

Chapter 3: The Door as a Clever Device with Crafty Constructs

The advantageous *shi* generated by setting up cunning strategies in warfare as in Sun Zi's *The Art of War* is also evident in the clever construction techniques of the traditional Chinese doors. Three aspects of such applications of tectonic cleverness are explored. First, the door hinge as a device possessing the advantageous *shi* is analyzed because when opening or closing a door, a levered balance is utilized to allow the maneuver of a large mass with a small force. Facilitated by the efficacy of the hinge, a door is configured into a moveable boundary and can be positioned as closed, open or half-open. Each position of the door is further developed into various spatial and tectonic perceptions full of cultural meanings.

The second aspect is the use of sacred amulets affixed onto the door or carved into the hood of the door: a canopy-like construction above the entrance doors in traditional Huizhou houses, to augment the door with metaphysical dispositions. Thus, in the presence of the intricate and skillfully crafted door amulets, a physically closed door can become metaphysically open with the advantageous *shi* bestowing various blessings onto the house residents; and vice versa, a physically opened door can become metaphysically closed to shut off the evil forces.

Tectonic cleverness utilized by the craftsman in the door construction is the third aspect. Through the craftsman's intelligent use of materials and

construction tectonics, practical necessities are advantageously addressed. For example, to protect the home from fire, the wooden doors are cleverly embedded with specially kilned bricks to achieve fire resistance. All above examples of astute construction leveraging the advantageous *shi* will be discussed in detail starting with the door hinge.

The Hinge and the Dynamic Positions of the Door

The door hinge as a device possessing the advantages of *shi* is explained in *Huai nan zi*:

Therefore if someone has the advantages of *shi*, a very small grabbing effort can support a very large object. That which is small and essential can control that which is wide and broad. So a beam only 10 *wei*¹⁶³ long can support a house 1000 *chün*¹⁶⁴ in weight; a hinge only 5 *cun*¹⁶⁵ in length can control the opening and closing of a large gate. It does not matter whether the material is large or small. What matters is its exact position.¹⁶⁶

¹⁶³ *Wei* is commonly translated as girth (circumference of the circle formed by the arms held in front of the body).

¹⁶⁴ *Chün* is an ancient unit of weight (equal to 30 *jin* about 27 lbs).

¹⁶⁵ *Cun* in the Han dynasty measure system is about 2.3-2.4 cm. See Qiu Guangming, *Zhongguo gu dai du liang heng*, (Beijing, 1996), p. 106.

¹⁶⁶ This is the author's translation based on Needham's translation listed below. The *shi* in the above context aligns with the connotation of the advantageous *shi* construed in the first chapter in the analysis of *shi* in *The Art of War*. Needham translated this passage as, "Therefore if one has the benefit of "position" (*shih li*), a very small grasp can support a very large thing. That which is small and essential can control that which is wide and broad. So a beam only 10 *wei* long can support a house 1000 *chun* in weight; a hinge only 5 inches in length can control the opening and closing of a large gate. It does not matter whether the material is large or small. What matters is its exact position." in Joseph Needham, *Science and Civilization in China*, vol. 4, part I, (Cambridge, 1965), p. 23. The original Chinese text in *Huai nan zi* is:

是故得势之利者，所持甚小，其存甚大；所守甚约，所制甚广。是故十围之木，持千钧之屋；五寸之键，制开阖之门。岂其材之巨小足哉？所居要也。 The above Chinese text is extracted from, Liu Kangde, *Huai nan zi zhi jie*,

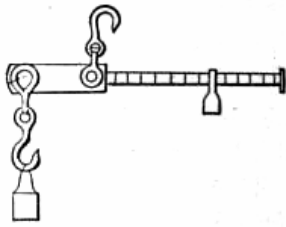


Figure 3.1. A Chinese Steelyard, http://en.wikipedia.org/wiki/Steelyard_balance.

before 3rd century BC and described by Mo Zi as, “a balance of a beam with unequal arms.”¹⁶⁷ The Chinese scale (also known as a steelyard shown in Figure 3.1) demonstrates this clever principle of asymmetrical balance.

Using a five-inch-long hinge mechanism to open and close a much larger and heavier door is equivalent to a general's use of the advantageous *shi* to overcome much larger opponents with smaller troops and minimal confrontations. The efficacy of the door hinge is realized

by the use of a levered balance discovered in China

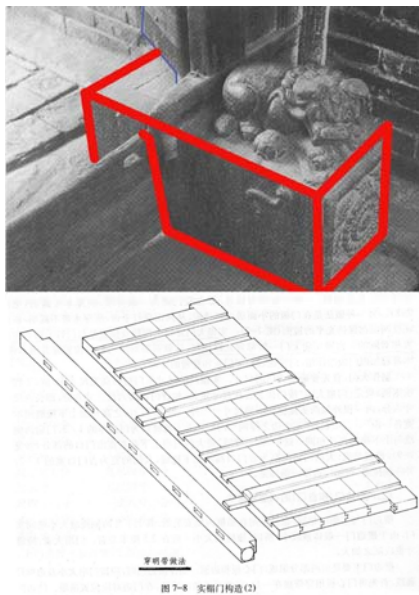


Figure 3.2. Top: A door anvil, Lou Qingxi, *Zhongguo jian zhu de men wen hua*, 2001, with modifications by the author. Bottom: Solid panel door construction technique, Ma Bingjian, *Zhongguo jian zhu mu zuo ying zao ji shu*, 2003.

Two types of hinges are used for the doors in traditional Chinese houses: the pivot-and-socket hinge (*shu*, 枢), and the pin-and-hook hinge (*jiao*, 绞). The pivots are usually the peg-like extensions at both the top and the bottom of the door stile (bottom image in Figure 3.2). They are lodged respectively into the sockets of the door lintel (*menying*, 门楹) at the top and the door anvil (*menzhen*, 门砧) at the bottom (marked by the red

line in the top image on Figure 3.2). The pivot-and-socket hinge mechanism forms an axle for the door

(Shanghai, 2001), p. 430. Needham translated *shi* as “position,” yet realized that it does not mean position in a conventional sense. Position can probably be understood as a “disposition.”

¹⁶⁷ Joseph Needham, *Science and Civilization in China*, vol. 4, part II, (Cambridge, 1965), p. 69.

to swing. The mass of the door working together with the momentum generated by pushing or pulling the door are essentially the only forces involved in opening and closing. The door mass works on a shorter arm in relation to the position of the hinge, while the pulling or pushing action operates on the longer arm, thus, a little force is involved in manipulating a large mass. The door anvil is also responsible for supporting the weight of the door leaf. Therefore, most of the door anvils were made out of stone, many depicting carved symbols such as the lion shown in Figure 3.2 emblematically guarding the door.

Although not as common as the pivot-and-socket hinge, the pin-and-hook hinge, which requires metallic materials for its making, is also used in traditional



Figure 3.3. Qin dynasty pin-and-hook hinge, Yang Hongxun, *Jianzhu kaogu xue lu wen ji*, 1987.

Chinese constructions. A bronze pin-and-hook hinge, uncovered in the archeological excavation of a Qin dynasty Xianyang palace, is illustrated in Figure 3.3.¹⁶⁸ In addition to implementing the rotating movement for doors, the pin-and-hook hinge is also widely used as door-lock mechanisms.

The open and closed positions of the door, through the apparatus of the door hinge, can either define a passageway or mark out a barrier. As early as the Han dynasty, the various positions of the door as closed, open and half-open became rich with significant edifying meanings as the culture evolved. Through exploration of the representations of the door carved on the Han dynasty tomb doors, as well as by

¹⁶⁸ Yang Hongxun, *Jianzhu kaogu xue lu wen ji*, (Beijing, 1987), p. 158. This pin-and-hook hinge was identified as a window hinge by archeologists.

studying the door images engraved on the Han dynasty tomb murals and bricks, the cultural meanings behind the various positions of doors can be unveiled.

The Meaning of the Closed, Open and Half-Open Door

Many doors and representations of doors were uncovered in the excavation of the Han dynasty tombs over the past two decades.¹⁶⁹ Three dispositions of the door can be found among them. First there is a tightly closed exterior tomb door that is typically built out of stones to seal the tomb after the sarcophagus is placed within. The second is the widely opened Door of Heaven normally carved on the front wall of the outer chamber of a tomb. The third is the half-open door that appears on the surface wall of the sarcophagus located within the inner chamber of the tomb.



Figure 3.4. Han dynasty tomb door, Lucy Lim, Kenneth J. DeWoskin, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, 1987.

The tomb door is firmly closed to resist any intrusion into the tomb chamber. The need to resolutely seal the tomb door does not preclude the door from having a hinge mechanism (Figure 3.4 shows a tomb door from the Han dynasty with a pivot-and-socket hinge). Rather, the nature of the door as an operable boundary remained to allow the family to access the sarcophagus in situations when a deceased member of the family had to be buried. Despite the presence of a



Figure 3.5. Two Han dynasty tomb door carvings, Richard Rudolf, *Han Tomb Art of the West China*, 1951.

¹⁶⁹ Xin Lixiang, *Han dai hua xiang shi zong he yan jiu*, (Beijing, 2000), p.13.

moveable hinge, strategies are used to make the door physically unyielding and metaphysically impenetrable. First, the craftsmen build the tomb doors using a single solid piece of sandstone panel. The weight and mass of the door together with its carefully concealed location thwarts unauthorized intrusions. Second, the guardians and sacred protective amulets are carved on the door to frighten away both intruders and evil spirits (see Figure 3.5 showing two doors from two different Han tombs). The lower part of both these door panels has an animal-like creature carved grasping a ring in its mouth, representing a *pushou* (铺首), which is both a door knocker and an amulet found in many traditional house doors.¹⁷⁰

The animal-like creature as the base for the *pushou* door ring is identified as *taotie* (饕餮), which literally means glutton.¹⁷¹ In *Lu shi chün qiu*, *taotie* means a monster with a glutton-head and a big open mouth that can devour people.¹⁷² In *Zuo zhuan* of the third century BC, *taotie* was used as an epithet for a legendary evil being that was denounced for his covetousness.¹⁷³ The Chinese scholar Chang Renxia deduces that affixing the *taotie* on doors strategically both humiliates and destroys intruders.¹⁷⁴ Yuzo Sugimura, in his discussion of the

¹⁷⁰ Yang Hongxun, *Jianzhu kaogu xue lu wen ji*, p. 158. The Qin dynasty Xianyang Palace archeological site shows the relics of a bronze *pushou* used on the door. It looks like a tiger-faced mask with two big staring eyes, two horns and one big open mouth. The word *pushou* was also used in the literary record in *Hou han shu* by Fan Hua (范曄, 398 – 445 AD) and could also be seen in the Han pottery house models.

¹⁷¹ Chang Yan, "Pushou yu taotie cheng wei kao," *Guangxi min zu da xue xue bao*, (December 2006), p. 124.

¹⁷² <http://chinese.dsturgeon.net>, the original Chinese text is:

《吕氏春秋先识》 罔鼎著饕餮，有首无身，食人未咽，害及其身，以言报更也。” Later the big open mouth of the *taotie* not only characterized the nature of *taotie* to swallow things, it also was utilized as the door knocker.

¹⁷³ Hugo Munsterberg, *Symbolism in Ancient Chinese Art*, (New York, 1986), p. 1⁸⁰. Munsterberg also noted that Carl Hentze understood *taotie* as a devourer represented by the gate of death and darkness and yet at the same time the liberator who brings new life and light.

¹⁷⁴ Chang Yan, "Pushou yu taotie cheng wei kao," *Guangxi min zu da xue xue bao*, p. 124.

taotie, says “*taotie* was intended to drive away evil spirits. They were integrated into the door to create a fearsome perception to both humans and evil spirits.”¹⁷⁵

Pushou, besides holding the power of driving away the evil intrusions, also possesses another layer of meaning as solitary confinement. The animal-like creature image on the *pushou* is also accounted for as the mimic representation of the head of a snail-like animal called *li* (蝃), which forever conceals its body within its shell.¹⁷⁶ *Feng su tong yi* by Ying Shao (153-196 AD) recorded the legend that Lu Ban, the patron saint of the carpenters and craftsmen, who asked the snail-like animal *li* to show its head. The *li* quickly flashed its head from his spiral body, and Lu Ban immediately drew the image of the *li* head with his feet on the ground. Once Lu Ban finished, *li* closed itself back into its shell to never show itself again.¹⁷⁷ Then the image of the head of *li* was cast into the bronze door *pushou* figuratively indicating the eternal closed nature of such a door.

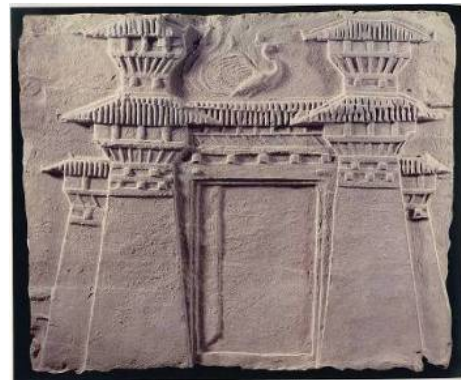


Figure 3.6. A *que* door from a Han dynasty brick carving, Lucy Lim, Kenneth J. DeWoskin, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, 1987.

In contrast to the tightly closed tomb doors, there is another type of door named *que*-door (阙门) found either in brick carvings or in tomb mural engravings on the front outer chamber wall of the tomb. The *que*-door is portrayed as a wide open door between two tower-like structures called *que* (see Figure 3.6), or as a

¹⁷⁵ Hugo Munsterberg, *Symbolism in Ancient Chinese Art*, p. 180.

¹⁷⁶ Wu Yucheng, *Zhongguo de men wen hua*, pp. 32-34.

¹⁷⁷ Li Jie (1035-1110), “Liang Sicheng quan ji,” *Ying zao fa shi*, vol. 6, (Beijing, 2001), p. 37.

welcoming doorway between the two *que* structures.¹⁷⁸ Recent discoveries of the associated texts with the *que*-door suggested that the *que*-door was meant to represent the Door of Heaven (*tianmen*, 天门).¹⁷⁹ This complements the statement made in the Han dynasty literature, *Huai nan zi*, that the “Door of Heaven is the *que*-door for the immortals to enter.”¹⁸⁰ *Huai nan zi* described that the god, Feng Yi, riding on the clouds ascends into the Door of Heaven and becomes an immortal.¹⁸¹

The Door of Heaven conveys hospitality and receptiveness representing a sacred threshold never requiring the presence of grotesque masks. Sometimes a welcoming official appears in the doorway or the auspicious Red Bird, the symbol of sun, is present to greet the approaching soul.¹⁸² The Red Bird indicates that

¹⁷⁸ Wu Yucheng, *Zhongguo de men wen hua*, pp. 20-21. Also see Gao Wen, *Zhong guo han que*, (Beijing, 1994), p. 1 & p. 4. The two sources in relation to *que* and *que*-door can be summarized as follows: the architectural element *que* originally is a tower-like structure, resembling a tree in front of the door. Back in the Zhou dynasty, *que* was integrated at the sides of the front entrance of the city wall. Such a *que* in the early times provided a living quarter for the guardians of the gate. Later two *que* structures were bridged over with a viewing platform to form the *que*-door. The *que*-door was used as the city gate structure. Also two *que* structures were erected in front of prominent buildings such as the temples or palaces without being connected by a gate to form a doorway. Gao Wen categorized *que* into five types: the city wall *que*, the palace *que*, the aristocratic residence *que*, the *que* of the temple, and the *que* of the burial tomb.

¹⁷⁹ Luo Erhu, *Han dai hua xiang shi guan*, (Chongqing, 2002), pp. 188-189. During the Han dynasty, it seemed common to raise the *que* structures in front of the main door of the house whose owner possessed a high official rank. The *que*-door was thus coined into a symbol for social status. Therefore the *que*-doors portrayed in the Han dynasty tombs were historically explained as to mark the social status of the deceased. However in recent excavations of some of the Han tombs, the text “Door of Heaven (*tianmen*),” was engraved next to the *que*-door image in multiple instances which led to the suggestion that the *que*-door held more profound meanings than just indicating social stature.

¹⁸⁰ <<淮南子.天文训>>天阿者，群神之阙也，quoted from <http://www.guoxue.com/zibu/huainanzi/hnzml.htm>.

¹⁸¹ <<淮南子.原道训>>昔者冯夷、大丙之御也，乘云车，入云霓，游微雾，骖忽，历远弥高以极往。经霜雪而无迹，照日光而无景。扶摇才抱羊角而上，经纪山川，蹈腾昆仑，排闾阖，沦天门，quoted from <http://www.guoxue.com/zibu/huainanzi/hnzml.htm>.

¹⁸² He Xin, *Zhu she de qi yuan*, (Beijing, 2002), pp. 75-76. In the Chinese myth, the Red Bird is associated with the sun since it was believed that the Red Bird carries the sun to rise up from the east side of the sky then carries it back to the west side. During the Han dynasty, the sun is commonly represented as being inhabited by a raven or a crow. Also see H. Munsterberg, *Symbolism in Ancient Chinese Art*, p. 106.

the widely opened Door of Heaven invites the soul into the domain of sacredness and immortality.

Besides the closed and the open door, another position of the door: the half-open door is represented in various Han mural engravings normally positioned on the front or side surface of a stone sarcophagus.

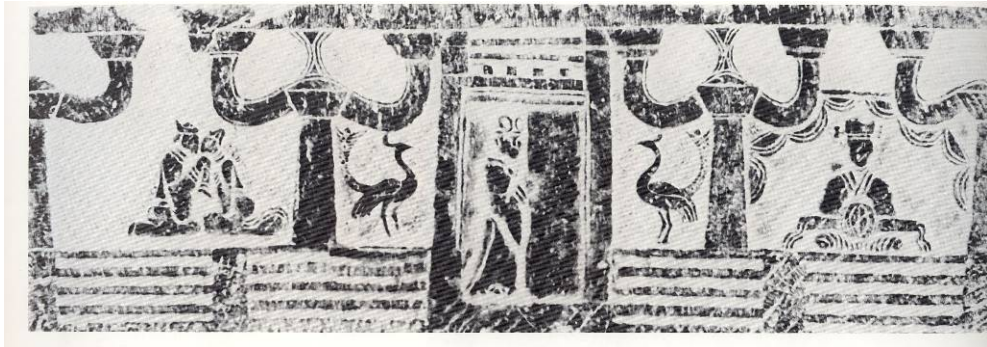


Figure 3.7. Embracing couple carving on a Han dynasty sarcophagus, Lucy Lim, Kenneth J. DeWoskin, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, 1987.

The Chinese ancient representation of the half-open door is not associated with the concept of resurrection as in the western representations; rather the half-open door indicates a sacred threshold of change and transcendence into the world of immortality.¹⁸³ The image identified as

Embracing Couple in Architectural Setting (see Figure 3.7) is a Han dynasty

¹⁸³ Britt Haarlov, *The Half-Open Door, A Common Symbolic Motif within Roman Sepulchral Sculpture*. (1977), p. 27 & p. 55. Haarlov explained the half-open door motif on a few of the western sarcophagi such as the Velletri Sarcophagus. "There are totally six doors in the Velletri Sarcophagus and are distributed in the following manner: one half-open door on every short side and two half-open and two closed doors on the main long side of the sarcophagus. The two closed doors, decorated with Medusa heads in the door panels, form a foil to Jupiter and Neptune, and flanked the main figures of the relief, Hades and Persephone. Placed symmetrically around these three central compositions are two half-open doors that open toward the middle. Behind both doors a curtain has been indicated, under which a man and a woman step out (the man to the left is led by Hermes, and the woman to the right by Hercules) to be united with their consorts waiting outside. The Hercules figure in this representation is a clear indication that the door marks not only the descent to Hades, but at the same time, an ascent from Hades. The last three of twelve labors Hercules did are all varieties of the same theme: going to the Hades' dwelling and defeating death. The symbols surround the half-open door express the idea of a door which can open to a new life."

tomb mural carved on the long side of the rectangular stone sarcophagus excavated in the Rongjing County in 1972. In the center of the image, there is the half-opened door, behind which emerges a female figure. This figure waits to lead the soul through the other side of the door. What lies on the other side of the half-open door is shown in the same carving. First, one sees two Red Birds, the symbol of the sun flanking at the each side of the half-open door. The presence of the Red Bird indicates that the world on the other side of the door is full of brightness. The far left side of the image shows a couple intimately embracing. On the far right, a frontal, seated figure is carved, who was initially thought to be the owner of the house. This figure now is identified as the immortal God Mother of the West, the goddess of the moon.¹⁸⁴ The phenomena of the waxing and waning of the moon caused the ancient Chinese to believe that both the moon and the goddess of the moon are immortal.¹⁸⁵ The presence of the immortal God Mother of the West indicates death is transcended into immortality. Therefore, the image tells the story that the couple stepped through the half-open door and reached the world of immortality happily reunited. The half-open door with the awaiting woman looking out as well as the display of the life scenes beyond its threshold suggest that the half-opened door indicates a state of transcendence.

¹⁸⁴ Luo Erhu, *Han dai hua xiang shi guan*, p. 63. In contrast of the account given in Lucy Lim, Kenneth J. DeWoskin, Sichuan Sheng, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, (San Francisco, 1987), pp. 127-128.

¹⁸⁵ He Xin, *Zhu she de qi yuan*, (Beijing, 2002), p. 76.

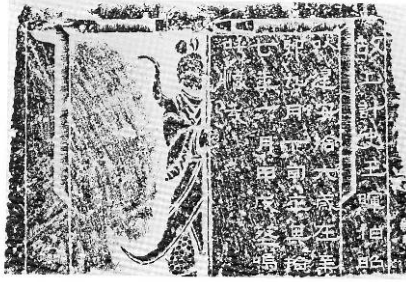


Figure 3.8. Half opened door carving from a Han dynasty sarcophagus, Lucy Lim, Kenneth J. DeWoskin, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, 1987.

The Wang Hui sarcophagus engraving shown in Figure 3.8, dated 221 AD from Lushan in the Sichuan province also illustrates an image of a half-open door at the southern surface of the coffin. A female figure is emerging from a half-open door, again holding the closed door leaf looking out and also as if she is about to open it. The female figure has wings extending from her right shoulder and

her leg is decorated with feather-like patterns, probably an anthropomorphic representation of the Red Bird. Likely, this divine figure waiting in the half-open door expresses the idea that once the soul entered through the half-open door—the divine transcending threshold—the soul leaves death behind and arrives into a different world.¹⁸⁶ By neither closing off the entrance nor not allowing one to freely enter, the half-open door causes one to pause, then to contemplate the other realm separated by the half-open door.

Cultural significations fill the dispositions of doors when open, closed, and half-open as represented in the ancient tomb doors and engravings. These meanings are amplified with the function of the door as an operable boundary under the auspices of the advantageous *shi* emanating from the traditional Chinese door hinge.

¹⁸⁶ Lucy Lim, Kenneth J. DeWoskin, Sichuan Sheng, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, pp. 178.

The Hinges in the Huizhou Traditional House Doors

The advantageous *shi* possessed by the door hinge is further expanded by the Huizhou craftsmen to adaptively utilize different hinge mechanisms to suit the many diverse dispositions and movement of the different types of doors. The Yin Yu Tang house presented three types of doors as illustrated in Plate 3.1 (see end of this chapter): 1) entrance doors currently located on the north, west and east directions; 2) numerous room doors within the house complex; 3) other various doors such as the ceremonial door facing the main north entrance and the stair door protecting the staircase. The north main entrance is the largest threshold door utilizing the pivot-and-socket hinge. The sectional drawing of the main entrance door in Plate 3.1 shows two lintels. The first is the stone lintel bridging over the masonry door opening; the other is the wooden lintel made out of local fir inserted into the masonry walls. The two lintels are interlocked with each other to jointly transfer the load of the masonry wall to the ground. Good care was taken to leave a small air gap between them so that both the stone lintel and the wooden lintel have their own space for movement and ventilation. The wooden lintel is long and flat with two sockets for lodging the door pivots (Plate 3.2). The usage of the double lintels and the pivot-and-socket hinge mechanism in the YYT house main entry door provide an advantage to the door's construction in the sense that the contour of the wooden door panel can be built into different shape and size from the profile of the door opening delineated by the stone door frame. Often the outer layer framing stones of the door opening is carved into various elegant shapes, yet the inner layer wooden door panel

remains rectangular in the assemblage. The wooden door panel is built larger than the opening of the stone door frame to further reinforce and secure the door (see Plate 3.2). The main side entrance of the YIT house located to the west has similar treatments of a gracefully carved outer layer of stone door frame and the inner rectangular wooden door panel (See Figure 3.9 showing the YIT house doors and Figure 3.10 showing the layered construction of the doors in another Qing dynasty house in Huizhou).

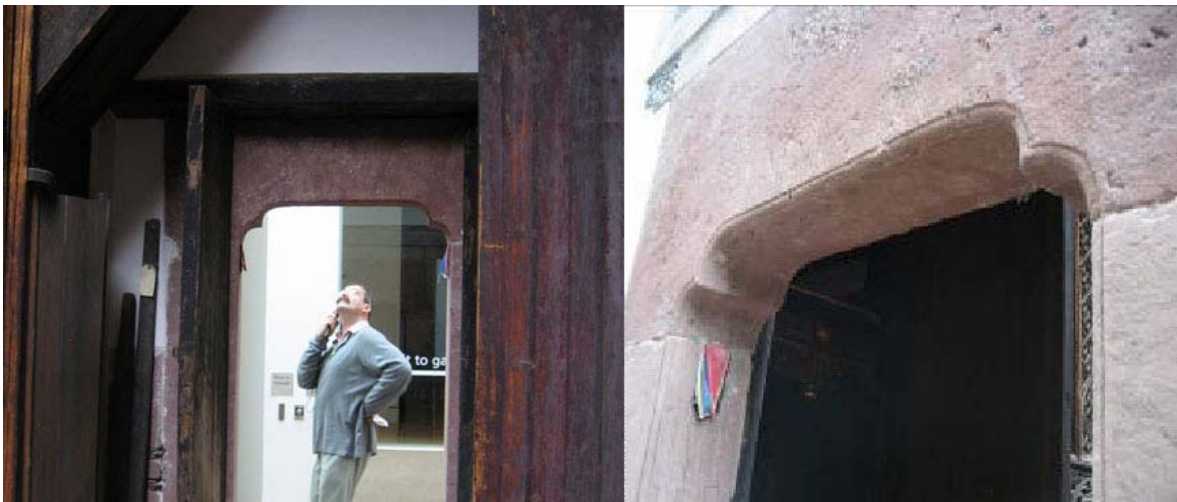


Figure 3.9. Yin Yu Tang house doors on the compass west and its stone door framing. Photograph by the author, courtesy of the Peabody Essex Museum.

When entering the main entrance from the northern direction, the YIT



Figure 3.10. Main entry door of a Huizhou house in Hongcun. Photograph by the author.

house's ceremonial door is first seen. The ceremonial door represents a stately threshold that reminds one to enter in a dignified manner. The YIT house's ceremonial door consists of four

removable full height vertical partitions, stabilized by the top beams and the bottom frame bridged over two stone column bases.¹⁸⁷ The ceremonial door is typically found in many of the well-preserved Huizhou houses built during the Ming and Qing dynasties. In another example shown in Figure 3.11, the ceremonial door was built in full height to express a stately atmosphere. Each of the four full height panels of the ceremonial door uses the pivot-and-socket hinge. The hinge mechanism in this position allows the weight of the full height door to become proportionally balanced by the door anvils. Furthermore, the full height ceremonial door can be built austere without using any other hardware; the result is a solemn threshold. When the full height door panels are in a closed position, due to the efficacy of the pivot-and-socket hinge, the door becomes a seamless surface appearing as a wall. In traditional Chinese houses, it was common to position a wall in front of the main entrance door, which not only provided privacy for the residents, it was believed that it could block off the intrusion of evil spirits. The central two panels of the YIT house's ceremonial door are normally closed. To access the inside courtyard, one typically entered through either the east and west panels of the ceremonial door. When important events take place, the central two door panels would be opened. As seen in Figure 3.11, each disposition of the door as closed; open or half-open significantly alter the perception of space modifying the frame of mind.

¹⁸⁷ Nancy Berliner, *Yin Yu Tang, the Architecture and Daily Life of a Chinese House*, pp. 146-147.



Figure 3.11. Ceremonial door in a Huizhou ancestor worshipping temple in Qiankou. Photograph by the author.

Besides these doors, there is another special type of flat horizontal stair door in the YIT house that is used to seal the second floor from the ground level (Figure 3.12). It was said that during times of war any attempt to ransack

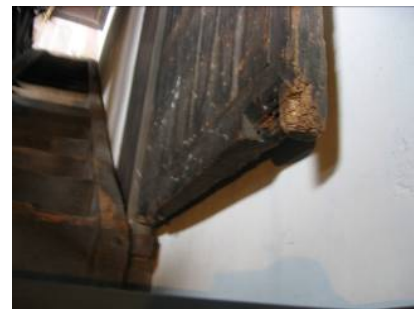


Figure 3.12. Yin Yu Tang house horizontal stair door. Photograph by the author, courtesy of the Peabody Essex Museum.



Figure 3.13, Yin Yu Tang door lock using the pin-and-hook mechanism. Photograph by the author, courtesy of the Peabody Essex Museum.

the house, the residents could flee upstairs and

drop the horizontal stair door onto the stairwell for protection. The solidly built stair door pivoted using

bronze sockets on both ends allow it swing open or closed, yet remain almost impregnable when locked due to gravity, the mass of the door and the difficulty for the

body to push it open from below.

A pin-and-hook locking mechanism is found in the YYT house as shown in Figure 3.13. The YYT house's main door lock resembles the pin-and-hook locking mechanism. The long wooden tie-bar functions as a pin. Metal rings are attached on the masonry wall on the sides of the door to receive the wooden tie-bar locking the door (Figure 3.14). The application of this door locking mechanism is depicted in the 12th century architectural manual *Ying zao fa shi* and is widely used in the Huizhou traditional houses (See Figure 3.15). The type of door lock, like the pin-and-hook locking mechanism, also displayed the efficacy of using a simple mechanism to effectively resist powerful intruding forces.

Besides the above mentioned doors in the YYT house, there are various single paneled room doors, not intended for defense, but rather for privacy and circulation. Traditionally, the long and narrow room doors used both the pivot-and-socket and the pin-and-hook hinge system. Currently the hinges used in



Figure 3.14. Door lock of the Yin Yu Tang house. Photograph by the author, courtesy of the Peabody Essex Museum.



Figure 3.15. Door lock of a Huizhou house, Li Jun, *Huizhou gu min ju tan you*, 2003.

some of the room doors in the YYT house are of the pin-and-hook type similar to the hinge detail in a Huizhou house in the Hong village shown in Figure 3.16. The advantage of such a door hinge is that the installation and removal of the doors are quick and convenient. The disadvantage of

such a hinge is its ability to only carry a light load, not suitable for supporting a

large door, and when a door is open, the metal hinge hardware becomes visible. Therefore for easy and quick installation, many of the room doors deploy such a hinge system. On the contrary, the traditional pivot-and-socket hinge type that is more suitable for the massive door aesthetically integrates the hinge as part of the door panel and cleverly uses a single material (wood) to achieve dual functions both as a hinge pivot and as a door panel. From the above account, the many door hinges used in the YYT and other Huizhou houses reveal that the



Figure 3.16. Pin and hook hinge in a Huizhou house. Photograph by the author.

traditional Huizhou craftsmen cleverly utilized different hinges to suit the many diverse dispositions and movements of the door.

Although not present in the current YYT house, there are many well-preserved Huizhou houses with lattice room doors (Figure 3.17). When building these lattice doors, the craftsmen skillfully carved a wooden

board into intricate patterns to make the door “half-open.” The carved lattice patterns held profound cultural meanings. For example, the interior lattice door on the left of Figure 3.17 from the Huizhou house Dongyuan was built into the “breaking ice” pattern. According to the explanation of the locals, the owner of the house was a school teacher. This room

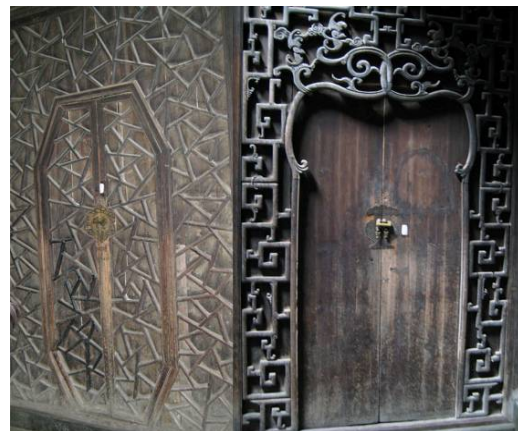


Figure 3.17. Lattice door in Dongyuan house in Huizhou. Photograph by the author.

with the “breaking ice” patterned lattice door was the study room for his students which is embodied with the meaning that the students had to diligently learn even in the “ice-cold” environment to excel. The lattice patterned door on the opposite room shown on the right side of Figure 3.17 inscribed the auspicious images of the bat on the upper left and right corners. The bat is homophonic with the Chinese word “good fortune.” Situated directly opposite to the breaking-ice patterned lattice door, it indicates the arrival of good fortune once a student diligently endured through his toils.

The Door Amulets and the Metaphysical Dispositions of a Door

The second shrewdness related to the door in the traditional Huizhou



Figure 3.18. Yin Yu Tang door in the compass west. Photograph by the author, courtesy of the Peabody Essex Museum.

Chinese dwelling lies in the clever application of the door amulets to metaphysically re-position a door to gain the advantageous *shi*. With the presence of the door amulets, an opened door can metaphysically prevent the intrusion of the evil spirits into the house, while a closed door allows the entrance of beneficial celestial and secular blessings.

Applying amulets on the doors has a long tradition in Chinese culture.¹⁸⁸ Amulet images on the

¹⁸⁸ The ancient Chinese believed that the ghosts (*gui*, 鬼) possessing dark powers over people’s lives were incapable of climbing over solid immovable boundaries, such as walls, and can only enter through moveable boundaries, such as doors. An anecdote told the story that a ghost chasing a young man. The young man jumped over the wall. Because the ghost can not climb over a wall, the young man luckily

ancient doors of the Han dynasty tombs reveal the dual concern of simultaneously invoking blessings while exorcising the evil spirits. A large array of favorable door amulets engraved on Han tomb doors conferred celestial blessings to the buried ancestor through a closed tomb door. For example, the relief on the stone door of the Han dynasty tomb shown in Figure 3.19 presents two auspicious symbols of a winged deer on the upper portion of the door. The winged deer is an auspicious symbol capable of escorting the soul to the immortal world.¹⁸⁹ In other Han tomb doors, sometimes the head of a goat is carved. The Chinese word for goat is *yang* (羊) which is phonetically identical to the word propitious (*xiang*, 祥) and the word sun or sunny (*yang*, 阳). As a result, the image of the head of the goat on door bestows good fortune in the after-life of the ancestor contained within the tightly shut tomb.



Figure 3.19. Han dynasty tomb door, Lucy Lim, Kenneth J. DeWoskin, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province, 1987.*

Amulets for exorcism found on the Han dynasty tomb doors are mostly that of the demonic *taotie* mask or the pair of monstrous door gods. The *taotie* mask on the door portrays the images of a glutton creature with a big widely

escaped the horrible chase. This anecdote was quoted in Yin Feizhou, *Zhongguo gu dai gui shen wen hua da guan*, (Tianjin, 1999), p. 91. Alternatively, a door could be protected by door amulets which were believed to be infused with supernatural powers. Meanwhile, the door amulets also possessed the force of endorsing celestial blessings for the families through a closed door.

¹⁸⁹ Lucy Lim, Kenneth J. DeWoskin, Sichuan Sheng, *Stories from China's Past - Han Dynasty Pictorial Tomb Reliefs and Archeological Objects from Sichuan Province*, p. 126.



Figure 3.20. Door gods in a Han dynasty brick carving, Wu Yucheng, *Zhongguo de men wen hua*, 1999.

opened mouth ready to devour any intruders.¹⁹⁰ As an amulet, its characteristic representation thus possesses the power of the covetous monster to swallow anything that infringes its domain.

The image of the pair of demonic figures—the door gods—is another door amulet whose function is to exorcise evil forces. The door gods in the representation on the Han dynasty tombs are fearsome hideous devil-like figures (as shown in Figure 3.20) named Shen Tu and Yu Lei. They are composed in a position gazing at the door entrance with their huge watchful eyes wide open ready for defensive action. One of the earliest literary records about the door gods can be read in *Lun heng* written by Wang Chong (王充 about 27-97AD):

“In the ancient times, there were two brothers called Shen Tu 神荼 and Yu Lei 郁垒. They are naturally capable of capturing ghosts. They lived on the mountain of Du Shuo in the East Sea under a huge peach tree. They inspected all the ghosts. If there were any ghost that caused disasters to the people alive, the two brothers would bind the ghost with reed rope, and feed the bounded ghost to tigers. Therefore today peach wood is

¹⁹⁰ For a detailed analysis on *taotie* see the earlier section of this chapter: *The meaning of the closed, open and half-open door*.

carved into the shape of the Shen Tu and Yu Lei brothers, and hung next to the door; meanwhile the image of tiger was drawn on the door.”¹⁹¹

As the exorcising gods, the fearsome pair of door gods is believed to be charged with “ghostly powers” through their own demon-like image and their powerful weapons represented by the rope and the tiger. No records have been found explaining the origins of the door gods, yet their names give clues to their derivation. Yu Lei is phonetically identified as interchangeable with *yulei* (偶儺), which is connected with today’s word *kuilei* (傀儡) or mask.¹⁹² The *yulei* was possibly the mask worn by the exorcists performing the Nuo ritual, a rite of exorcism that can be traced back to beginnings of Chinese civilization.¹⁹³ In the Nuo rite of the Zhou dynasty, the exorcist was called *Kuangfu* (狂夫) meaning “fury man” whose surname was *Fangxiang* (方相) which has the same phonetic sound as *fangxiang* (放想) meaning “wild imagination.”¹⁹⁴ The wild imagination aroused by wearing such a hideous *yulei* mask possibly made the exorcist look furious and formidable to the intruding ghosts. Therefore, Yu Lei, one of the door gods, is likely derived from the wild and fearsome mask worn by the exorcist in the ancient Nuo rituals.

¹⁹¹ Wu Yucheng, *Zhongguo de men wen hua*, pp. 86-87. The original Chinese text is: “上古之人，有神荼，郁垒者，昆弟二人，性能执鬼，居东海度朔山上，立桃树下，简阅百鬼。鬼无道理，妄为人祸，神荼与郁垒缚以卢索，执制食虎。故今县官斩桃为人，立之户侧，画虎之形，著之门闾。”

¹⁹² He Xin, *Zhu she de qi yuan*, pp. 270-271.

¹⁹³ Guo Qitao, *Exorcism and Money the Symbolic World of the Five Fury Spirits in Late Imperial China*, p. 21 & p. 23. About the Nuo ritual: by the time of the Zhou dynasty, this collective exorcist ritual had evolved into definite forms that were practiced to drive away evil and pestilence and to pray for prosperity, health, and stability for the people, the community and the nation.

¹⁹⁴ *Ibid.*, p. 22.

The companion door god to Yu Lei is Shen Tu. The word *tu* (荼) is phonetically similar to the word toad (*tu*, 菟 or 兔). In the ancient pronunciation, the *tu* was a phonetic twist of *hu* (虎) meaning tiger.¹⁹⁵ Shen Tu, possibly meaning the sacred tiger, could be either the god that can master the tiger or be the tiger itself. The role of the tiger in Chinese culture is thought to be similar to that of the lion in the western world as the king of animals. In Chinese myths, the tiger is closely connected with the Chinese God Mother of the West who is the Goddess of Death, by the nature of which the tiger is regarded as skilled in devouring ghosts.¹⁹⁶ Many Shang dynasty bronze vessels depicts tigers devouring ghosts; and tiger helmets were also worn by the warriors of the Shang dynasty, and tiger uniforms were worn by Chinese soldiers in the Zhou dynasty in order to terrify their enemies. During the same time period, the generals were called the strong-man-like-a tiger (*hufenshi*, 虎愤士). To this day, children wear tiger caps to protect themselves against evil demons.¹⁹⁷ The name of the second door god, Shen Tu—the sacred tiger, thus possibly hinted that when the exorcist performs his rites, he likely wears a fearsome tiger-face mask that possessed the tiger-like valor and power.

If the Yu Lei (lit. hideous mask) and Shen Tu (lit. sacred tiger) are derived from the tiger-face mask worn by the exorcists in performing the Nuo rites in front of the door, the amulet images of them on the door intended to drive away the

¹⁹⁵ He Xin, *Zhu she de qi yuan*, pp. 270-271.

¹⁹⁶ *Ibid.*, p. 267. The phonetic links goes into more depth when considering the mythical legend of the toad (兔) as a creature living on the moon while the goddess of the moon was associated with death. Shen Tu was thus a creature that guards the door of death.

¹⁹⁷ H. Munsterberg, *Symbolism in Ancient Chinese Art*, pp. 68-69.

intrusions of evil forces while permitting the door to be physically open. The effectiveness of the door god amulet was traditionally believed in Chinese culture. Folklore tells a story about the ghost Shanxiao possessing a woman making her crazy. The complaining neighbors took crazy woman to court. Yet, in court, she behaved perfectly normal. Later it was discovered that the evil ghost, Shanxiao, could not possess the woman in the court because a door god amulet was attached on the main entrance door of the courthouse blocking the ghosts from entering the building.¹⁹⁸

The door gods in the Southern-Northern dynasty of the 5th century AD and onwards are transfigured from demonic figures into defending military generals in glamorous armories. In the Ming dynasty, the popular novel, *Journey to the West* (*Xi you ji*, 西游记) based on the story of the Tang dynasty's monk Xuan Zang's journey in search for the true teachings of Buddha, told a popular story of two famous Tang dynasty generals.¹⁹⁹ Thereafter, different regions began to use the images of their local heroes as their door gods. In the Huizhou region, the famous local generals, Wang Hua and Hu Jingde, are sanctified as door gods. The figures of the two generals as the door god amulet are sometime portrayed as facing each other in the posture of engaging in battles, and other times they are portrayed as greeting each other. The function of the door god amulet is correspondingly manipulated into not only protecting the family but also bestowing the blessing of luck, prosperity and longevity into the house even

¹⁹⁸ Ursula-Angelika Cedzich, "The Cult of Wu-tung /Wu Xian in History and Fiction," *Ritual and Scripture in Chinese Popular Religion*, David Johnson, ed., p. 166.

¹⁹⁹ Wu Yucheng, *Zhongguo de men wen hua*, p. 100.

when a door is tightly closed. By collating the dual functions into one category of amulet, the efficacy of the power of the amulet is maximized.

Traditionally, the most critical moment when the door god amulet must be attached onto the door is on New Year's Eve, when the old year stepped into the new. All the ghosts needed to be driven out so that they would be left behind



Figure 3.21. Qing dynasty door god amulet, Zhu Qingsheng, *Jiang jun men shen qi yuan yan jiu*, 1998.

with the passing year.²⁰⁰ As seen in Figure 3.21 which portrays the New Year ceremony during the Qing dynasty showing two separate sets of door god images affixed on the doors. One set of door gods shows generals in a defensive posture on the front main entrance to protect the house, and the other set depicts greeting civil officials affixed onto the interior door of the main hall to bestow blessings for the family.

In Figure 3.22, an un-dated image, possibly from the Qing dynasty, of one of the door gods preserved in the Beijing Art Institute, disclosed how the dual function formerly fulfilled by separate door god amulets are cleverly collaged together into a single door god amulet to

²⁰⁰ Wang Zijin, *Men ji yu men shen chong bai*, (Shanghai, 1996), pp. 124-125.

embody a door with multiple metaphysical dispositions. The door god is pictured as a civilized general. Various iconographical symbols infused with cultural meanings are cleverly configured into the amulet. The door god holds two



Figure 3.22. Qing dynasty door god amulet, Zhu Qingsheng, *Jiang jun men shen qi yuan yan jiu*, 1998.

weapons: a sword and a lance (spear with an axe) called *ji* (戟) in Chinese.²⁰¹ The sword is used by the Taoist priest to exorcise ghosts and the axe in the lance is a symbol of power. The end tip of the *ji* is adorned with the plant named *jiao* (蕉,) which has the same pronunciation as *jiao* (交) meaning “to encounter good fortune.” His sword is decorated with an auspicious cloud pattern. Thus the weapons not only present fear to the ghosts, they also grant fortunes to the family. At the bottom five young boys are drawn. Their presence not only means the wish of bringing male descendents into the family, it also exhibits

inferences to a story about how five sons of an ordinary man brought great esteem into the family. Each of the five young boys holds different propitious items. The boy on the far right has a bottle (*ping* 瓶) with a trident *ji* within it. The *ping* is phonetically identical to the sound of balance, peace, and safety (*ping* 平).

²⁰¹ Richard Rudolf, *Han Tomb Art of the West China*, (Berkeley, 1951), p. 68. *Ji* was shown as the weapon of the Han dynasty door guardian engraved on the Han tomb door.

Ji, the trident weapon is phonetically the same as steps (*ji* 级). They are coiled together to stand for ascending three levels in social stature. Furthermore, the *ping* and *ji* visually reaches into the clouds embroidered on the costume of the door god, which additionally implies that the social ascending steps could continuously go as high as into heaven (*ping bu qing yun*, 平步青云). The boy in the middle holds a special “s” shaped utensil called *ruyi* (如意), which was used to denote the idea that everything would happen as wished. The boy at the far left holds a branch of the lotus flower. Lotus not only is phonetically connected with the word harmony, it is also the word for continuously having sons.²⁰² All these symbols make the door god amulet a divine vehicle to gain the secular blessings into the family even while the door of the house is closed.

Attaching the door god amulets onto the door formed a unique phenomenon in that the physical disposition of a door is obliquely maneuvered into the opposite metaphysical disposition to engender the advantageous *shi* to benefit the fates and fortunes of the family. Thus modest efforts are deployed to gain the most crucial efficacy.



图 1-5 傩舞面具固定于门罩成为建筑装饰

Figure 3.23. Nuo exorcism ritual mask carved on the door hood in a Huizhou house, Zhu Yongchun, *Huizhou jianzhu*, 2005.

The Door Hood as Door Amulet in Huizhou Traditional Houses

²⁰² Zhu Qingsheng, *Jiang jun men shen qi yuan yan jiu*, (Beijing, 1998), pp. 162-164.

In modern times, the elegantly crafted door hood in various existing old Huizhou houses is commented as having the following functions: 1), it acts like a canopy to protect the door from the disturbance of weather, 2), it indicates the social status of the house owners, like the Mandarin's official hood; 3), it functions as an ornament. Beyond the practical benefits and the gaudy messages expressed, another function of the door hood is likely an amulet to confer the advantageous *shi* to the residents of the house. Such a claim can be supported on the following two grounds. First, as mentioned earlier, the ancient exorcism Nuo ritual was performed in front of the door. According to various sources, once the Nuo ritual was finished, the exorcist would place the hideous mask worn by him during the ritual performance onto the door.²⁰³ Zhu Youngchun, in his book *Huizhou Architecture*, documents instances of having the Nuo exorcism ritual masks carved on the door hoods of various houses in the Huizhou villages (see Figure 3.23).²⁰⁴ The custom of placing the exorcist's ritual mask on the door likely was the inspiration of engraving the mask as an amulet onto the door hood. Zhu Yongchun further gives insight that the earlier function of the characteristic door hood in a traditional Huizhou house is likely to help the family both to stay away from danger and to acquire good fortune.²⁰⁵ The function of the door hood is more that ornamental. It is construed as an amulet contrivance permanently affecting the lives of the residents within the house.²⁰⁶

²⁰³ Zhu Yongchun, *Huizhou jianzhu*, (Hefei shi, 2005), p. 211. Also see Zhu Qingsheng, *Jiang jun men shen qi yuan yan jiu*, p. 85.

²⁰⁴ *Ibid.*, p. 207. In Huizhou today, there is a total of 36 Nuo ritual masks in the Liukang village preserved by the Dong family.

²⁰⁵ *Ibid.*

²⁰⁶ Liu Hong & Zhang Qi, *Hui diao yi shu xi bu she ji*, (Nanning, 2002), p. 14.

Second, the large array of symbols meticulously carved on the door hood reveals that the door hood is intended to discriminately embody various supernatural powers to effectively influence the fate of the residents. With the application of the door hood amulet, an opened door is craftily closed to the evil forces while a closed door remains open for the arrival of good fortune.

The technique of constructing a door hood in Huizhou inherited today is to assemble the pre-carved or the site-carved locally produced bricks into larger scenes. The locally produced brick is relatively soft to carve and can be easily molded into the required length, width and depth. There are six steps in carving the bricks into a final door hood amulet. First, the craftsman calculates the quantity and size of the materials according to the size of the door opening and the door hood. In the second step, the craftsman molds the bricks into the required sizes with fine silt, and burns the bricks into the desired strengths. In the third step the bricks are polished. Then in the fourth step the craftsman drafts the desired scenes and symbols on the brick, deciding upon the front, the faraway and the central scenes. Once these are done, the craftsman begins the fifth step, which is the most skillful part of the endeavor: the process of carving out the images. The final sixth step fixes mistakes and completes the carving.²⁰⁷

Examining the traditional brick carving craft in Huizhou today reveals that these carvings on the Ming and Qing dynasty house doors sometimes might have taken years to complete. Intricate layers of images carved on the door hood conveyed complex amulet powers.

²⁰⁷ Zhu Yongchun, *Huizhou jian zhu*, p. 137.

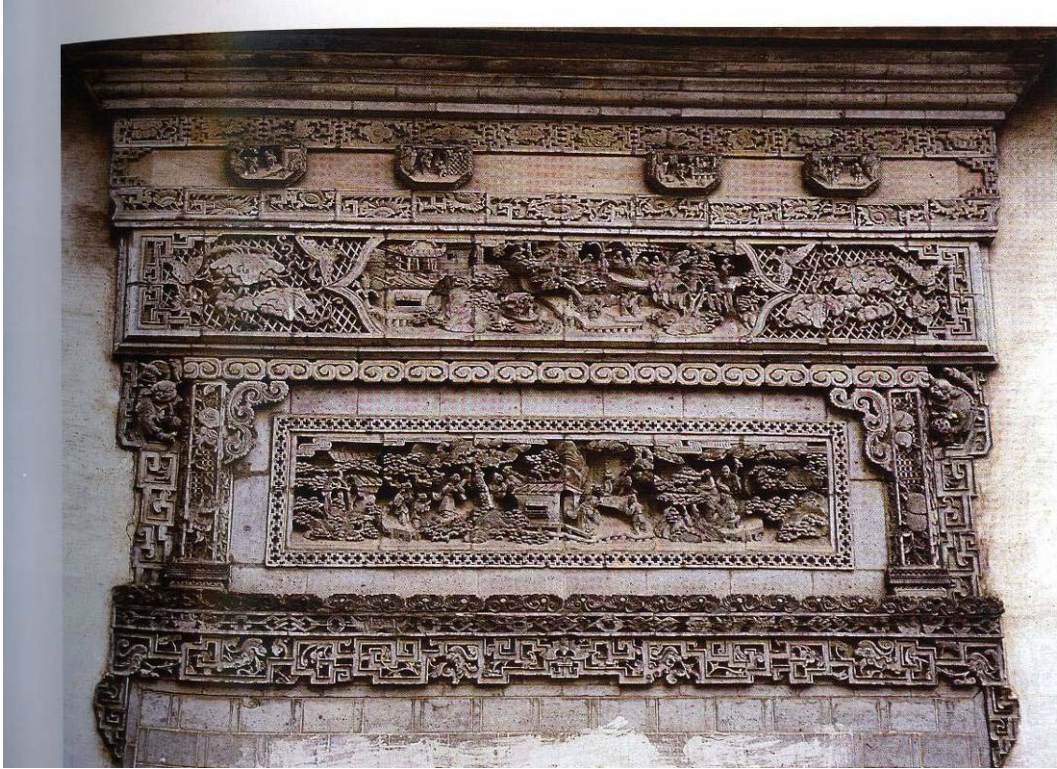


Figure 3.24. Door hood amulet in Jixi Hu village in Huizhou, Zhang Daoyi & Tang Jialu, *Zhongguo gu dai jian zhu zhuan diao*, 2006.

One of the most intricate door hood examples is shown in Figure 3.24 from the Jixi Hu village in the Huizhou region. The top tier consists of four elements, each made out of one whole piece of brick. The four elements resemble the door pins (*menzan*, 门簪) unique to the traditional Chinese wooden door as joints between the door lintel and the door head jamb (*men'e*, 门额) (Plate 3.3). Their oval shapes are akin to the shoe-shaped silver ingot money used in feudal China to pray for prosperity for the family.

At the left and right side below the top tier, a relief is carved depicting auspicious flowers and birds. Two curtain-like curves ended the screens on both the left and right side unveiling a scene representing a divine landscape. The

third tier is the main brick block called *zoumaban* (走马板), generally reserved for carving text. In this instance, images are engraved portraying the scene of an old man greeted in the pine tree grove. The old man represents the god of longevity. The evergreen pine trees next to him have similar connotations of long-life, therefore, the scene on the *zoumaban* aims at granting longevity into the family. The *zoumaban* is encircled with clouds and *ruyi* patterns, meaning important events related to the family would happen as wished. The vertical elements flanking the *zoumaban* block are the peach and the morning glory flowers. Peach in the Chinese culture is always associated with longevity and the morning glory flower symbolizes prosperity. Two small lions are carved at the two sides of the *zoumaban* guarding the door from intrusions of evil spirits. The engravings below the *zoumaban* is composed with the *wan* (万) pattern threaded in-between with images of flowers. The *wan* pattern also implied longevity. The most subtle yet elegant part of this configuration is the image of a bat subtly emerging out from the *wan* pattern. The bat is phonetically the same as the Chinese word for luck (*fu* 福), therefore expressed the idea that through its presence at the door good luck can be infused into the family.²⁰⁸

Many other motifs are carved into the door hood. Images of the legendary general Zhu Geliang, who himself alone defeated a whole troop with his cunning strategies, is sometimes a theme on the door hood to wisely protect the family within. The presence of the image of the Taoist poet Tao Qian, who retreated to live with nature, provides the endorsement of a carefree life to the family. The

²⁰⁸ Zhang Daoyi, Tang Jialu, *Zhongguo gu dai jian zhu zhuan diao*, (Nanjing, 2006), pp. 29-33.

common symbols of the bat, the lions, the various auspicious flowers and other patterns are just a few among the large reservoir of symbols that each family could choose then collage into the door hood structure to embody the amulet power desired for themselves. Rich motifs of the door hood amulets are thus cleverly configured to give the door metaphysical dispositions attaining an advantageous *shi* to satisfy particular needs or respond to the insecurities of the original owner of the house.



Figure 3.25. Yin Yu Tang front entrance door. Photograph by the author, courtesy of the Peabody Essex Museum.

The YYT house built in the early 19th century had a fairly simple door hood

(Figure 3.25) perhaps due to the limited financial capacity of the owner. The owner of the house used his limited funds to construct the most critical parts of the door hood with simplicity yet possessing a powerful advantageous *shi* fulfilling the needs of the Huang family and lineage. The brick carvings are used on the four elements resembling door pins, the two vertical elements framing the *zoumaban*, and the two corner transition pieces above the stone door lintel.

These various carved images are identified and analyzed by Nancy Berliner as:

Above the doorway is a projecting hood with a tile roof, in imitation of larger rain protecting hoods on grander edifices. Below the hood are a series of four affixed carved-brick ornaments depicting pairs of magpies, phoenixes, mandarin ducks, and swallows – all symbols of harmonious matrimonial union. Below these accessories, on the right side of the door,

hangs a representation of a fish, a symbol of abundance of both riches and sons. On the left side of the door hangs a representation of a rabbit, likewise symbolizing fecundity. Two larger rectangular tiles, one on each side of the central rectangular panels, portrayed scenes from opera stories. Figures in opera garb stood under traditional roofs and lean against decorative balustrade. Just below each of these opera tiles were smaller images, also of carved tile, of lions to protect the house from evil spirits. Like the door hood, they were the smaller versions of large stone



Figure 3.26. A detail on the door hood amulet of the Yin Yu Tang house, Nancy Berliner, *Yin Yu Tang, the Architecture and Daily Life of a Chinese House*, 2003.

lions that guarded ancestral halls and official buildings.²⁰⁹

From the above analysis by Berliner, the door hood amulet on the YYT main house entry door not only depicts the symbols of lions to prevent the entrance of the evil spirits at the

moment when the door is open, it also intends to permeate the matrimonial harmony, fecundity and family joy into the Huang lineage through a closed door. Unlike the previously analyzed door hood amulet in the Jixi Hu village, which was mainly concerned with attaining prosperity, longevity and luck, the owner of the YYT house, as a simple merchant who had to travel to the outside of Huizhou to seek his fortune, primarily desired a harmonious family relationship and the continuity of the family lineage as represented in the magpie and duck motifs on the door hood (see Figure 3.26). When the male members traveled afar to do

²⁰⁹ Nancy Berliner, *Yin Yu Tang, the Architecture and Daily Life of a Chinese House*, p. 141.

business, the women of the Huang family were left at home to manage day-to-day errands. Women were given high status and respect in such a family, and the harmonious relationship between man and woman were of utmost importance.

Above the tiled roof on the hood of the YYT main entrance door, a ridge beam was painted with ink on the plastered white wall (Figure 3.25). The YYT house owner likely lacked the means to afford expensive brick carving, in lieu, images were drawn to engage similar efficacy of bringing in celestial blessings. At both ends of the represented ridge beam two sacred mythical features named *qilin* were depicted, which were believed to possess the power of bringing in male descendants and good fortune.²¹⁰ In addition, images of pine trees were drawn with auspicious plum flowers flanking on each side probably to denote the wish for longevity and uprightness of the family. Today, these carvings are considered decorative artifacts that add artistic value to the house, yet when the Huizhou merchants sponsored the craftsmen to laboriously construct them, these intricately configured images on the door hood were more than merely decorative elements. They functioned as amulets to cleverly create the advantageous *shi* by superimpose a metaphysical disposition of the door over its opposite physical disposition.

The Tectonic Craftiness of the Door

The third craftiness related to the door is analyzed from a tectonic perspective to describe how the clever techniques in the construction of a solid

²¹⁰ Ibid.

panel door possessing the advantageous *shi* benefited from the varied construction circumstances. The section on *Minor timber works* in the twelve century architectural treatise *Ying zao fa shi* explains the constituents of the solid panel doors as:

The rules for constructing a solid door panel are: size the total width of the door to be equal to the height of the door if the door is built with a height ranging from seven feet to twenty-four feet. If the width needs to be narrowed, the width can not be reduced more than one-fifth of the height of the door. The width and thickness for the various components in the construction of a door should refer to the height of the door²¹¹

Therefore, in *Ying zao fa shi*, the construction of a solid panel door used the height of the door as the primary module determining dimensions for the other components of the door (see Plate 3.3 referring to the components mentioned below). The width of the door is made equal to the height, or if the door is very tall, the width is reduced

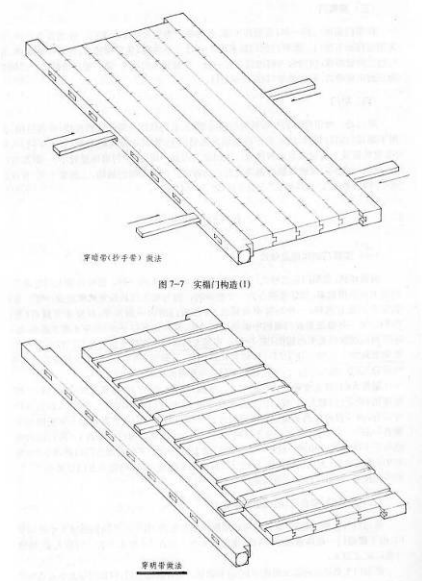


Figure 3.27. Solid panel door construction technique, Ma Bingjian, *Zhongguo jian zhu mu zuo ying zao ji shu*, 2003.

²¹¹ Li Jie (1035-1110), “Liang Sicheng quan ji,” *Ying zao fa shi*, vol. 6, (Beijing, 2001), p. 165 & p. 167. The original Chinese text is: “造版门之制，高七尺至两丈四尺，广与高方。如减广着，不得过五分之一。” According to the interpretation of this paragraph by the *Ying zao xue she*, the height of the door is taken as 100 units to derive the dimensions for the other door components.

according to rules outlined in *Ying zao fa shi*. The length of the door stile on the hinge side carrying the entire weight of the door panel (named as the *elbow plank*, 肘板, in *Ying zao fa shi*) is identified as equal to the height of the door plus the pivots at both ends of the door stile (Figure 3.27). The width of the elbow plank is 1/10 of the height of a door, and its thickness is 1/30 of the height of the door.²¹² Next, the length, width and thickness of the door stile on the side opposite to the hinge (named as *subsidiary elbow plank*, 副肘版) are listed in *Ying zao fa shi*. The length and width of the subsidiary elbow plank should be the same as the main elbow plank on the hinge side, but with a thickness as 1/40 of the height of the door.

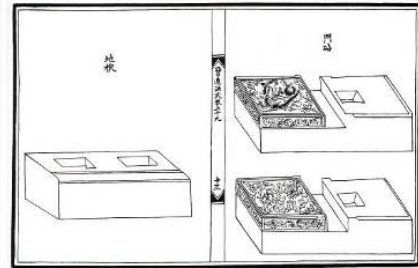


Figure 3.28. Door anvil in *Ying zao fa shi*, Li Jie (1035-1110), *Ying zao fa shi*, Liang Sicheng quan ji, vol. 6, 2001.

After these two primary vertical framing elements are determined, the planks for filling the in-between areas are selected according to the size of the available materials as well as the space allowance between the main and the subsidiary elbow planks.²¹³

Next to these initial vertical elements, *Ying zao fa shi* introduces the sizes of the horizontal framing elements similar to the function of the door rails called *fu* to join all the vertical door planks together. The series of *fu* elements are either exposed on one side of the door or concealed on both sides using mortise-and-tendon joint (Figure 3.27). Afterwards the dimensions for the door head jamb

²¹² *Ibid.*, 肘板: 长视门高。每门高一尺, 则广一寸, 厚三分。副肘板: 长广同上, 厚二分五厘。

²¹³ *Ibid.*, 身口版: 长同上, 广随材, 通肘版与副肘版合缝计数, 令足一扇之广, 厚二分。

called *men'e* (门额, literally door forehead), the door lintel called *jiqimu* (鸡栖木, literally board where roaster rests), the door side jambs called *lijia* (立颊) and the door sill called *difu* (地伏) are specified. The door lintel *jiqimu* is fixed onto the door head jamb *men'e* by two or four peg-like elements called door pins (*menzan*, 门簪) (Plate 3.3). The door lintel has two sockets to receive the top pivots of the elbow planks, while the door anvil stones provide sockets to receive the bottom ones forming the axial for the door to open and close. The door anvil stones further secure the door sill by inserting the door sill into its groves (Figure 3.28). In some circumstances, the door sill can be removed from the door anvil stone to allow larger carriages to enter through the door. *Ying zao fa shi* gives detailed accounts on the measurement for the door anvil to ensure that it can hold the weight of the door transferred from the door elbow plank.²¹⁴ The house entrance doors built during the Ming and Qing dynasties in the Huizhou region such as the YYT main entrance door is a solid panel door resembling the solid panel door described in the *Ying zao fa shi*.

²¹⁴ Ibid., pp.165-166 & p. 168.

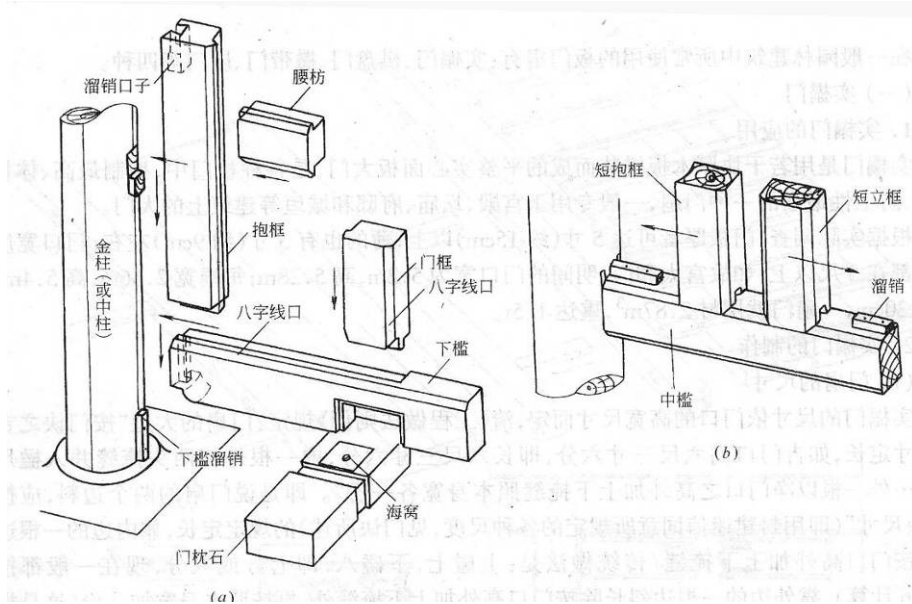


Figure 3.29. Installation of a traditional Chinese door, Ma Bingjian, *Zhongguo jian zhu mu zuo ying zao ji shu*, 2003.

During the Qing dynasty, the Huizhou craftsmen faced a construction problem meanwhile erecting solid panel doors next to a circular column with entasis (i.e., a column with a wider circumference at the bottom and a narrower one at the top that were characteristic of traditional Chinese columns). The entasis is not a simple slanted straight line; rather a complex curve. Then how could the door side jamb seamlessly attach to the column?

The conventional technique to address this issue is simple yet effective. The craftsman makes an ink-line template delineating the built contour of the column curve. The template is then used to guide the construction of the profile of the door side jamb to be exact negative outline of the column curve so that the two parts can align seamlessly. Then mortise-and-tendon joinery system is used

to connect the two architectural elements together (see Figure 3.29).²¹⁵ Many of the traditional Chinese architectural elements in a house are unique in their shapes; therefore, the use of stencils and templates is one of the most effective tools possessing the advantageous *shi* in that one simple tool is used to decipher many construction complexities.



Figure 3.30. Door in a Huizhou house, photographed by the author.

The Huizhou craftsman further deployed their wisdom to create advantageous *shi* by cleverly reconfiguring the door and the column dispositions. Sometimes, instead of seeking perfect alignment of the doorjamb with the adjacent column, the door was built as a detached element yielding a space from the adjacent column (Figure 3.30). The space in-between is conveniently filled in with white plastered brick wall.

To solve the problem of installing a door into an opening framed by stone door lintel and jambs, the clever technique widely used by the Huizhou craftsman is to insert a flat and long wooden door lintel into the stone lintel and brick wall to position the wooden door in a different layer from the stone door frame (see Plate 3.1 of the YIT drawing). The main entrance door of the YIT house is made in such a technique. Meanwhile the Huizhou craftsmen took full advantage of the efficacy generated from such a construction tactic making the inner solid wooden panel door much larger in size than the opening bordered by the stone door frame. As a consequence, the door is sturdier (see Plate 3.2)

²¹⁵ Ma Bingjian, *Zhongguo jian zhu mu zuo ying zao ji shu*, (Beijing, 2003), pp. 276-277.

Besides the clever construction techniques, the materials used in making a door also created an advantageous *shi* to effectively respond to the construction contexts. The locally grown fir called *shanmu* was the most



Figure 3.31. The fireproofing doors in Huizhou, Li Jun, *Huizhou gu min ju tan you*, 2003.

commonly used material for the construction of the old Huizhou house doors. Yet between the 16th and 19th centuries, various other materials were employed responding to the emerging needs to make the door fireproof.

As discussed before, in the densely populated Huizhou region, houses were built adjacent to one another; therefore, fire disasters were always the biggest concern for the local families. Since the Ming dynasty, the Huizhou craftsmen built characteristic horse-head walls as fire walls to stop the spread of fire dispersion.²¹⁶ However, the wooden door setting in the masonry wall still leave a weakness for the fire to easily spread. Therefore, many of the Huizhou house doors were built with a wooden core over which a layer of stones or bricks are affixed to retard the spread of fire. The above left-most image of the door is from the Ming dynasty building in the Chengkan village of Shexian County located in Huizhou, showing the 5 cm wooden core of the door panel which has a layer of *shuimo* bricks (水磨砖) nailed on with specially forged iron nails called

²¹⁶ Li Jun, *Huizhou gu min ju tan you*, (Shanghai, 2003), p. 11.

tieruding (铁乳钉).²¹⁷ Other exposed surfaces, such as the edges of the door, are wrapped with sheets of irons to make the door completely fire-proof (right-most image of Figure 3.31).²¹⁸

Summary

All the three aspects of cleverness in relation to the Huizhou house doors have demonstrated how various profitable manipulations generated the advantageous *shi* benefiting the cultural context and building. For example, the door hinges gain the advantageous *shi* through the application of principles of asymmetrical balance to allow different types of entrances. The door hood amulet is a clever construction strategy attaining the advantageous *shi* to influence the fate and fortune of the family by making use of deeply-rooted local beliefs in the effectiveness of the supernatural powers. With the application of the door hood amulet, the physical disposition of a door is superimposed with an opposite metaphysical disposition to embody the door with protective supernatural forces. Similarly, the horse-head walls and the shuimo brick nailed over the wooden core of the door are clever tectonics construction techniques possessing the advantageous *shi* to address the urgent need to fireproof the houses in the densely populated Huizhou villages. However would such

²¹⁷ Zhang Daoyi & Tang Jialu, *Zhongguo gu dai jian zhu zhuan diao*, p. 6, and see Nancy Berliner, *Yin Yu Tang, the Architecture and Daily Life of a Chinese House*, p. 126. The shuimo brick is made as follows: first, fine silt is mixed with water to form a muddy texture; the mixture is sifted and remixed with water and then re-sifted again and left to cure. In one or two days, when the mixture is relatively dry, the mixture will be kneaded by foot until it becomes pliable yet strong. Then the mixture is poured into the brick mold. After the material cures in the mold, it enters the kiln. At the end of the firing procedure, water is poured through the top of the kiln giving a special gray color to the brick. Once the brick comes out of the kiln, clean water is poured onto the brick to polish the brick becoming a shuimo brick. Therefore, the shuimo brick has the right strength to receive the iron nail and a uniform smooth surface that can be used to attach it to the core of the wooden door.

²¹⁸ Li Jun, *Huizhou gu min ju tan you*, pp. 53-61.

advantageous *shi* still register their powers after a house is removed from the original context and re-situated into a dramatically different environment, such as the relocation of the YYT house from Huizhou to Salem Massachusetts, transforming it as a museum object? To answer this question, the essential nature of the concept of *shi* as amorphous and weak needs to be considered. Outwardly, the manifested advantageous *shi* in the YYT house construction diminishes. An evident example could be that the horse-head walls of the YYT house, built for the sake of fireproofing in the densely populated Huizhou region, completely lost its advantage after being re-situated in the Peabody Essex Museum in Salem of Massachusetts as a stand-alone museum artifact. The horse-head walls of the YYT thus became a novel architectural element in the western cultural context that can only give an account of its original function to the museum visitors rather than to perform its intended function. However inwardly, the advantageous *shi* is still silently at work, although the *shi* is not identical to when the YYT house was built, it dynamically morphed to suit the house's new disposition. For example, the winter in Salem always brings heavy snowfall contrasting to the few flurries in the winter in Huizhou. The old structure of the YYT house was not built to bear the heavy weight of snow; therefore, the entire old structure has to be strengthened to withstand the increased load. Modern steel and concrete construction technologies are used by the Ove Arup

and Partners USA in this context. The foundation is strengthened with concrete slabs. At the main entrance area, the 2-3/4" low weight concrete topping slab is

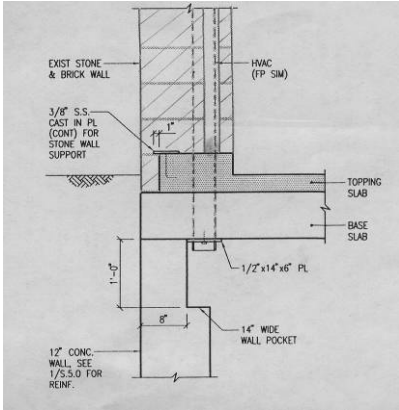


Figure 3.32. Construction detail of the newly erected Yin Yu Tang house, ©the John G. Waite Associates, Architects, PLLC.

cast over an 8" thick concrete base slab. Then a 3/8" thick stainless steel plate is attached on the concrete topping slab to support the original masonry walls of the YTT house (see Figure 3.32). The original YTT house's load carrying structure is made with wooden columns and beams joined together with intricate mortise and tendon joineries.

The masonry wall only functions as an enclosure.

The re-erected YTT house in Salem overrides such

a structural principle. During re-construction, many of the wooden beams are attached to the masonry walls to attain further

rigidity and load carrying capacities as seen in

the detail shown in Figure 3.33. To further

overcome the weight of snow, a new layer of 1/4" external grade plywood roof sheathing is inserted under the historic ceramic tiles. The purlins

carrying the weight of the roof are anchored to

the adjacent beams by steel angle connectors to

gain rigidity and stability (Figure 3.34). Many of the

applications of the modern steel construction technologies, although sadly taking

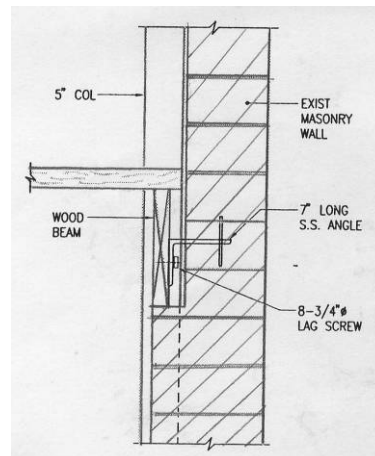


Figure 3.33. Construction detail of the newly erected Yin Yu Tang house, ©the John G. Waite Associates, Architects, PLLC.

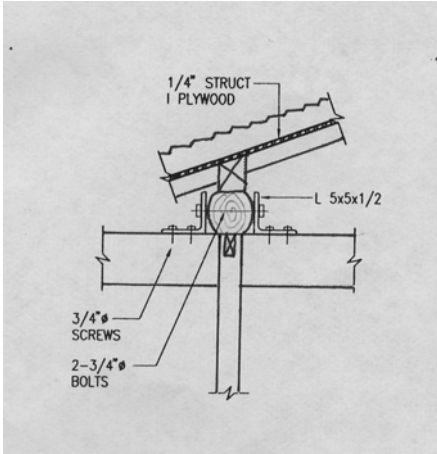


Figure 3.34. Construction detail of the newly erected Yin Yu Tang house, ©the John G. Waite Associates, Architects, PLLC.

away from the beauty and elegance of the traditional Chinese wooden structural system, help to solve the problem generated from the YYT house relocation into a completely different environment. Thus the advantageous *shi* regenerates according to the new cultural environment and construction circumstances continuously taking on a different dimension in the new life of the YYT house. Such an

advantageous *shi* and its efficacy resonate with the words by the California architect, Hamilton Harwell Harris, quoted in Kenneth Frampton's *Towards a Critical Regionalism*:

“Opposed to the Regionalism of Restriction is another type of regionalism, the Regionalism of Liberation. This is the manifestation of a region that is especially in tune with the emerging thought of the time.”²¹⁹

²¹⁹ Kenneth Frampton, “Towards a Critical Regionalism: Six Points for an Architecture of Resistance,” *The Anti-Aesthetic, Essays on Postmodern Culture*, Hal Foster, ed., (Seattle, 1983), p. 22.

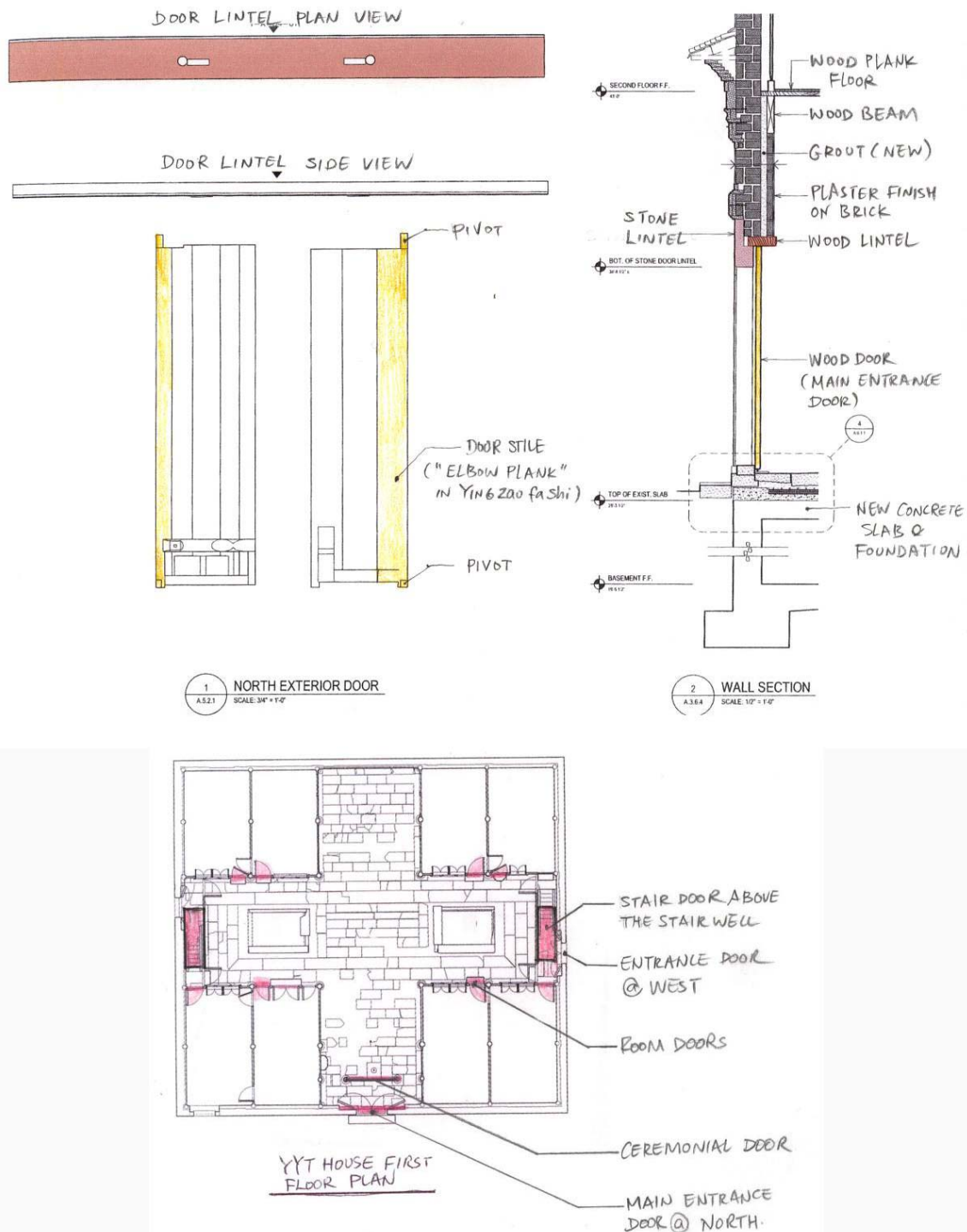


Plate 3.1. North exterior door assemblies, door sections and various YYT house door locations indicated on the plan, autoCAD drawings by the John G. Waite Associates, Architects, PLLC., with modifications by the author.

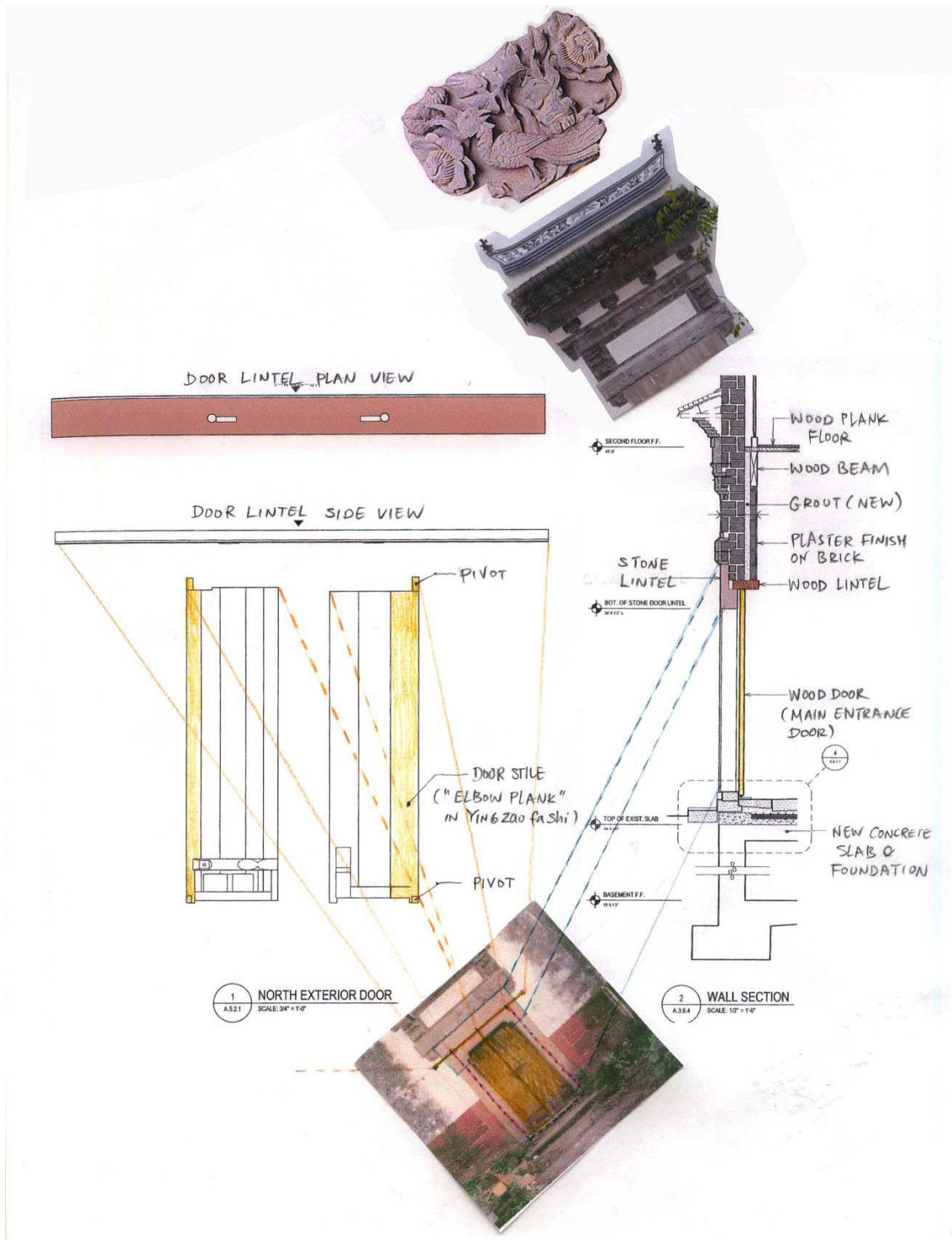


Plate 3.2. An oblique collage showing the clever construction strategies used in the YYT main house door assemblies, autoCAD drawings by the John G. Waite Associates, Architects, PLLC., with modifications by the author; the very top image of the door hood detail and the bottom image of the main entrance door of the YYT house, Nancy Berliner, *Yin Yu Tang, the Architecture and Daily Life of a Chinese House*, 2003, with modifications by the author; The middle image of the current Yin Yu Tang front entrance door, photograph by the author, courtesy of the Peabody Essex Museum.

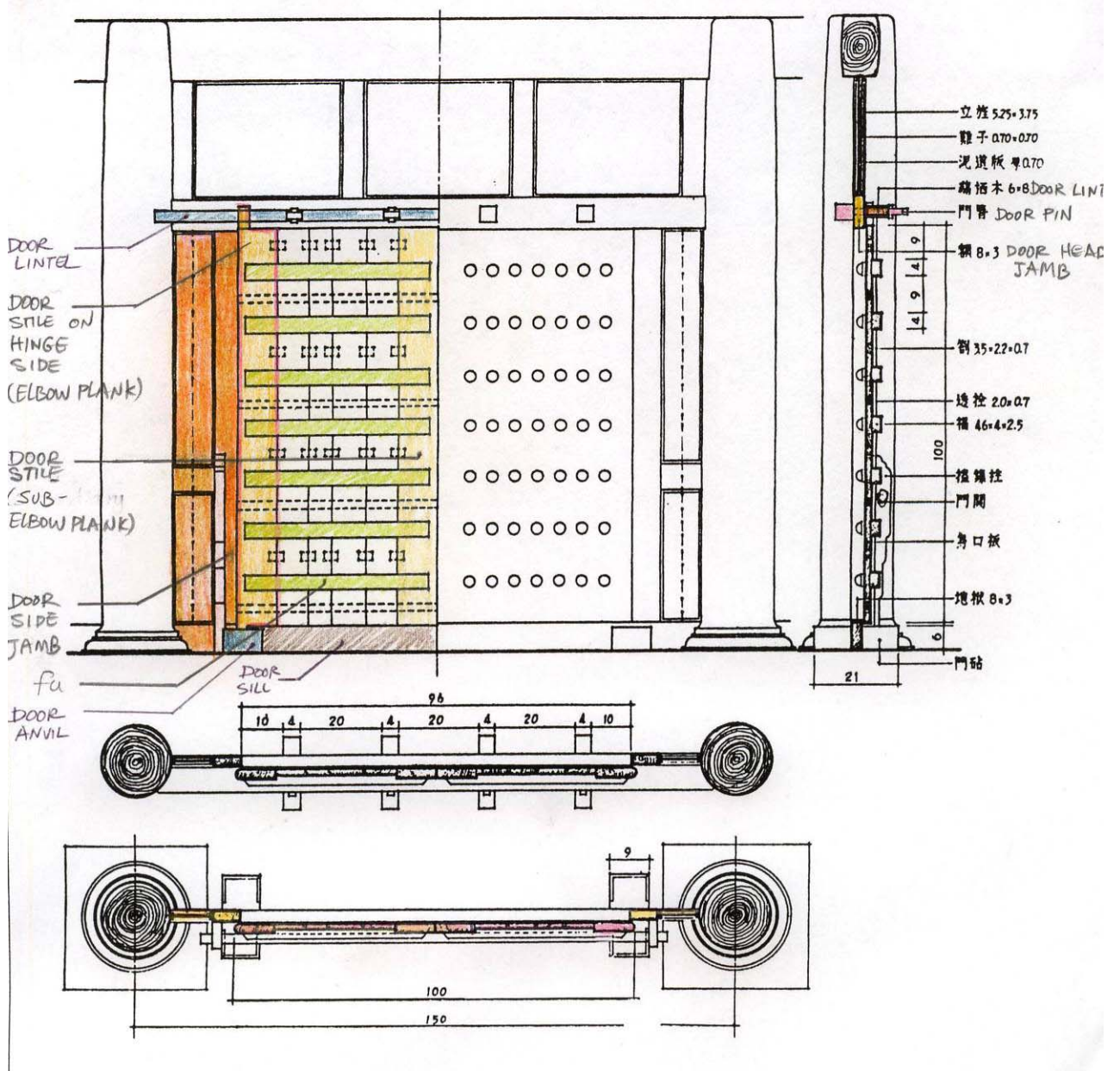


Plate 3.3. The solid panel door construction detail, *Liang Sicheng quan ji*, vol. 6, 2001, with modification and annotations by the author.