architect: Roger Colne

55 Cinema Mekong
1963
St 328

56

57

58 Cinema Phnom Pich
Architect: Roger Colne

59

60 Cinema Sar Proum Meas
1968
Bd Charles de Gaulle

61 Cinema Soriya
1959
Tuk Khleang

62

63 Cité (100 Bd Norodom)
1955-65
St 41/264
Architect: Jamshed Petigura

64 House for Dr Roth Kut
1960s
Tuol Kok

65 Compagnie Frigorifique Glaciaire
Pochentong
1960s
Pochentong

66 Comptoirs Généraux
1960s
Architect: Roger Colne



66a Comin Khmère Co Ltd (now Ministry of Health)
1970?
Bd Kampuchea Krom
Architect: Uk Someth



67 Conference Hall Chaktomuk (La Salle de Conférence Chaktomuk)
12-Nov-61
Bd Sothearos
Architect: Vann Molyvann,



68 Council of Ministers
1963
Bd USSR
Architect: Vann Molyvann

68a Council of Ministers annexe
1963?
Bd USSR
Architect: Henri Chatel?

69

70 Dispensary Ang Duong
Jan-69
Bd Norodom
Architect: Lu Ban Hap



71 Dispensary Be Yean
Apr-63
Pochentong

72 Dispensary Meas Saem
Architect: Lu Ban Hap





73 Dispensary Suramarit
Tuol Tompong
May-63

74

75 Dyke
Feb-59
Tuol Kok

76 Embassy - Chinese
1960?
Bd Mao Tsé Toung
Architect: Chinese



77 Embassy - French
1957/58
Bd Monivong
Architect: Pierre Dufau, supervised by Henri Chatel

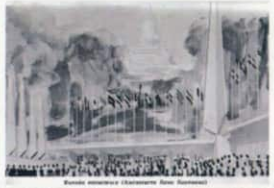
78 Embassy - French - competition
1957
Bd Monivong
Architect: Henri Chatel

79 Embassy - French - competition
Bd Monivong
Architect: Roger Colne

80 Embassy - French - interior design of theatre
Bd Monivong
Architect: Roger Colne

81 Embassy - Vietnamese
1960s
Bd Sihanouk
Architect: Mam Sophana

82 Exhibition
Nov-64
Phnom Penh





83 Exhibition - International - France, Vietnam & Thailand pavilions
1955
Architect: Seng Suntheng (for main plan & 4 pavilions)

83a Exhibition - International - France, Vietnam & Thailand pavilions
1955
Architect: Roger Colne (for several pavilions)



84 Exhibition 2,500 years of Buddha's birth
1957
St 108
Architect: Vann Molyvann

85 Exhibition 2,500 years of Buddha's birth
1957
St 108
Architect: Roger Colne





86 Exhibition Centre
Architect: Roger Colne

87 Exhibition Hall of SRN
22-Nov-61
Bassac
Architect: Vann Molyvann

88 Exhibition: Industrial Republique Socialiste Tchecoslovakia
Feb-62



89 Exhibition: Agricultural
1957
St 108
Architect: Vann Molyvann

90 Exhibition: Yugoslavian Industry
Nov-62

91 Former residence of Son Sann
1960-1970
St 41
Architect: Mam Sophana

92 Buildings for International Experts (3)
1955-56
Bd USSR
Architect: Seng Suntheng

93 Garage Monivong
1960s
Bd Monivong

94 Garden Japanese style behind French Embassy
Boeung Kok

95 Glassworks (Khmer Chinese Friendship factory) La Verrerie d'Etat
11-Jun-68
Architect: Chinese

96 High buildings
Jun-63
Bd Monivong

97 Hospital - Calmette
1957
St 93

98 Hospital - Preah Kossomak
21-Feb-56
St 271

99 Hospital - Kantha Bopha Children's
Feb-60
St 240
Architect: Vann Molyvann



100 Hospital of Khmer-Soviet Friendship (Hopital de l'Amitie Khmero-Sovietique)
29-Aug-60
St 271
Architects: Mrs Gordienko & Erchov

101 Hospital Preah Ket Mealea
Jul-63

102 Hospital Preah Ket Mealea (new buildings)
10-Jan-69

103 Hostel Preah Sihanouk
20-Jan-69
Bd Monivong

104 Hostel Royal Medical School
28-Feb-58
Monivong
Architect: André Leroy

105 Hotel Asia
Architect: Roger Colne

106 Hotel Cambodiana
1969
Bd Sothearos/Bassac
Architect: Lu Ban Hap



107 Hotel Cambodiana Model

108 Hotel d'Etat
1960-70
St 19/264

109 Hotel Khemara
1960s
St 93

110 Hotel Lux
1964

111 Hotel Moharaja
1950s
St 214



112 Hotel Mondial
1960s
St 93
Architect: Roger Colne



113 Hotel Monorom
1962
St 93
Architects: Jamshed Petigura with Roger Colne

114 Hotel Neang Srei



115 Hotel Paris

116 Hotel Le Royal extension (30 studios, restaurant, sw pool, entrance hall etc)
St 92
Architect: Henri Chatel (modernisation & extension)



117 Hotel Sukhalay
1957
St 93
Architect: Roger Colne

118 Hotel Thai San
1950s
St 19

119 Hotel Pailin
1960s
Bd Monivong/De Gaulle

120 House of Lon Nol's brother, Lon Non
1970
St 72
Architect: Chhim Sun Fong

121 House
1960s
45 Bd Sihanouk
Architect: Mam Sophana

122 House - model
1950s
Tuol Kok
Architect: Seng Suntheng

123 House - model
1950s
Tuol Kok
Architect: Seng Suntheng

124 House - model
1950s
Tuol Kok
Architect: R. Scheou

125 House - model
1950s
Tuol Kok
Architects: Leroy & Mondet

126 House - model
1950s
Tuol Kok
Architect: Seng Suntheng

127 House - model
1950s
Tuol Kok

128

129

130 House & office of Roger Colne
159 St Pasteur

131 Houses (now Ministry of Land Management)
1960s
463 Bd Monivong
Architect: Lu Ban Hap





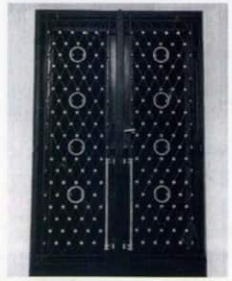
132 House for Ing Kieth
90 Bd Norodom
Architect: Georges Kondracki

133 House for Khao Chuly
Tuol Kok



134 House of Lu Ban Hap (now Ministry of Land Management)
1960s
463 Bd Monivong
Architect: Lu Ban Hap





135 House for Minister of Defence Sirik Matak (now President Airlines)
50 Bd Norodom
Architect: Henri Chatel



136 House for mother of Norodom Sirivuth
1950s?
Architect: Vann Molyvann

137 House for Tep Hun
1960s?
Russei Keo
Architect: Vann Molyvann

138 House for RAU (Republic Arabe Unie)
Architect: Roger Colne



139 House for Raksmei Sophana (now Russian Ambassador's residence)
1950s?
Bd Sothearos
Architect: Vann Molyvann

140 House of Vann Molyvann
c.1966
Bd Mao Tsé Toung
Architect: Vann Molyvann with his brother-in-law as engineer

141 House/Office of Henri Chatel
127 Bd Norodom

142 House
1960?
St 315
Tuol Kok

143

144 Houses: for US Ambassador
1968
Tuol Kok
Architect: Lu Ban Hap



145 Housing - 111 wooden low-cost
1958
Tuol Kok



146 Housing - 24 low-cost
1958
Tuol Kok

147 Housing - low cost
1959
Tuol Kok

148 Housing (AVRK) (10)
Sep-66

149 Housing (Military)
Aug-63

150

151 Urban plan - Sihanouk City (Front du Bassac)
1963-64
St 3/Bassac
Architect: Vann Molyvann with Gérald Hanning



152 Housing development & city extension project
Sep-71
Boeung Tompun
Architects: Students of RUFA Narem Heng, Mea Outey, Hor Lat

153 Housing for the Air-Force (100 families)
3-Feb-67
Pochentong



154 Housing for the National Bank of Cambodia (les cent maisons)
1965/67
Tuk Thla
Architect: Vann Molyvann

155 Immigration Office
1945-1955
St 130

156 Institut d'Études Juridiques
1945-55
St 51/178/184

157 Khmer Bank of Commerce (now Commercial Bank of Cambodia)
Bd Monivong

158 Land-fill
Feb-59
Boeung Decho
Architect: Lu Ban Hap, Department of Urbanism

159 Land-fill
Feb-59
Boeung Pralit

160 Land-fill
1950s
Bd Norodom
Architect: Lu Ban Hap, Department of Urbanism

161 Land-fill
Chamkar Mon
Architect: Lu Ban Hap, Department of Urbanism

162 Library (Wat Saravorn)
16-Aug-65
Wat Saravorn





162a Lubico Factory (Usine LUBICO)
Chak Angre

163 Mach To Factory

164 Market Monivong
1-Sep-61
Chak Angre
Architect: Lu Ban Hap, Department of Urbanism

165 Market O'Russei, lightweight metal structure (destroyed)
1960s
O'Russei
Architect: Lu Ban Hap, Department of Urbanism

165a Market Olympic
1960s
Architect: Lu Ban Hap, Department of Urbanism

166 Maternity Hospital 'Phangangam'



167 Metal works
1960s
19 St Krala Homkong

168 Military Academy (L'Académie Royale Militaire) FARK
18-Nov-67
Pochentong?
Architect: Roger Colne with Vladimir Bodiansky, Guy Lemarchands, & Hem Yim Eng







169 Military Hospital Preah Monivong
22-Aug-59
St 63
Architect: Henri Chatel

170



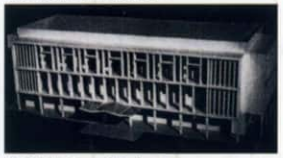
LE NOUVEAU CENTRE DE LA DEFENSE EN SURFACE A TUOL KORK

171 Military Police Centre or Academy
1966-67
Tuol Kok
Architect: Vann Molyvann

172 Ministry of Finance (now Army HQ)
1966-67
Bd USSR
Architect: Vann Molyvann

173 Ministry of Cults & Religions (Ministère des Cultes)
1960-70
St 1/240

174 Ministry of Defence (modernisation of previous Ministry of Defence)
1956
Architect: Henri Chatel

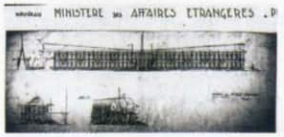


175 Ministry of Defence
1962?
Bd USSR
Architect: Henri Chatel

176 Ministry of Defence Headquarters (Etat Major)
25-Mar-63
Tuol Kok



177 Ministry of Education (Departement de Pedagogie)
1962
Bd Monivong



178 Ministry of Foreign Affairs
10-Sep-67
St 1/240/260
Architect: Roger Colne project (not built?)



179 Ministry of Public Works
1958?
Bd Norodom
Architect: Grimeret

180 Ministry of Water Resources & Meteorology - extension
Bd Norodom
Architect: Vann Molyvann

181 Monument (Independence) Maquette (disappeared 2000)*
1995?
Front de Bassac

182 Monument (Independence) Naga Fountain & Lotus
9-Nov-62
Bd Norodom/Bd Sihanouk
Architect: Vann Molyvann, built with sculptor Tan Veut; Seng Suntheng design according to Lu Ban Hap

183 Monument (Naga) Preah Monivong
1957-58
Route 1
Architects: Vann Molyvann; Seng Suntheng design according to Lu Ban Hap

184 Monument Prasat Mondap in honour of HM King Norodom
Nov-55?
Architect: Seng Suntheng

185 Municipal Workshops
10-Jun-63

186 Museum Preah Sihanouk
Nov-64

187 National Assembly projects (again in 1991)
1957-69
Tuol Kok
Architect: Vann Molyvann

188 National Bank of Cambodia
20-Sep-53
Bd Norodom
Architect: Henri Chatel (Institut National des Missions transformation originally designed by Maurice Masson)

189 National Insurance Co - SNA
Architect: Henri Chatel

190 National Museum of Phnom Penh (alterations)
1966?
St 13
Architect: Vann Molyvann

191 National Scientific Research Centre (medicinal plants)



192 Athletes' Village
6-Nov-66
St 169/182
Architects: Chinese





193 National Sports Complex (Le Complexe Sportif Nationale)
12-Nov-64
St 161/182/217
Architects: Vann Molyvann & international team, (Vladimir Bodiansky Engineer, Gérald Hanning Urbanist, Morin & Duchemin Architects, Wladimir Kandaouroff Engineer, & etc.)

194 National Sports Stadium ceremony 'Angkor & Sangkum'
9-Nov-68
Architect: Vann Molyvann staged spectacle

195 National Sports Gymnasium
6-Nov-66
St 169/182
Architects: Chinese

196 National Theatre (Le Théâtre National Preah Suramarit)
12-Nov-68
Front de Bassac
Architect: Vann Molyvann





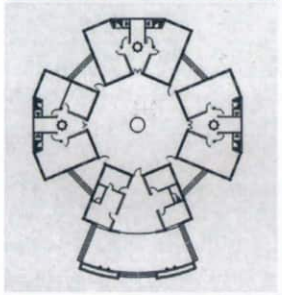
197 Nestlé Factory
Russei Keo
Architect: Uk Someth

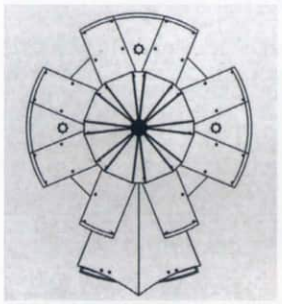


198 Parliament project model (see National Assembly)

199 Pasteur Institute
1965-67
Chruoy Changvar
Architect: Vann Molyvann







200 Paediatric Clinic
1968?
Bd Monivong
Architect: Mam Sophana

201 Paediatric Clinic Preah Kanitha



202 Pepsi Cola & Mirinda factory
1960s
Russei Keo

203 Pharmaceutical Distribution Centre
1964?

204 Pharmaceutical factory
1970s
Pochentong
Architect: Oung Sadam

205 Place Josip Broz Tito
21-Jan-68
Bd Monivong

206 Plastics factory

207 Plots of land donated to the poor (1,700)
Feb-59
Phnom Penh

207a Power Station
Jun-60
Chak Angre

207b Primary school
21-Mar-66
Chak Angre

208

209

210

211 Rehabilitation centre for handicapped children
1970
St Yukantor
Architect: Oung Sadam

212 Restaurant/bar
Architect: Roger Colne

213 Road improvement
Feb-59
Boeung Keng Kang

214 Road improvement
Feb-59
Svay Prey

215 Road improvement
Feb-59
Tuk Laak

216 Road improvement
Feb-59
Tuol Kok

217 Royal Palace: Circle of Palace Officials
Architect: Roger Colne

218 Royal Palace: Damnak Chan (Preah Reach Damnak Preah Kossomak)
1953-56
Architect: Ung Krapum Phka





219 Royal Palace: Floating colonial but used during SRN

220

221 Royal Palace: Sahametrei Pavilion
1950

222 Royal Palace: Silver Pagoda courtyard - roof to protect murals
Architect: Lu Ban Hap





223 Royal Palace: Stupa (HRH Princess Kantha Bopha)
1962
Architect: Vann Molyvann with Tan Veut sculptor



224 Royal Palace: Stupa (King Norodom Suramarit & Queen Kossomak)
1962
Architect: Vann Molyvann with Tan Veut sculptor

225 Royal Palace: Villa Kantha Bopha
17-Sep-56
Architects: Leroy & Mondet

226 Royal School of Nurses & Midwives
Feb-60

227 Royal Palace: Wat Preah Keo Morakot (complete reconstruction ordered by Queen Kossomak)
11-Nov-58

228 Sangkat Boeung Kok 2 Headquarters
Tuol Kok

229 Sangkat Tuk Thla building (now Kong Hong Garment Factory)
1960s?

230 School
Dec-65

231 School building (Lycée Sisowath)
10-Aug-59

231a Complimentary school
21-Mar-66
Chak Angre Krom

232 Radio Diffusion Centre (foundation stone)
19-Nov-58
Stung Meanchey

233 Secondary school (Lycée Bak Touk)
Bak Touk
Architect: Lu Ban Hap

234 Secondary school (Lycée Bouddhique Preah Suramarit)
10-Sep-67

235 Secondary school (Lycée Bouddhique Preah Suramarit) - extension
Sep-67

236 Secondary school (Lycée Bouddhique) - extension
Nov-63

237 Secondary school (Lycée Descartes)
St 96
Architect: Lu Ban Hap

238

239

240

241 Secondary school (Lycée Preah Sihanouk)
21-Jun-62

242 Secondary school (Lycée Sangkum Reastr Niyum 1er) (now CPP headquarters)
18-Jan-69
Chamkar Mon
Architect: Lu Ban Hap

243 Secondary school (Lycée Yukanthor)

244 Seima Wat Neak Van
Feb-68
Tuk Laak



245 Seminary for the French Mission
Mar-66
Chruoy Changvar



246 Sentinel box (prototype design) Council of Ministers
1960s
Architect: Mam Sophana

247 Sewage pipes (20 km)
Feb-59
Architect: Lu Ban Hap

248 Sports Club 'Club Sportif Khmer'
Architect: Henri Chatel (not built)

249 Sports stadium Lambert or Old Stadium improvement
Tuol Kok
Architect: Lu Ban Hap

250 State Cinema (Le Cinema d'Etat, Chenla Theatre)
12-Nov-68
Architect: Lu Ban Hap with assistant Chhim Sun Fong

251 State Palace Chamkar Mon – 'White Villa' with swimming pool for guests
Bd Norodom
Architect: Lu Ban Hap

252 State Palace Chamkar Mon - Air-raid shelter
1971?
Bd Norodom

253 State Palace Chamkar Mon - Cinema
Architect: Lu Ban Hap?

254 State Palace Chamkar Mon - offices near air-raid shelter
1966?
Bd Norodom
Architect: Vann Molyvann



255 State Palace Chamkar Mon - offices near gate
1966?
Bd Norodom
Architect: Vann Molyvann

256 Chamkar Mon - Norodom Sihanouk's Villa
Bd Norodom
Architect: Lu Ban Hap

257 State Palace Chamkar Mon - Norodom Boppha Devi's Villa with swimming pool
Bd Norodom
Architect: Lu Ban Hap

258

259 State Palace Chamkar Mon - Receptions/Dining
1962
Bd Norodom
Architect: Vann Molyvann



260 State Palace Chamkar Mon
Nov-66
Bd Norodom
Architect: Vann Molyvann

261 State shop project
1967
Pochentong

262 State Store: Foods (Magasin d'Etat l'Alimentation)
24-Apr-65
Bd Monivong/De Gaulle

263 State Store: Preah Kossomak (Magasin d'Etat Preah Kossomak)
28-Jan-68
St Kossomak/Ang Ena



264 Television Station (La Station de la Television Royale Khmère)
Tuol Kok
Architects: Chinese



264a Telephone Exchange
1960s
Architect: Vann Molyvann

265 Textile Factory 'Manufacture de Textile'
Pochentong

266 University – 'the Sangkum High School' (later inaugurated as CU du SRN)
31-Jul-61
Architects: Leroy & Mondet, (Kandaouroff engineer?)

267 University (Centre de Formation et de P. P. Preah Kossomak)
17-Jun-69
Tuk Thla
Architect: Mam Sophana



268 University (Centre Universitaire du Sangkum Reastr Niyum)
8-Nov-68
Bd USSR
Architects: Leroy & Mondet, (Kandaouroff engineer?)

269 University (Ecole Normale Faculté de Pedagogie)
Teacher Training College
1969-71
Bd Confederation Russie
Architect: Vann Molyvann

270 University (Ecole Normale Superieure)
Teacher Training College
Feb-65
Bd Confederation Russie
Architect: Vann Molyvann, Vladimir Bodiansky, Engineer, Duchemin & Morin Architects, Marc Ing, Urbanist





271 University (Ecole Royale d'Administration)
4-May-64
St 63
Architects: Leroy & Mondet, perhaps Russian architects

272

273



274 University (La Faculté de Droit et des Sciences Economiques)
14-Mar-61
Bd Monivong
Architect: Vann Molyvann





275 University (La Faculté de Medecine et des Sciences Paramedicales)
1955
Bd Monivong
Architect: André Leroy



276 University (La Faculté des Arts et Metiers)
1964
Russei Keo
Architect: Dr Lynn Emerson?

277 University (La Faculté du Génie Civile)
4-Jan-62
Ministry of Public Works
Architect: Grimeret

278 University (Sports Hall) (part of Lycée du Sangkum design 1961)
8-Nov-68
Bd USSR
Architects: Leroy & Mandet

278a University (Technical Training Centre)
Campus
1960s
Bd USSR





278b University (Technical Training College)
Preah Kossomak
1960s
Bd USSR (near Pochentong)







279 University (Université Bouddhique Preah Sihanouk Raj)
1958
Bd Sothearos

280 University (Université Populaire)
Chamkar Mon

281 University (Université Royale des Beaux-Arts) extensions
Jan-65





282 University (Université Royale des Science Agronomiques)
20-Mar-61
Chamkar Dong
Architects: Leroy & Mandet

283 University (Université Technique Royale)
ITC
20-Sep-64
Bd Confederation Russie
Architect: Russian

284 University Biological Institute Faculty of Medicine

285

286 Urban development plan
1957
Tuol Kok

287 Urban plan Chruoy Changvar port
Chruoy Changvar

288 Urban development plan for Phnom Penh
1970
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat (not implemented)

289 Urban development plan for Phnom Penh
1961-62
Architects: Vann Molyvann & Gérald Hanning (expert UN)

290 Urban estate at Tuol Kok
Tuol Kok
Architect: Lu Ban Hap with Cadastral Department

291 Urban plan
1960
Boeung Kok

291a Urban plan at Chamkar Mon
1960
Chamkar Mon
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat

292 Urban development plan at Chruoy Changvar
1960s
Chruoy Changvar



293 Urban plan (Front du Bassac)
1960s
Front de Bassac
Architect: Vann Molyvann Public Works Dept with Gérald Hanning & Robert Hansberger UN experts

294 Urban plan (Chhbar Ampov)
1960
Bd Monivong
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat, wholesale market

295 Urban plan (Olympic)
1960
Olympic market area
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat, including bus station & housing

296 Urban plan (O'Russei)
1960
O'Russei
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat

297 Urban plan around Independence Monument
1959/60
Independence Monument
Architect: Lu Ban Hap

298 Urban plan for new parliament
1960
Architect: Gérald Hanning, UN expert

299 Urban plan for University
1960
Bd USSR
Architect: Gérald Hanning, UN expert

300 House
1960s
158 Bd Norodom
Architect: Mam Sophana

301 House for Tep Hun
3 St 306

302

303 House 'new look'
1960?
Chak Angre

304 House 'the Round House'
c.1971
171 Bd Norodom
Architect: Mam Sophana



305 House for Penn Nouth
260a Bd USSR
Architect: Vann Molyvann

306 House for banker
1969
Architect: Mam Sophana

307 House for custom's official
1972
Tuol Kok
Architect: Mam Sophana



308 House for Dr Saing Sophann (now Civil Aviation Headquarters)
1958
Bd Norodom/St 178
Architect: Vann Molyvann with Seng Suntheng



309 House for Italian Consul
1960s?
692 Bd USSR
Architect: Roger Colne

310

311 House of Son Sen (destroyed)
1968
Architect: Mam Sophana

312 Wat Botum Vadey
1960s?

313 Wat Langka renamed (Langka Preah Kossomaram)
27-Jun-67
Wat Langka

314 Wat Onnalom
Jun-63
Wat Onnalom



315 Wat Tuol Tom Pong
Bd Mao Tse Toung

316 Water Pumping Station
Feb-59
Tuol Tom Pong

317 Water Treatment Works, Pipes (38 km) & offices
Feb-59

318 Yacht Club, Water Sports - National Sports Complex (destroyed)
1963?
Bassac
Architect: Vann Molyvann

319 Road Chruoy Changvar-Prek Kdam
Jun-62
Phnom Penh-Kompong Speu

320 Railway line Phnom Penh-Sihanoukville commenced
16-Aug-60
Phnom Penh-Sihanoukville
Engineer: Michel Marec calculated the bridges, built by Khaou Chuly with Ton Hy, Vietnamese engineer

321 Road to Sihanoukville (Route l'Amitie Khmero-Americaine)
22-Jul-59
Route 4
Phnom Penh-Sihanoukville

322 Road to Sihanoukville (Route l'Amitie Khmero-Americaine) - first bridge
7-Sep-58
Route 4
Phnom Penh-Sihanoukville

323 Wat Langka - seima
19-Apr-64





324 Hospital Samdech Euv
Russei Keo

325 House for Ung Phka Rik (sister of Ung Krapum Phka)
off Bd Sothearos
Architect: Ung Krapum Phka

326 House for Ung Krapum Phka
off Bd Sothearos
Architect: Ung Krapum Phka

327 Office building for General Ngo Hou
St 130
Architect: Vann Molyvann

328 House for Chauvaysrok
1955
Pochentong

329 Royal Police Academy
1958
Tuol Kok
Architect: Lu Ban Hap

330 Department of Fisheries
1959
Boeung Kok



331 Public Toilets
1959
St 178



332 Water Tower
National Sports Complex
1959

333 Hospital Preah Ket Mealea - operating theatre
1955
St France



334 Electricite du Cambodge HQ
Wat Phnom

335 Primary School - Complementary
21-Mar-66
Chak Angre



336 Secondary School (Lycee Khmer/Anglais)
1962?

337 University (Universite Royale des Sciences Agronomiques)
1950s
Prek Leap



338 Telecommunications Pylon
late 1950s
Tuol Kok

339

340 State Milk Factory
May-59
Stung Meanchey

341 SKD Head Office (Ste Khmère des Distilleries)
late 1950s

342 Seven-Up & Coca Cola Offices
late 1950s
Bd Monivong

343

344 Pharmaceutical Lab (FARK)
Hospital Preah Monivong

345 Police Detention Centre
1959
SI 51
Architect: Vann Molyvann

346 Airport - VIP Pavilion (tensile structure)
1963
Pochentong
Architect: Vann Molyvann

347 Market - Tuk Laak
Tuk Laak

348 Market - Samakki
1963
Tuk Laak

349 Stupa for Buddhist relics
1956
Railway Station

350 Commune office - Sala Khum
20-Nov-59
Chak Angre

351 Station thermique
28-Jun-60
Chak Angre

352 French Economic Cooperation & Experimental Housing
1961
Bd Monivong

353 Hotel Paradise
Bd Monivong/Charles de Gaulle
Architect: Jamshed Petigura

354 House for Chau Seng Kosal
Bd Kim Il Sung

355 House for Nhieim family
near Psah Thmei

356 Gymnasium
before 1963
grounds of National Sports Complex
Architect: Chinese, Kei Fan Chan, Chinese Engineer

357 Hommage to JSRK
9 Nov 1968
National Sports Complex

358 Urban plan (Bd Monivong westwards)
1960
West of Bd Monivong
Architect: Lu Ban Hap

Preah Vihear

1 Bridge (Pont Samdech Euv)
20-Feb-68
Preah Vihear

2 Health Centre
23-Feb-68
Rovieng

3 Hospital
Feb-68
Tbeng Meanchey

4 Hospital
21-Feb-68
Choam Khsan

5 Hospital (rural)
18-May-68
Kompong Sralao

6 Primary school
23-Feb-63
Rovieng

7 Road Tbeng Meanchey-Preah Vihear
Feb-68
Preah Vihear



8 Information Hall
Tbeng Meanchey
Architect: Vann Molyvann

9 Sala Khet (town hall)
Tbeng Meanchey
Architect: Lieutenant Ach Tham Sam

10 State Residence
Tbeng Meanchey
Architect: Vann Molyvann

Prey Veng

1 Bridge
May-63
Pearing

2 Clinic
11-Apr-66
Kanchreich

3 Clinic
4-Dec-67
Prek Neak Luong

4 Cooperatives
Apr-68
Prey Veng

5 Dyke road
May-63
Prey Veng

6 Dykes, canals, reservoirs
Apr-68
Prey Veng





7 Exhibition: Realisations Sangkum Reast Niyum
12-Dec-67
Prey Veng

8 Health Centre
Sep-59
Baphnom

9 Health Centre
May-63
Pearing

10 Health Centre
May-63
Prey Deum Thnoeung

11 Health Centre
May-63
Svay Ath

12 Health Centre
Apr-68
Kanchreich

13 Health Centre
12-Apr-68
Prasat

14 Health Centre
Prey Phneou

15 Health Centre
Thnal Chey

16 Health Centre
Tral Kompong Preal

17 Health Centre Pean Raung
Kamchay Meas

18 Health Centre Preah Kossomak
Chi Phoch

19 Market & garden
Architect: Lu Ban Hap & Service d'Urbanisme et de l'Habitat

19a Post Office
Prey Veng

20 Primary school
6-Mar-61
Prey Veng

21 Primary school
May-63
Svay Ath

22 Primary school
11-Apr-68
Prey Phneou

23 Primary school
14-Jan-69
Krabao

24 Primary school
15-Jan-69
Chi Phoch

25 Primary School
Daung
Prey Veng

26 Primary School
Me Laung

27 Primary School
Prey Tompoung

28 Primary School
Pearing

29 Primary School
Tral

30 Primary school (model)
7-Mar-61
Svay Romiet

31



32 Sangkum Reastr Niyum HQ
6-Mar-61
Prey Veng

33 School & Information Centre
May-63
Banam

34 School buildings (Wat Ang Serey)
Sep-59
Prey Veng

35 School buildings at Serey Sarpich
Sep-59
Lovea





36 School for Pali Language
May-63
Svay Ath

37 Schools
Apr-68
Prey Veng

38 Secondary school
May-63
Pearing

39 Secondary school
May-63
Prey Deum Thnoeung

40 Secondary school
17-Dec-65
Kompong Trabek

41 Secondary school
16-Dec-65
Pream Ro

42 Secondary school (Collège de Baphnom)
Mar-61
Baphnom

43 Secondary school (Collège de Kamchay Mea)
12-Apr-66
Kamchay Meas

44 Secondary school (Collège de Baphnon) - extension
18-Dec-65
Baphnom

45

46 Secondary school (Collège de Prék Changkran)
Prek Changkran

47 Secondary school (Collège Preah Norodom)
11-Apr-66
Kanchriech



48 Secondary school (Lycée Preah Bat Ang Duong)
15-Dec-65
Prey Veng

49 Seima Intakel Wat Ratanak Sophearam
7-May-66
Prey Veng

50 Exhibition Realisation SRN
12-Apr-66
Kamchay Meas

51 Health Centre
3-Sep-59
Kompong Seng

52 School Buildings (Wat Ekkaram)
16-Sep-59
Prey Veng

53 School Buildings (Wat Kdei Kandal)
16-Sep-59
Prey Veng

54 Sangkum Reastr Niyum HQ
6-Mar-61
Baphnom

Pursat

1 Communal Development Zone
Jun-63
Kompeng

2 Complimentary school (Samdech Euv)
Feb-66
Pursat

3 Dam
May-68
O Seng Pok

4 Health Centre
25-May-68
Bamnak

5 Health Centre
Kamreng

6 Health Centre for Monks at Pursat Hospital
Pursat

7 Irrigation barrage
Jun-63
Roneam Prayol

8 Irrigation barrage
26-May-68
Kravanh

9 Primary school
Jun-63
Lolok Sar

10 Primary school
24-Feb-66
Sya

11 Primary school
9-Mar-68
Pursat

12 Primary school
26-May-68
Kravanh

13 Primary school
Bamnak

14 Rice factory
Bakan

15 School
Mar-68
Pursat

16 School (model)
Jun-63
Pursat

17 Secondary school (Collège Preah Monivong)
10-Mar-68
Trapeang Chong

18 Secondary school (Collège Preah Sihanouk Varman)
26-Feb-66
Kbal Trach

Rattanakiri

1 Health Centre
May-63
Labansiek

2 Health Centre
1-Feb-68
Andaung Pich

3 Health Centre
2-Feb-68
Virakchey



4 Hospital
Lomphat



5 Housing for rubber plantation
1968?
Labansiek

6 Monument to Samdech
Lomphat

7 Primary school
May-63
Andaung Pich

8 Primary school & Infirmery
May-63
Voeunsai

9 Primary school (Ecole Wat Aranh Ram)
Buddhist school
30-Jan-68
Lomphat

10 Secondary school (Collège de Lomphat)
Buddhist school
30-Jan-68
Lomphat

11 Secondary school (Collège Samdech Euv Preatean)
Yeak Lom

12 State Chalet
Yeak Lom

13 Wat
May-63
Labansiek

14 Exhibition/Information Hall
Bong Luong

15 Monastery
Bong Luong

Siem Reap

1 Airport (Siem Reap-Angkor)
22-Jun-68
Architect: Chinese

2 Airport (VIP)
1963
Architect: Vann Molyvann



3 Angkor Hotel (destroyed)
10-Nov-68, completed 1971
Angkor Wat
Architect: Claude Bach & Vann Molyvann (adviser)



4 Bridge of the Sahachivins
Mar-65
Siem Reap





5 Buddhist Cultural Centre for Cambodia
1954
Angkor Park
Architect: Vo Toan

5a Cinema Vimean Akas (destroyed)
1960s?
Siem Reap

6 Conference Centre
Jun-70
Siem Reap
Architect: Lu Ban Hap

7 Cooperative
Mar-65
Damdek





8 Courthouse
1958
Siem Reap
Architect: Seng Suntheng

9 Dispensary
Angkor Wat

10 Health Centre
23-Jul-69
Samrong

11 Health Centre & various buildings
Apr-67
Banteay Srei

12 Health Centre & various buildings
Apr-67
Preahdak

13 Health Centre & various buildings
23-Jun-68
Damdek

14 Historic Monument protection zone
1970s
Angkor Park
Architect: Oung Sadam

15 Hospital Operation Block
20-Jun-67
Siem Reap

16 Grand Hotel d'Angkor dining room
1950s
Siem Reap
Architect: Henri Chatel

17

18 Hotel Royal Auberge des Temples (and SOKHA Motel) improvements (destroyed)
16-Jan-64
Angkor Park
Architect: Lu Ban Hap



19 Hotels in general
26-Apr-67
Siem Reap
Architects: Chhean Vam, Ky Heng

20 Irrigation works
2-Jul-69
Chikreng



21 Irrigation works (Baray Tuk Thla)
Feb-60
Western Baray

22 Isolation ward
Feb-60
Siem Reap

23 Military Academy
Architects: Vann Molyvann with Guy Nafilyan (not built)







24 Military Academy for the Ministry of Defence
28-Jun-56
Bayon Temple
Architect: Henri Chatel (not built)



25 Motel (Villa Princière)
11-Jul-63
Siem Reap
Architect: M. Mondet







26 Primary school
Mar-65
Samrong Chongkal

27 Road
Siem Reap
Apr-67

28 Road to Paong
Mar-65
Samrong Chongkal





29 School building & Infirmery (Lycée Suryavarman II)
Sep-59
Siem Reap

30 School building (Primary Complimentary School)
Sep-59
Siem Reap

31 School buildings
Sep-59
Wat Svay

32 School buildings
Feb-60
Siem Reap

33 Secondary school - extension
Mar-65
Sasar Sdam



34 Secondary school (Collège d'Angkor)
21-Jun-68

35 Secondary school (Collège Preah Beida Santepheap)
21-Jul-69
Kralanh

36

37 Secondary school (Lycée) - extension
Aug-64
Siem Reap

38 State Residence for Norodom Sihanouk
1960s (probably colonial origin)
Siem Reap

Sihanoukville

1 Airport entrance gate1969 (probably more recent)
Airport Ream-Sihanoukville

2 Airport Terminal (destroyed)
12-Apr-67
Airport Ream-Sihanoukville



3 Apartment building for National Bank of Cambodia staff
1968?
Architect: Henri Chatel, perhaps built by Jamshed Petigura

4 Avenue Président Kennedy
6-Nov-67

5 Bank - National Bank of Cambodia
1968
Architect: Vann Molyvann

6 Bank - National Bank of Cambodia housing (3 villas, 2 apartment villas & a row of dwellings)
Nov-68
Architect: Vann Molyvann



7 Bank - National Bank of Cambodia technical building & incinerator
Nov-68
Architect: Vann Molyvann

8 Bank Khmer subsidiary
1970
Architect: Mam Sophana

9 Boulevard at Victory Beach
10 Boulevard of Independence

11 Boulevard du Peuple Français
16-Jul-65

12 Chamber of Commerce
Architect: Roger Colne, not built

13 Church of St Michel
1962
Architect: Father Ahadobery with Vann Molyvann

14 Commercial building
1960s
Architect: Roger Colne, not built

15 Commercial development
1960s
Architect: Roger Colne, not built

16 Customs Office
1960s
Architect: Vann Molyvann

17

18 Exhibition: Realisations Sangkum Reastr Niyum - Brewery
13-Nov-68
La Brasserie
Architect: Vann Molyvann

19 French mission
1962

20 Health Centre
Jun-63

21 Hospital Sangkum Reastr Niyum
13-Apr-67

22 Hotel Independence (Hôtel Indépendance)
13-Nov-68
Independence Beach
Architects: Leroy & Mondet with Norodom Sihanouk interior design

23 Information Kiosk
21-Nov-68

24
25 Khaou Chuly Resort
1970
Architect: Mam Sophana



26 Market destroyed (now Vietnamese constructed exhibition/sports centre)
1963



26a Commercial development
Town Centre

27 Monument - mermaid (destroyed)
Port

28 Monument of Independence & sala
1955?





29 Motels Krung Preah Sihanouk (destroyed)
7-Jun-63
SOKHA Beach

30 Oil Company hostel for workers (appears to have been destroyed)
1972
Architect: Mam Sophana

31 Petroleum Refinery (mostly destroyed)
19-Nov-69

32 Port - Dockers' meeting hall
23-Nov-66





33 Port of Sihanoukville
Nov-68

34 Port of Sihanoukville Warehouse
2-Apr-60

35 Post & Telecommunications offices building
1960s

36 Primary school
15-Jul-65



37 State residence
1962
Architect: Vann Molyvann

38 Promenade (Promenade des Anglais)
1960
Independence Beach
Designed by Norodom Sihanouk

39

40 Public Park dedicated to the Queen
Hawaii Beach

41 Railway station
Apr-69
Architect: Georges Kondracki, with Guy Lemarchands or German engineer

42 Railway works (port)
Feb-68

43 Regional Information Office
21-Nov-67

44 Road & drainage
O Chheuteal Beach
Architect: Lu Ban Hap

45 Roads & infrastructure
May-63

46 SKD. Brewery
13-Nov-68
Route 4
Architect: Vann Molyvann

47 SKD. Brewery housing (originally 76 dwellings)
13-Nov-68
Architect: Vann Molyvann

48 Semi-detached house
1971
Architect: Mam Sophana





49 State Residence (destroyed)
May-63
O Chheuteal Beach

50

51 Technical Training Centre (Hotels)
May-63



52 Tractor assembly plant (SONATRAC)
22-Nov-67

53

54 Urban plan - Sihanoukville
1959
Architect: André Gutton BCEOM (Bureau de la Cooperation Etrangere Outre-Mer)

55 Urban plan - Sihanoukville
1966
Architects: Michel Courtier, Guy Ragot, Michel Weill, SMUH

56 Urban plan - Sihanoukville
1-Mar-61
Architects: Vann Molyvann with Gérald Hanning UN Expert, André Gutton & Lu Ban Hap



57 House
1970
Architect: Mam Sophana

58 House for Chau Seng Kosal
1968
Architect: Mam Sophana

59

60 Houses
O Chheuteal Beach

61 Wat - Preah Vihear
May-63

62 Wat Indânana (Wat Krom)
19-Nov-69

63 Wat Jotanânno (Wat Leu)
19-Nov-69

64 Water Supply at Independence beach

65 Guest House for Royal Delegation
1959

66 Information Hall
1959

67 Municipal Water Supply

68 Sculpture for private house

69 Electrical Plant Building

70 Office for Royal Delegation
1959

Stung Treng

1 Airport
14-May-68

2 Bridge
Apr-62
Stung Srepok

3 Community Centre & Health Centre
May-68
O Svay

4 Health Centre
16-May-68
Thalaborivath

5 Health Centre
20-May-68
Siritoat

6 Health Centre
20-May-68
Siempang



6a Housing for widows
1961

7 Housing (rural)
May-68



7a Information Centre
1961

8 Maternity hospital
1-Sep-61

9 Primary school
15-Feb-61

10 Primary school (model)
14-Feb-61

11 School
1-Mar-63
Siempang



12 School
Mar-63
Thalaborivat

13 Secondary school - extension
May-68

14 Youth Hostel for JSRK
18-Apr-62



15 Hospital

16 Secondary School (Collège de la Croisade Royale)

17 Veterinary Services Building

Svay Rieng

1 Buildings
Aug-62
Prasaut

2 Bus Station
Oct-68

3 Church of the French Mission
1962
Built by Father Leroux



4 Concert Hall
2-Dec-65











5 Hospital
1960

6 Health Centre
1-Sep-67
Romduol

7 Health Centre
20-Jun-69
Romeas Hek



8 Health Centre Lim Huot
4-Dec-67
Krol Kor9 Hospital (Wat)
Oct-68

10 Housing for war victims
Chantrea



11 Law court
1-Sep-61



12 Market
Oct-68
Svay Rieng
Architect: Lu Ban Hap

13 Museum Library
Oct-68



14 Public park
Architect: Lu Ban Hap

15

16 School - 6 classes built with assistance of military, inhabitants, local authority
1-Sep-61
Romeas

17 Secondary school
Mar-65

18 Secondary school
Dec-65

19 Secondary school
Oct-68
Mesar Thngak

20 Secondary school (Collège de Kompong Trach)
17-Dec-67
Kompong Trach

21 Secondary school (Collège de Kompong Trach) - additional buildings
30-Jul-68
Kompong Trach

22 Secondary school (Collège Yacovarman)
3-Dec-65
Prasaut

23 Secondary school (Collège de Svay Chrum)
1-Dec-65
Svay Chrum

24 Secondary school (Collège du '9 novembre 1953') - additional buildings
17-Oct-67
Kompong Trach

25 Secondary school (Collège Preah Kossomak)
16-Nov-66
Kompong Chak

26 Secondary school (Collège Yaçovarman) - additional building
15-Dec-67
Prasaut

27 Secondary school (Lycée Preah Soryovong)
Krong Svay Rieng

28 Sports Stadium
Aug-62

29 Village (model) Robas Pring
Oct-68
Robas Pring

30 Village (model) Trapeang Pring
Sep-67
Romeas Hek

31 Wat Angkor Chey
1959
Kompong Trach

32 Chamroeun Phal Rice Mill



33 Ice Cream Factory Seng Thai & Pepsi Cola Factory

34 Monument to Samdech



35 Cinema

36 Army Barracks
Romeas
Architect: Henri Chatel

37 Primary school
Romeas

Takeo

1 Buddhist school
Jan-65
Kirivong

2 Cooperative building

3 Dam
Mar-60
Chhouk Sar

4 Dam
Mar-60
Tuol Lolork

5 Dam
Mar-62
Sen Preah Ream

6 Dam
Jan-66
Chroy Samrong

7 Exhibition: Realisations Sangkum Reastr Niyum
17-Dec-67

8 Health Centre
1967
Phnom Chachak

9 Health Centre
Jul-60
Angtassom



10 Health Centre
Chambak

11 Health Centre
Phnom Den

12 Health Centre & other buildings
9-Aug-65
Wat Kraing Sla

13 Health Centre Preah Sihanouk Pratean
16-Dec-67
Dambauk Khpas

14 Health Centre Sou Neak
Ang Sdok

15 Hospital (provincial)
Dec-63

16 Hospital Samakki
19-Jun-68
Bat Rokar

17 Irrigation barrage
20-Jan-66
Chrouy Samrong

18 Primary School Angkeang Konh
Samrong

19 Primary School Choung Kung
1966-67
Samrong

20 Primary School Kbal
1966-67
Samrong

21 Primary School Kdei Totim
1966-67
Samrong

22 Primary School Prasath
Samrong

23 Primary School Prasath Neang Khmau
Samrong

24 Primary School Raksmei Sangh
1966-67
Preah Bat Choan Chum

25 Public park



26 Railway station
Dec-63
Takeo
Architect: Georges Kondracki, structure calculated by Michel Marec, Engineer

27 Railway station
Jan-66
Balei Chas

28 Railway station
Jan-66
Komar Reachea

29 Railway station
Sep-66
Thmor Da

30 Railway station (mail distribution)
18-Jan-65

31 Reservoir & Khmer style monument

32 Royal School of Nurses & Midwives
Chambak

33 School
Feb-62
Phnom Den

34 School
Mar-62
Phnom Chiso

35 School (model)
Mar-62
Angtassom

36 Secondary school
Mar-62
Preah Soma

37 Secondary school
Sep-64
Chambak

38 Secondary school
Dec-64
Tramkak

39 Secondary school
Jan-65
Kirivong



40 Secondary school
Jun-68
Tram Khnar

41 Secondary school (Collège de Wat Thom)
4-Jul-66
Wat Thom

42 Secondary school (Collège Samdech Preah Pramokh Rath)
18-Jun-68
Tram Knar



43 Secondary school (Lycée Preah Outey)
Feb-62

44 Secondary school (Lycée Preah Outey) - additional buildings
27-Feb-68

45 Health Centre
Phnom Chiso

46 Housing for teachers (apartment building)

Tioulongville – Kirirom





1 Chalets

2 Dam for hydro-electric plant
7-Mar-68

3 Exhibition hall for FARK



4 Exhibition hall for SRN
Architect: Vann Molyvann

5 FARK Machine, boat & Jeep factory

6 Hotel Auberge des Pins



7 Housing resort for aged workers (32)





8 Housing resort for National Bank of Cambodia staff
Architect: Jamshed Perigura

9 Hydroelectric Station
7-Mar-68



10 Information kiosk

11 Kirirom City (Foundation Stone)
17-Jul-63

12

13 Motel

14 Motels near the Lake (Motels du Lac)
1960s

15 Orchid House

16 Primary School

17 Restaurant



17a Royal Chalet



18 State Villa
1961/1966
Architect: Vann Molyvann

19 Thatched Cottage (La Chaumière)

20

21 Urban development plan - new town
9-Feb-60
Architect: Vann Molyvann (financed by General Nhiek Tioulong)

22 Wat Kirirom
13-Mar-69



23 Health Centre
Kirirom

Divers



1 Bridge (Pont de Kompong Sre)



2 Church of French Mission
Kompong Sre

3 Dam
Apr-60
Lampou



4 Floating village
Tonle Sap

5

6 Ousahakam Raksmey Sangkum SA

7 School of Rural Midwives

8

9

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Vladimir Bodiansky Archives	Paris
Vong, Chon	Phnom Penh

Glossary

ARK Research: Architecture Research Khmer
AT.BAT: post-war French group of engineers active in developing countries
baray (Kh.): large, usually rectangular water reservoir
Bisnulok: also Bisnukar) Khmer god of construction
BNC: Banque Nationale du Cambodge (National Bank of Cambodia)
BN: Budget National (National Budget)
BNCI: Banque Nationale pour le Commerce et l'Industrie
CEDORECK: Centre de Documentation et de Recherche sur la Civilisation Khmère
chedi: see also stupa
Chivapol: a voluntary body also known as 'Forces Vives'
CIA: Central Intelligence Agency
claustra: louvre or perforated screen wall
cyclo (Fr.): rickshaw
dharma: Buddhist universal truth
EDEC: Entreprise d'Etat de la Construction
ENSBA: Ecole Nationale Supérieure des Beaux-Arts
FARK: Forces Armées Royales Khmères (Royal Khmer Armed Forces); see also ARK
GANEFO: Games of the New Emerging Forces; first staged 1963 (Indonesia)
GATT: General Agreement on Tariffs and Trade
IAURIF: Institut d'Architecture et d'Urbanisme de l'Ile de France
IFA: Institut Français d'Architecture
ISTED: Centre de Documentation et d'Information 'Villes en Développement'
JSRK: Jeunesse Socialiste Royale Khmère also known as Royal Khmer Socialist Youth; created 1957
khet (Kh.): province
khum (Kh.): commune group; see also 'phum'
laterite: iron-rich clay blocks used for construction purposes throughout Southeast Asia
loggia: an open-sided gallery or extension of a house
MAGETAT: Magasin d'Etat (State Store or Emporium)
Monseigneur: title used by Prince Sihanouk in the 1960s
naga (Kh.): mythical serpent associated with water
nikum (Kh.): model village
NSC: National Sports Complex
Oknha (Kh.): title bestowed on a dignitary
OROC: Office Royal de Coopération (Royal Office of Cooperation); created 1956
phnom (Kh.): mount
phum (Kh.): village; see also 'khum'
prek (Kh.): tributary transformed into a canal
psah (Kh.): market
RAC: Royal Air Cambodge
RAU: Republique Arabe Unie (United Arab Republic)
riels (Kh.): Cambodian currency
RUFA: see also URBA
sahachivin/vini (Kh.): companions (male and female) of the 'Sangkum Reastr Niyum'
salaphum (Kh.): accommodation belonging to the village; village hall or meeting place
salasrok (Kh.): accommodation belonging to the administrative sector of a province
Samdech (Kh.): a bestowed title; designated as Prince, or Chief of State; HRH Prince Sihanouk used the title 'Samdech Sahachivin' in the 1960s
sangkat (Kh.): administrative sub-district
Sangkum (Kh.): used as an abbreviation for the Sangkum Reastr Niyum period but also to denote membership of the circle of supporters; see also Sahachivin/vini
Sangkum Reastr Niyum (Kh.): used to denote populist movement in the 60s; also period 1955 to 1970; see also Sangkum, SRN
SCA: Société Concessionaire des Aéroports
SKD: Société Khmère des Distilleries
SMUH: Sécrétariat de la Mission de l'Urbanisme et de l'Habitat (French Cooperation Housing and Town Planning Department)
SOKHAR: Société Khmère des Auberges Royales (also SOKHA Voyages)
SOKIMEX: Société Khmère d'Importation et d'Exportation
SONAC: Société Nationale de Construction
SONATRAC: Société Nationale de Tracteurs
SOROTEL: Société Royale d'Hôtellerie
SRN: Sangkum Reastr Niyum, association of 'friends of the nation'; founded by Prince Sihanouk in March 1955; see also Sangkum
srok (Kh.): administrative sector of a province; a district
stupa: Buddhist usually domed reliquary/monument; see chedi
thalweg: watershed
UN: United Nations
UNESCO: United Nations Educational Scientific and Cultural Organisation
Upareach (Kh.): a bestowed title; the heir apparent, the crown prince
Upayuvareach (Kh.): a bestowed title; a king who has abdicated and serves as the advisor of the new king and the vice-regent
URBA: Université Royale des Beaux-Arts; also as RUFA (Royal University of Fine Arts)
URSS: Union de la République Socialiste Soviétique
US: United States of America
USIS: United States Information Service
USOM: United States Operations Mission
veranda: covered area along the outside of a building
vihara (Kh.): prayer hall in wat with principal Buddhist image
wat (Kh.): Buddhist temple, monastery
yuvan/vini/tei (Kh.): youth in the JSRK organization; created 1957
yuvasala (Kh.): hostel for the use of members of the JSRK

Authors' Codes for Localities

BB	Battambang
BK	Bokor
C	Cambodian students' work
I	International
K	Kampot
KD	Kandal
KP	Kep
KK	Koh Kong
KC	Kompong Cham
KG	Kompong Chhnang
KS	Kompong Speu
KT	Kompong Thom
KR	Kratie
MK	Mondulkiri
O	Oddar Meanchey
PP	Phnom Penh
PH	Preah Vihear
PV	Prey Veng
P	Provinces
PU	Pursat
RK	Rattanakiri
SR	Siem Reap
SV	Sihanoukville (Kompong Som)
ST	Stung Treng
SG	Svay Rieng
TK	Takeo
T	Tioulongville (Kirirom)
U	Unidentified

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Meetings & Visits

2000

28 January: Meeting with Vann Molyvann, Council of Ministers, Phnom Penh
12 October: Meeting with Mam Sophana, Phnom Penh
24 October: Meeting with Mam Sophana, Phnom Penh
27 October: Meeting with Mam Sophana, Phnom Penh
8-12 November: Report on visit to Siem Reap
25-27 November: Report on visit to Battambang
25 November: Meeting with Sieng Sam Eng, Battambang (1)
27 November: Meeting with Sieng Sam Eng, Battambang (2)
5 December: Meeting with Jean Turel, Institute of Technology, Phnom Penh
15 December: Meeting with Lim Seng Hong, Technical Manager, Cambrew, Sihanoukville
15 December: Meeting with Ou Sivarin, Manager, National Bank of Cambodia, Sihanoukville
16 December: Meeting with Father Robert, Missionary priest, St. Michel's Church, Sihanoukville

2001

7 January: Report on visit to Boulevard USSR & Pochentong sites
8 January: Report on visit to Vann residence, Phnom Penh
12-14 January: Report on visit to Kompong Speu, Kep, Kampot & Takeo
17 January: Meeting with Dominique Royer, Joël Vélasque, Mike Eap Seng, Philippe Rose & Norinda Khek, Société Concessionaire des Aéroports Phnom Penh-Pochentong (SCA) & DUMEZ GTM Cambodge; Report on visit to Pochentong Airport
25 January: Report on visit to Chamkar Mon, State Palace site
27 January: Meeting with U Sam El, Royal Palace, Phnom Penh (1)
30 January: Meeting with Ith Praing, Ministry of Industry, Mines & Energy, Phnom Penh
31 January: Meeting with Gertrude & Vann Molyvann, Phnom Penh (1)
8 February: Report on visit along Sothearos & Mao Tsé Toung Boulevards to Tuol Kok
10 February: Meeting with Sameth & Ayrine Uk, Phnom Penh
10 February: Meeting with Gertrude & Vann Molyvann, Phnom Penh (2)
13 February: Meeting with Dr Victor V. Samoilenko, Ambassador of the Russian Federation, Phnom Penh
9-11 March: Report on visit to Sihanoukville (2)
13 March: Visit to Vann residence, Phnom Penh
19 March: Report on visit to Phnom Penh sites (1)
22 March: Meeting with Jean-Louis Veret, Paris
22 March: Meeting with Roger Aujame, Paris (1)
26 March: Meeting with Josette & Henri Chatel, Paris (1)
27 March: Meeting with Hania Hanning, Paris
28 March: Meeting with Andrée & Vladimir Bodiansky (son), Paris
29 March: Meeting with Claude Bach, Paris (1)
30 March: Meeting with Roger Aujame, Paris (2)
1 April: Report on visit to Phnom Penh sites (2)
2 April: Meeting with Jean-Marie Charpentier, Paris (1)
2 April: Meeting with Jean-Marie Charpentier & Or Kim Song, Paris (2)
19 April: Meeting with Claude Bach, Paris (2)
19 April: Meeting with Josette & Henri Chatel, Paris (2)
26 June: Meeting with Armelle & Lu Ban Hap, Paris (1)
28 June: Meeting with Armelle & Lu Ban Hap, Paris (2)
2 July: Meeting with Ing Kieth, Phnom Penh
25 July: Report of phone conversation with Lu Ban Hap, Paris
28 July: Meeting with Ros Priboun & Ing Kieth, Paris
30 August: Meeting with U Sam El, Royal Palace, Phnom Penh (2)
10 September: Meeting with Yves Ramousse, Phnom Penh
21 September: Meeting with Kong Sam Ol, Deputy Prime Minister, Minister to the Royal Palace, Phnom Penh
Loup Hanning early 2001
Ian Hanning mid 2001
Michel Marec June 2001

2002

27 June: Meeting with Gertrude & Vann Molyvann, Phnom Penh (3)
24 July: Meeting with Gertrude & Vann Molyvann, Phnom Penh (4)
December: Meetings with J. Derrick Kendrick, Honorary Archivist, School of Architecture, University of Adelaide, South Australia & the Head of the School of Architecture, University of Adelaide, South Australia

2003

22 January: Meeting with Gertrude & Vann Molyvann, Phnom Penh
28 November: Meeting with Geoffrey Read, Gertrude & Vann Molyvann, Phnom Penh

2004

2005

26 January: Report on visit to his buildings with Vann Molyvann, Phnom Penh
29 March: concept sketches by Vann Molyvann in his house

Our warmest thanks:

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Within two years of Cambodia's independence in 1953, King Norodom Sihanouk had abdicated and was embarking on an unprecedented public construction boom that would last a decade and a half before going bust in an American-backed coup in 1970. The rapid urban and rural development that preceded Norodom Sihanouk's overthrow ranged from ambitious infrastructure projects to entirely new towns. Of the thousands of new buildings that mushroomed across the country, many stand out for their high standard and unique style – a remarkable blend of new building techniques and traditional Khmer designs that marked a decisive break from French colonial architecture.

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