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## **The Matter of Chinese Painting, Case studies of 8th century murals**

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## Chapter I

### The Present Location of the Tang-murals

When the aeroplane begins its descent into the airport of Xi'an in October 2000, it dives into a thick yellow soup. The combination of weather conditions and the geographical position of the city, lying on a plateau, create this problem of air pollution. In fact, during the whole period of over a month spent there the sun only showed itself on one afternoon: significantly on October the First, the day on which everybody is free to celebrate the founding of the communist party, which also means that all the factories and other polluters come to a standstill, resulting in a clearing of the sky for a few hours. The pollution problem in a way helped me to accomplish the task I had set for myself: to collect samples of the paint layers of



the Tang murals, as will become clear later. These murals are presently in the care of the Museum of the Shaanxi History, and because of the pollution, the staff of the Museum is investing much time and effort in scientific research into conservation and preservation.

*Photograph 1- 01*

*A view from the aeroplane above Xi'an in October 2000*

One of the reasons the Museum does not allow casual visitors access to the murals is specifically due to problems connected with the conservation of the fragile paint layers of the murals. The Museum was built in 1992, with an exhibition room specially designed to accommodate the murals. It is open only to visitors with an appointment made well in advance, and even then only for small groups, who are charged for seeing the 5 or 6 top pieces. A special group of staff members is in charge of this part of the museum; they turn the lights on for a very short period: a maximum of 45 minutes to prevent light damage. The entrance fees are used to cover the cost of the expensive provision of the special conditions

required to protect the murals from degenerating any faster. The murals original location was in tombs in the Xi'an area.

I had visited the Tomb of the Tang Princess Yongtai the previous year as a member of a group of foreign conservators and other specialists. On that occasion, it became clear to me that the original paintings have mostly been taken off the walls. The average tourist is looking at reproductions of the paintings; most of them mistakenly believing they are seeing the real thing. When they buy a book, they are presented with the same reproduced paintings and are hurried on by their tourist guides to continue on their see-all-in-one-day-tour. There are several publications on the Tomb paintings, but the fact is that some use reproductions of the 'real' paintings and others use reproductions of the 'copies' of the paintings made in the 20th century: the difference is not always very explicit. Recently, the Museum published a new set of three books on the tombs of the Princes Yide, Zhanghuai and the Princess Yongtai,

to fill the gap, as they correctly put it, between the early publications that are out of print and the expected full research planned for publication sometime in the near future.



*Photograph 1-02*

*The ladies-in-waiting in the Tomb of the Tang Princess Yongtai*

That the Chinese highly appreciate the importance of the paintings may be concluded from the fact that the Museum has several painters in residence working on their own version and interpretation of the murals; they even train a group of students in the technique of painting in the style of the murals. The hierarchy of the staff members in the museum certainly ranks painters highly: after the director Zhou Tianyou was introduced to me, a couple of days later I was lucky to meet the other director, who was introduced as the highly esteemed painter Wang E.

My first goal in Xi'an was to see the original paintings that had been taken off the walls, and preferably as many of them as possible. The fact that I am a painter, although of western ancestry, greatly eased my being granted permission to enter the storerooms and increased the amount of time I was allowed to spend with the murals. In every conversation with the painters, conservators and restorers in the museum this had a very favorable influence; never once was I introduced as a scientist or a Sinologist, but always as a painter.



*Photograph 1-03*  
*The ladies-in-waiting in the Tomb of the Tang*  
*Princess Yongtai by Tang Changdong*

In the first part of this book and especially in the current chapter, the focus of attention will largely be on murals that have been removed from their original location and are now kept in the Shaanxi History Museum. Whenever it is necessary they are marked with [M] for

Museum, while the remainders of the paintings still in situ in their original location of the excavated tomb sites will be marked [T] for Tomb. The samples that I took from the parts in situ will appear in detail in the chapters 4 and 5, forming the second part of this book: the report and evaluation of the empirical section of my research on the matter of painting. In this chapter the samples are mentioned by sample name: the explanation of these names and all other data on the samples can be found in chapter 4.

### The artworks in the Museum

My first impression of the designated masterpieces, the 5 pieces [M] shown repeatedly to visitors, was overwhelming. The scale is much grander than any reproduction can ever show, and the colors are vigorous and brilliant. It took me the first couple of hours just to absorb the scenes and imagery, and to get familiar with the specifics of the surface of these wall paintings. The pieces consist of: the foreign tributaries to the crown; the hunting scene; the polo scene from the tomb of Zhanghuai; and, in my view the most impressive paintings: the eastern and western entrance walls with towers from the tomb of Yide. The towers rise towards the sky in a four metre high perspective, and in one blink of an eye it was clear to me why a reproduction will always fall short of reality for this kind of work. Here we have a perspective rising upwards from the ground, and it feels like standing at the foot of a mountain, or at the base of the Eiffel tower in Paris. This looks almost like the linear perspective, the use of which we are accustomed to in European art since the 15<sup>th</sup> century, when Alberti explained the method of creating a horizon and a vanishing point at which all the parallel lines converge: at that time, a spectacular new development in European painting. In European terminology, a view from below up at the rising tower can be called the frog's perspective. In these murals there is, however, no one simple perspective system at work: several different viewpoints are used by the painter.

### Walking perspective

The comparison, therefore, does not work, for these Chinese wall painters used what I shall call a walking perspective. For example, the surroundings of the towers have a different kind of perspective from the towers themselves, as is often the case in Chinese painting. The term

‘walking perspective’ represents a form of depiction where the images guide the observer from one scene to the next. In the case of a large work like the tomb murals in their original location, you have to physically walk from one scene to the next. The imagery of the large-scale murals sometimes draws you into the scene; the painter achieves this effect by depicting the figures more or less life size. In other scenes the painter suddenly restores you to the position of bystander with the fun of a hunting scene or a game of polo seen in the distance, with the participants depicted in a much smaller size. The polo scene is depicted from an angle looking down on the players, as if the observer is standing on a watch tower or hillside looking down over the players at some distance. The lack of representation of the horizon is often a specific characteristic of this walking perspective in the murals. Although landscape elements are put between the scenes and sometimes in the middle of the scenes, they never make up the main image in any of the wall paintings of this period. The rocks and trees are painted in broad and vigorous strokes, and the impression of volume is often suggested by the width of the lines, and sometimes by shading. In most pieces the smoothed and prepared wall surface forms the background of the scenes: most of the background is left as more or less untouched wall.



*Photograph 1-04*

*The polo scene in the Tomb of Zhanghuai is depicted from an angle looking down on the polo players.*

In China in the eleventh century we find the first written evidence of the use of perspective in a text by the painter Guo Xi (±1001-1090). This text reveals that the Chinese had a specific

view on perspective. Guo Xi left his instructions and view on painting in his *Essay on landscape painting (Lin-chuan Gaoji ji)*, which was probably written by his son Guo Zi, at the time when *wen ren hua*, ‘literati painting’ was born. At this time, a kind of painter arises that paints only for pleasure, and their love of nature is part of that leisure activity. In Guo’s view the landscape should be observed in nature and the spirit of the landscape should be represented in the painting. Guo Xi provides us with a description of perspective for painting mountains. His three perspectives of mountains are; deep perspective (*shen yuan*, 深远), level perspective (*ping yuan*, 平远), and high perspective (*gao yuan*, 高远) and he explains them:

*Shen yuan*

Looking from the foreground to the interior of the mountains, objects appear dark and heavy and complex layers are seen.

*Ping yuan*

Looking towards the distance, objects appear with shadings of light and shadow and a remote gentle view dissolving in the distance.

*Gao yuan*

Looking up from below, objects appear bright and clear and the great height is seen.

Guo Zi says about his father Guo Xi, ‘Once he had completed a sketch, he would go over it again and again, adding here, correcting there, until he was satisfied’. [Lin Yutang 1, p 74]  
The instructions of Guo are clear:

One should look at hills and valleys from a distance to see their layout and again at close range to see their surface texture.

Experience is a highly valued quality in Guo Xi’s remarks:

As for the lack of broad experience, people born in the South East can picture only the thin, stiff peaks of their district, and the people in Shaanxi can picture only the broad ranges of Kuan and Long Shaanxi mountains. Those who learn the style of Fan Kuan lack the grace and beauty of Li Cheng, and those who learn the style of Wang Wei lack the fine structure of Kuan Tong. These are faults due to limited experience. [Lin Yutang 1, p 77]

## The re-assembly of the wall paintings

After a couple of visits to the storage of the Shaanxi History Museum in Xi'an, I was able to start working on an inventory of the technical aspects of these murals. The most important aspect of this work is to understand the 're-assembly' of these murals at the time they were taken out of the tomb. The walls were cut into pieces, each representing only a part of an originally very large scene. The decision to cut at certain points in the scene is no doubt partly due to circumstances of a physical nature such as the necessity of transportation and their conservation. On the other hand, the decision must also have been influenced by 20th century Chinese values in art appreciation. At the time of the excavation of for example the tomb of Li Zhongrun, better known as the Crown Prince Yide, in 1971 the Cultural Revolution had only just finished. The taste of the people at that time when they were accustomed to the compulsory socially realistic style of the very limited art works such as the large wall painting scenes and posters 'for the good of the people' must have had an influence on the way the scenes of the tomb paintings were divided into pieces. The results of such decisions contribute to the way in which we now see and interpret the murals. Every piece should be reconsidered in view of its former position and context. This aspect heavily influences not only the evaluation of their imagery and iconography, but even more so their technical evaluation.

### *The use of peach gum*

When a piece of mural is removed from the tombs, it is necessary to cover the painted surface with a cloth coated with a special peach glue. The removal of wall paintings has proved a difficult task, involving trial and error, for the last century or so. The 'tearing off the wall method' as it was once described to me by a Chinese expert, is not always carried out under the most perfect circumstances. For example, in the case of an emergency excavation of a building site, the first step is to cover the surface of the mural to protect it from environmental damage. After the pieces have been cut out of the wall, they are brought to the conservators' workshop, where they are strengthened with a bamboo or wooden stretcher, or, more recently, an aluminum framework. [See the edge of *photograph 2-02* on page 70.]



*Photograph 1-05*

*The green of the tree has 'floated away' from its original position. A specific example of the kind of damage that occurred due to the false assumption that the paint layer was stable.*

Peach gum is made of resin from peach trees, and it is used because of its solubility in water. The general assumption is that the resin can be removed with relatively little damage to the surface. This assumption is based on the 'known' fact that the murals' original paint layer is not soluble in water: this turns out to be a very dire mistake in some cases. The very solubility of the peach glue is precisely what has caused problems in examples with a water soluble or permeable paint colour.<sup>1</sup> For example, sample YD1 of the Yide tomb contains an unidentified red organic dye that is soluble in water, and another specific example of this kind of damage is given in this image of floating green.

#### *Questions of material and technique*

The preliminary assessments of materials, and of the techniques in general used in these murals raise a number of questions that need further investigation. This investigation falls into two major categories. Firstly, the research into tangible matter, which is covered partly in

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<sup>1</sup> For specifics on sample YD1 see chapter 4 and 5 of this book.

this chapter of the study and in more detail in chapters 4 and 5. Secondly, the literary references by early Chinese sources which will be covered in chapters 2 and 3, and which serve as a background to my more technical study in the later chapters.

The research into matter further divides into three major categories, as follows.

### 1.

The tangible matter we must first examine comprises the raw materials such as stone, animals, plants and other components that need to be prepared in order to be used as paint. Some pigments, I discovered, have been around for a very long time, according to early written sources such as the *Erya*<sup>2</sup> and the *Shanhaijing*<sup>3</sup>. The classic summary of these materials in most Chinese publications on the subject, and in many of the studies published by western writers, is as follows: Cinnabar, malachite, azurite, orpiment, realgar, gamboge, rouge, whites and black. In my research and analysis of the samples taken from the murals it gradually becomes clear that the materials used for painting are in fact much more complex. This will be discussed further in chapters 4 and 5, and specific characteristics of many of the painting materials are dealt with in chapter 3.

In his *Famous Painters of all Dynasties (Lidai ming hua ji)*, which is dated 847, Zhang Yanyuan allows us a peek into the the painters' studio of the ninth century. His list is mentioned and quoted over and over again in many texts, and is therefore given here:

The *dan*, cinnabar from the Wu-lin water-source [Yutang, Hunan], the *sha*, cinnabar-sand from Mocuo, the *kongqing*, round-azurite from Yuesui [Sichuan], the *cengqing*, layered-azurite from Wei [Shanxi], the *pianqing*, mineral green from Wuchang [Hubei], the *qianhua*, yellow lead from Shu [Sichuan], the *jièyì*, tin-powder from Shixing [Guangdong], that all need to be broken, grinded, filtered and washed...  
...and then there are *huang*, orpiment from Linyi Kunlun, the *yi*, ant-ore from Nanhai [Guangdong], *lujiao*, deer-glue from Yün [Shanxi], *biaojiao*, fish-glue from Wu [Jiangsu], *niujiao*, ox hide-glue and *qigu*, plant-juice from Dong'e [Shandong], all these must be taken into account.<sup>4</sup>

<sup>2</sup> *Erya*, 3rd century BC, one of the first dictionaries in China, author unknown. Edition used for this book, with comments by Guo Pu (276-324): *Erya yintu (Examples of Refined Usage)*, Taipei, 1973

<sup>3</sup> *Book of Mountains and Seas (Shanhaijing)*, author unknown. Edition used for this book: *Guben Shanhaijing tushuo*, edited by Ma Changyi, Shandong huaban chubanshe, Shandong, 2001

<sup>4</sup> My translation will be elaborated in chapter 2. For the locations see MAP 2 on page 44.

From 847 until the end of the 1950s, very little hard information about materials as used in painting has been gained. The first exception of which I know is a book written by Yu Fei'an, *The research of Chinese Painting Colors (Zhongguo huihua yanse de yanjiu)* to which I will refer as [Yu Fei'an 1]. The painter Yu Fei'an (1889 - 1959) made it his life's work to discover the 'way of the ancients' in his painting, and he published his methods in two small books. The second one is *This is the way I paint traditional style, (Wo zheyang hua gongbi)*. In Yu Fei'an's, he was the first to use chemical formulae to distinguish between colours, although as far as I know he did no chemical testing.

Scientific methods and research have come a long way since the ninth century, giving us the chance to verify the real nature of the materials used.

However, until now the summing up of pigments used in paintings is very limited, as seen in the recently published book<sup>5</sup> on the murals of the Yide tomb written by the director of the Shaanxi History Museum Mr. Zhou Tianyou together with the head of the division for study and conservation of the Murals Mrs. Shen Qinyan [Zhou 1 henceforth]:

Colors used in the mural paintings in the mausoleum of Prince Yide include purple, red, green, yellow, blue, black, gold and silver. All pigments are made of minerals. The coloring method consists of flat coloring, diffusion, tracing over lines or painting in gold.

The Chinese version of the introduction is more specific and does include the chemical formula of each of the colors, and is therefore more accurate and precise.

In comparing the Chinese and the English version, it becomes clear that the Chinese names of the colors are more than just 'red' or 'yellow'. In my experience, this is a problem that frequently arises in translation. I will examine the technical details and mineral names together with the chemical names in my translation of this part of the Chinese version of the text, in Chapter 4.

## 2.

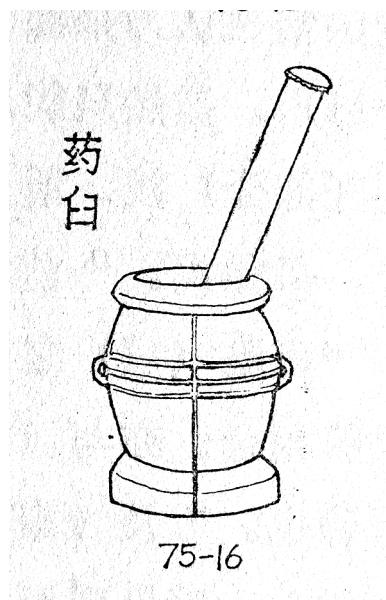
Secondly, we must examine the grinding, cooking, burning and other methods of preparation of the raw materials. The process of preparation of stones such as azurite, malachite and cinnabar takes up a considerable amount of time. First, the stone is crushed into smaller

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<sup>5</sup> [Zhou 1] Zhou Tianyou and Shen Qinyan, 'Mural Paintings in the Mausoleum of Prince Yide, A treasury of Mural Paintings in Mausoleums of the Tang Dynasty', Wenwu chubanshe, Xi'an, May 2002.

pieces, then the smaller pieces are put in a mortar for grinding. Malachite for example is so hard and difficult to grind that, according to Yu Fei'an, the pieces are mixed with some ear wax in order to make them stay in the mortar.

For this process pestles and mortars are necessary tools of the painter and they form the



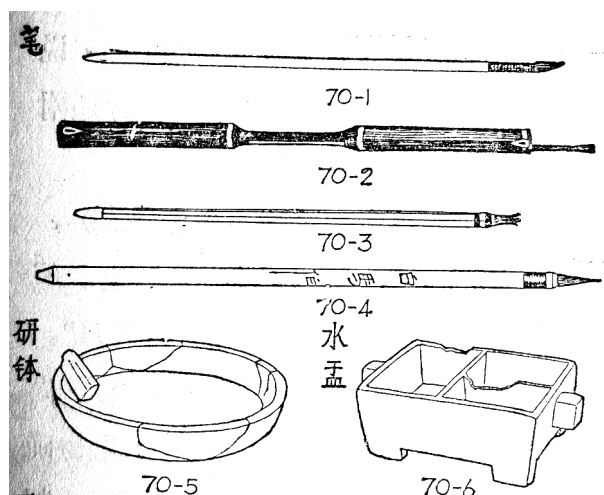
second category of material evidence. This category comprises the tools for both the preparation of the materials and the painting process.

Photograph 1-06, left

Pestle and mortar used for medicine in the Han dynasty [Su, p 298]

Photograph 1-07, right

from [Su, p 278] number: 70-1-2-3-4 brushes;  
70-5 a container for ink; 70-6 a container for water



A variety of animal hairs are used for the brushes such as deer, wolf, rabbit and goat.<sup>6</sup> The brushes are probably made by the method given in the farmers handbook *Techniques essential for the subsistence of common people (Qimin yaoshu)*, a translation of the method is included in chapter 3. [Jia Sixie 1, p 683]

In Zhou 1, p 72 a reference is made to some material evidence of the production process.

Grinding stones, mineral paints and color-mixing pitchers are discovered in the mausoleum:

<sup>6</sup> Private communication with Mrs. Shen Qinyan.

these fall under my second category of objects. Unfortunately, I have so far been unable to examine these, but will do so at a later date.

### 3.

This leads to the last category, the actual painting technique. Here, the use of the term ‘technique’ has to be defined: technique is the mechanical skill used in art. Technique is expressed in the manner in which the wall is prepared for painting, the manner in which the surface layers are laid on, and in the method of applying the colorants to the prepared wall. It applies to drawings, sketches, paintings and all aspects of creating a work of art.

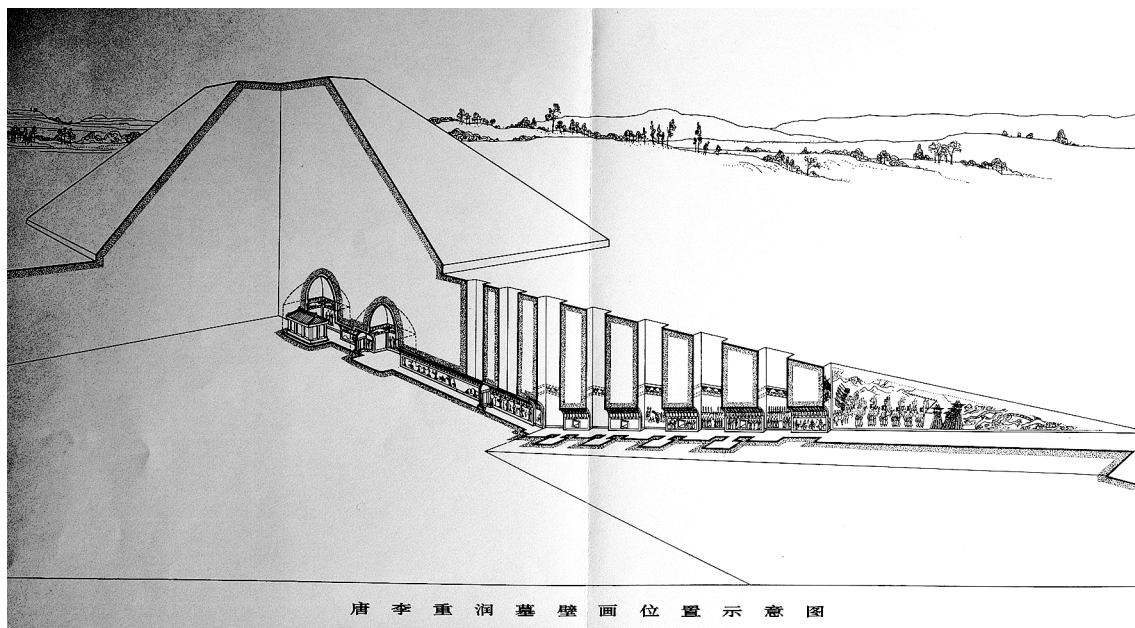
In this chapter, whenever I give a description of some part of the examined paintings, which will be primarily murals from the tombs, the description will aim to contribute to a better understanding of the materials and techniques involved in the production of these paintings. The availability of sample evidence of the materials involved that can be precisely dated and is not contaminated by restoration efforts is the only reason for including these specific pieces in either this or in other chapters. For reasons of preservation of the art works many parts of the paintings cannot unfortunately be discussed, simply because the surface cannot be touched or examined.

#### New contexts and the original structure of the tombs

As mentioned earlier, the pieces in the museum are seen more or less out of context, and so are the few pieces still in situ. This makes the evaluation of each tomb as a whole difficult, if not impossible. All comments on their composition must be considered with this limitation in mind. Most people will never have the opportunity to see the murals or the tombs in person: I can provide only my personal observations for each location described in the research. This is not and does not aim to be a complete and thorough study of the tombs; rather an examination of the evidence pertaining to the subject of matter sought in this study.

##### *1. The Yide tomb*

On 13 October 2000, I took five samples from the walls of Tomb of Crown Prince Yide: YD1, a red paint sample; YD2, a green paint sample; YD3, a dark red paint sample; YD4, a white paint sample; and YD5, a ground layer sample. Discussions of the processing of these samples and a further evaluation of the results are given in chapters 4 and 5.



Photograph 1-08; The tomb of the Prince Yide: the tumulus has a dou shape. [ See also photograph 1-09]

In order to give an idea of the original structure of the tomb, here follows my translation of a Chinese publication on famous classic building structures by Zhao Liying [Zhao 1, henceforth], which is based on the excavation reports<sup>7</sup>:

The Yide prince, named Li Zhongrun, is the son of Tang emperor Zhongzong. The prince died in the year 701, and in the year 705 he was brought from Luoyang to be buried near his relatives in the Qianling tomb.

His tomb is about 3 kilometers to the northwest of the present Qianxian provincial town.

The surface tumulus of the tomb has a *dou* shape<sup>8</sup> and measures 65.7 metres long from North to South, 55 metres from West to East, and is 17.92 metres high.

The gravesite garden is 256.5 by 214 metres.

On each of the four corners stands a compacted<sup>9</sup> earth mound, and at the south, there are two earth watchtowers (*que*). To the south of the earthen watchtowers stand a pair of stone lions, and a pair of ornamental columns.

<sup>7</sup> [Zhao 1, p 112] Zhao Liying, 'Ancient Architecture in Shaanxi', Shaanxi Renmin Chubanshe, Xi'an 1989.

<sup>8</sup> Compare photographs 1-08 and 1-09: A *dou* is originally a container which is measure for grain: the tumulus is the same shape turned upside down.

<sup>9</sup> 'compacted earth' is currently the proper technical term, in sinological translations 'rammed earth' is also used.



*Photograph 1-09*

*A dou is a measure of grain.*

In 1971 the tomb was excavated: the inside of the tomb is 100.8 metres long.

The passageway has six niches and seven sky mirrors<sup>10</sup>, a front and back paved passageway, and a front and main tomb chamber.

The tomb has a sloping passageway descending 28 degrees from south to north; the passageway is 26.3 metres long and 3.9 metres wide. A red-brown colored compacted earth construction is used for the whole passageway. The niches in the walls are 3.15 metres high, 3.72 metres long and 2.44 metres wide; at the lower parts we see a compacted earth construction, and the top part is made with alternating vertically and horizontally laid bricks ending in an arched top. The depth and size of the sky mirrors varies; the first is 8.5 metres deep; the fifth is 15 metres deep, 2.85 metres long and 3.75 metres wide. The inside of the sky mirrors is lined with compacted earth. The front paved passage is 20.3 metres long and 1.6 metres wide: the height is 2.29 metres. It is constructed by laying onelayer of bricks vertically alternated with one layer of bricks horizontally; and it is completed on both sides with an arched ceiling.

The tomb has a front chamber and a main chamber constructed with brick. The front chamber measures 4.45 by 4.54 metres, and has a height of 6.3 metres; the main chamber is 5 by 5.3 metres, with a height of 7.2 metres: it has a dome on top.

The main chamber has an iron hook for an oil-lantern hanging from the ceiling. The stone outer-coffin is placed on the west side of the main chamber, the top has four eaves, and is engraved with a *jiwa* pattern, it is drooping, and has laced plate tiles.

The drawings in the Yide tomb are of watchtowers (*que*), located on the east and west wall of the passageway, and they measure 2.8 by 2.8 metres.

The gate-*Que*, which is a main-tower, (*muque*) with the two side-towers(*zique*), forms a a three-gate tower system (*sanchuque*). The side-tower on the side of the palace wall and the main-tower are all on a elevated platform of bricks; to the top of the platform is

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<sup>10</sup> Sky mirrors are the vertical shafts going up to the surface, originally allowing a view of the sky from inside the tomb, see photograph 1-09.

a wooden balustrade. On top of the tower is the watch post, with a four-eaved roof, with owl-tails<sup>11</sup>; the façade is three *jian*<sup>12</sup> wide, and around the watchtower is a veranda. The *jian* form the beginning and end; on the column heads are heavy braces (*zhonggong*), and the second column (*bujian*), is made of a herringbone bracket (*renzigong*)<sup>13</sup>. The middle *jian* serves as a wooden gate, the side *jian* serve as lattice windows. From the niches to the boundary of the outer gate opening in the wall, is a surface in the centre of which is a picture of a ceremonial hall, with a heavy four-eaved roof; the front is five *jian* wide. The palace is surrounded by a flat dais; on the two sides are side porches linked together. The ceremonial hall next to the watchtower (*que*) on the east and west wall of the passageway forms a corner, forming one full construction, showing the watch towers rising up in front of the palace gate. At the



四 墓道西壁阙楼图局部

center of the elevation is the towering palace, and at the two sides are side-porches. The surroundings of the palace wall create a vast, grand spectacle of a public square in front of the palace gate.

The *Que* on the murals in the tomb of the prince Yide provide excellent material for research on Tang constructions.

Photograph 1-10

The *Que* of the west wall of the Yide tomb: plate 4 in [Zhou 1]

<sup>11</sup> The owl-tail is a ceramic decoration in the shape of an owl's tail on the top of both ends of an old fashioned Chinese roof.

<sup>12</sup> A *jian* is a measure for the space between two columns in a building.

<sup>13</sup> *Renzigong*, points to the form of the beam, which resembles the character *ren*: 人: it is used here as an example for the complexity of the beamstructure in photograph 1-13. For an explanation of terms on building I refer the reader to Klaas Ruitenbeek: 'Carpentry & Building in Late Imperial China', E.J. Brill, Leiden, 1996, *passim*.

These are the facts concerning the structure of this tomb, and since this is only published in Chinese, I consider this translation essential for a better understanding of the tomb as a whole. The observations that follow examine on the one hand the museum pieces [M], and on the other the structures remaining in the tomb [T] which is open to the public.

### *Observation of the Murals*

The two large pieces [M] depicting the watchtowers (*que*) which originate from the entranceway of the Yide tomb are now isolated pieces of artwork of about 3 metres wide and 3 metres high. They sit in the museum storeroom, no longer facing one another as in their original setting, which must have been much more impressive than these more or less isolated pieces. They depict a complex of several towers, one tower partly overlapping the other.

The painter must first have laid out the structure of the buildings: given the scale, this must have been done by at least two people working together. The stone base of the towers is drawn in perspective, making the foot roughly twice the size of the rampart. Since the long lines are perfectly straight, it looks as if they could have been made with a ruler of some kind. This method of drawing a straight line was first mentioned by Zhang Jianlin, an archaeologist working on the Tang murals. It is a way of drawing longer lines often used in building and carpentry:

[On]...the *queloutu* in the tomb of Yide....., you can see, parallel and close to the side of the rampart of the towers a 130 cm long intaglio line: the line's edge, on inspection with a magnifying glass has some small irregular hair-line marks, which shows that they were made

when the wall was already relatively dry. These lines are long and straight, and can only have been made with a ruler.

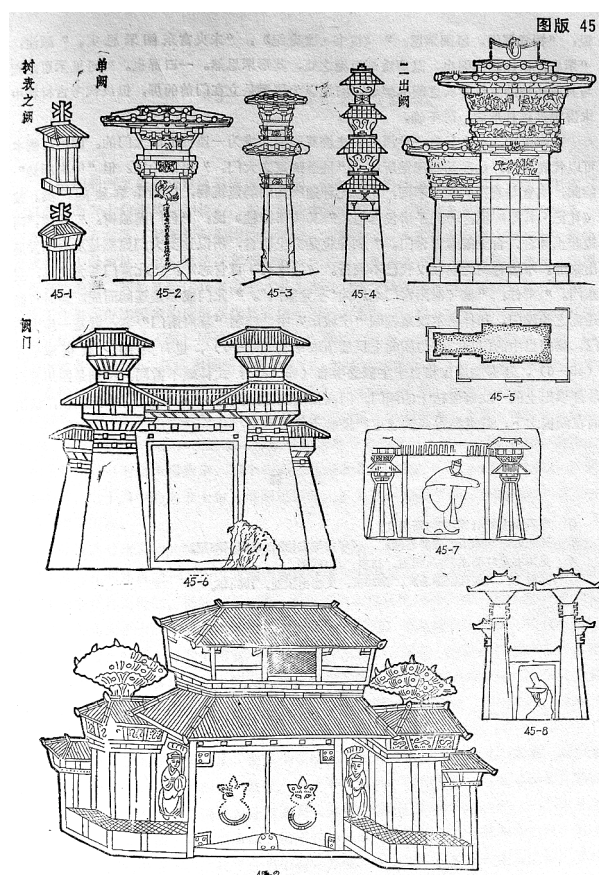


*Photograph 1-11*  
A *modou*, 墨斗, carpenters' tool used for drawing long lines. A thin rope on the reel would run through the container inside and is coated with ink or chalk.

After reading this article by Zhang Jianlin [Zhang Jianlin 1], I made a comparison with his work on another tomb, and this leads me to the conclusion that a carpenter's tool was indeed used in the construction of the long straight lines. According to Zhang the rope would leave this typical hair-line marks:

The vertical lines are made by a thin rope running from top to bottom, which was dredged in either ink or chalk. Once the rope was placed in the right position a simple twitch on the rope would make it leave its mark on the white surface. In this way, a straight line is easy to draw, and some of the horizontal lines are made in the same manner.

The upper half of the watchtower (*que*) represents a wooden structure, with the beams and columns carefully put in place as in a real structure. In earlier examples of haute-relief in some Han-tombs [220 BCE- 206 CE], we can also see these towers, and although the colors are now absent in the Han relief's the similarity is indisputable.



Photograph 1-12

The various structures of *Que* known in the Han dynasty. From [Su, p 181]

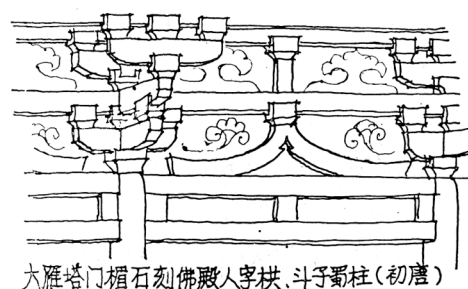
The grey-brown color of the paint of the foot of the towers reminds me of the grey walls of present day Xi'an, as does the brick-like surface. If these images represent a structure of the same size as the still-standing walls in Xi'an, the drawing is roughly to scale.

The upper part of the tower represents a wooden construction complete with beams, brackets and pillars in a bright red color. At the construction points of this beam-work the red of the top-part is overlaid with gold foil. This can be seen as a representation of the metal parts that would normally have held the structure together. For conservation, this is a very interesting part of the painting, because the gold foil has protected the painted surface from any disturbance, including that of the removal operation of the seventies, and from the relocation and mounting process. I would love to take a sample of the red paint layer under the gold foil, since that would be the ideal place to check for a completely undisturbed and undamaged paint sample. However, at present it is of course forbidden to do any damage, no matter how small, to such an area of the mural, so I can only hope for the development of a portable non-destructive method of testing or analysis.

The beam rest is depicted with a piece in the middle that looks different from most constructions in paintings. Here we have a structure with all the rafters and brackets revealed because of the ‘frog’ perspective; the viewer looks up at the structure from below. The column supports two beams instead of the usual single beam at the upper end.

*Photograph 1-13*

*An example of a renzhigong, which demonstrates the complexity of such beamwork. Photograph from: ‘Essays on archeology of Architecture in China’, Yang Hongxun, Wenwu chubanshe, 1987, p 229.*



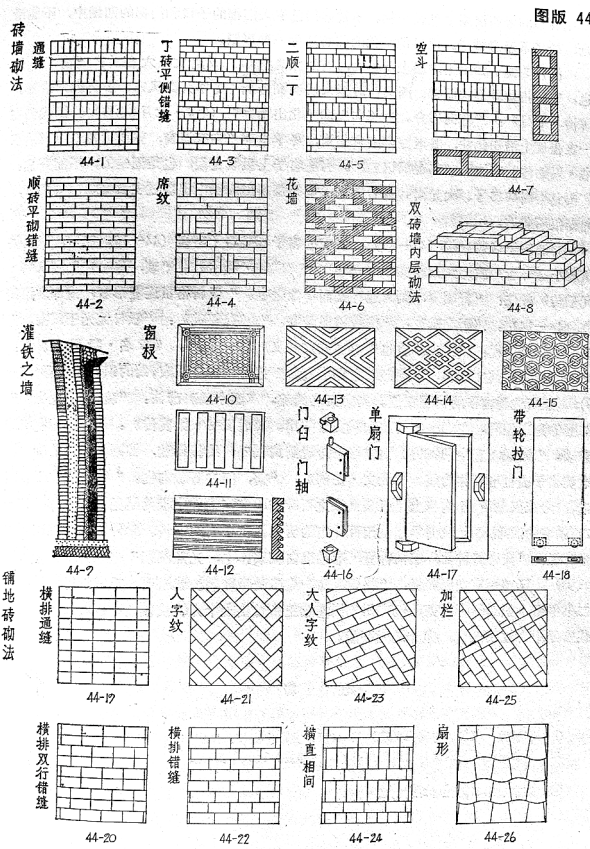
图一四 北齐、隋、唐长脚人字拱

The grey bricks at the base are laid in a rectangular pattern, with the individual bricks not overlapping. This kind of brickwork is not uncommon, as we can see from images such as photograph 1-14 and 1-16.

One of the most intriguing aspects of the surface of the mural is the incredible brightness of the paint layer; after more than a thousand years, the image still contains a very strong red colour. This is only visible in the short time when the extra lights are on, which can be turned on for short periods to prevent light damage.

This can best be explained by the analysis of samples that I have taken from the original location of the painting in the tomb. In sample YD3 we see that in this and some of the other red samples a mica component is present. This mica gives the painted surface an extraordinary lustre when the light falls upon it, as the light is reflected by the mica.

Since the original location of the painting was in a tomb, I find this very remarkable because



there would not have been an opportunity to see this lustre other than during funerary rites. The addition of mica also serves as an extra component to bulk out the paint mass. Mica is readily available in the area, and less expensive than a red mineral substance like cinnabar. See also the entry on mica in Chapter 3.

Photograph 1-14  
By the Han dynasty, many different brick-work structures were already in use. [Su, p 177, 44/19.]

Behind the *Que* we see the remains of landscape painting suggesting the surrounding area of the towers. The size of these rock-like elements in comparison to the towers makes them recede, and in this way creates a sense of space and distance. The viewer's position when standing in the passageway looking up at the wall must have added to the spatial effect. Many of the landscape features such as rocks and stones are boldly painted with a broad ink line that can only be made with a large brush.

The next scene, which originates from the East and West wall, represents the guards of honour presenting their allegiance to their lord. Fierce-looking horses and an abundance of weaponry, flying banners and individual faces of the guardsmen are a joy to behold. The landscape elements behind these guards is of a much larger scale than the landscape elements behind the towers. This scale adds to the overall impression of true perspective.

From the front chamber come the palace ladies [M] or 'ladies in waiting' as they are mostly called in Chinese publications, bringing their gifts to the Prince in groups wearing green and

red dresses, different head ornaments and scarves to express the individual tastes of fashionable girls and women. Some of them are facing in the direction of the chamber in which the sarcophagus rests, but others are looking over their shoulders in the opposite direction, almost as if somebody is late in joining them or as if they are expecting something else to happen.



*Photograph 1-15*

*The ceiling between the main tomb chamber and the front tomb chamber in the tomb of Yide is covered with images of flying cranes.*

The ceiling of the corridor between the first and the second chamber is covered with a large group of cranes[T] that are depicted flying toward the entrance. It is from a damaged area in the ceiling that the ground layer sample YD5 was taken. On the curved ceiling there are several cranes with their wings outstretched, all flying in the same direction. The famous painting of cranes flying over the palace roof by the Emperor Huizhong comes to mind.<sup>14</sup> Although the differences between the two paintings are greater than the similarities, they give me the same feeling of reality. The cranes in this tomb fly over your head as you stand in the dark corridor between the two chambers. It strikes me as very strange that so far I have not encountered any record of their existence other than my own observation.

The ladies on the mural in the storeroom of the museum [M] that come from this section of the tomb are life-size portraits, some tall and others of smaller stature. In the tomb [T] the scenes were originally placed within an impression of a room-like wooden structure, with an ornamental frieze at the top end of the wall. In this ornamental part the strong mineral green and blue seem to be used, while the palace ladies are painted with the softer greens and brown and red earth colours.

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<sup>14</sup> Find an image of this painting in: Barnhart, R. M. et al., *Three thousand years of Chinese painting*, Yale University Press, New Haven, 1997, p 123, plate 114

The horizontal parts of the floor in the tomb are still covered with the original large square grey slabs of terracotta.



*Photograph 1-16*

*The lower part of this photo shows the square slabs on the floor of the first chamber in the Yide tomb. Above it can be seen one of the few original murals that is still in situ; it was unfinished and large sections were missing. These are now filled in with white plaster.*

### *The painter of the Yide Tomb*

On the ceiling of the tomb chamber that is in many places heavily damaged, an inscription is still visible[see on the next page photograph 1-17 a+b]. The characters might be evidence of the painters name. The inscription seems randomly put and not in a formal cartouche, and because of the weathered state it is very hard to identify any of the characters. Inscribed in ink on the upper part of the west wall in this tomb chamber we supposedly see a name of the painter 'Yang Biangu'. Next to it a second inscription reads, according to Zhou Tianyou [Zhou1, 72]:

"Yang Biangu wishes to be taken care of frequently."

Jan Fontein and Wu Tong translate the same inscription in a different way in their catalog of an exhibition of Han and Tang Murals:

"Yang Bian wishes to present this forever as my offering."

This exhibition of Han and Tang murals, in the Museum of Fine Arts in Boston in 1976, must have been very interesting, especially because it comprised more than 140 copies of the newly discovered tomb paintings; copies made by artists working at the sites. The museum agreed to show copies of these important works. This way of exhibiting is not uncommon in China, but a remarkable and extraordinary event in a Western museum. In the catalog published in 1976: 'Han and Tang Murals', the name of the painter is identified by Jan Fontein and Wu Tong as the painter Yang Qiong or Chang Bian as found in Zhang Yanyuan's *Famous Painters of all Dynasties (Lidai minghuaqi)*. The relevant description is very short and does not give any details on the painter's life:

"Zhang Bian excelled in landscapes, which resemble those of General Li Sixun."

We will see in the various translated texts in Chapter 2, at the time there was still no great division between the painters of walls and other painters, such as temple painters or palace painters.



*Photograph 1-17a+b*

*The inscription, supposedly by the painter Zhang Bian, on the Yide tomb. See translation in text above.*

## *2. The Zhanghuai Tomb*

On 13 October 2000, I took three samples from the Tomb of Crown Prince Zhanghuai. These were: ZH1, a white paint sample; ZH2, a red paint sample; and ZH3, a red paint sample. The processing of the samples and further evaluation of the results are given in chapter 4 and 5. I will first give my translation of Zhao Liying's [Zhao 1, p 113] description of the original structure of the tomb based on the excavation reports:

The Zhanghuai prince named Li Xian was the second son of the Tang emperor Gaozong, named Li Zhi, and the empress Wu Zetian. In 684 he died in Sichuan Bazhong, and in 706 he was buried by his ancestors in Qianling.

The tumulus of this tomb has a *Dou* shape: the sides at ground-level are 43 metres long, and at the top of 11 metres; and is 18 metres high. It is a compacted earth construction. Fifty metres south of the tumulus are two earth watchtowers (*que*): they are 4.5 metres high, and at the base the sides are 5 meters. The watchtowers have a pair of stone sheep at their south side. The tomb's four sides originally had an enclosing wall that measured 180 metres from North to South and 143 metres from East to West. The East, West and North façades still show the remains of the base of the wall.

In the tomb are a passageway, niches, sky mirrors, a paved passage, a front chamber and a main chamber; the total is 71 metres long.

The passageway horizontally measures 20 metres, and is 2.5 – 3.3 metres wide. It has 4 niches, in the form of an arche, 2.7 – 3.4 metres long, 2.2 – 2.4 metres wide and 2.8 – 3 metres high.

The first of the four sky mirrors is above the front paved passage, and the other three are 3 metres long, 1.8 – 2 metres wide and 9 – 12 metres high. The first paved passage is 14 metres long, 1.7 metres wide, and 2.1 metres high, and has a wooden gate. The excavators found a bronze gold-plated round-headed decoration on the gate which has 66 knobs, a pair of 'pushou' heads, and one copper lock.

### *Observation of the Murals*

This tomb was repainted when the Prince was posthumously honored by the Emperor Huizong with the title Crown Prince. In the tomb I could see traces of the repainting only on the connecting corridor between the first and second chamber. The rest of the tomb, it must not be forgotten, was repainted with copies of the originals in the 1970s after the originals were taken out.

On the ceiling of the coffin chamber is a depiction of the heavenly bodies[T]; the golden sun, silvery moon and yellow stars are created using different minerals. The gold and silver are self explanatory, but the yellow stars are made of *qiandan*, a yellow lead.<sup>15</sup>

One of the sections of the mural of the polo scene which is now in the Shaanxi History Museum is missing a large part roughly 40 x 30 cm in size. It has been missing since the

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<sup>15</sup> Private communication with Zhang Qunxi.

mural was transported to the museum. During the first restoration job in the seventies, this gap in the image was filled in with a new horse. Over time, views on proper restoration techniques changed, and the horse was removed. This is one more sign of the constant progress in restoration techniques taking place in China, as this field develops all over the world. Following the latest trends in restoration, the missing parts today are recognizably shown as missing, and are only repaired in so far as is necessary to prevent further damage to the area. The lower right hand side of the same section of the polo scene also shows traces of earlier restoration: on one of the ladies with two buns in her hair, a magnifying glass enabled me to find modern pencil-traces: evidence of restoration at a time of different standards.



*Photograph 1-18*

*An example of the 'drawn' lines in the tomb of Zhanghuai.*

At the original location, the Zhanghuai tomb as it is today, I found evidence for the sketching process in the images that are still in situ. [See photograph 1-18] These images were not removed for various reasons: some pieces were considered too fragile, while others were not interesting or unusual enough to be taken out.

In the mural on the West wall of the first chamber is a depiction of several palace ladies. Here I found some lines superimposed on other lines. The generally accepted view is that these sketches were made with charcoal made from willow twigs. However, I observed that many of the lines are of a red color, which means that they cannot have been made with charcoal.

The lines show an intaglio that could not have been made by a soft material or a brush. They are most likely made with a piece of terracotta, but whether this was a specially prepared crayon or a fragment of a pot or suchlike is hard to make out. For that matter: although in Wang 1, p 40<sup>16</sup> charcoal is also named as tool for the first rough sketch. I could not find any traces of charcoal on the murals I have seen, not even on the murals I have examined with a magnifying glass.

### 3. The Yongtai tomb

On 13 October 2000, I took five samples from the Tomb of the Princess Yongtai. These were: YT1, a background layer sample; YT2, a white paint sample; YT3, a red paint sample; YT4, a white and black paint sample; and YT5, red paint sample. The processing of the samples and further evaluation of the results are given in chapter 4 and 5.

Zhao Liying [Zhao 1, 110] describes the original structure of the tomb as follows:

The Yongtai Princess, Li Xianhui, is the granddaughter of the Tang Emperor Gao Zong Li Tai and the Empress Wu Zetian. She died in the year 701, and was buried at Qianling. Her tomb is located 2.5 kilometres North West of the great tumulus.

The tomb was excavated in 1960. The layout of the tomb is shown in photograph 19.

The tomb's passageway runs from North to South with a slope of 18 degrees.

Horizontally, it is 23.35 metres long: at the North entrance the passageway is 4.5 metres wide and it narrows to 3.5 metres at the south end. In the ceiling of the passageway are six sky mirrors. [see photograph 1-19, numbers 1-6] The passageway leads to the front chamber, which is connected to the main tomb chamber by a paved passageway with a stone door about one-third of the way down. A red-brown coloured compacted earth construction is used for the whole tomb; the layer of rammed earth varies in thickness from 6 to 12 cm.

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<sup>16</sup> [Wang 1] Wang Renpo et al, *Shaanxi Tangmu Bihua zi Yanjiu*, 'Research on the Murals of the Tang tombs in Shaanxi, part 1', Wenbo 1984, 1, p 39- 52.

[Wang 2] Wang Renpo et al, *Shaanxi Tangmu Bihua zi Yanjiu*, 'Research on the Murals of the Tang tombs in Shaanxi, part 2', Wenbo 1984, 2, p 44- 55.

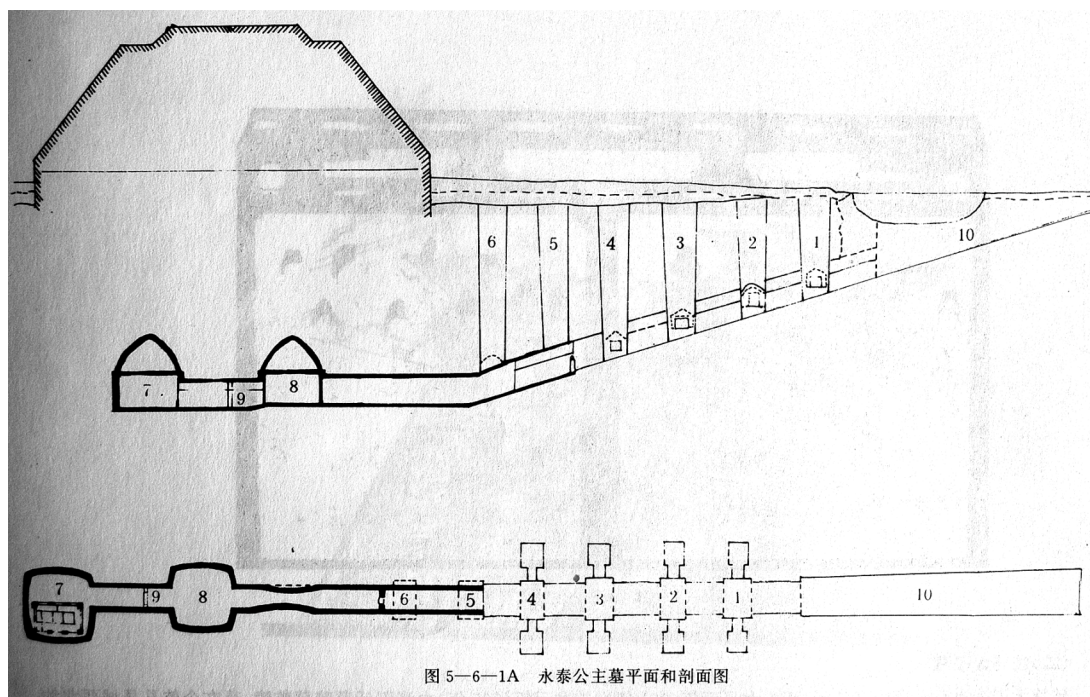


图 5—6—1A 永泰公主墓平面和剖面图

*Photograph 1-19*

*Cross-section of the tomb of Princess Yongtai. The numbers 1-6 in the plan represent the sky mirrors; number 7 is the main tomb chamber; number 8 is the front tomb chamber; number 9 is the stone door; and 10 is the sloping passage way.*

Close to the entrance of the passageway are niches that are placed under the sky mirrors. In the niches, one layer of horizontal bricks alternates with one layer of vertical bricks arching at the top. The niches measure 2.1 metres in height and are 2.7 metres wide: the square sky mirrors are large at the top and smaller at the lower end, forming a rectangle measuring 3.3 metres by 2.1 metres.

The first four sky mirrors end directly above the main passageway of the tomb; the fifth and sixth sky mirrors have a brick niche at their base and a compacted earth top part.

The tomb is divided into a front chamber and a back chamber; a paved passageway leads from the fourth sky mirror to the front chamber. This paved passageway, when we found it, had no wooden door; inside the doorway some equipment had been left behind, such as iron locks, copper *pao* and nails; the back paved passage had no stone door.

The front chamber is square, the North and South walls have niches, the inside of the chamber is 4.9 by 4.7 metres, and the ceiling is a 5.35 metre-high dome.

The flat surface of the back chamber at the North end measures 5.45 by 5.3 metres, and it has a dome that is 5.5 metres high. The arched door opening is at the East corner of the South wall. The front and back chamber on the ceiling have a painting of the Heavens with the Sun and Moon.

The whole tomb from the entrance to the back chamber, from South to North, is 87.5 metres long, and 16 metres below the surface at its lowest point. The corridors and the chambers are of a layered brick construction, while square brick slabs line the floors.

In the back chamber rests the stone sarcophagus: its entire front is engraved with and such shapes as columns, door-boards and lattice-work windows; it has a four eaved roof, and it is decorated on all sides with engraved stone slabs.

With regard to the part above the ground: the tumulus is a 14-metre-high square and is covered with a *dou*-form; at the base, the sides of the tumulus are about 56 metres long.

To the South there are a pair of earth watchtowers (*que*), and stone statues such as a pair of stone lions, placed 14 metres south of the watchtower; a pair of ‘*wushixiang*’

animals, placed 14.75 metres south of the lions; and a pair of stone pillars (*huabiao*)<sup>17</sup> are placed at the most southern end, at a distance of 14.57 metres from the ‘*wushixiang*’ animals.



*Photograph 1-20*

*The section depicting the guard of honour, which has been removed from the wall of the Yongtai tomb and is at present exhibited behind glass in an exhibition hall above ground on the site of the original location of the tomb.*

<sup>17</sup> Xie Xiaojun, *Zhingguo muzang lishi tu jian, Illustrated Handbook of historical tombs in China*, Gansu Wenyua chubanshe, Lanzhou, 1994, p 162.

The corridors, the four walls of the front chamber and the back chamber, and the ceilings of the Yongtai tomb all have wall paintings. Regardless of whether they are painted on the earth wall, or on the brick wall, the wall had to be prepared before painting. To begin with a layer of straw (*maicao*) and mudd(*niding*) ground<sup>18</sup>, which was then covered with a layer of ‘white wash with cotton<sup>19</sup> fiber’ (*mianhua gandui baitu*)<sup>20</sup>. This is flatly pressed and polished and prepared with glue water (*jiaoshui*). The lower part of the wall is smooth and level, very dense, and extremely solid: it can serve as a base for the colours, and can also be painted on freely [with a brush].

In the middle of the third passage, the roof of the niche had 18 examples of happy-flower pattern (*baoxianghua*).

At the entrance of the tomb on the west wall of the passageway, we see a painting of a watchtower, forming a nice representation for the construction of such a *que*.

On the terrace are ash bricks and stone steps; at the top is a level balustrade.

A green ground with powder [white] and ink delineates a bamboo curtain in the space between the columns (*jian*).

The paint at the top of the building was already peeling of, and at the back of the building is a section with a long wall that looks like a courtyard wall. The paintings on the four walls of the front chamber depict columns, with *jian* at the beginning and the end, the column-heads; the lu-blocks<sup>21</sup>(*ludou*); the space between the secondary columns (*bujian*); the v-shapes (*bazi*)<sup>22</sup>; the brackets and all the wood parts, provide good material for further research into Tang construction methods.

### *Observation of the Murals*

The concluding statement that Zhao Liying makes concerning the structure of the tombs and its usefulness for study of the Tang constructions, is also true for the murals. The murals provide excellent material for research into the painting techniques and methods of the Tang.

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<sup>18</sup> *Maicao* is a mixture of yellow earth and straw. For an explanation of the different types of ground layers see chapter 3, 4 and 5 of this book. All technical terms -transcription, character and/or translation- can be found in the index starting on page 206.

<sup>19</sup> Cotton fibre is a dubious term in this citation, for specifics see chapter 4, p 137.

<sup>20</sup> *Mianhua gandui baitu* is a mix of white wash with ‘cotton’ fibers.

<sup>21</sup> *Ludou*, 栌斗, are blocks of *lu* wood; *huanglu* 黄栌, is the name of the tree from which the wood is taken: smoke tree, *Cotinus coggygria*.

<sup>22</sup> *bazi*, 八字, points to the v shape of the character *ba*, 八.

Looking ahead to the conclusion of the research as it unfolds in the following chapters, I can here confirm that the technical details of the construction of the ground layers of the painted walls in the Zhao's book are in agreement with the results of analysis of the samples I have taken from the tomb. This fact is now scientifically established by my tests as will be discussed in more detail in chapters 4 and 5.

#### 4. Tombs of the Wei family

On 11 October 2000 Zhang Qunxi handed me the sample ZQX1, and a section of a protective cloth that was used for one of these murals. I took the samples WM1/6, WM2/6, and the processing of the samples and further evaluation of the results are given in chapter 4 and 5. Several murals that I saw in Shaanxi are from an excavation of a tomb of the Wei-clan. Some technical details of the tomb are revealed in the publication: *Tang tomb murals in Nanliwang village in Chang'an county (Chang'an xian Nanliwang cun Tang Bihuamu)* by Zhao Liguan and Wang Ligang, Wen Bao, 1989, vol 4.[Zhao 2]:

The four walls of the tomb chamber, the entrance corridor, and the curved ceiling all have wall paintings. On the technique of the paintings: first a layer of *maicaoni*, is applied to the wall, secondly a layer of whitewash, which whitewash skin is not thicker than 2 – 8 mm. The four walls of the entranceway, either to save time or because of lack of materials, have no whitewash layer, only a 'mudd and straw' (*maicaoni*) layer, and are finished with a lime wash. The murals are painted directly on the lime-washed wall, and the surface of the paintings is as new: the colors are bright and fresh and they have basically survived intact, with only a little dust having come off.

The four corners of the tomb chamber are painted with red columns; the column heads protrude upwards and the four walls are like the six screens, except that the two corners pointing East hold a beam. On the curved ceiling is a simple chart of heaven (*tianxiangtu*). A crude 'moon path' is painted with only one layer of lime wash; it is accompanied by white spots (*dianjiu*), along with some scattered white spots that depict the milky way and the stars.

On the West wall of the tomb chamber are six painted screens on the coffin platform, 3.6 metres long and 1.62 metres high. Each painted screen edge is divided by a red frame, the rim of which is 10 cm wide. Each of the screens is 1.44 metres long and around 45 – 50 cm wide. The basic content of the six screens are six corresponding

exquisitely-dressed figures of ladies (supposedly all depicting the buried person in a different setting) with male and female attendants in scenes of daily life; strolling, playing the *qin*<sup>23</sup>, travelling, picking flowers, watching a dance. Each screen also contains a mountain, trees, flowers and birds to provide scenery. From South to North we see:

1. The lady with a comb that draws her hair held in a bun, in a green blouse and a yellow skirt, lifts her head and foot, her long skirt hanging to the floor, while she strolls in the mountains, among flowers. Her right hand is forward, her left hand hangs down, and her long sleeves sway as if caught by the breeze. Behind her a male attendant, wearing a black hat, a green round-collared long robe, an elegant girdle; with both hands he carries an oblong flat box.
2. The lady in a yellow blouse and a green skirt, cupping both hands in front of her chest, rushes forward, and is really moving. Behind her a little girl, wearing a male-style yellow long robe, peeps around on all sides.
3. The lady in a yellow blouse and a green skirt, her right leg over her left sits on a stool. Her left leg is on the floor, and on her lap is a *pipa*<sup>24</sup> ready for use. Under a tree sits a yellow-robed male servant with his head wrapped with a kerchief, he sways his sleeves to the rhythm of the music, and they flutter as if they were dancing. Under the tree-trunk sits a small light black monkey: it is as if we were looking at the real scene.
4. The lady in a white blouse and a yellow skirt, with green half sleeves, sits on a stool, her left arm lies flat on the knee, her right arm holds a square yellow fan. Behind her stands a male servant, wearing a hat and a long green robe, with both hands stretched in front of his chest. The scene also contains two flying butterflies. The square fan of the lady serves to slap the butterfly.
5. The lady in a yellow blouse and a green skirt, holds in her left hand a cut flower; her right hand is folded in front of her chest. She walks under some twisted trees, with her head turned down, fixing her gaze on the flower in her hand. On the other side of the tree, a female servant with a bun held in a cow-horn comb, wearing a yellow skirt, both hands stretched in front, touches the lady. The space above the tree contains two flying long tailed birds.
6. The lady in a yellow blouse and a green skirt, both hands on a *qin*, (because of the careless painting, the *qin*'s bow is not painted, but seen from the above it is evidently a *qin*) takes small steps forward. Following behind her is a male child, wearing a black

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<sup>23</sup> A *qin*, 琴, is a stringed musical instrument.

<sup>24</sup> A *pipa*, 琵琶, is a stringed musical instrument.

hat, a yellow robe, and a girdle, his hands holding a *konghou*<sup>25</sup> on his shoulder: who is going to play it?

### *Observation of the Murals*

I have not been able to visit this excavation site, as it has not been accessible since the excavation in 1987. Only the description of the parts I have actually seen is translated above. The sample ZQX1 was taken by the museum chemist Dr. Zhang Qunxi from one of the six panels that form a set on one of the walls of the tomb. I also tested samples taken from a small 10 by 10 cm piece of the protective cloth that I could take back with me to the laboratory: samples WM1/6 and WM2/6. The cloth was glued on the surface of the mural to provide protection at the time of a salvage excavation. It was attached to the surface using peach gum, and removed with de-mineralized water. The pieces of paint on the cloth are a result of an unexpected rain shower during the emergency excavation. This kind of hazard could hardly have been prevented, given the circumstances. The murals are currently being restored and conserved in the Shaanxi History Museum. Because of developments in modern restoring techniques, they will be preserved as they are. This means the damage is not painted over or hidden, as was a common technique for many years previously. Dr Zhang Jianlin published an article about the iconographical and art historical importance of this set of 6 tableaux and some other sets of 6 related paintings.<sup>26</sup>

The six screens are approximately one metre in height and are each 50 cm wide. The samples WM 1/6 and WM 2/6 and the cloth sample are all taken from screen nr 4. The sample ZQX1 also probably comes from screen nr 4.

### *5. The Li Shou tomb*

No samples were taken from the paintings of this tomb, but one of the murals is an important example for some technical details, therefore included in this and the next chapter.

Li Shou (577-630 CE), his personal name is Shentong. Li Shou is the brother of an uncle of the Emperor Gaozu [Li Yuan]. At the end of the Sui dynasty, Li Yuan moved with an army

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<sup>25</sup> A *konghou*, 箜篌, is ancient plucked stringed instrument with five to twentyfive strings.

<sup>26</sup> [Zhang Jianlin 1] Zhang Jianlin, *Tang Mubihua zhong de Pingfenghua*, 'Screen Paintings in Murals of the Tang Tombs', *Tang mu bihua yanjiu wenji*, Sanqin chubanshe, Xi'an, 2001, p 227

into Chang'an, while Li Shou raised an armed force in Huxian County. When the Tang dynasty was founded, Li Shou was made Prince of Huai'an. After his death, he was granted the title of Minister of Public works, with the posthumous title *Jing*, Prince Jing. He was placed in Emperor Gaozu's temple to share the sacrifices. Originally the murals at both sides of the passage walls in the Li Shou tomb were 14 metres long. All murals were taken out of the tomb, and were cut into several pieces that are now in the Shaanxi History Museum. The evidence of the structure must be taken from the aforementioned book by Zhao Liying [Zhao 1, p 199] especially since the only pieces I have actually seen are the pieces of the murals now kept in the storeroom of the Shaanxi History Museum:

The tomb of Li Shou was at Sanyuanxian in Jiaocun. The remains of the tumulus is an irregular circular cone shape 8.4 metres high; the base has a 61.8 metre circumference, and is of a rammed earth construction. South of the tumulus are two rows of stone people, a pair of stone sheep, a pair of stone tigers, and a pair of stone columns.

The tomb has a passageway, niches, sky mirrors, and a main chamber; the length of this is in total 44.4 metres. The horizontal measurement of the sloping passageway is 16.8 metres and 2.3 metres wide; it has four niches, 2.46 metres high, 1.8 – 2.6 metres long and 2 metres wide. The inside of the sky mirrors is constructed with compacted earth straight out. The stone door in the paved passage divides the front and back part: the front section is 4 metres long, 1.86 metres wide and 2.3 metres high; the back section is 2.8 metres long, 1.4 metres wide and 1.9 metres high.

The two walls are made of horizontally-laid bricks; the top is made of a single layer of vertically-laid bricks forming an arch. The tomb chamber is 3.8 metres long and 3.95 metres wide, and the four walls have stripes of flat laid brickwork: the top has already caved in and the original height is not clear.

The importance of Li Shou's tomb is comprised by its architectural murals. The first, second, third and fourth niches and the paved passageway have walls painted with a central tower (*zhonglou*).

On the south wall of the first niche [in the passageway's north wall] is a picture, in which the architecture is basically similar to the *Hanyuanting*<sup>27</sup>. Right in the middle is the central tower (*zhonglou*); to the left and right are a pair of pavilions, with 'flying porches' (*feilang*), forming a continuous construction. The overall arrangement and architecture are similar to the form of the main hall. The front porch of the central tower (*zhonglou*) has a five 'spaces between the columns' (*jian*); two water drippers;

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<sup>27</sup> The *Hanyuanting*, was build 32 years later, thus well after the Li Shou tomb was constructed.

and a four-eaved owl-tail shaped roof. Its straight-back beam is relatively short, causing it to protrude. The column between the *jian* support two beams (*e*), [*lan-e*, and *you-e*]<sup>28</sup>, so the space of the two beams is erected with a single column; out of the column-head comes a single *chao*<sup>29</sup>, the side spaces have 人 shaped-beams (*renzi*)<sup>30</sup>; from the corner come two brackets (*taohuagong*)<sup>31</sup>, as if they are stretching out. The corners of the house turn upwards, with far-reaching protruding eaves.

The space between the floors is made of a flat fence-work; the fence work looks like drawn pieces of fence board, and has corners that barely reach to the pillars to bring together the work.

In the centre a wooden door is installed, on which are four door locks, a *pushou* head, a ranking ring, and on both sides are straight lattice windows.

Both the side pavilions are one *jian* wide and are constructed like the main hall.

On the east wall of the back area of the paved passage was a temple; inside it has a main hall and two side pavilions. The four sides are circled by an enclosing wall; the façade has an opening door, which is like a *aconite* root door (*wutou*).

The west wall has a Taoist temple; the paint was already flaking off, and the temple was surrounded by a porch and a façade with an opening door.

The dividing walls separate the courtyard into a front yard and a back yard; both courtyards are the same. The back courtyard has one hall, constructed in a corner; the front courtyard has two side pavilions. Inside one pavilion hangs a bell; to its side is the image of a Taoist master knocking against the bell; of the other pavilion only a part is depicted. In the tomb chamber on the north wall a nobleman's house is painted. Only part of the enclosing wall is depicted, and there is a chamber. The façade is three *jian* wide, with a nine-ridge roof (made with two heads). There is a dividing door in the façade of the palace hall; next to each door is a rack with a row of halberd, each rack holds seven halberds. Next to the two sides of the door are mountain tops; behind the hall is a tower. In the hall are arrangements of mountain stones and a collection of trees. The Li Shou tomb dates to about 630, 32 years before the *Minggong Hanyuanting* was build in 662. The constructions depicted in the wall paintings are therefore very valuable material for research of the early constructions of the Tang dynasty.

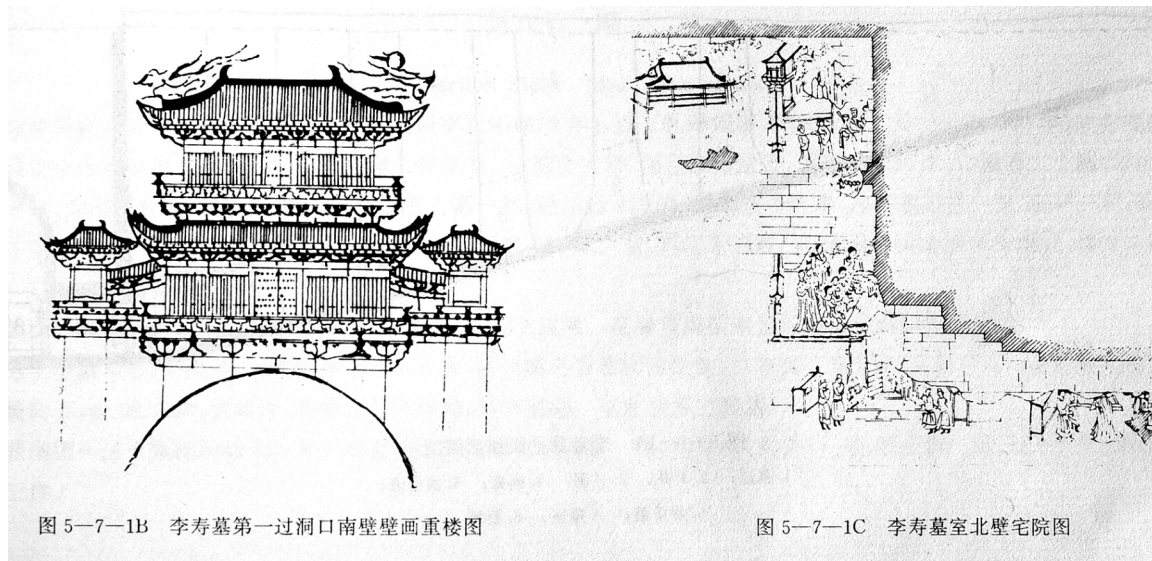
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<sup>28</sup> *E*, is a horizontal beam: in this case there are two beams attached to one column.

<sup>29</sup> *Chao* is probably one of the cross-tie brackets in the construction.

<sup>30</sup> *Renzi*, 人子, see photograph 1-13.

<sup>31</sup> *Taohuagong*, a special form of bracket.



*Photograph 1-21*

*A schematic drawing of the constructions on the murals in the tomb of Li Shou. [Zhao 1, p 199]*

### *Observation of the Murals*

I was unable to see the original structure, and I am indeed unsure whether the excavation site is still in place, or if it has been destroyed. The remaining murals of the Li Shou tomb are currently kept in the Shaanxi History Museum, and as far as I know are never on display. With the much-appreciated help of Miss Shen Qinyan, I was able to spend ample time with some of the remaining pieces of the wall paintings from this tomb. In chapter 2 I discuss an example of the fine quality of these early Tang paintings. The horses with guards in that chapter are part of the greater composition, which includes a large troop of cavalry on both walls of the entrance passageway, originally meeting the visitor head on. The horses appear to be galloping out of the tomb, as we can see from the remains of the the red-painted bottom rim that is part of the lower wall surface. It is almost impossible to reconstruct these cut-off parts into a whole mural, especially since I have not been able to locate a record of the original size and placing of these parts of wall painting.

The book *Shaanxi Xinchutu Tangmu Bihua*, ‘Newly Excavated Tang Murals in Shaanxi’, by Zhang Jianlin and Han Wei [Zhang Jianlin 2], shows a collection of murals from the earliest tomb build in 621 CE to the late Tang *Jingling* tomb of the Emperor Xizong (873-888 CE). On page 4, the writers describe the Li Shou tomb that was built during the Zhengguan Reign, in 627 CE. The tomb had murals in all the sky-mirrors and tunnels and it is compared (among

others) with the Li Xian tomb. The Li Xian tomb dates to 704, and it only has murals in the passage of the first tunnel, although Li Shou and Li Xian held the same ranking. One of the remaining pieces of painting from this tomb is used in the following chapter for an interpretation of the ‘six rules of painting’ (*liufa*, 六法). In the next chapter I turn to literature contemporary to the murals for a further exploration of the period that brought forth the murals.

