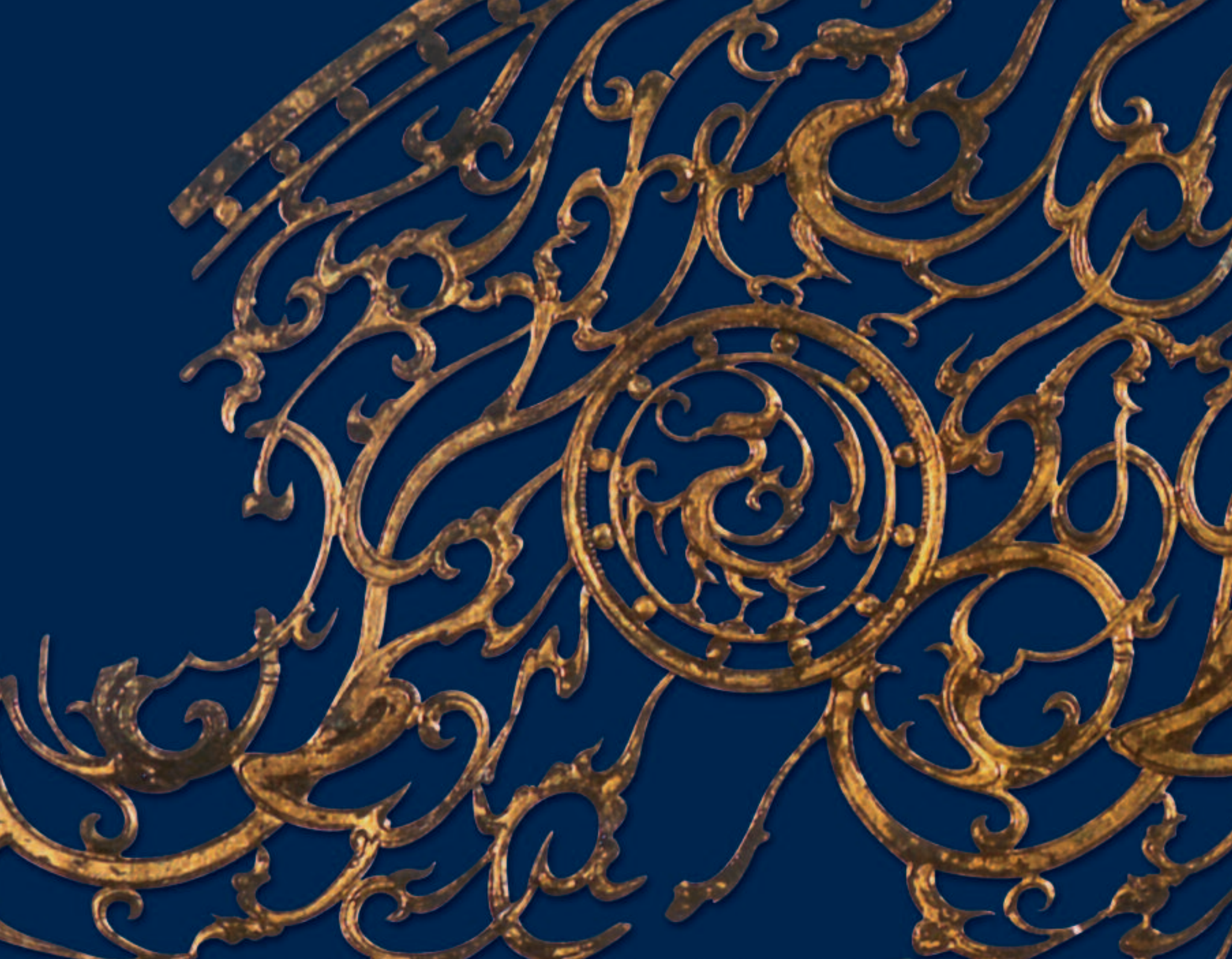


# Preservation of the Koguryo Kingdom Tombs









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(Right) Janggunchong Tomb (General's Tomb), Ji'an, a stone-pile tomb.

(Preceding page) gilt bronze sun-shaped ornament from Jinpari VII Tomb, National History Museum, Pyongyang. In Koguryo mural paintings, the sun is often represented as a three-legged black bird inside a wheel. In this ornament, it appears inside a double wheel with a red phoenix standing above it.



The views expressed in the articles contained in this publication are those of the authors and not necessarily those of UNESCO.

## FOREWORD

KOICHIRO MATSUURA, DIRECTOR-GENERAL OF UNESCO.

THE conservation, protection and promotion of the world's cultural heritage have been among UNESCO's most successful programmes since the Organization's beginnings. In recent years the Organization has risen to new challenges to ensure the continued relevance of its mandate. In particular, in line with its mission, UNESCO has highlighted the role of cultural heritage in restoring bonds between peoples that share the same history and culture.

The UNESCO/Republic of Korea Funds-in-Trust project for the "Preservation of Cultural Heritage in the Democratic People's Republic of Korea (DPRK), notably the Yaksu-ri Tomb, and Capacity-building at the Korean Cultural Preservation Centre", begun in 2001, was conceived in order to address such challenges. The tombs of the Koguryo Kingdom, which flourished during the first centuries of our era, are now the common heritage of the Korean people. They also represent an outstanding form of artistic expression and, as research in the framework of the project has shown, a unique example in Asia of mural painting using fresco techniques. As an exceptional form of artistic expression, the Koguryo Tombs were inscribed on the World Heritage List in June 2004.

I should therefore like to extend my thanks to the authorities of the Republic of Korea for so generously funding a project that aims to restore ties in the area of culture by building on the shared history of the Korean people. I would also like to thank the authorities of the Democratic People's Republic of Korea for their unwavering commitment to its realization.

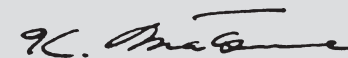
The project's main aims have been to improve the skills of national experts, to reinforce infrastructure in the DPRK, especially in the Korean Cultural Preservation Centre, to safeguard the Yaksu-ri Tomb, and to undertake the conservation

of the mural paintings it contains. Following the successful completion of preparatory work in Phase I (2001-2002), a fully-fledged project was developed and implemented in Phase II (2002-2006). Extensive surveys have been carried out in the Yaksu-ri tomb in order to identify measures to address its structural, environmental and conservational problems. Yaksu-ri and other tombs, such as Anak III, have been carefully documented.

Capacity-building work has focused on the Korean Cultural Preservation Centre (KCPC), under the National Bureau for Cultural Property Conservation. In the course of two five-week training workshops in 2004 and 2005, KCPC staff have been trained in the areas of environmental control, geophysical engineering, chemical analysis, and painting conservation; a third workshop is planned for 2006. A large amount of equipment has been provided for fieldwork on the tombs and to the laboratory established in the KCPC in Pyongyang. Both technical and philosophical aspects of painting conservation have been emphasized.

Finally, I should like to express my gratitude to the national and international experts whose commitment has been instrumental in carrying out conservation and training activities in the DPRK. Fruitful collaboration and exchange of expertise between experts from the DPRK and their counterparts in the Republic of Korea are an essential aim of the project. The Symposium held on the Koguryo Tombs in Seoul in October 2004 was a first step in this direction, which I hope will result in greater co-operation.

In this project, as in others, I feel confident that UNESCO, by highlighting the role of shared cultural heritage, is playing an important part in promoting dialogue and reconciliation in the region. As in the case of Mostar (Bosnia and Herzegovina), where I had the pleasure of participating in the inauguration of the famous bridge rebuilt by UNESCO's experts in 2004, I am certain that UNESCO's continuous action in the field of cultural heritage will contribute to the reinforcement of peace and stability in North-East Asia.



Koïchiro MATSUURA



# The History and Culture of Koguryo

PROFESSOR LEE SUNGSI  
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**K**oguryo was an ancient kingdom governing a vast territory in North-East Asia from the first centuries BCE until 668 CE, when it was overthrown and perished. The name of Koryo was used more commonly than that of Koguryo after the 5<sup>th</sup> century CE, period during which the kingdom boasted the largest territory in its history, reaching the Liao River in the west, the Songhua River and the Mudan River in the north, the Primorskii area in the east, and the middle-south part of the Korean Peninsula in the south.

The Maek tribe inhabiting the middle region of the Amnok (Yalu) River formed the core of the ruling group (so-called “Koguryo tribe”) of Koguryo, in which various other tribes, such as the Ye tribe, the Puyo tribe, the Han (Korean) tribe and the Khitan tribe also lived. The Koguryo people, who originally lived in valleys and practised agriculture, defeated several tribes who mainly lived off fishing and hunting, and made them pay tribute to Koguryo.

Map of Koguryo and its neighboring countries in the 5<sup>th</sup> century CE.



Convex roof-tiles,  
Koguryo Kingdom.

According to *The Annals of the Three Kingdoms* (*Samguk sagi*), Koguryo existed for a period of 705 years, from 37 BCE to 668 CE, under the rule of 28 successive kings. Its early genealogy is nonetheless doubtful and cannot be fully trusted: the Annals might have been modified in later periods or simply be erroneous. For this reason, some scholars claim that Koguryo's activities as a political state date back to the 3<sup>rd</sup> century BCE. Leaving aside this debate, the present article divides the history of Koguryo into three main periods, based on the successive locations of its capital city.

During the first period, up to the early 3<sup>rd</sup> century CE, Koguryo laid the foundations of its kingdom in Hwanin, in the region of the Hun'gang River, a tributary of the Amnok River, while resisting pressure from the four Chinese commanderies in the northern part of the Korean Peninsula. The Chinese commanderies had been established as regional administrative divisions of the Han dynasty in 108 BCE, in order to control strategic points of access to the Korean Peninsula. Koguryo gradually developed as a political power, while engaging in uninterrupted battle against the

Chinese commanderies and reducing their control: the ruler of Koguryo, Chu, was active in these battles, particularly against the Xin dynasty (King Wangmang). It is presumed that Koguryo became a politically integrated kingdom, governed by a king, supported by powerful local chieftains, between the first century BCE and the first century CE at the latest.

Koguryo's second period lasted about 200 years starting from the early 3<sup>rd</sup> century CE, when one of the royal clans moved to Kungnae-song (Guonei-cheng, modern city of Ji'an, today in China), in the middle region of the Amnok River, as a result of conflicts over the succession to the throne. During this second period, Koguryo made significant political progress. Internally, the governing hierarchy was reorganized, and 13 grades of official rank were consequently established. This new hierarchy was still based on a coalition of five clans, which had been the traditional governing system of Koguryo, but it had become more centralized, with the king at its head. In terms of foreign policy, Koguryo prepared itself for expansion towards the southern part of the Korean Peninsula by subverting the two Chinese commanderies, Lolang and Taifang, situated in the present-day Pyongyang area, in the south of the Koguryo kingdom, in 313 CE: this year marked the end of Chinese control of this area, which had lasted for about 400 years. Koguryo seized the whole northern part of the Peninsula by incorporating the remaining Chinese people into its population.

In the same period, the northern part of China was in political confusion, due to the successive establishment of a number of kingdoms of non-Chinese ethnic origin (period of the Sixteen Kingdoms). The former Yan Dynasty, gaining power amidst this confusion, assailed Kungnae-song in 342 CE, harming Koguryo's power significantly. Conflict and battle against Chinese kingdoms of non-Chinese origin caused serious damage to Koguryo, although it also provided opportunities for contact with new aspects of Chinese culture and various military nomadic cultures. Furthermore, Koguryo was faced with enemies from the west and south: King Kogugwon was killed in a battle against the kingdom of Paekche in 371 CE. King Sosurim, who succeeded Kogugwon,





and his brother Kogugyang made efforts to stabilize internal governance: they introduced Buddhism, founded a National Confucian Academy, established administrative and penal laws, and erected official temples and shrines dedicated to the royal family.

Following the improvement of governance, when King Kwanggaeto ascended the throne in 391 CE, Koguryo rapidly increased its territory, which would later contribute to the kingdom's prosperity. *The Stele of King Kwanggaeto* (414 CE) recorded the King's expeditions to the Khitan, the Suksin, and East Puyo areas and to Paekche, as well as the subsequent expansion of territory into these regions. Territorial expansion toward the south was particularly remarkable: Koguryo strengthened its political control over Silla, and defeated Paekche as well as Wa (Japan) and the Kaya states supporting Paekche, after a series of fierce battles.

The third period of Koguryo began in 427 CE, when the capital was relocated to Pyongyang, and ended in 668 CE, when the kingdom finally perished: it was a period during which Koguryo's power reached its peak, before beginning to decline. King Changsu, following King Kwanggaeto's policy of expansion towards the south, relocated the capital from Kungnae-song to Pyongyang in 427 CE, in order to put pressure on powers in the southern part of the Peninsula. The King also sent envoys to China, which, in the 5<sup>th</sup> century CE, was divided into the Northern and Southern dynasties: his envoys visited both sides and thus secured a stable international status for Koguryo. The King then advanced his troops southwards and took control of Paekche's capital Hansong (modern city of Seoul) in 475 CE. King Changsu further expanded the territory of Koguryo to the south of the Han River, while annexing the Liaodong region in the west, thus bringing Koguryo to its largest expansion in history.

The middle of the 6<sup>th</sup> century saw the restoration of Paekche in the south of the Korean Peninsula as well as Silla's political growth: entailing a state of balance of power between Koguryo, Paekche and Silla. Koguryo allied with Paekche to oppose Silla, and then engaged in diplomacy with Wa because of the strategic role of the Japanese Archipelago. Koguryo further extended its diplomacy to Turkic areas in Central Asia.

The political situation in China changed during this third period. The Sui subverted the Chen of the Southern dynasties in 589 CE, and unified and integrated China under their rule. The Sui dynasty soon began increasing political pressure upon the Korean Peninsula, and undertook three military expeditions to Koguryo, starting in 612 CE: Koguryo endured the attacks and pushed back the Sui troops.

When the Sui dynasty collapsed because of the financial burden of its military expeditions and the Tang dynasty took power in 618 CE, Koguryo attempted to maintain moderate diplomacy with China. However, after the Tang State became increasingly aggressive, Koguryo began taking serious defensive measures: General Yon Kaesomun, for example, constructed the Great Wall of Korea that stretched from Puyosong (Fuyucheng, modern city of Nong'an, Jilin Province, China, to the mouth of the Liaodong River, where it flows into the Bohai (Parhae) Gulf. Further alerted by the Tang's aggression, Yon Kaesomun seized power in Koguryo through a coup, breaking its ancient internal order in 642 CE. He killed the King and many of his opponents, and instituted a dictatorship by concentrating power in his hands.

Koguryo, led by Yon Kaesomun, defended itself well against the Tang's three military expeditions, sent by Emperor Taizong. But Silla, on the defensive, allied with the Tang

Gilt-bronze Buddha with inscription "Yonga reign, 7<sup>th</sup> year".



Tokhung-ri Tomb (408 CE), Nampo. West and north walls of the antechamber: 13 government officials congratulating the tomb-owner, Jin, on his appointment to an important post. Tokhung-ri is one of the three tombs with an inscription of the name of the tomb-owner and the date of its construction.



against Paekche and Koguryo, first defeating Paekche in 660 CE, and then the coalition formed by restored Paekche and Wa in 663 CE at the mouth of the Kum River. When Yon Kaesomun died in 666 CE, his kin engaged in internal conflicts that led to the collapse of Koguryo's dictatorship: the capital fell when attacked jointly by Tang China and Silla, and Koguryo perished in 668 CE.

Although little of Koguryo's cultural heritage has survived, its mountain fortresses and tombs stand as inalterable symbols of its culture. As Koguryo emerged and developed through conflicts with the Chinese dynasties, it established a defensive system covering its vast and expanding territory, constructing mountain fortresses at various strategic locations.

The capital of Koguryo was built around a mountain fortress, which functioned as a refuge in case of attack by foreign enemies, and a castle that served as a residence. The same model of building around a fortress and castle was also followed in Koguryo's regional towns, and strongly influenced states in the southern part of the Korean Peninsula.

Chinese historical documents record that people in Koguryo started preparations for their journey to the afterlife as soon as they got married and invested all resources in their burial: tombs were of prime importance to them. Koguryo's tombs can be divided into two types according to their appearance: stone-pile tombs consist of stones piled up in a pyramid shape, and





(left) Muyongchong Tomb (5<sup>th</sup> c. CE), Ji'an. North wall of the main chamber: hunting scene.

(top right) Tokhung-ri Tomb. East wall of the passage between the antechamber and the main chamber: military procession.

(bottom right) Anak III Tomb (357 CE), Hwanghae province, another one of the three tombs inscribed with its date of construction. Stable: three horses eating in a trough.

stone-chamber tombs of a stone chamber covered by an earthen mound. In the modern city of Ji'an, which was the capital of Koguryo for more than 200 years, there are still more than 10,000 large tombs of both types.

While the stone-pile tombs declined when the capital moved to Pyongyang, stone-chamber tombs continued to be constructed. Some of the latter tombs had a stone chamber with elaborate mural paintings: such mural paintings have thus far been identified in various tombs in the region of Ji'an, and in 70 tombs in the region of Pyongyang. The paintings, drawn with a graceful touch, illustrate Koguryo's unique culture, which, under the influence of the Chinese dynasties, developed in a distinctive manner.

Koguryo adopted Chinese characters for writing in its early stages. Koguryo also invented new styles of writing adapted to the syntax of its own language, new characters that did not exist in China, and unique abbreviations, expressions and writing styles. In other words, Koguryo adopted and developed Chinese characters in a unique way, which largely influenced the writing culture of its neighbouring countries, such as Silla, Paekche, Kaya and Wa.

As it was in political conflict with Chinese dynasties over centuries, Koguryo was, at each stage of development of the kingdom, influenced by various cultural elements from China, including Confucianism, administrative and penal laws, and



(Left) Anak III Tomb. East wall: depiction of a kitchen, meat store and carriage shed.



(Right) Tokhung-ri Tomb, portrait of the tomb owner, Jin.

Buddhism, as Buddhist scriptures had already been translated into Chinese. Just like Chinese characters, these cultural elements were eclectically adopted and merged with Koguryo's tradition, which resulted in the creation of a distinct new culture. The Chinese civilization was transmitted to and adopted by Koguryo, and passed on to Silla, Paekche, Kaya and Wa, and influenced various aspects of politics, society and culture in these states, when Koguryo began its expansion after the 4<sup>th</sup> century CE—particularly toward the southern part of the Korean Peninsula.

Among the many states and countries surrounding China, political powers such as Koguryo, Paekche, Silla, the Kaya states and Wa, which developed in ancient North-East Asia, made up a unique area, incorporating the most remarkable characteristics of Chinese civilization. It would, however, be appropriate to understand that this area was not simply sinicized, but that the influence of Chinese civilization contributed to creating a unique

degree of cultural development. In other words, Koguryo played a role as a vector for the development of culture in ancient North-East Asia, and should therefore not be underestimated. Finally, Koguryo's contribution to the development of a regional culture, stretching from the Korean Peninsula to the Japanese Archipelago, characterized by similar polities, societies and cultures, should be fully recognized.

TRANSLATED FROM JAPANESE BY AKIRA MATSUDA





# The unique Testimony of Koguryo Art

PIERRE CAMBON

CHIEF CONSERVATOR, MUSÉE GUIMET, FRANCE

On the threshold of China, the Koguryo kingdom (1<sup>st</sup> c. BCE-7<sup>th</sup> c. CE) projects the image of a Korea open to Eurasia, situated at the Eastern extremity of the Silk Road and the road to the steppes. Emblematically, from its height of seven metres, the stele of Kwanggaeto proudly proclaims its history and its identity. *“On every side, in the area,”* report the first Japanese accounts, around 1884, *“there are several hundreds of old mounds, which have buried columns with multiple stone bases. The people of the country call them ‘Tombs of Kaoli’ (Korea).”* The stele tells the origin of the kingdom, the long march to the south from the Amur River to the high valley of the Amnok River, before the region of Tonggu became the cradle of the new power. *“Here is the territory where, in times past, the first king Chumu founded [his kingdom]. He came from Puyo in the north; [he was] the son of the Heavenly Emperor. His mother [was] the daughter of the river god. [...] In the seventeenth age, this grandson, the great and good [...] Kwanggaeto (391–413) ascended the throne;*

Anak III Tomb, portrait of the  
tomb owner's wife.





(Top) Susan-ri Tomb  
(second half of the 5<sup>th</sup> c. CE),  
Nampo. West wall:  
the tomb-owner couple leads  
a procession. In front of them,  
acrobats perform  
various tricks, such as pole  
walking and ball rolling.

(Bottom) Susan-ri Tomb, two  
details of the procession.



[...] *the majestic sky reflected his benevolence; his strength as a warrior extended across the four seas.*" [Maurice Courant, "Stèle chinoise du royaume de Ko Kou Rye", *Journal asiatique*, Paris, 1897] The stele further tells of the expeditions to the south of the Korean peninsula to hold off Japanese raids. Covering an immense territory, the Koguryo kingdom thus appears as a real power, the only one rivalling the neighboring principalities of northern China.

As the last remnants of its past greatness, Koguryo's tombs and their rich mural paintings are an exceptional testimony in North-East Asia to a pictorial tradition unique in its diversity and its abundance. The evolution of this tradition can be followed for almost four centuries—from the first tombs grouped around the second capital (today Ji'an, China) to those around Pyongyang, the last capital. The first tiered tombs on the Korean-Chinese



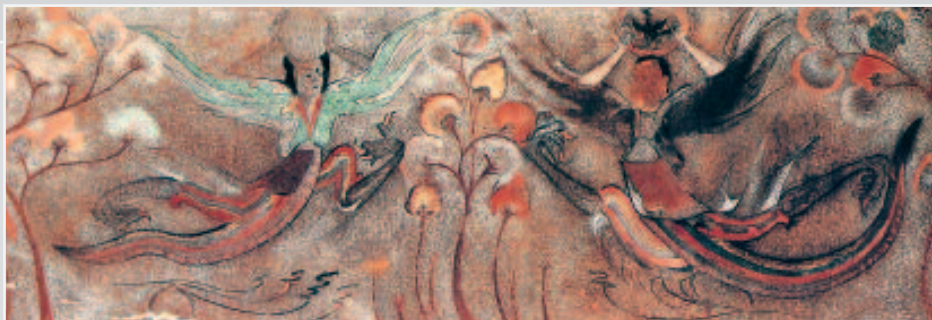
border were in fact pyramids of stone with earth mounds covering the funerary chambers, built following an increasingly complex layout (pillared antechamber, central hall, and chamber of the deceased). The *laternendecke* ceiling recalls the Turkic world and, beyond Central Asia, the caves of Bamiyan and the Afghan regions at the foot of the Hindu Kush.

But their most spectacular legacy remains above all the paintings, which in the examples conserved around Pyongyang often appear astonishingly fresh. The oldest tomb (Anak III), built in 357, shows the ambiguity of relations between rival kingdoms in the north-east of China. They are also a direct and often touching testimony to life and society, when the deceased showcases himself, receiving the homage of his subjects, in the company of his wife, and displaying his wealth and prosperity. The vitality of the compositions and their humour, their sense of

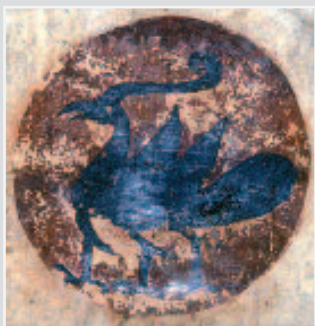
realism and of living detail demonstrate a characteristic sensitivity and a true mastery of the art of painting. The same is true of the later highly stylized and powerful compositions representing the four Guardian Deities, the symbols of the four directions: the white tiger of the west, the phoenix of the south, the black tortoise of the north and the dragon of the east. Even though these are typical creatures of Chinese mythology, their representation and stylization here show a very high degree of plasticity, a sense of composition and concision—purified images, almost heraldic, of a marvelous, quite fantastic, world, standing out from the walls in an abstract space. In these paintings one can distinguish concepts and dreams, astronomical charts, the moon and sun, and the symbol of the Great Bear; one may also decipher mental or even philosophical conceptions, as in the first figural representations of Buddha, echoing the first gilded bronzes

Anak III Tomb. East side of the corridor of the main chamber: military procession scene.





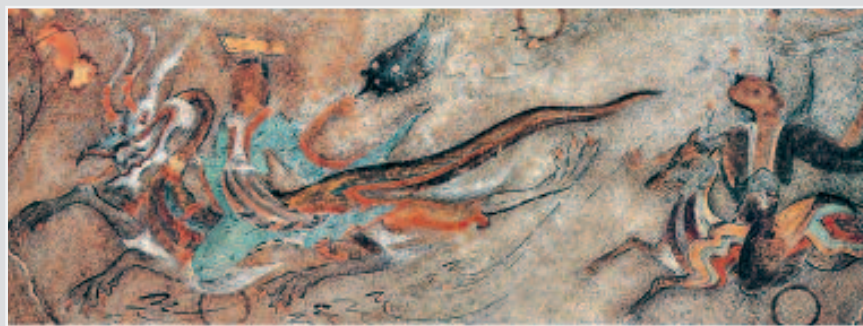
(Top left and right) Ohoe V Tomb, (6<sup>th</sup> c. CE) northeast corner and Ohoe IV Tomb (late 6<sup>th</sup>–early 7<sup>th</sup> c. CE), north side of the ceiling of the main chamber: sun and moon gods.



Kakjochong Tomb (first half of 5<sup>th</sup> c. CE), Ji'an. Three-legged black bird inside a wheel symbolizing the sun.



Tokhwa-ri II Tomb (late 5<sup>th</sup>–early 6<sup>th</sup> c. CE), South Pyongan Province. Moon disc with a toad and rabbit.



Ohoe V Tomb (6<sup>th</sup> c. CE), Ji'an. Northwest corner of the main chamber: immortals riding on a dragon and on a Kirin.

Tonggu Sasinchong Tomb (6<sup>th</sup> c. CE), Ji'an. Supporting stone on the west side of the ceiling: god of fire.







Anak II Tomb (late 5<sup>th</sup> or early 6<sup>th</sup> c. CE), Hwanghae Province. West wall of the main chamber: procession of women and children. Ceiling supports are painted with decorative lotus flowers.

found in Chinese territory. But here the clothes are in Koguryo style; just as the tomb of Takamatsu zuka in Japan shows ample evidence of northern influence, underlining the undeniable role that the Koguryo kingdom played in the transmission of Buddhism to the Japanese Archipelago.

In addition to their role as testimony to a bygone world and their outstanding aesthetic quality, the mural paintings of Koguryo also mark a decisive shift in the art of painting in North-East Asia, as one can observe in the development of a specific Far Eastern theme: that of landscape. The paintings of Tonggu's hunting expeditions in the mountains, in which the jagged peaks are hardly larger than the tiger or even the knight desperately

attempting to ascend them in hot pursuit, directly recall those of Dunhuang. They are followed later by a more mastered art, such as the trees in the wind at Jinpari, sometimes reproduced in art history manuals to evoke the very beginnings of landscape in China. If these links with the Chinese world seem evident, they are often much more complex than a simple transmission of influences or ideas, because the Koguryo kingdom integrated highly disparate traditions; due to its position, open to the influence of the steppes and the world of the nomads, Koguryo art shows a unique simplicity of line and an often naturalistic approach, a taste for realism and for the seen object which seem to belong to it alone. The singularity of these mural paintings,

(Top) Tokhung-ri Tomb. East wall of the antechamber: armored horses and riders.

(Bottom) Sangyongchong Tomb (late 5<sup>th</sup> c. CE), Nampo. This is the first image showing a Buddhist monk of the Koguryo period.



their wealth, their imagination and their vitality, contrast with the rarity of pictorial evidence found in the kingdoms of the south of the Korean Peninsula, Paekche and Silla. The integration of the tombs into the landscape according to the concepts of geomancy suggests an innate sense of nature, a mastery of space and landscape, the love of perspective and a global vision, showing the ancientness of concepts which have survived up to the present day: the quest for an ideal world where harmony prevails, and where the tomb naturally blends into a calm and serene frame, uniting the forms of the mountains, the flowing river and the century-old pines for all eternity.

TRANSLATED FROM FRENCH BY ABIGAIL KRASNER





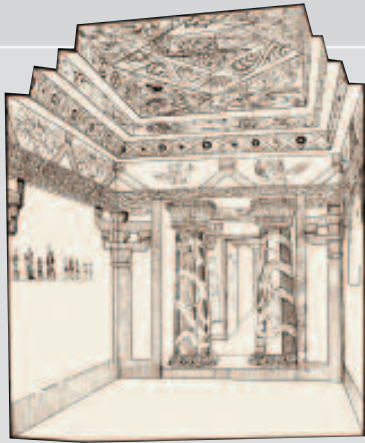
# Description of the Koguryo Tombs

## DEVELOPMENT OF TOMB MORPHOLOGY

The Koguryo kingdom ruled much of North-East Asia for at least 700 years (in the DPRK, Koguryo is considered to have existed from 277 BCE to 688 CE; in the ROK and the PRC from 37 BCE to 688 CE), making it one of the longest-ruling and most powerful dynasties of the period. The most considerable legacy of the Koguryo Empire are the tomb complexes stretching across the Korean Peninsula and modern-day North-Eastern China, which, with their delicate wall paintings and complex architecture, reveal a strikingly creative and advanced culture.

The tombs are subterranean or semi-subterranean, recognizable from the outside by their distinctive pyramid-shaped mounds. They were built throughout the Koguryo period to hold the bodies and precious belongings of Koguryo aristocracy and royalty. According to Koguryo religious beliefs, the soul was immortal and would continue living after the body died. Consequently, the Koguryo people arranged their burial chambers like houses to serve as the deceased's home in the afterlife, ranging in size from one small chamber to multiple chambers with a corridor, and decorated with images of the luxurious life that awaited them after death. The vaulted ceilings show the

Tukhwa-ri I Tomb (late 5<sup>th</sup>early 6<sup>th</sup> c.), South Pyongan Province. North side of the main chamber ceiling: a red-coloured big dipper is drawn across four successive tiers, surrounded by decorative patterns and constellations.



Sangyongchong Tomb.  
Drawing of the octagonal pillars (*above*) and photo of the two octagonal pillars at the entrance of the main chamber (*right*).

(*Far right*) Anak II Tomb.  
Northwest corner of the main chamber: painted brackets, decorated with cloud and lotus motives.

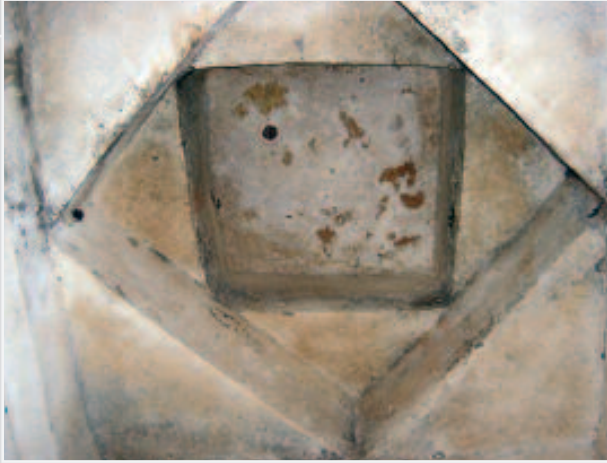


architects' inventiveness in designing roofs that would be beautiful and also hold the considerable weight of the stone or earthen mounds placed on top. These vaulted or corbelled ceilings evolved into complex geometric patterns unique to Koguryo.

#### STRUCTURE OF THE TOMBS, ARCHITECTURE

The earliest tombs unearthed by archaeologists date back to the first century CE, the latest ones to the seventh century. Over the interval of six hundred years, the structure of the tombs and the way their walls were adorned changed, affording a unique view of the evolution of Koguryo architectural and artistic styles. The





mural paintings contained in some of the tombs displayed what the artists imagined the deceased's afterlife would be like, and in doing so presented pictures of everyday life of nobles and royalty in the Koguryo kingdom.

In addition to these images of human life, many of the paintings also show sacred figures, such as the Four Guardian Deities, believed to represent the four directions and to scare off evil



(Top left) Jinpari VII Tomb.  
Typical Samgak pyonghang  
koim (Three-cornered parallel  
vault) ceiling.

(Bottom left) Jinpari I Tomb  
(second half of the 6<sup>th</sup> c. CE),  
Pyongyang. Painted Samgak  
pyonghang koim ceiling.

(Above) Sangyongchong  
Tomb. Painted ceiling: lotus  
flower and heavenly world.

Kakjochong Tomb. East wall of the main chamber: the tomb-owner drinking tea.



spirits. In short, the mural paintings of Koguryo tombs serve as an unparalleled collection of information on Koguryo life, customs and beliefs. Archaeologists and art historians have determined four distinct periods, according to differences in tomb morphology and in content and style of their mural paintings.

In the **Early Period (1<sup>st</sup>–3<sup>rd</sup> century)**, the majority of tombs had one chamber and were covered by a stone pile. The tombs have no entrance, instead the coffin was lowered from above, and the tomb was permanently sealed by the pyramid-shaped pile of stones above the opening. Stone-pile tombs are generally found near rivers.

The other style of tomb, which was less common in the early years but became more prevalent later, eventually replacing the stone-pile tombs, was the stone-chamber tomb covered by an

earthen mound. This second style consists of a stone structure partly aboveground with an entrance at the front, covered by a mound of earth. The coffins were carried in through the entrance, and the structures could become more complicated in later years, with several chambers or entrance corridors. Earthen-mound tombs generally sit at the foot of a mountain with a view of a plain or river below. In the early period, the walls of both the stone-pile and stone chamber earthen-mound tombs had little or no decoration, and the ceilings were flat.

The **first Middle Period (3<sup>rd</sup>-mid-4<sup>th</sup> century)** is characterized by the exclusive use of stone chamber earthen-mound style tombs. Most of the tombs continued to be one-chamber, but in this period some tombs began to have niches or small chambers adjacent to the main chamber. In tombs from the first Middle Period,





Muyongchong Tomb. South wall of the main chamber: dancing scene.

images including portraits of the deceased and scenes from their life after death (“genre” paintings), as well as abstract patterns began to be used to decorate the walls. It is generally believed that the tombs with mural paintings were those belonging to aristocracy or royalty. As in the early period, most of the entrances of the stone chamber tombs faced west or southwest. The interior ceilings began to have vaulted or corbelled ceilings, precursors of the *laternendecke* ceiling form that later became one of the hallmarks of Koguryo tomb architecture.

#### GENRE PAINTING TOMBS

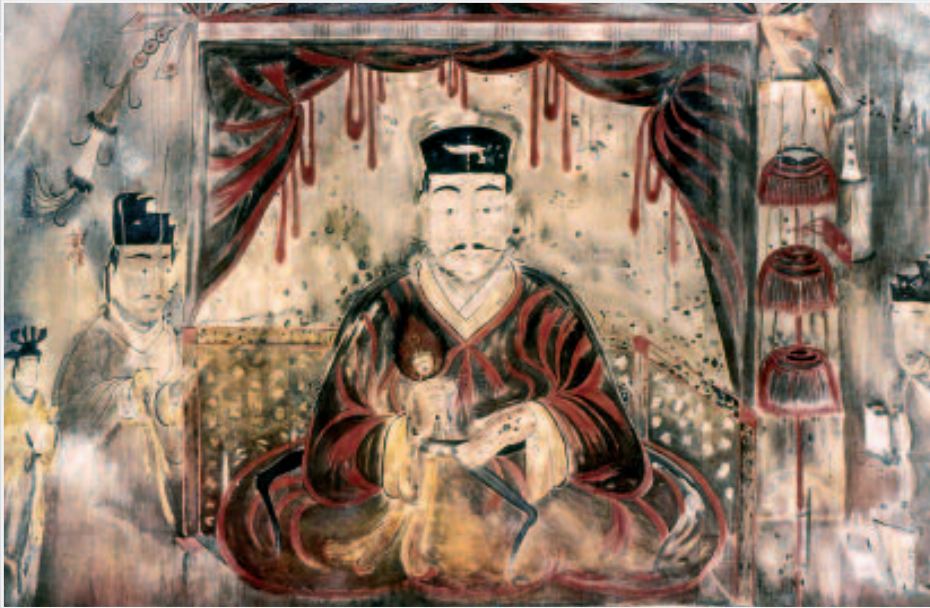
In the genre painting tombs, the main theme is the continuation of life after death. There are scenes of the deceased managing affairs of state, leading parades with flying banners, sitting with his wife under a canopy

or welcoming guests, watching dancing, singing and acrobatic feats, hunting, fighting, cooking in the kitchen or offering food to Buddha. In the genre painting tombs, a portrait of the deceased is always included.

#### TOMBS WITH A DECORATIVE PATTERN

Decorative pattern tombs are painted with primarily abstract patterns on the walls, though they sometimes also contain smaller images of the deceased or the Four Sacred Animals.

In the **second Middle Period (mid-4<sup>th</sup>–early-6<sup>th</sup> centuries)**, a second chamber began to appear regularly in stone chamber earthen-mound tombs. Paintings were often included on the walls and were generally portraits, genre paintings and images of the



Anak III Tomb: portrait of the tomb owner. While academics in the DPRK argue that Anak III is the tomb of King Kogukwon (died in 371 CE), academics in the Republic of Korea consider it to be the tomb of an official named Dongsu, as this name appeared among the inscriptions of the tomb.

The 28<sup>th</sup> session of the World Heritage Committee, held in Suzhou, China, in July 2004, inscribed the “Complex of the Koguryo Tombs” presented by the Democratic People’s Republic of Korea on the UNESCO World Heritage List as a monument, in view of its outstanding artistic, historic, cultural and architectural value.

The same session of the World Heritage Committee inscribed the “Capital Cities and Tombs of the Ancient Koguryo Kingdom”, presented by the People’s Republic of China, on the World Heritage List as a serial nomination of sites, including 40 tombs and 3 archaeological cities (Wunu Mountain City, Guonei City and Wandu Mountain City).

four deities. Complex ceiling structures became more frequent, as the *laternendecke* form became the norm.

#### SASINDO OR FOUR GUARDIAN GEITIES


The Sasindo or Four Guardian Deity painting tombs contain mural paintings depicting four fantastic animals which are considered to be the defenders of the four directions on each wall: Blue Dragon for the east, White Tiger for the west, Tortoise and Snake for the north, Red Phoenix for the south. They are also believed to defend the soul of the deceased against demons.

In the **Later Period (6<sup>th</sup>–7<sup>th</sup> century)**, most tombs had one chamber decorated almost exclusively with images of the four deities. All tombs were of the stone chamber earthen-mound variety. Their front entrance generally faced south, and all ceilings were of the *laternendecke* form.

So far over 10,000 Koguryo tombs have been identified in China and Korea. Among these, some 100 are decorated with wall paintings, of which more than 70 are located in the Democratic People’s Republic of Korea. This number is expected to grow, as newly discovered tombs with mural paintings continue to appear.

The style of tombs found in Koguryo was also used in other kingdoms in the following years, including in Silla, Paekche, Kaya and the Japanese archipelago. However, the early dates of the Koguryo tombs and their high level of preservation set these tombs apart.





# Astronomical and spiritual representations

KIM IL-GWON

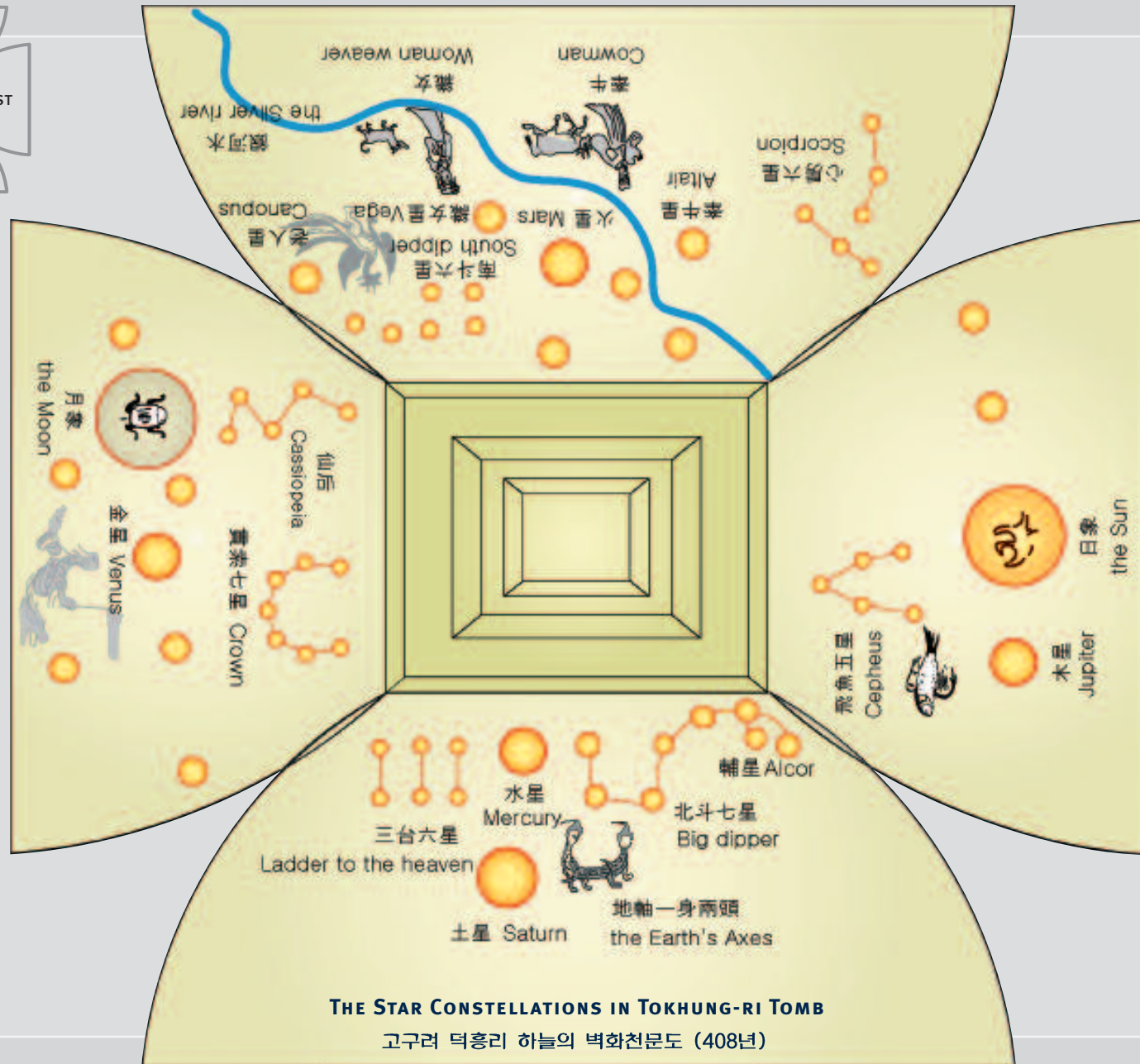
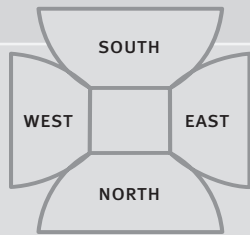
SENIOR RESEARCHER, KOGURYO RESEARCH FOUNDATION, ROK

**A**mong the ancient states of East Asia, the Korean kingdom of Koguryo produced the greatest number of tomb mural paintings in the shortest period of time. Mural paintings can be found in more than one hundred Koguryo tombs which were constructed during a 300-year period from the 4<sup>th</sup> to the 7<sup>th</sup> Century CE. The concentrated effort Koguryo invested in making funerary mural paintings is clear when one considers the fact that evidence suggests fewer than 90 tombs with mural paintings were constructed in the Chinese Empire during roughly the same time period (3<sup>rd</sup>–10<sup>th</sup> c. CE).

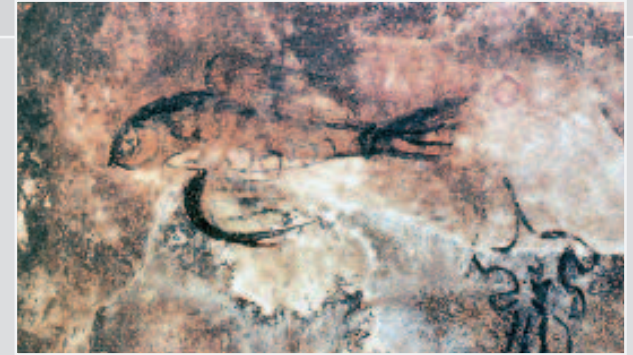
Approximately seventy tombs with mural paintings were discovered around the area of the Koguryo Kingdom's last capital, Pyongyang, which is presently the capital of the Democratic People's Republic of Korea (DPRK). The remaining thirty tombs are located around Kungnae-song, the second capital of Koguryo (presently Ji'an, Jilin Province, China) and Hol-bon, Koguryo's first

Kangso Middle Tomb  
(second half of 6<sup>th</sup> c.– first  
half 7<sup>th</sup> c. CE), Nampo.

West side of the south wall:  
red phoenix (one of the four  
guardian deities or Sasindo).







capital (presently Huanren County, Liaoning Province, China). The funerary mural paintings reveal convivial scenes of Koguryo festivals and gatherings; they include pictures of people drinking tea, engaging in conversation and other activities of daily life. Moreover, the murals give expression to the rich mythological world of the Koguryo people.

One of the most fascinating aspects of the mural paintings found in the Koguryo tombs is the significant number of drawings depicting constellations. Representations of various constellations drawn with lines connecting the individual stars have been found in twenty-four Koguryo tombs. In contrast, constellations have only been found in sixteen of the Chinese tombs constructed during the Wei-Jin and Sui-Tang periods. In addition to this difference in the quantity of constellation paintings found in Koguryo and Chinese tombs, the way in which the stars are represented in Koguryo murals is qualitatively different from their Chinese equivalents. Chinese mural paintings tend to be largely decorative with stars simply scattered around the ceiling of the tomb.

Paintings of the constellations found in Koguryo tombs show the three following characteristics which distinguish them from their Chinese counterparts.

Firstly, certain constellation shapes are found in Koguryo funerary paintings which are absent from ancient Chinese astronomical charts. A characteristic example can be found in Tokhung-ri Tomb (located in Nampo city, Pyongan South Province) which was constructed during the 18<sup>th</sup> year of the reign of the 19<sup>th</sup> Koguryo Great King Kwanggaeto (reigned from 391 to 413). On the ceiling area of the west wall of this tomb, a five-star constellation is painted above the moon drawn with a picture of a toad on its surface. The five stars are connected by a line into a “W” shape. This constellation is thought to represent the highly visible Cassiopeia Constellation which rotates in the night sky throughout the year not far from Polaris. Ancient Chinese astronomers did not view the Cassiopeia Constellation in its characteristic “W” shape since they conceptualized the individual stars of Cassiopeia as belonging to three different constellations, namely Wang-ryang-sung, Chaek-sung, and Kak-do-sung. This fact suggests that Koguryo astronomy belonged to a tradition somewhat different from China’s. Drawings of the Cassiopeia Constellation’s distinct “W” shape can also be found in the later Koryo Dynasty’s astronomical charts which carried on the Koguryo tradition.

(Left) Yaksuri Tomb (early 5<sup>th</sup> c. CE), Nampo. West wall: white tiger (one of the four guardian deities).

(Right) Tokhung-ri Tomb: Flying fish.

Kangso Great Tomb (early 7<sup>th</sup> c. CE), Nampo. South wall of main chamber: a pair of red phoenixes are painted on either side of the entrance.



Secondly, Koguryo developed a unique astronomical system of constellations for the four cardinal directions which cannot be found in Chinese tomb mural paintings. This system – which I will call “Sa-suk-do” or the “Four Directional Constellations” – shows that the people of Koguryo believed that specific constellations represented each of the four cardinal directions: north, south, east and west. On the northern ceiling of their tombs, Koguryians painted the ever-visible Big Dipper. On the southern ceiling symmetrical to the Big Dipper, they painted the “Namdoo Six Stars” or the “Southern Dipper Constellation” – a grouping of six stars

found in the Sagittarius Constellation which resemble the Big Dipper. Both the Big Dipper and the Southern Dipper are shaped like a ladle. In the Taoist tradition, their astrological roles are also complementary. Namely, the Southern Dipper is said to govern human health and longevity while the Big Dipper watches over life after death.

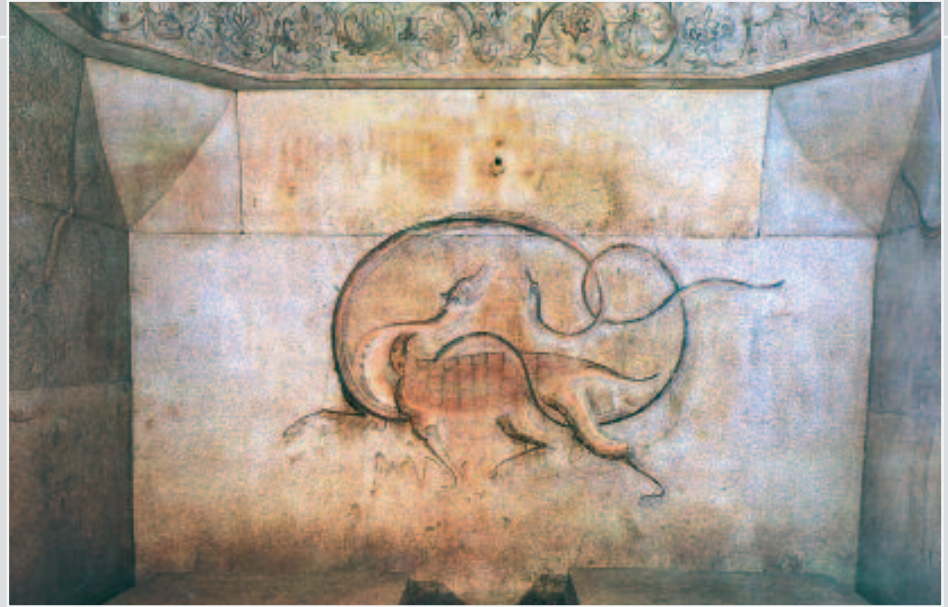
The Sim-Bang Six Star Constellation of the Scorpion, which resembles the shape of two sticks crossing each other, can be found on the eastern ceiling of many Koguryo tombs. On the western ceiling, a constellation called the Sam-Beol Six Star





Constellation of the Orion was usually painted symmetrically with the Sim-Bang Six Stars. These two constellations are positioned at a 180-degree angle from each other, with respect to the equator, so that, when the Sim-Bang Six Stars rise in the eastern sky, the Sam-Beol Six Stars disappear in the west as if the two constellations were on a giant seesaw. Such astronomical details show that Koguryo's "Four Directional Constellations" were based on careful observation of the heavens.

Thirdly, in addition to the "Four Directional Constellations," a "Polar Three Star Constellation" (a constellation consisting of the North Polar Star—the central star of East Asian astronomy—and two other stars) was often found at the centre of Koguryo tomb ceilings. From this evidence, we can infer that the Koguryo astronomical system used one constellation for each of the five directions. In other words, it was a "Five Directional Constellation



System." Furthermore, the presence of this "Polar Three Star Constellation" on the ceilings of Koguryo tombs, shows another important difference between Chinese and Koguryo astronomy. Whereas Chinese astronomy of the Sui and Tang periods grouped four stars together with the north polar star to make a "Polar Five Star Constellation," Koguryo used a "Polar Three Star Constellation." "Polar Three Star Constellations" identical to those found in Koguryo tombs were used in the burial mural paintings of the later Korean Kingdom of Koryo. It seems clear that the Koguryo and Koryo Kingdoms shared the same astronomical traditions which differed from China. It is also important to note that Koguryo paintings of the "Polar Three Star Constellation" are the oldest known remaining historical evidence of the use of north polar star constellations in ancient East Asian astronomy.

*(Left).* Kangso Great Tomb.  
Drawing of the main  
chamber.

*(Right)* Kangso Great Tomb.  
North wall of the main  
chamber: "Black warrior",  
a combination of snake and  
turtle in one body.

Kangseo Great Tomb.  
East wall of the main  
chamber: blue dragon.



It is important to point out that Koguryo's "Four Directional Constellation System" should be understood in relation to the Four Guardian Deities painted on Koguryo burial chamber walls. Large paintings of each of the Four Guardian Deities in the four directions can be found in most Koguryo tombs from the middle and later period of tomb construction (5<sup>th</sup>–7<sup>th</sup> c. CE). It has been confirmed that at least thirty-four Koguryo tombs contain mural paintings which depict the Four Guardian Deities. These four sacred animals—namely the East Blue Dragon, West White Tiger, South Red Phoenix and North Black Turtle—were thought to protect the deceased in the afterlife by guarding the four cardinal directions.

Representations of the Four Guardian Deities began with stars situated in the southern sky around the equator—stars which appeared to form different shapes depending on the season. The stars visible around the equator during the spring season seemed to take on the shape of a Blue Dragon while in the fall they were transformed into a White Tiger. In summer the stars looked like a Black Turtle and in the winter they appeared as a Red Phoenix with wings spread wide. These visions developed into four sacred symbolic animals which guard both the four seasons and the four directions of heaven and earth.

The Four Guardian Deities began to take on different roles and can be divided into two distinct types. The Blue Dragon guarding





Kangseo Middle Tomb.  
West wall of the main  
chamber: white tiger.

the east and the White Tiger guarding the west became deities thought to expel malevolent forces. Their duty was to protect the tomb from destruction and fight off diabolical beings who sought to harm the deceased. Thus the Blue Dragon and White Tiger were depicted as extremely fierce mythical beings. Since they were to guard the tomb against invasion, these two Guardian Deities were always painted in positions facing the entrance to the tomb.

In contrast to the fierce renderings of the tiger and dragon, the Black Turtle of the north and the Red Phoenix of the south were painted in magnificently harmonious shapes and hues. Such harmonious depictions correspond to the idea that—as inscribed on a copper mirror excavated around Pyongyang—

“The Black Turtle and Red Phoenix harmonize Yin and Yang.” Red Phoenixes are often painted in harmonious male and female pairs and the Black Turtle is usually depicted intertwined with a snake into various complimentary shapes. Such pairings reflect the East Asian philosophy of the “Harmony of Yin and Yang.” The Four Guardian Deity mural paintings found in the highly lauded Kangso Great tomb also give expression to the complimentary concepts of Yin and Yang. On the walls near the southern entrance to this tomb, a single pair of Red Phoenixes, female and male, stand facing each other with their wings spread wide. A Black Turtle graces the northern wall of the tomb with the harmonious beauty of its smooth circular shape.

천문표지 INDICATION OF ASTRONOMY	사신도(四神圖) THE FOUR GUARDIAN DEITIES	일월상 (日月像) THE CELESTIAL SYMBOLS OF THE SUN AND MOON	사숙도 (四宿圖) THE FOUR DIRECTIONAL CONSTELLATIONS
방위 DIRECTION			
동 EAST	청룡 (靑龍) The Blue Dragon	해 (日象) The Sun Disk	심방육성 (心房六星) The Sim-Bang Six Stars (the Scorpio, 전갈자리, Sco)
서 WEST	백호 (白虎) The White Tiger	달 (月象) The Moon Disk	삼별육성 (參伐六星) The Sam-Beol Six Stars (the Orion, 오리온자리, Ori)
남 SOUTH	주작 (朱雀) The Red Phoenix		남두육성 (南斗六星) The Namdoo Six Stars (the Archer, 궁수자리, Sgr)
북 NORTH	현무 (玄武) The Black Turtle		북두칠성 (北斗七星) The Bookdoo Seven Stars (the Big Dipper, 큰곰자리, UMa)
중앙 CENTER	황룡 (黃龍) The Golden Dragon	[오신도(五神圖) /오숙도(五宿圖)] [Five Guardian Deities & Five Directional Constellations]	북극삼성 (北極三星) The Polar Three Stars (the Small Bear, 작은곰자리, UMi)



(Top left) Anak III Tomb.  
Attendants to the Tomb-  
owner.

(Top right) Tokhung-ri Tomb.

(Bottom) Anak I Tomb (late  
4<sup>th</sup> c. CE), Hwanghae Province.  
West section of the ceiling of  
the main chamber: a Kirin,  
mythical animal often depict-  
ed with a horn and wings,  
living in a heavenly world.

There is one important icon found in some Koguryo Four Guardian Deity paintings which is absent from similar Chinese mural paintings: a Golden Dragon depicted at the centre of the ceiling. This suggests that Koguryo may have had a “Five Guardian Deity System.” Golden Dragons started appearing in Koguryo burial murals from the later period of tomb construction (6<sup>th</sup>–7<sup>th</sup> c. CE). Examples can be found in Kangso Great Tomb, Ji’an No. 4 Tomb of the Five Tombs and the Ji’an Sa-sin Tomb.

Since the Kangso Great Tomb is thought to be the burial site of Koguryo’s 25<sup>th</sup> King Pyong-won (reigned from 559 to 590), some have speculated that the Golden Dragon was the cosmo-  
logical emblem of the Koguryo Royalty. Interestingly, Golden  
Dragons are often found on the ceiling of burial chambers along

with the Polar Three Star Constellation. For example, a Golden Dragon can be found directly underneath a Polar Three Star Con-  
stellation in Ji’an No. 4 Tomb of the Five Tombs. This positioning  
indicates that, in Koguryo cosmology, the Golden Dragon rules  
over the world, at the centre of the universe and of the four  
directions. By studying the layout of Koguryo’s later tombs, we  
may surmise that Koguryians believed that the north polar star  
presided over the Koguryo Kingdom and the destinies of this  
world. In this way, Koguryo developed a Golden Dragon cosmol-  
ogy centring around the Polaris star.

TRANSLATED FROM KOREAN BY MARCIE MIDDLEBROOKS





# The excavation of Koguryo sites

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The Koguryo Dynasty reigned over a powerful kingdom which existed and prospered for nearly 1 000 years, from 277 BCE to 668 CE, in a vast area covering mainly the Korean peninsula and northeast China. A clear understanding of the role of this kingdom is important not only in the history and culture of Korea but also of East Asia.

However, many challenges arise in identifying and excavating Koguryo sites, as many of them were thoroughly destroyed and plundered when the kingdom collapsed, and few traces of its culture remain. In spite of these difficulties, many achievements have been made in the excavation and archaeological studies of Koguryo sites such as tombs, fortresses, palaces, and temples.

Among the heritage left by the Koguryo kingdom, the wall-painting tombs are of special importance. Tens of thousands of Koguryo stone-pile tombs and earthen-mound tombs are located around Pyongyang and in the northwest part of the Korean Peninsula as well as in northeast China, including in the Ji'an area. However, among the tombs discovered up to now, not one is intact; all have been looted.

Wall of Mount Hwangryong  
Fortress, Nampo.

(Left) Jongrung Temple and the Tomb of King Tongmyong (late 4<sup>th</sup>-early 5<sup>th</sup> c., Pyongyang).

(Right) Mt. Hwangryong Fortress.



Thus far, approximately 100 tombs have been discovered. Seventy-three are located in the northwest of the Korean Peninsula and 23 in northeast China (as of late 2004). From the geographical point of view, the areas with mural tombs can be divided as follows: Pyongyang area (26 tombs), South Pyongan Province (33 tombs), Anak area in South Hwanghae Province (11 tombs), and North Hwanghae Province (3 tombs). The mural-painting tombs were built between the 3rd and 7th century CE for kings and other high-ranking nobles of Koguryo.

The Koguryo mural-painting tombs bear testimony to the religious ideas of the time, as well as to the architecture and painting skills of the Koguryo people. The mural paintings are also rich in representations of many different aspects of life: politics, economy, military affairs, religion, traditions, astronomy, art, etc. Therefore they are of immense value in the study of Koguryo.

From an architectural point of view, the mural-painting tombs are divided into single-, double- and multi-chamber tombs. If one divides them according to the subject of their

paintings, they fall into four categories: (1) portrait and genre-painting tombs; (2) tombs combining portrait and genre-painting with four sacred animal paintings; (3) four sacred animal painting tombs; and (4) decorative-pattern painting tombs. Among the Koguryo mural painting tombs discovered thus far, 33 tombs fall into the first category (26 of which are in the Korean Peninsula), 24 tombs into the second category (21 in the Korean Peninsula), 12 tombs into the third category (9 in the Korean Peninsula) and 8 tombs into the fourth category (1 in the Korean Peninsula). The remaining 19 tombs are too severely damaged to distinguish their paintings. In each tomb, the main theme of the mural painting and the architecture of the tomb are closely linked; their evolution documents the changes in the religious representations of the Koguryo people. Although mural-painting tombs exist in other parts of the world, not many can rival with those of the Koguryo Kingdom. For this reason, these sites are invaluable treasures of mankind as a whole.

Among the Koguryo sites, fortresses are no less valuable than mural-painting tombs. In medieval warfare, in which short-





distance firing weapons were mainly used, fortresses were considered as one of the most important defense facilities. Every country built fortresses, but Koguryo was famous for its technique of building durable stone walls. So far, hundreds of fortresses have been identified as belonging to Koguryo, most of which are mountain fortresses. They were usually built on a terrain with rich water resources, surrounded by several valleys

and mountain ridges, which made it possible to house a great number of people and endure long wars. Koguryo-style wall construction is characterized by the size of its stones, which were well cut and interlocked in the way that bricks are laid, thus greatly improving defense capabilities. This kind of fortification would be built at strategically important points from the front to the more remote rear areas. The Koguryo fortresses were crucial in allowing Koguryo to become one of the most powerful feudal kingdoms in the East for approximately 1 000 years.

Royal palaces and temples have also been identified among the Koguryo relics excavated so far. Koguryo moved its capital three times and the site of its third capital (427-586 CE), the Anhak Palace of Pyongyang, was excavated and documented between 1958 and 1969. This site consists of 53 buildings surrounded by a square wall, each side of which measured 622 meters. In addition, the Onyo mountain fortress and Kungnae fortress, the sites of the first and second capitals of Koguryo Kingdom, were excavated and also bear testimony to the earlier tradition of palace architecture in Koguryo.

After the introduction of Buddhism into Koguryo in 372 CE, many Buddhist monasteries were also built. Among these, the Jongrung Temple site underwent the most complete excavation in 1974. All Koguryo temples were in the “one-tower-three-sanctuary” style: an octagonal tower in the middle surrounded by Buddhist sanctuaries on three sides, which is unique to Koguryo. The Koguryo Buddhist monastery sites such as Jongrung Temple, Kumgang Temple, Thosong-ri Temple in Pongsan, as well as Sango-ri Temple, are the most outstanding examples.

Furthermore, red-colored roof-tiles have been unearthed in Koguryo building sites (except in the palaces, which used grey-colored tiles), which differ from those in neighboring countries.



*(Left)* Ulmil Pavillion, Pyongyang, built over a Koguryo-period fortress.

*(Above)* Detail of Ulmil Pavillion.



View of Ulmil Pavillion.

The epigraphs of the Koguryo period, especially the stele of the Great King Kwanggaeto (currently located in Ji'an, China), as well as the stele of Chungwon Koguryo (located in the South of the Korean peninsula), also offer valuable information on the Kingdom.

The following conclusions can be drawn from the excavation of the Koguryo sites. Firstly, Koguryo was a far more powerful state than has been assumed. Recently, it was reported that a Koguryo mountain fortress and mural painting tombs were discovered in Inner Mongolia. This indicates that the northern border of Koguryo once reached there. In addition, Koguryo sites

are still being discovered as far as South and North Chungchong and North Kyongsang Provinces, displacing its southern border to the south. Exchanges with other countries were very developed as well; a typical example is the scene of a Koguryo envoy depicted on the wall of a palace in Samarkand in Central Asia. Koguryo was not simply the “tributary of a great power”. On the contrary it was one of the dominating states which held many neighboring kingdoms under its sway. During the Three Kingdoms Period, Koguryo actually protected Paekche and Silla. Both kingdoms were able to prosper thanks to Koguryo, which guarded their northern borders.

Secondly, it is coming to light that Koguryo developed its own culture, which reached a very high level at the time. Some scholars argue that Koguryo's civilization was influenced and imitated from other countries, but Koguryo culture is clearly distinct. Its tomb-building technique, the contents of its mural paintings and their painting tradition, the layout of buildings in Buddhist monasteries, the wall-building technique of fortresses – all differed from those of the contemporary neighboring kingdoms. It is true that Buddhism and Confucianism have been world-wide movements in religion and philosophy and that there were cultural exchanges between neighboring kingdoms at the time: Koguryo also absorbed foreign inputs to develop its own unique culture. As the studies on Koguryo are advancing, the influence of Koguryo culture on the neighboring countries is being actively studied in more detail. The excavations and studies on Koguryo will certainly continue in various ways to corroborate these conclusions.





# Conservation work

## INTRODUCTION TO UNESCO ACTION ON THE KOGURYO TOMBS

UNESCO has a long history of working with the Democratic People's Republic of Korea for the preservation of cultural heritage. The Cultural Heritage Division began providing technical and financial assistance to the DPRK in the 1980s for the proper conservation of the Koguryo Tomb paintings, including missions by art historians and conservation experts. At this time, first assessments were made of the state of conservation of the Koguryo Tombs and mural paintings.

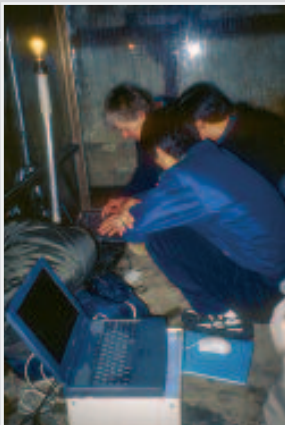
In 1998 the DPRK ratified the UNESCO World Heritage Convention and, following this ratification, efforts for the preservation of the Koguryo tombs and mural paintings have been increasing.

In 1999 UNESCO, in close co-operation with the Hirayama Foundation, provided environmental monitoring equipment for selected Koguryo tombs. This was followed by a UNESCO/Japan Funds-in-Trust agreement for further purchase of equipment.

*(Top)* Opening of Jinpari I Tomb, 2005.

*(Center)* Susan-ri Tomb, 2005. Discussion about the documentation work carried out by the Korean Cultural Preservation Center (KCPC) staff.

*(Bottom)* UNESCO experts and KCPC staff, Susan-ri Tomb, 2005.



Yaksu-ri Tomb, UNESCO mission to the DPRK in 2001.



ICCROM Laboratory coordinator, 2004.

#### **FIRST UNESCO/REPUBLIC OF KOREA FUNDS-IN-TRUST (2001-2002)**

In 2000, the first UNESCO/ROK Funds-in-Trust was established, focusing mainly on the Preservation of the Yaksu-ri tomb and provision of basic equipment to start the project. The Yaksu-ri tomb and the paintings it contains had long been endangered by water infiltration and were in urgent need of monitoring and preservation. The establishment of the Funds-in-Trust for the Koguryo tombs and mural paintings opened a new page in UNESCO's action, allowing UNESCO to provide the DPRK with more systematic concrete assistance.

Within the framework of this project, two technical missions were carried out (December 2001 and October 2002) which allowed UNESCO to gather the necessary data related to the Yaksu-ri tomb. UNESCO was also able to assess national capacity in terms of human resources and infrastructure, as well as the general condition of the mural paintings and the tombs.

The information gathered through the technical missions and presented in its reports enabled UNESCO to elaborate a medium-term strategy to appropriately assist the DPRK authorities in their efforts to preserve the outstanding remains of the Koguryo culture. These missions also showed that the gradual introduction of a more systematic and scientific conservation methodology and philosophy is a priority, as are the updating and upgrading of methods, technologies and materials. At the same time, the necessity appeared to develop a more holistic understanding of conservation.

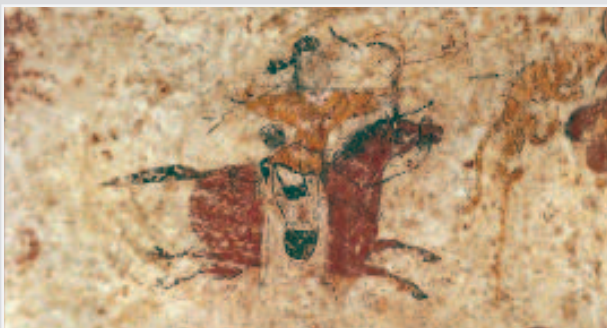
#### **ELABORATION OF UNESCO'S STRATEGY**

It thus appeared that the main thrust of UNESCO's strategy would be to introduce an appropriate conservation methodology both for the tombs and the mural paintings, by carrying out systematic, scientific data collection and research on each tomb to be preserved. In this way, it was planned to update and upgrade conservation approaches and techniques (including the use of compatible materials) not only for the preservation of mural paintings but also for other monuments and objects in museums in the DPRK. At the same time the sustainable protection and management of the Koguryo tombs and other cultural heritage sites in the DPRK appeared as closely related to the essential issue of reinforcing the capacity of national institutions directly responsible for the conservation and management of sites.

#### **SECOND UNESCO/REPUBLIC OF KOREA FUNDS-IN-TRUST PROJECT (2003-2006)**

The fully-fledged UNESCO/ROK Funds-in-Trust project entitled "Preservation of Cultural Heritage in the Democratic People's Republic of Korea, notably the Yaksu-ri Tomb, and Capacity-building at the Korean Cultural Preservation Centre, Phase II" (2003-2006) set out two main goals: to assist the DPRK in properly preserving the Koguryo Tombs and to reinforce national capacity, both in human resources, through an intensive training programme, and in infrastructure, by providing equipment and training to the Korean Cultural Preservation Centre. The Yaksu-ri Tomb was selected to serve as a pilot project, developing best practices that could be applied to other tombs and sites.





## THE YAKSU-RI TOMB

(early 5<sup>th</sup> Century)

The discovery and excavation of the Yaksu-ri Tomb in 1958 was an important event in the history of the research carried out on the Koguryo tombs and mural paintings.

Although the Yaksu-ri Tomb is a two-chamber tomb, there are niches on both sides of the antechamber in which mural paintings appear. A mural painting depicting a kitchen, hunting scenes, a mill and horses is strongly reminiscent of similar paintings in the Anak III tomb. The painting on the southern wall of the chamber depicts a procession; the northern mural shows scenes from the life of the owner of the tomb. Such scenes are common to other Koguryo tombs; however, the presence of the “Sasindo” (Four Guardian Deities), as well as of stars in the northernmost part of the mural, and a small picture of the deceased couple whose tomb this is, marks the beginnings of a change in style.

On the evidence of such mural paintings, the Yaksuri Tomb has been dated somewhere between the early Koguryo tombs, which contain murals depicting daily life, and the later ones that contain mainly Sasindo. It also represents an intermediate step in the historical process of structural development that saw multi-chamber tombs, which had become prevalent in the middle stages of the Koguryo kingdom, being once again supplanted by one-chamber tombs in the late period of the kingdom.

### DATA COLLECTED ON THE YAKSU-RI TOMB:

- Topographical survey (Thomas Urban)
- Study of water infiltration (Ippolito Massari)
- Rising dampness and local soil conditions (Valter Maria Santoro)
- Geo-morphological survey (Claudio Margottini)
- Environmental study on humidity (Sandro Massa)



(Above) Exterior view of Yaksu-ri Tomb.

(Top left) North wall of the main chamber: “black warrior” and portrait of the deceased couple.

(Center) East wall of the antechamber: military procession scene.

(Bottom) South wall of the antechamber: detail of a hunting scene.



(Above) Opening of Jinpari I tomb, 2005.

(Top right) At Susan-ri Tomb, 2005.

(Right) Training in reading piezometers, Yaksu-ri Tomb, 2002.



The following activities were undertaken within the framework of Phase II of the project.

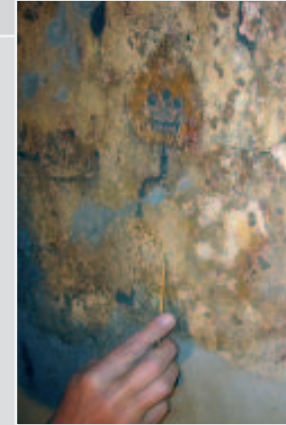
- Two training workshops of respectively 3 and 5 weeks on the conservation of Koguryo tombs and mural paintings for KCPC staff were held in March 2004 and May 2005 in Pyongyang, DPRK. Training was provided in the area of painting conservation, environmental control, geophysics and chemistry (sample analysis) by international experts. A third five-week training workshop is scheduled for April 2006.
- A considerable amount of various types of equipment was provided to the KCPC, including both laboratory equipment and equipment for on-site monitoring. A basic laboratory for mural painting conservation and a library composed of publications related to conservation were provided in March 2004 by UNESCO in close collaboration with ICCROM, both of which are essential to ensure appropriate conservation work and documentation. Prior to the third workshop,





a further provision of equipment for laboratory, environmental monitoring, and painting analysis and conservation will be carried out.

- **Operational activities for the conservation of Yaksu-ri tomb.** The Yaksu-ri Tomb, one of the most important of the Koguryo Tombs, was found to be subject to water infiltration, potentially endangering the mural paintings it contained.
- **Structure:** Geophysical and structural surveys have focused on collecting scientific data on the Yaksu-ri tomb and its surrounding environment, identifying measures to address the structural dangers to the tomb. Environmental study has documented the impact of different sources of humidity on the tomb.
- **Paintings:** Chemical and painting analyses have identified priority action to be taken in the area of painting restoration. An emergency operation is to be undertaken in Yaksu-ri tomb in the fall of 2005 to begin the cleaning and conservation of Yaksu-ri tomb's mural paintings.



- **An international symposium on the “Conservation of the Koguryo Tombs and Mural Paintings—Introduction of a Scientific and Methodological Approach”** was held from 25 to 28 October 2004, in Seoul, funded by the Cultural Properties Administration of the Republic of Korea. The future preservation of the tombs and their mural paintings was discussed, providing a platform for specialists of mural paintings (chemists, engineers and conservators) to share their experience in the management and preservation of similar heritage sites. The conference brought together scholars and experts from Italy, the Republic of Korea, the People's Republic of China, Japan and Israel, in the presence of the President of International ICOMOS and the assistant Director-General for Culture of UNESCO.

- **Research on the technique of execution** in Tokhung-ri Tomb has almost definitively established that paintings were carried out using fresco technique, previously thought to be unknown in East Asia. Further research on other tombs is needed.

(from left to right):

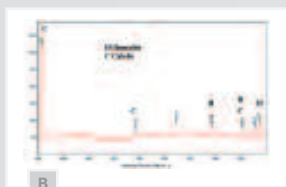
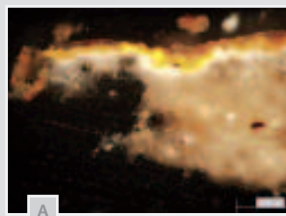
Installing data loggers in Susan-ri Tomb, 2005.

UNESCO expert taking painting samples in Susan-ri Tomb, 2005.

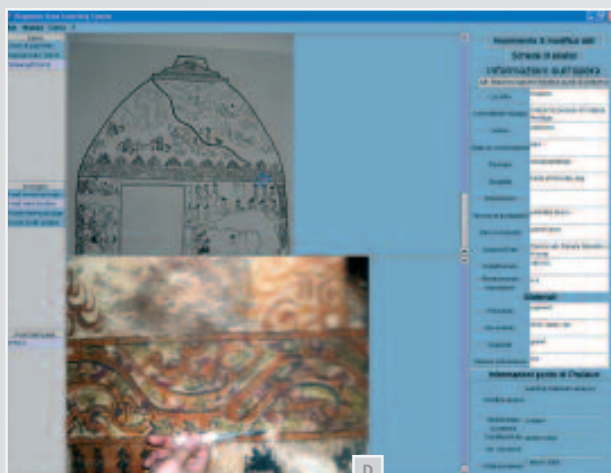
UNESCO expert demonstrating how to take painting samples in Susan-ri Tomb, 2005.

Opening of the Second Training Workshop, Pyongyang, 2005.

OM photomicrograph (original magnification 200x), starting from the upper part, a clay deposit over a yellow layer and a white preparation layer are visible (A) and Raman spectra of the yellow layer showing the presence of hematite and calcite (B) .



DIDARS database page containing the window bar related with each type of scientific investigation with example of the optical microscopy page (c) and front page of database, containing general information on sample collection location and works of art (d).



## ANALYSES OF PAINTING TECHNIQUE

ROCCO MAZZEO (UNIVERSITY OF BOLOGNA)

Nine paint samples were collected from the Tokhung-ri tomb located in Nampo. The samples were investigated in Pyongyang and Bologna, and led to the following preliminary conclusions. Calcite is present in both preparation and paint layers and the stratigraphic morphology of the cross-sectioned samples show that they are strictly connected with each other without any visible discontinuity. These observations point to evidence of the fact that paint colours were applied over the white preparation layer while it was still in a wet lime plaster condition. Furthermore, there is no evidence of any organic binding media characterizing secco technique.

Optical, polarized and FTIR microscopy, scanning electron microscopy coupled with energy-dispersive X-ray analysis (SEM-EDX), X-ray diffraction (XRD) as well as Raman spectroscopy were used to identify the composition of pigments and the execution technique. Furthermore, a database containing the scientific results achieved was developed and adopted in the framework of the scientific research methodology.

Given the present state of knowledge, these observations seem to incline toward the conclusion that “fresco technique” was used for the mural painting execution.

Before drawing any final conclusions, the use of “fresco technique” by Koguryo artists should be confirmed by an historical literature survey. Very few publications are available on materials and techniques used by Far East Asian artists to paint mural decorations and this lack of knowledge may also affect the planning and execution of conservation-restoration interventions.

In the event that both further scientific investigations and historical information confirm the existence and use of “fresco technique”, it would represent one of the first examples of fresco painting in East Asia, as the majority of the wall paintings studied so far appear to have been painted using “secco” technique.

For further informations, you can consult the full UNESCO technical report *Scientific Investigations of the Tokhung-Ri mural paintings of the Koguryo Kingdom* at the following URL: [www.tecore.unibo.it/html/Lab\\_Microscopia/M2ADL](http://www.tecore.unibo.it/html/Lab_Microscopia/M2ADL)



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**PHOTOS:**

- Ms. Young-ae YANG(Yedang Ltd): p. 16 (middle left).
- National Bureau for Cultural Properties Conservation, DPRK  
pp. 3-4, 4, 8, 9, 19, 20, 27 (right), 28 (left), 33, 34, 35 (left), 37 (top), 40 (top left and right), 41 (left).
- Cultural Heritage Administration (ROK)  
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- UNESCO  
pp. 13, 21 (left, top and bottom), 24, 27 (left), 32, 35 (right), 36, 37 (middle and bottom), 38, 39 (right and bottom left), 40 (bottom), 41 (all except left).



Ohoe IV Tomb: one of the immortals.

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